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Twitter News and the Uninformed Citizen

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Abstract

This essay examines how social media as a source of news has severely impacted the political knowledge of the citizens of the United States. Research shows that while the media traditionally has been a moderator that sought to improve knowledge among voters and inspire them to determine their own beliefs, the rise of social media sites such as Facebook and Twitter have inspired a polarizing effect on those who use the platform. Thus, social media is driving both conservatives and liberals away from the middle without providing them the knowledge that they need to have informed opinions. This study sought to determine if the use of social media as a news source caused a negative effect on political knowledge. Respondents were asked to reply to a variety of questions regarding their media consumption and questions aimed at determining two types of political knowledge as defined by authors Michael Delli Carpini and Scott Keeter. Results of the research showed an 8.5% difference in total average questions answered correctly between social media users and other forms of media. Using a cross-tabulation between referred media choice and number of answers correct, the data provided a chi-square value statistically significant at the .05 level. This significant correlation pushed me to the conclusion that of those who use Twitter, those who use it for their primary news source are less politically knowledgeable than those who use other forms of media for their news.

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Introduction: In a representative democracy, individuals are responsible for electing officials that make decisions for them at the local, state, and national levels. News and media play an important role in informing the public on current events, governmental policy, and public

officials so that voters may make informed decisions as to who they want in office.

Previously, the media was limited by the technology of the time. During the 1930s, only two thirds of American households had a radio, and print media remained the most widely available source of information (Prior, 2007). Thus, people received their news from similar sources making it easy to determine how people formed their biases. Today, the choice of media has become saturated with network, cable, and local television stations, FM and AM radio stations, political podcasts, newspapers both in print and online, and social media (Prior, 2007). Because of this saturation, political scientists have become interested to know what effects different news media sources have on an individuals' knowledge, polarization, and other relevant variables. However, findings on this subject have been inconclusive. More research is needed regarding an increasing population who prefer to use social media for their primary news source, and how this decision impacts their political views and how they shape their biases (Shearer, 2018). This research aims to correct this gap in scholarly research by measuring the impact of social media on political knowledge by using survey data. However, before examining this more specific source of media, it is important to examine media's impacts at a more general level.

Literature Review: In their research, Foot and Schneider determined that the four main functions of media are to: “inform the audience, involve them, connect them, and mobilize them” (Foot and Schneider, 2006, pg. 10). All these functions play crucial roles in the ability of a democracy to function at its highest capacity. Britannica argues that traditional media sources such as newspapers, radio, and TV are especially significant in affirming attitudes and opinions that are already established (Davidson, 2017). If the media is having these numerous impacts on individuals, it could be playing a role in the increasing political polarization in the United States through confirming radical biases and inspiring individuals to spread them.

Indeed, Baum and Groeving (2008) examined the polarization of different media sources such as cable television, talk radio, and internet blogs and concluded that liberal media favored Democrats, conservative media favored Republicans, and central media had a slight favoritism towards liberals. They also found that blog users, while they are a small population, are disproportionately likely to be political opinion leaders. Prior (2013) argues that one sided news are mainly confined to the political elites who may be influencing the population from the top down. But he found no evidence that average citizens are becoming more polarized. However, The Pew Research Center contradicts Prior's argument by showing that polarization has gotten to the point that 92% of Republicans are to the right of the average Democrat, and 94% of Democrats are to the left of the average Republican (Pew Research Center, 2014).

So, while there are contrasting opinions as to whether traditional media sources are impacting polarization, less research has been conducted examining the impacts of social media as a news source because of its recent rise in use. A popular social media site called Twitter has been a significant factor in recent elections. For example, Barack Obama used the platform in his 2008 election campaign to reach a wider audience (Smith, 2020). Use of the platform by presidents has continued with Donald Trump's use of the platform in 2016 as a source of direct communication like Franklin Roosevelt's fireside chats. Along with political campaign use, the population who uses social media for news has surpassed those who use newspapers in 2020 (Shearer, 2020). With the platform being increasingly relevant as a political tool and as a source of news media, more research needs to be conducted to determine if social media is a useful news platform.

