‘I Read It On Facebook. So It Must Be True!’: The Effect of Facebook Use on Partisan Perceptual Bias and Political Knowledge

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Abstract

Political knowledge is one of the most important determinants of the political behavior of citizens and their ability to participate in the democratic system. The amount of political knowledge that citizens possess, and the process of political learning has been changed by the rise and use of Facebook. It has affected users' Motivation, Opportunity, and Ability to learn about politics. Previous research on the effect of Facebook on political knowledge has yielded divergent results, suggesting there might be another aspect influencing the relationship between the two. This thesis argues that Facebook use affects users' political knowledge through the influence it has on their partisan perceptual biases. Using data from the ANES 2020 Social Media Survey, this thesis shows that partisan bias is strongly present and affects the knowledge level of people. In general, increased Facebook use tends increase knowledge about party congruent information, while decreasing knowledge about party incongruent information. But more importantly, results show that this effect varies for different questions and issues, suggesting that further and more detailed research is needed to isolate the effects of Facebook use on partisan biases and political knowledge.

Keywords: Facebook, Partisan Perceptual Bias, Political Knowledge.

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1. Introduction

Political knowledge is an important predictor of political behavior and citizens’ ability to participate in politics, and it is the first step to understanding citizens’ political behavior (Galston, 2001). This is why political knowledge has been described as “the cornerstone construct in research on political behavior” (Mondak, 2001, p. 238). People's political behavior can differ enormously because they base their decisions on different facts and realities. It is for this reason that research in how to increase the level of political knowledge among the citizenry has been an important field of research for many political scientists (Galston, 2001).

In general, higher levels of media consumption are one of the most efficient ways to increase political knowledge levels (Jerit & Barabas, 2012). However, since the rise of social media platforms such as Facebook, the way in which we consume media has changed drastically. The average American person spends about 2.5 hours per day on social media; watching videos, listening to podcasts, or ‘scrolling the feed’. Of those 2.5 hours, they spend around 33 minutes on Facebook, which makes it the most popular social media platform of all (Statista, 2021). Currently, the social media site is used by almost 3 billion people on the planet (Datareportal, 2022), and a study from Pew Research Center shows that a third of all Americans use Facebook regularly as a source of news (2021). Facebook allows for easy sharing of news stories, it facilitates discussion between followers, and it allows anyone to voice their opinion on a certain issue. Furthermore, because it combines entertainment and news in one platform, people who would otherwise avoid it are now more likely to see news stories (Anspach, 2017). Facebook therefore no longer just allows friends and family to connect with one another and share the milestones happening in their lives; it has also become a source of information and current events for many people.

Research about the effect of social media on political knowledge has thus far yielded very diverse results, suggesting that there is a missing element influencing the relationship between the two variables (Bode, 2016; Boukes, 2019; Lee, Nanz & Heiss, 2022). The interactive features of the platform - despite being one of the reasons behind Facebook’s success - is also becoming cause for concern. Information can be filtered based on a user’s likes and dislikes, posts need to ‘liked’ by many others before its contents can reach a larger audience, and even then, the network you build for yourself on the platform can still determine what kind of news you see (Martin, 2018). The question is, what effect does this personal influence over the news you see have on our knowledge and ability to think critically?

In this thesis, I argue that one of the reasons why no conclusive correlation has been found between the two is because no research thus far has accounted for the selective biases people carry

with them and already (subconsciously) use when looking for information. When it comes to political decisions, many citizens are heavily influenced by the partisan views and beliefs that they hold (Van Bavel & Pereira, 2018; Weeks, Lane & Hahn, 2022; Kruglanski & Webster, 1996). Past research has shown that people do not process all information the same way; often a confirmation and/or disconfirmation bias comes into play when assessing information (Lodge & Taber, 2006). This bias has been referred to as 'partisan perceptual bias': people with different political views perceive information differently and create different realities through which they view information. It has been shown that partisan perceptual bias is affected by information supply and higher levels of media coverage intensify the effect (Jerit & Barabas, 2012). Facebook as an interactive communication platform directly influences what we see and know about politics, for example through its powerful algorithm (Lee, Nanz & Heiss, 2022). I theorize that Facebook use influences a person's level of political knowledge through the influence it has on that person's level of partisan perceptual bias. The research question addressed in this paper is as follows: *What is the effect of Facebook use on a person's level of partisan perceptual bias and political knowledge?*

I will research this using survey data from a study conducted amongst American voters in 2020, where respondents were asked about the way they use and interact with Facebook and were tested on their political knowledge about partisan-divided issues. Based on the logistic regression conducted, I find that when information aligns with a person's pre-existing beliefs, the effect of Facebook use on political knowledge is stronger than when information is ideologically different from a person's beliefs. However, I also find that this effect can vary per issue.