A recent study by the Pew Research Center in 2020 found that 18% of the United States population receives news primarily from social media, and about 92.5% of that population is between the ages of eighteen and fifty-four (Shearer, 2020). Some political theorists found social media creates “echo chambers” where like minded individuals will further polarize because they do not experience confrontation from the opposing viewpoint (Sunstein, 1999; Yardi and Boyd 2010; Prior 2013). However, studies have also argued that polarization increases when individuals consume information from opposing viewpoints through what is called a backfire effect. This deepens polarization through individuals seeing an opposing argument and countering it with their own beliefs thus deepening their biases (Bail 2015; Nyhan 2010). With a growing polarized group of individuals who turn to social media for their news, it would be useful to know the cause of their polarization.

Taber, Cann, and Kucsova (2009) found a correlation between increased polarization and increased political knowledge when examining both locally and nationally salient issues. However, Foot and Schneider as mentioned earlier, argue that social media impacts its audience mostly by involving them, connecting them, and mobilizing them, not by informing them. Their findings coincide with those found by the Pew Research Center that knowledge is lower among those who use social media for news. In addition, Pew also found social media users are more likely to have selected answers in political knowledge questions that reflect information found in popular political hoaxes such as misinformation about COVID-19 (Shearer, 2020). Thus, this population is both more polarized and less knowledgeable than those who seek out other forms of news media. If knowledge is not driving increased polarization on social media, the question of how these individuals are forming their opinions could be explained by the theory of by product learning.

Political theorist Marcus Prior uses the theory of by-product learning to examine media environments from 1935 to 2005, and analyze their impacts on political knowledge. First developed by Anthony Downs in 1957, the theory itself states that a person's political knowledge depends on how efficiently they can find their desired media content. Due to a lack of efficiency in finding their ideal content, people often learn about politically relevant facts as a by-product of nonpolitical routines such as a news headline on your phone when you are checking a text message (Prior 2007, pg. 4). Prior divides the idea into two parts. The first is that free political information is sometimes gained from entertainment-seeking behavior. This happens, for instance, when someone watching a football game sees a political advertisement. The second is that people may acquire knowledge when they make production or consumption decisions. For example, the average person does not research price inflation before going to the grocery store but learns about it through shopping and seeing prices increase over time. Prior argues that in today's environment with the increase of specialization and ease of access to ideal content through advancements like streaming services, viewers are exposed to less political information. Because they are exposed to less political information, they do not experience as much by product learning, making them less politically knowledgeable. This argument may be true regarding other media services such as television, radio, and newspapers. However, social media sites are quite different from traditional media sources.

According to a study by The Pew Research Center in 2016, 24% of Twitter users said they experience "a lot" of their content relating to politics on Twitter, 64% saying they see "some" or "a little" content, and only 11% saying they see no political content on the site. A lot of this is because of Twitter's friend network (Duggen, 2016). However, information also spreads by followers' "retweets," meaning content that an individual you follow

deems interesting or worthy of spreading can be put onto your individual feed. This potentially ties to Sunstein's theory of echo chambers where individuals surround themselves with information to reinforce their biases. If individuals are following accounts that reinforce their own beliefs, they are creating their own echo chamber that thus deepens their own polarization. However, even the most specialized accounts on the platform still can experience opposing ideologies from the mention network (M.D. Conover, 2011). Therefore, it is plausible that individuals on Twitter are experiencing a by-product learning effect on political knowledge through being exposed to various kinds of political information even if they are not using the platform primarily for news. Because social media is seen to be a less valid source of media compared to many others, it is also plausible that this by-product effect could be increasing knowledge of "fake news" and misinformation. This theory is backed by The Pew Research Center's 2020 study that found social media news users to be more apt to select answers related to popular political hoaxes such as misinformation about COVID-19 (Shearer, 2020). This led me to question how a group of people who are, according to Foot and Schneider, the most involved, connected, and mobilized individuals, but are doing so with low levels of political knowledge. Logically, it would make sense that the most knowledgeable population would be the most vocal with their opinions because they have the information to back them up. I believe the answer to this question can be found in the field of social psychology with the concept of the Dunning-Kruger effect.

The Dunning-Kruger effect is a theory that argues individuals with low levels of knowledge on specific topics will judge themselves to be more knowledgeable than they really are (Duignan, 2020). In 2018, Ian G. Anson used this theory to examine political knowledgeability and found that the Dunning-Kruger effect is indeed present in the

realm of political knowledge. He found that “individuals with moderately low political expertise rate themselves as increasingly politically knowledgeable when partisan identities are made salient.” (Anson, 2018, pg. 1). This is only made worse by the fact that group polarization is intensified when people are speaking anonymously and when group membership is a factor, as it is on the internet (Sunstein, 1999). Thus, Twitter news users are inclined to be more vocal about their opinions while relying on limited information gained from either by-product learning if they are not seeking news directly, or the limitations of the media source itself as shown by Pew’s study of political knowledge relating to media sources. Twitter users’ biases are potentially being formed by social connections through their followers’ network rather than learning about facts and determining their opinions for themselves. Following this research, I hypothesize that those who use Twitter as a news source will have lower political knowledge than those who receive news from more traditional sources such as television or newspapers. To examine the effects of by-product learning, I will be examining questions in the survey that have answers that relate to “fake news” or false stories that have been reported on recently such as the origination of the COVID-19 outbreak. I hypothesize that those who use social media will see an increase in answers that relate to “fake news” or misinformation.

Research Design: To test this hypothesis, I partnered with a professional survey distribution company called Pollfish that allowed me to distribute a survey to my target audience of men and women, ages eighteen to fifty-four. The survey was designed to test the dependent variable of political knowledge through asking a series of questions relating to two different forms of political knowledge as defined by Carpini and Keeter. Results are based on comparing data from the dependent variable of those who are users of Twitter news, to those

who prefer other forms of news media. This research was approved by the institutional review board of Illinois Wesleyan University. All respondents issued informed consent to the survey through Pollfish.

My survey population was based on two different research studies. First, a 2020 Pew research study found that an estimated 92.5% of individuals who get most of their political news from social media are between the ages of eighteen and fifty-four (Shearer, 2020). Second, a 2019 Statista survey found that as of February 2019, an estimated 72.5% of adults ages eighteen to fifty-four used Twitter (Clement, 2019). Both studies found that most of the US population between the ages of eighteen and fifty-four use Twitter. Using this age range allowed me to focus on the most active population in the US that uses Twitter for both news and personal use. Using data from the 2019 United States census as my population size, I calculated that the size of my sample would need to be at least 385 respondents to provide statistically significant data with a 5% margin of error. Through working with Pollfish I was able to achieve the exact population required with a somewhat even distribution of gender. Other than age, I did not control for any other variables in my population selection.

The survey was conducted in a way that investigated the main points of the hypothesis. It began by asking respondents where they receive their news, giving them the option to select multiple sources, write in an option that is not listed, or select none. The second question then asked them to select their main source out of the same options. This allowed me to determine if social media was truly the causation behind my research. Questions three and four attempted to see what information individuals saw as valid. Question three asked the respondent which sources of news provided quality coverage with limited or zero fake news

coverage, while question four asked the respondent if they fact check information that they see. Question three allowed me to determine how much individuals trust different forms of media, while question four determined if individuals rely on a singular source or multiple sources to determine their biases. Questions five and six asked the amount of political content respondents see and where they see it on Twitter. These questions were designed to see if respondents answered that they see a high amount of political content but are not seeking news or using the platform for news, then they could be experiencing a by-product learning effect. I was able to determine this if they were more apt to choose answers in the political knowledge questions that have been proven as hoaxes. Question seven asked the respondent the most frequent political content they saw whether it came from political figures such as the president or somewhere like family and friends. Question eight asked what politically relevant accounts the individual follows. Both questions seven and eight were designed to determine who was having the most significant impact on the platform in shaping biases. Finally, the first portion of the survey concluded by asking where on the political spectrum the individual is, ie. whether they are liberal, conservative, or in between to determine if there is any ideological relevancy.