2. Theory

2.1. Political Knowledge

Political knowledge is a general term that needs further clarification. It refers to political information stored in a person's memory. This thesis will apply Delli Carpini's and Keeter's definition of the concept of political knowledge: it is "the range of factual information about politics that is stored in long-term memory" (1996, as cited in Barabas et al., 2014, p. 841). This definition specifies two important aspects of political knowledge. Firstly, only factual information is included in this definition. It must be possible to empirically prove political information before it is considered political knowledge. Secondly, this definition only considers information that has been processed and committed to one's long-term memory.

There are several theories about what influences a person's level of political knowledge. The main theory is the Opportunity – Motivation – Ability (OMA) Framework, which states that everything that influences political knowledge can be scaled under one of these three aspects (Weeks, Lane & Hahn, 2022). *Opportunity* refers to the availability, the level of exposure and access to political information. The more political information one is exposed to, the more politically knowledgeable one becomes (Weeks, Lane & Hahn, 2022; Luskin, 1990). Contrary to the other two aspects, Opportunity is not just an individual-level characteristic, but is also influenced by the environment. For example, the availability of news is greater when schools give higher quality education and are more focused on politics; when peers and family are more focused on politics and current events; and when one lives closer to a political center (Barabas et al., 2014). The second aspect, *Motivation*, refers to a person's level of interest in politics (Barabas et al., 2014). More politically interested people are more likely to notice or seek out political information, and they will be more willing to process that information thoughtfully (Luskin, 1990; Barabas et al., 2014). The third aspect, *Ability*, refers to how well a person can learn about politics. Luskin (1990, p. 335) compares this with: "Ordinary people who enjoy music do not compose great symphonies." One needs to have the abilities to be able to learn about politics. This is often conceptualized as the skills a person possesses to find and comprehend political information, and is measured, for example, by the level of education a person has achieved (Weeks, Lane & Hahn, 2022).

2.2. The Facebook Mechanism

The use of Facebook could influence political learning through these different factors. To understand the possible effects of Facebook, however, one must first gain an understanding of how the platform

functions. Facebook, a Social Networking Site (SNS), as a news provider is very distinct from traditional media sources in several ways (Van Erkel & Van Aelst, 2020). Whereas news from traditional media sources has been selected and produced by professional organizations, news on Facebook can originate from anyone. This increases the risk of misinformation, but on the other hand also allows for a more differentiated viewpoint, as everyone can make their viewpoint heard (Munger et al., 2022). Important to note is that most news shared on social media is somehow tied to a traditional news source, and Facebook is compared to other SNS platforms by far the most important network for referring to traditional media sites (Newman, 2011). Another important way in which Facebook as SNS differs from traditional media sources is that people can more easily and more frequently encounter news on the platform even if they are not looking for it. Finally, on traditional media sites, the feed looks the same for everyone. But on SNS sites like Facebook, the algorithms determine what a user’s news feed looks like and ‘personalize’ it according to the user’s preferences (Van Erkel & Van Aelst, 2020).

Facebook also differs from other SNS’s in the way it works and spreads news. Two platform characteristics are particularly important for this: network structure and curation processes (Lee, Nanz & Heiss, 2022). The network structure refers to the way you make connections with people online. Facebook’s network structure is strongly based around two-way, personal connections (Boukes, 2019). Where other SNS platforms such as Twitter are based on one-way connections where anyone can follow anyone, Facebook typically requires a connection from both ends to establish a network, which leads to more closed circuits. It operates with ‘friends’: users ‘friend’ other users and form a reciprocal connection with those that accept. There is also the option to simply follow other users or public pages (these are considered non-reciprocal connections), but generally, Facebook users tend to form strong networks with people they know (Lee, Nanz & Heiss, 2022).

Curation processes describe how and which information gets selected and presented to the user. Facebook has a powerful algorithm that decides this (Van Erkel & Van Aelst, 2020; Boukes, 2019). ‘Friends’ of the user play a crucial part in this: friends with whom a user interacts frequently will take up more space in the newsfeed compared to posts or information from public pages or news stories (Lee, Nanz & Heiss, 2022; Boukes, 2019). This shows that the network a person builds on Facebook has a strong influence on the algorithm and what information they see. Facebook has spent years perfecting the algorithm that presents posts on a user’s feed. Improvements were always focused on showing the user the content that they wanted to see. In the last few years, with users becoming more aware of the influence of the algorithm, it has become possible to influence the algorithm and to filter the content on your feed. This can be done by for example selecting information that you do not want to see anymore. Since 2017, the platform has a page called the ‘Explore Feed’, which allows

users to find content outside of the people and pages that they already follow (Wallaroo, 2022). Facebook also had a 'Trending' section until 2018 but removed it due to lack of interest in the tool by users (Facebook Newsroom, 2018). Since 2021, it has also been possible to apply filters to your feed that determine what content receives priority (Wallaroo, 2022).