The survey then goes into five questions geared to determine political knowledge. Numerous authors and theorists have examined political knowledge and tried to determine what exactly makes up one's total knowledge. Authors Michael Delli Carpini and Scott Keeter researched throughout the field of political science and determined that political knowledge can be categorized into two core areas with smaller subgroups surrounding the core pieces that each raise the knowledge of an individual (Carpini and Keeter, 1992). The first large area they found agreement on in the field was "what government is". This can be defined as the basic structure of government and is commonly taught in schools such as what the separation of

powers is or how a bill becomes a law. The second large area is defined as “what government does”. Examples of this include being informed on political affairs such as the relevant issues of the time, the history of them, and facts on them. Because news media follows political affairs and relevant issues rather than “what government is”, I have chosen to base my first five political knowledge questions around “what government does” (Carpini and Keeter, 1992). The information I selected to base the questions off were picked from relevant news stories throughout the late summer and into early fall of 2020. Questions were also chosen based on prevalence across different sources of news to eliminate potential bias in selection. Examples of these include information and misinformation on COVID-19, and the importance of President Trump’s third supreme court justice nomination.

Examples of the subgroups that Keeter and Carpini wrote about include areas like knowledge of public officials’ policies and knowledge of politically “related fields” such as political history and political economy (Carpini and Keeter, 1992, pg1182). I chose the final six questions on the survey based on the subgroup of knowledge of political officials. During election time, the media is supposed to help inform the voter to make the decision for the candidate that they agree with. Since the distribution of this survey was close to a week before the 2020 presidential election, the final six questions aimed to find out if the media was informing the public on the candidates’ positions on key issues. These questions asked respondents which presidential candidate would be more likely to support a certain policy. Examples of these issues include positions on second amendment rights, police funding, and congressional term limits.

Preferred Media Findings: Research results returned a total of 385 responses, 51.95% being male and 48.05 being female. The ages of respondents ranged from eighteen to fifty-four from a variety of regions across the country. Other notable demographics include the high level of education the population possessed. 65.97% of the population possesses either a “university education” degree or some type of post graduate degree such as a master’s program or PhD. This skews my data as, according to the 2019 United States Census, only 33.32% of the population ages eighteen and older possesses a bachelor’s degree or higher (United States Census Bureau, 2019). My population also had a liberal bias to it. When asked where respondents stood politically, 36.62% labeled themselves as moderate, with 18.44% leaning “Somewhat liberal” and 23.9% saying they are “frequently liberal.” Only 21.04% stated they were either “somewhat conservative” or “frequently conservative.” Other demographics such as employment status and income were evenly distributed among the respondents.

Findings from the survey revealed that social media is beginning to gain prevalence in how individuals consume news. 84.94% of respondents reported they consume social media as a news source on a “regular (3-4 times per week)” basis. Building upon that was that 53.51% of all respondents reported that social media was the news source that they consume the most. This was 39.22% higher than the next most consumed news source which was “online news sources/apps”. However, when comparing data on individuals’ preferred media choice to data on which media source individuals trusted to provide quality content, social media was not among the most trusted. “Network or Local Television” was the most trusted source of information, but only 10.39% of respondents noted that it was their most consumed source of media.

A possible explanation for this gap between the most consumed and the most trusted news sources might be that individuals often will consult other forms of news as supplements to it. This is backed up by the 72.21% of respondents that fact check stories at least “most of the time” if not “always”. Focusing in on Twitter specifically, 95.58% of respondents reported seeing some level of politically relevant content on Twitter in their everyday use, mostly coming from the trending page or Twitter’s separate news page. Most participants state that the most frequent political content they see comes from political figures such as Donald Trump or Joe Biden. However, participants' responses indicate the most popular accounts which they follow that produce political content are news sites such as the New York Times or Fox News, with political figures coming in second. For more information about the first nine questions in the survey, please refer to the appendix on page 21.

By-Product Learning Findings: Examining the effects of by-product learning, as I have attempted to do, did not provide fruitful results. Two questions were used to determine if there was a by-product learning effect occurring on Twitter. Question one asked about the possible ways that Donald Trump received COVID-19 as an attempt to examine liberals’ responses to by product learning. The second question attempted to measure how conservatives used by-product learning by asking them about the origin of the COVID-19 pandemic. False information was provided by popular conspiracy theories that were being used in each ideological news sphere respectively.