The mechanisms of Facebook described above have an influence on users' political learning process. In the next sections, I will explain how the use of Facebook can influence a person's Opportunity, Motivation and Ability to gain political knowledge.

2.3. The Effect of Facebook on Opportunity

Research suggests that the opportunity for political learning from social media is real (Bode, 2016). Research more specified to Facebook in particular is more negative about the relationship between Facebook use and knowledge. While some argue that Facebook use has no significant effect on political knowledge (e.g. Lee, Nanz & Heiss, 2022; Feezell & Ortiz, 2021), other researchers find that Facebook use negatively affects a person's level of political knowledge (Boukes, 2019; Van Erkel & Van Aelst, 2020; Schäfer, 2020).

Facebook impacts the Opportunity to come across political information in several different ways. Some argue this is because it is most typically used as a site for entertainment rather than politics (Boukes, 2019; Lee & Xenos, 2022; Lee, Nanz & Heiss, 2022), and thus users are less exposed to political content on the platform. It is considered more a "distracter of current affairs knowledge" (Boukes, 2019, p. 47) rather than a contributor to it. Other researchers claim that the possibility of Facebook to increase the Opportunity of finding political information exists, but only for those who are already interested in politics. They argue the Facebook algorithm, which is designed to show users what they want to see, shows political information mostly to those who have been algorithmically categorized as being interested in politics (Thorson et al., 2019). This would mean that Facebook use does not increase the Opportunity for learning for all, but only for those already interested in politics.

However, not all researchers agree on this view of Facebook as simply an entertainment platform. Facebook, due to the ease with which users can share and recommend news stories to each other, must also be seen as an important news actor (Cacciatore et al., 2018). It increases the opportunity for political learning for all users through accidental exposure to political information on the entertainment site and benefits the politically unknowledgeable, as they gain the most new information from the platform (Weeks, Lane & Hahn, 2022). Furthermore, studies have found that those who are interested in politics and those who consume different media tend to avoid echo

chambers and show that only a very small percentage of the population may find themselves seeing only content consistent with their own views and areas of interest (Dubois & Blank, 2018). The Opportunity to learn from social media may therefore not be as limited as some researchers suggest.

2.4. The Effect of Facebook on Motivation and Ability

Facebook also influences a person's Motivation to learn about politics. While containing many news posts, the platform often only shows shallow bits of information. This is sometimes referred to as 'snack news': because Facebook has made information so widely available, an information overload is created for users, and news providers are competing for users' attention (Schäfer, 2020). Facebook shows its users a lot of short news stories, giving the impression of being informed, but instead leads to a "false heuristic inference" where people feel informed while this is not the case (Van Erkel & Van Aelst, 2020). Studies show that the feeling of being well-informed is measured by the increased amount of exposure to news content, not through how many of the news articles they actually read (Müller, Schneiders & Schäfer, 2016). Frequent but shallow exposure to news thus leads to perceptions of high levels of political knowledge, but not necessarily to actual gain of political knowledge. By contrast, people with less frequent but more in-depth exposure to political information gain more actual political knowledge, but perceive themselves as less politically knowledgeable (Schäfer, 2020). This leads to a lower Motivation of users to find out political information, but arguably also affects a person's ability to learn about politics. The false heuristic creates a misleading perception of being informed and based on this misjudgment they decide to look no further into political issues. The heuristic therefore also affects people's Ability to understand how knowledgeable they are and their Ability to learn more. Some researchers claim that Facebook use does not have a significant effect on political knowledge, but only on the perception of political knowledge (Feezell & Ortiz, 2021). Others argue that the potential of political learning from Facebook does exist, but is negatively impacted by this phenomenon (Anspach, Jennings & Arceneaux, 2019). Finally, there are some who find that 'snack news' causes users' level of political knowledge to decrease (Van Erkel & Van Aelst, 2020).

Another way in which Facebook influences a person's Motivation to learn about politics is through the recommendation of news articles from friends. The ability to share and recommend articles or pieces of information is a central aspect of Facebook. Research shows that these 'social endorsements' by a person's network trigger decision heuristics stronger than any partisan heuristics (Anspach, 2017). When a social endorsement is evident on a post, partisan biases become insignificant. This is especially the case for partisans who select sources incongruent with their pre-

existing views (Messing & Westwood, 2014). This effect is found to be strongest when the relationship between the user and the recommender is very strong, but it does not have to be; social endorsements are also paid close attention when the recommending Facebook is perceived as different or 'interesting' (Kümpel, 2019). As Anspach (2017, p. 602) puts it: "Through their endorsement features, social media can make partisan news salient to millions of individuals who may have otherwise ignored it." This phenomenon shows that in this case, the first source of Motivation does not lie in the news itself, but in what the user's friends find newsworthy.