Examining those who selected that they were either “somewhat conservative” or “frequently conservative”, they were more apt to select incorrect answers that have been circulating as rumors. The majority of respondents (43.21%) believe that the origination

of the COVID-19 virus was “created in a research lab in Wuhan, China” and not that it had come from a “bat or other animal from an open air market” as is the true origination determined by the Centers for Disease Control. Figure 1.1 represents the total population with no control, while figure 1.2 represents only self-identified conservatives. Those who considered themselves to be “somewhat liberal” or “frequently liberal” did not share the same amount of belief in political hoaxes as the conservatives did. Question thirteen in the survey asked respondents to reply with the most plausible way Donald Trump received COVID-19. When controlling for liberal viewpoints, the largest jump in responses was a 2% increase in those who believe that it was “intentional to delay the election” which was a popular theory being used in some far left news outlets. Figure 1.3 represents the total population while figure 1.4 represents only self-identified liberals.

While the conservative data suggests that a by-product learning effect could be taking place, the liberal data does not support this idea. Combining this with lack of statistical significance, I concluded there was not a by-product learning effect taking place in my data. More research is needed to determine if there is a by-product learning effect of false information taking place on social media, or if it is more of a problem of ideologically different news sources reconfirming biases.

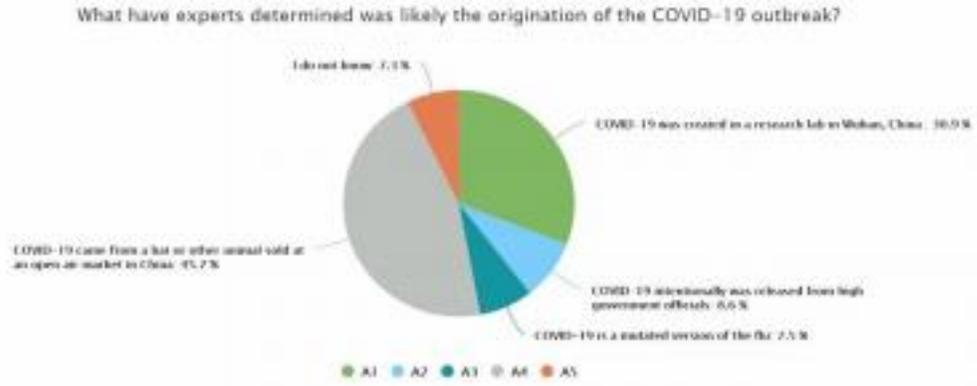


Figure 1.1

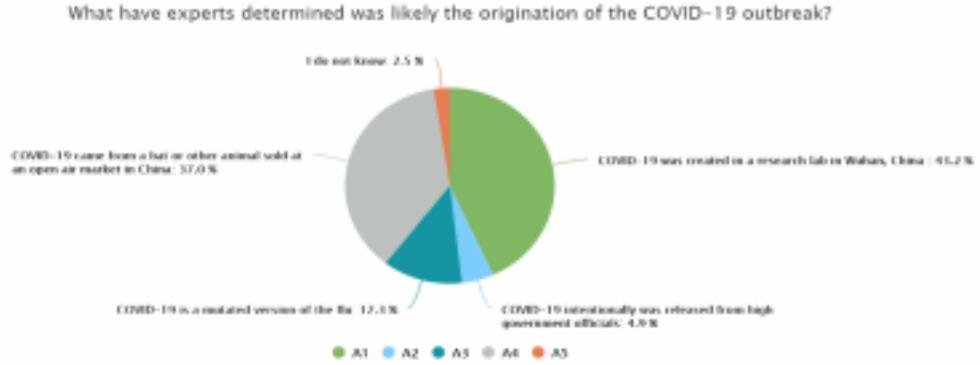


Figure 1.2

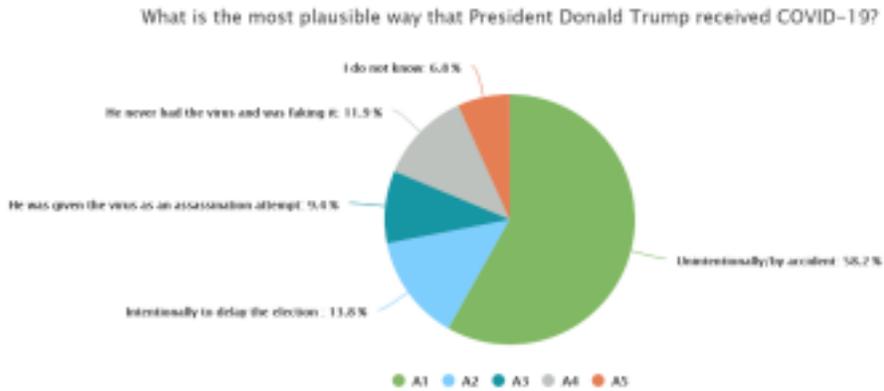


Figure 1.3

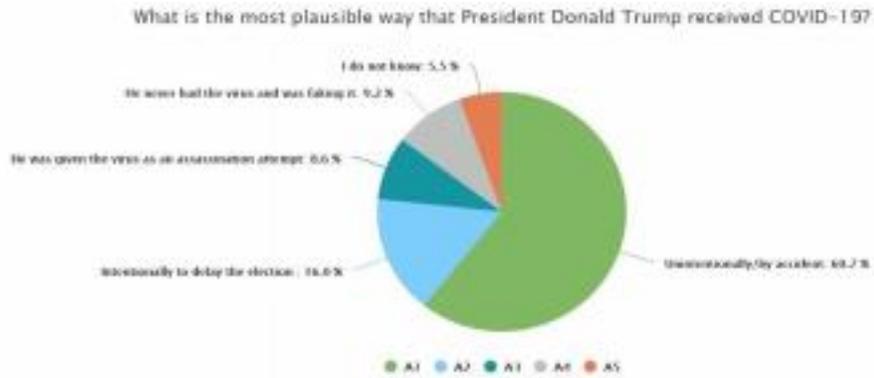


Figure 1.4

Political Knowledge Findings: When beginning to examine the political knowledge questions, it is important to compare different individual sources to determine the efficiency of each source. On average, 55.49% of online newspaper users answered correctly making them the most knowledgeable. The least knowledgeable was those who consume social media news where an average of 36.67% of respondents answered correctly. In total, the most knowledgeable group were those who primarily used online newspapers, followed by political radio users, then cable TV users, print news, network or local TV, and lastly social media. Average correct answers for each individual media source can be seen in table 1.0 below, along with how they rank against other sources.

Table 1.0 examines the average percent who answered correctly per question by preferred media source.

	First 5	Rankings	Final 6	Rankings	Total	Rankings