Nevertheless, in some cases, the Motivation of users to select news articles are influences by their news preferences. Users are more likely to read an article recommended to them if it is deemed relevant for them personally and aligns with their pre-existing views. This effect is further strengthened by the Facebook algorithm, which ensures that recommendations from weak ties and posts unaligned with the user's interests do not appear at the top of their feed (Kaiser, Keller & Kleinen-von Königslöw, 2021). Likewise, misinformation on the platform is less likely to be detected when it favors the user's pre-existing beliefs (Peterson & Iyengar, 2020). Studies have also found that partisan information is spread much quicker when people with similar beliefs enter discussions together (Druckman, Levendusky & McLain, 2018), and Facebook has made finding and entering discussions with like-minded individuals much easier. This implicates that the knowledge gap between ideologically congruent and incongruent information will increase due to Facebook use

2.5. The Effect of Facebook on Partisan Perceptual Bias

Although much research has been done, there is no consensus among researchers about the effect Facebook has on political knowledge, suggesting there is some effect that has been omitted in previous research. In this thesis I argue that the effects of partisan perceptual bias are what influences and causes different effects in the relationship between Facebook use and political knowledge. While gathering information, most people do not act like impartial judges, reviewing all available information, but rather process information like an attorney would; building a case and looking for evidence that supports their argument (Epley & Gilovich, 2016). This mechanism of reasoning is often referred to as both a confirmation and a disconfirmation bias. People are more inclined to seek out information that aligns with their beliefs and are typically less prone to accepting information that differs from their pre-existing opinions at face value. They will spend more time disproving this information (Lodge & Taber, 2006; Morris et al., 2003). Where people interpret new political information based on their partisan views, this is called partisan motivated reasoning or partisan perceptual bias (Bolsen, Druckman & Cook, 2014).

Analysis has shown that the effect of increased media coverage on partisan bias differs depending on the motivation of the receiver. Where information has no partisan implications, more media attention tends to increase the general level of knowledge. On the other hand, when information is partisan tinted, increased media attention will increase partisan perceptual bias (Jerit & Barabas, 2012). Based on the theories outlined above, I expect that the use of Facebook will exacerbate the effect of partisan perceptual bias. With the large quantity of information available on Facebook, the large amounts of ‘snack news’ available and the Facebook algorithm, it can be expected that users are most likely captivated by stories aligning with their pre-existing beliefs. Social endorsements may outweigh partisan cues when selecting what information to read on Facebook, but research indicates this may only work with close relations, who often have similar views (Kaiser, Keller & Kleinen-von Königslöw, 2021). The negative impacts of Facebook outweigh the positive sides, and the Opportunity of users to come across ideologically incongruent political information is negatively impacted by Facebook. Furthermore, their Motivation to look further into current events and gain a more nuanced view is also decreased. Their level of political knowledge about ideologically congruent facts while increase, while knowledge about ideologically incongruent facts will decrease. The hypothesis in this thesis is as follows:

H1: Increased use of Facebook will increase a person’s level of partisan aligned political knowledge and will decrease their level of partisan unaligned political knowledge.

3. Research Design

In this thesis, a statistical model is developed to test the hypothesis mentioned above. The scope of this analysis focusses on Western democratic states, as the theories on which the hypothesis is based also focus on Western states. Because every Western state varies in characteristics, I cannot generalize, and will focus on a single country: the United States of America (USA). The political use of social media, and Facebook in particular, has been especially common in the USA since the election campaign of Barack Obama in 2008, and since then it played an increasingly larger role in American politics. This has become clear during the election campaigns and presidential term of Donald Trump (Fujiwara et al, 2022). The important role social media plays in politics is the reason why this case was chosen. The two-party democratic system of the USA also lends itself well to the study of partisan perceptual bias, which is why this case was chosen.

3.1. Data

The data used for analysis in this thesis originates from the 2020 Social Media Survey, conducted by the American National Election Studies (ANES). This survey is a two-wave panel survey that was conducted pre-presidential election (August 20 to September 17, 2020) and post-presidential election in 2020 (November 1, 2020, to January 1, 2021). It measures the effect of Facebook on ‘political knowledge and misinformation’ and the ‘political diversity of social networks’ (ANES, 2020). In this thesis, just the data from the post-election survey will be used. The individual-level survey was conducted online via the NORC, an established survey panel. The target population for this survey was American citizens aged 18 and above. The sample was selected using stratified sampling methods, and stratified by previously reported Facebook status, ethnicity, age, education, and gender. A total of 5277 randomly selected respondents filled out the survey. After removing all missing values, 3439 responses remain.

3.2. Operationalization of the Dependent Variable: Partisan Aligned Political Knowledge

This research focusses on how the use of Facebook interacts with partisan perceptual bias to influence political knowledge. When considering partisan bias, it is expected to influence on all political facts that have ‘partisan relevance’. With this, I refer to any fact that the typical Democrat or Republican would identify as a partisan issue (Jerit & Barabas, 2012). The dependent variable in this research measures how much correct knowledge a respondent has about partisan political knowledge. In

practice, this is measured using five different partisan relevant questions that respondents had to answer. The expectation explained in the theory section above is that people will have a higher level of knowledge about facts that reflect positively on their party and are aligned with their views, and a lower level of knowledge about facts that reflect negatively on their party and their views (Jerit & Barabas, 2012). To account for this, each of the five questions used in this research were labelled as being more aligned with Democrats or with Republicans. The table below highlights each of the questions, the correct answer and whether it aligns with Democrats or Republicans.

Table 1. Questions Related to Dependent Variable

Question	Correct Answer	Alignment
Which of these do you think is most likely to be true about the presidential election held 4 years ago?	Russia tried to interfere in the 2016 presidential election	Democrat
Which of these do you think is most likely to be true about the presidential election 4 years ago?	Very few people voted illegally in the 2016 election	Democrat
Which of these two statements do you think is most likely to be true about the Affordable Care Act of 2010 (ACA), also known as Obamacare?	The ACA increased the number of people with health insurance	Democrat
Whose administration deported more unauthorized immigrants during the first three years?	Barack Obama's administration	Neither
Which of these statements best describes what you think about climate change?	It is caused mostly by human activity	Democrat

Four of the five questions used are biased towards Democrats, meaning that people who identify themselves as Democrat will be expected to answer more questions correctly than people who identify themselves as Republican. Ideally, these questions should be more balanced between Democrat and Republican biased questions, but this is not possible given the current resources available. Therefore, I will consider this a limitation of the research and keep it in mind when analyzing the data. This will be discussed further in the conclusion.

These five questions were recoded into dummy variables, with questions being answered either Correct (1) or Incorrect (0). As can be seen in the table below, the first three variables were more often answered correctly than the last two questions. The divide between correct and incorrect answers is closest for question four. A different regression will be run for each of these five questions as dependent variable to test the hypothesis of this paper.

Table 2. Descriptive Statistics of all Dependent Variables

	Q1: Russia Interference	Q2: Illegal Voting	Q3: ACA	Q4: Deported	Q5: Climate Change
Mean	0,69	0,82	0,76	0,50	0,39
Proportion Correct Democrats	0,501	0,487	0,507	0,252	0,337
Proportion Correct Republicans	0,199	0,330	0,264	0,249	0,057

3.3. Operationalization of the Independent Variable: Facebook Use

The main independent variable in this research is Facebook use, which refers to how much a respondent uses Facebook. This is measured using a question asking respondents how often they visit or use Facebook. Respondents can give their answer based on a 7-point scale, varying from less than once a month [1] to many times every day [7] (see appendix for precise wording). This variable contains a Likert scale and is thus ordinal, but for analytical purposes this variable will be seen as an 'ordinal approximation of a continuous variable' (Statistics Solutions). Research has found that, especially when the sample size is large, ordinal Likert scales with four or more categories can be converted into continuous scales without producing any significant distortions of the data (Johnson & Creech, 1983). The mean of this variable is 4,687 and the standard deviation is 2,045 which indicates that there is some variation. As the histogram below shows, the most frequent answer was that respondents use Facebook a few times every day.