Online newspaper	65.84%	1	45.15%	1	55.49%	1
Political Radio	56%	2	35%	3	46%	2
Print	45.00%	3	31.95%	5	38.47%	4
Network/Local TV	45%	3	30%	6	38%	5
Cable TV	44.45%	5	37.04%	2	40.74%	3
Social Media	39.12%	6	34.22%	4	36.67%	6

Figure 1.0

Amidst the five political knowledge questions regarding political affairs and the relevant issues of the time, an average of 46.7% of respondents answered each question correctly. Most participants answered correctly to all five questions regarding relevant issues of the time. The first stratification that was used was to examine those who use Twitter as their main source of news. When examining only those who labeled social media as their primary source of news, the percentage of correct answers dropped to an average of 39.12%, and most of the population responded correctly to four out of the five questions. The only question that was problematic for respondents was regarding the November 10-court case that will determine the legality of the Affordable Care Act.

Comparing the averages of the total populations' correct answers to the population that excludes those who use social media as their primary source of news yielded higher knowledgeability. This population of respondents used mostly online newspapers and cable television for their sources. They averaged a total of 52.74% correct responses, 13.61% more correct responses than the social media group. To check the statistical significance, I used SPSS to run a crosstabulation correlation between the question of "Of the news sources that

you selected in the previous question, which source do you consume the most” and the number of questions each respondent answered correctly regarding relevant topics. This produced a Pearson’s Chi-Squared value of .008 meaning that the null hypothesis that states there is no correlation between primary news source and the number of questions answered correctly can be rejected. A comparison of the percentages can be found on page 18 in table 2.0. More in depth data on the first five questions can be found in the appendix on page 21.

The second set of political knowledge questions that examined individuals’ knowledge of the presidential candidates’ policies revealed lower knowledge across the board. Knowledge of policies was lower than that of knowledge of relevant issues. On average of 35.80% of respondents answered each question correctly. This is 10.9% lower than the average of 46.7% of respondents that answered correctly regarding relevant issues. Most of the respondents answered correctly on only two out of the possible six policies. The policies that respondents answered correctly regarded Vice President Biden’s support for a national mask mandate to fight the COVID-19 pandemic, and President Trump’s support for federal grants to help send students to private schools.