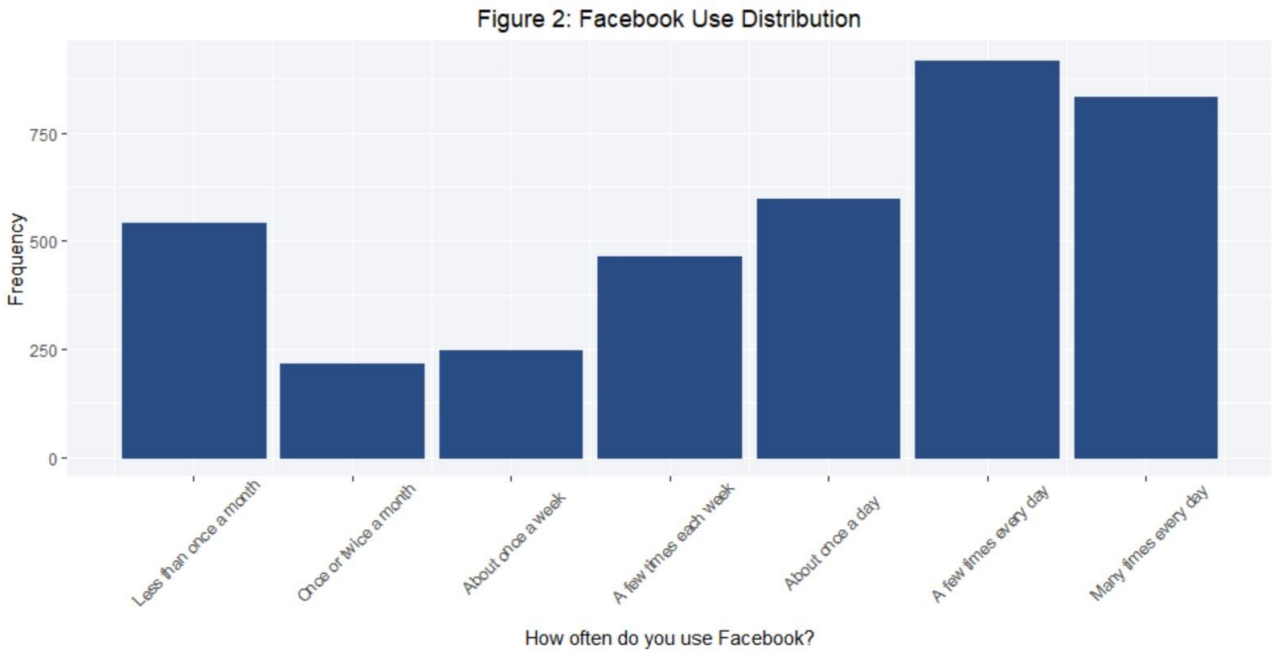

Figure 1: Histogram Facebook Use

3.4. Operationalization of the Moderating Variable: Party Identification

I expect the effect of Facebook use to be moderated by a respondent's party identification and how strong their party support is. Based on previous research and the alignment of the dependent variable, I expect Democrats, and especially those who identify strongly with the Democratic Party, to be most likely to answer these political knowledge questions correctly. Party identification is measured in this thesis using a summary variable based on three questions from the survey (see appendix for more detail). The result is a variable with 7 levels, ranging from Strong Democrat [1] to Strong Republican [7]. Because the research in this thesis focusses on party congruent and party incongruent information, we look at only those who identify as Democrat and those who identify as Republican. The question above was recoded into a dummy variable that identified respondents as either Democrat [0] or Republican [1]. All those who identified as Independents were removed from the dataset. The distribution of Republicans and Democrats is shown in the bar plot below. The mean of this variable is 0,557.

To measure how strongly respondents identify with their party, another variable measuring party strength was created, categorizing respondents as Lean Partisan [1], Not So Strong Partisan [2] or Strong Partisan [3]. This distribution is also shown in a bar plot and has a mean of 2,212 and a standard deviation of 0,801. This variable will be added as a set of dummy variables to the regression.

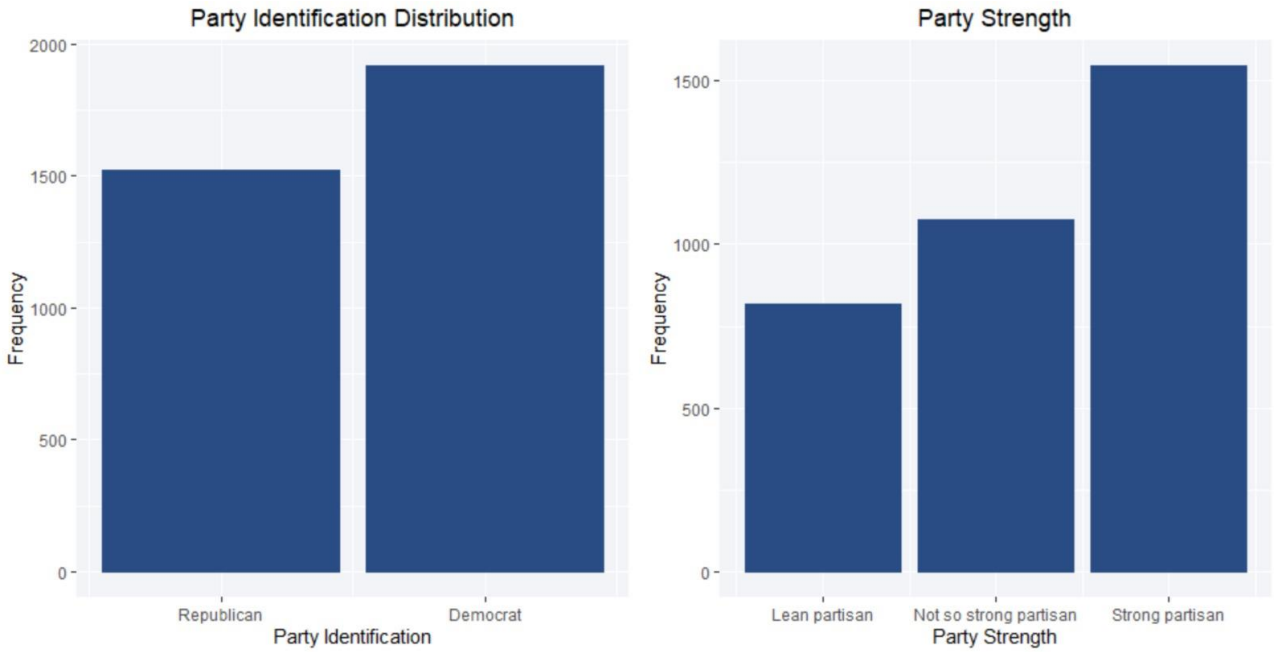

Figure 2: Bar plots Party Identification and Party Strength

3.5. Operationalization of the Control Variables

The Motivation of a person to learn (more) about politics is also expected to be affected by Facebook use. This aspect will be measured using a question that asks respondents how often they pay attention to politics, ranging from never [1] to always [5]. This ordinal variable with five categories will be included as a continuous variable as well. The Ability of a person to learn about politics, the final aspect of the OMA Framework, will also be included. This will be measured using a question asking what level of education a respondent has achieved, as higher levels of education indicate a stronger ability to learn and have been found to lead to higher levels of political knowledge (Robinson, 2020). The question offers five options, ranging from less than High School [1] to Post-grad study/ Professional degree [5]. These categories will be included as a set of dummy variables.

Several other variables are added to the statistical model to best control for other possible influences on political knowledge. Age will be added as a control variable, as younger people are known to use social media more and can possibly affect the independent variable (Ozimek & Bierhoff, 2016). Gender will also be added as a control variable, as it has been proven to explain differences in levels of political knowledge (Biernatowska, Balcerowska & Bereznowski, 2017; Krogstad, 2015), and I want to exclude its potential confounding influence from the model. Gender will be included as a dummy variable. Ethnicity is another variable that is usually added as a control variable to research, but I have opted not to include this variable as it is correlated with several other variables in this research. Non-white ethnic groups are more likely to identify as Democrat (Pew

Research Center, 2015) and have consistently lower levels of education compared to White citizens (United States Census Bureau, 2022). In the scope of this current research, I will not be able to do the variable justice, and therefore it is not included in this research.

A final control variable will be how much people believe they know about politics. This is included to test the theory that increased Facebook use only increases people's perceptions of being politically informed. It will be measured using a question that asks respondents how much they know about politics compared to others on a 5-point scale. It will be treated as a continuous variable. The distributions of these variables can be seen in the table below.

Table 3. Descriptive Statistics of all Control Variables

	Attention to Politics	Perceived Political Knowledge	Education Level	Age	Gender
Mean	2,25	2,76	3,33	47,54	1,52
Median	2,00	3,00	3,00	45,00	2,00
Std. Deviation	0,99	1,05	1,05	16,19	0,50
Minimum	1,00	1,00	1,00	18,00	1,00
Maximum	5,00	5,00	5,00	80,00	2,00

3.6. The Statistical Model

The hypotheses in this thesis will be tested using a multiple logistic regression conducted using the program R. A model will be built for every dependent variable, containing a dependent variable, independent variable, interaction between the independent and moderator variable, and all relevant control variables. The five model outcomes will be compared. All assumptions were checked prior to running the multiple logistic regression. As all the assumptions for logistic regression were met, no further changes were made to the dataset. See the Appendix for more detailed information.

4. Results

This thesis argues that the use of Facebook will increase a user's knowledge about facts that align with their pre-existing party preferences and will decrease a user's knowledge about facts that do not align with them. To test this hypothesis, a multiple binary logistic regression was conducted. Five different models were made. The results of these regressions are shown in Table 4.