Following the same stratifying process as with the five relevant issue questions, I examined the six questions in relation to presidential policies. I began by examining the source of media. Of the respondents who selected social media for their main source of news, the percentage of respondents who replied correctly dropped only slightly to an average of 34.22%. Of those who chose a news source other than social media, there was also only slight movement in the percentage of respondents who answered correctly. Participants answering correctly moved up to an average of 37.62%. There was no change in questions answered

correctly by the majority when controlling for ideology. Using SPSS a crosstabulation correlation was also run between the question of “Of the news sources that you selected in the previous question, which source do you consume the most” and the number of questions each respondent answered correctly from the presidential candidates policy questions. A Pearson’s Chi-Squared value of .876 was produced from the measurement meaning that the null hypothesis cannot be rejected. Based upon the decreased differences in average correct responses this value is to be expected. A comparison of the percentages can be found on page 18 in table 2.0. More in depth data on the final six questions can be found in the appendix on page 21.

Lastly, I examined the total number of questions answered correctly in comparison to individuals preferred media sources. On average, 41.25% of respondents answered correctly to any given question. In total, respondents averaged correct answers on seven out of eleven questions. While over half, this number is skewed because of the apparent high knowledge of relevant topics but not of presidential policies. When examining social media users, an average of 36.67% of respondents answered correctly in comparison to the population that used other forms of media who averaged 45.18% of respondents answering correctly. With an 8.5% difference between those who use social media and those who use other forms of media, there seems to be a clear difference in political knowledge. Using a third crosstabulation I was able to compare preferred media sources to the total amount of correct answers. I received a Chi Squared value of .031 which is statistically significant at the .05 level. This means that we can reject the null hypothesis and conclude there is a correlation between overall political knowledge and preferred media source.

Table 2.0 examines the average percent who answered correctly per question comparing social media news and all other forms of media

	First Five Questions	Last Six Questions	All Questions
Social Media Users	39.12%,	34.22%.	36.67%
All other Forms of Media	52.74%	37.62%.	45.18%
Total Population	46.70%	35.80%	41.25%

Table 2.0

Conclusions: This research was able to target the audience of Twitter users to determine if there was significant data on whether social media users were less knowledgeable about politics than those who used other forms of media. Using a crosstabulation between preferred media source and number of correct answers, we were able to determine that there is a correlation between preferred choice and political knowledge. Using the average number of questions answered correctly, we were also able to determine that this correlation means social media users are in fact less knowledgeable than those who use other forms.

This conclusion proves inherently problematic as an increasing population are turning to technological advancements for news coverage. If this trend continues, United States citizens will continue to decline in their political knowledge as more people move to these forms of media. This inherently inhibits the democratic process for the United States. Voters relying on low knowledge of the salient issues will not be able to determine which candidate agrees with their opinions and therefore are voting blind and making less informed political

judgements. This creates an ideological disconnect between the opinions of those who can make changes and the opinions of the people they are supposed to be representing.

It is important to note that this data cannot be generalized to the greater population of the United States as the population sample size was only twitter users between the ages of eighteen and fifty-four. However, this sample population did provide us with the ability to examine a large amount of the voting population. With social media continuing to expand every day, this research provides a look into the importance to exclude Twitter as a prominent news source. It also aims to influence people's decisions in their preferred media outlet to shy away from social media sites.

While the examination of a by-product learning effect in my research produced inconclusive findings on political hoaxes, more research is needed to determine the true impacts of this effect on Twitter. As stated before, the platform mixes both entertainment and political issues on a singular streamlined platform. Through this combination, Prior's use of the by product learning theory could prove fruitful when examining it using different methodology. One could argue that if there is a significant by-product learning effect taking place on Twitter, political knowledge should be higher because individuals have said there is a vast amount of political content on the platform. I counter this by suggesting that the by-product theory states that it takes effect when people are using a platform for entertainment seeking purposes. Over half of my sample used social media for their primary source of news, and with a diminished sample size to examine by-product learning it was difficult to have significant results. Future research could examine this by running a comparative study that examines

Twitter news users, next to entertainment Twitter users, over a certain amount of time to see who picked up more political information.

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