Table 4. Logistic Regression Analysis of the probability of Facebook influencing Political Knowledge

	Model 1 | Russia Interference	Model 2 | Illegal Voting	Model 3 | ACA	Model 4 | Deported	Model 5 | Climate Change
(Constant)	-1,774***	0,470	0,117	-1,313***	-2,204***
	(0,348)	(0,366)	(0,349)	(0,308)	(0,363)
Facebook use	-0,033	0,026	-0,038	0,003	-0,098**
	(0,027)	(0,030)	(0,028)	(0,028)	(0,037)
Party identity	2,343***	1,327***	1,873***	-0,135	2,526***
	(0,241)	(0,240)	(0,248)	(0,188)	(0,224)
Facebook use *	0,032	-0,032	0,056	-0,080*	0,007
Party identity	(0,046)	(0,046)	(0,048)	(0,036)	0,044
Not so strong partisan	0,089	0,003	0,137	-0,226*	0,160
	(0,121)	(0,130)	(0,135)	(0,101)	(0,116)
Strong Partisan	-0,084	-0,185	-0,038	-0,385***	0,188
	(0,114)	(0,122)	(0,117)	(0,095)	(0,109)
Attention to politics	0,144**	-0,121*	-0,010	0,132**	0,029
	(0,055)	(0,058)	(0,056)	(0,047)	(0,054)
HS graduate	0,283	-0,219	0,365	0,034	0,358
	(0,232)	(0,238)	(0,227)	(0,207)	(0,231)
Vocational/ Tech School/	0,712***	-0,125	0,638**	0,074	0,472*
Some College	(0,215)	(0,222)	(0,210)	(0,192)	(0,224)
Bachelor's degree	1,164***	0,299	1,067***	0,392*	0,826***
	(0,225)	(0,235)	(0,222)	(0,197)	(0,231)
Post grad study/ Professional	1,444***	0,582*	1,291***	0,540**	1,115***
degree	(0,243)	(0,259)	(0,243)	(0,207)	(0,240)
Perceived knowledge	0,082	0,166**	0,042	0,381***	0,243***
	(0,054)	(0.051)	(0,055)	(0,046)	(0,052)
Age	0,004	0,011***	-0,004	0,001	-0.017***
	(0,003)	(0,003)	(0,003)	(0,002)	(0,003)
Female	-0,214*	-0,030	-0,225*	-0,398***	-0,156
	(0,094)	(0.097)	(0,096)	(0,076)	(0,089)
AIC	3232,3	3068	3123,6	4366,4	3514,4
Cox and Snell's R^2	0,253	0,066	0,163	0,118	0,280

Nagelkerke's R^2	0,359	0,108	0,247	0,158	0,380
N	3439	3439	3439	3439	3439

Note: binary logistic regression coefficients with standard errors in brackets.
****p<0.001, **p<0.01, *p<0.1*

4.1. Facebook Use, Partisan Identity and Political Knowledge

Looking at the table, the effect of Facebook use varies per model. For Models 1, 3 and 5, the coefficient is negative, indicating that for Republicans (when Party Identification is 0), increased use of Facebook leads to a decline in the log-odds of answering the question correctly. These findings were only statistically significant for Model 5, but nevertheless suggest that among Republicans, increased Facebook use led to lower levels of political knowledge. As these models all contained questions aligned with Democrats, this finding supports the hypothesis of this thesis that Facebook use decreases political learning about party incongruent facts. The positive and significant coefficients for Party identification in these three models show that among those who use Facebook very little or not at all, Democrats were much more likely than Republicans to answer the question correctly. The interaction term between the independent and moderator variable in Models 1, 3 and 5 indicates that the negative effect of increased Facebook use is slightly more positive among Democratic respondents than Republican respondents, although this effect is not statistically significant. This suggests that Democratic respondents were less affected by the negative effects of increased Facebook use than Republicans, as was predicted. This pattern can be seen in Figure 3 below. Political learning through Facebook could therefore be moderated by partisan perceptual biases of users. The strength of a respondent's partisan identity was not significant for any of these models but did indicate that strong partisans were less likely than lean partisans to answer the question correctly, holding all other things constant. The only exception is Model 5, where both weak partisans and strong partisans were more likely than lean partisans to answer the question correctly.

For Model 2 and 4, the coefficient for Facebook use is positive, although not statistically significant: the log-odds of Republican respondents answering the question correctly increased when they used Facebook more often. For Model 2, the party identification coefficient is positive, meaning that Democratic respondents who use Facebook very little or not at all were more likely than Republicans to answer the question correctly. This is shown in Figure 3; the likelihood of answering the question correctly is higher for Democrats than Republicans. Interestingly, the interaction term between Facebook use and Party identity in Model 2 is negative, indicating that the positive effect of increased Facebook use is slightly less positive among Democratic respondents than Republican respondents. This effect is not statistically significant but indicates that Democratic respondents were

less likely to learn from increased Facebook use than Republican respondents. This is different from the effect observed in Models 1, 3 and 5.

For Model 4, the effect of party identity is again different from all the other models. Here, the coefficient for party identity is negative, albeit not statistically significant. It suggests that the log-odds of answering the question correctly were lower for Democratic respondents compared to Republican respondents when Facebook use was very low. This can be seen in Figure 3, where the graph for Model 4 shows that it is the only model where the likelihood of Republicans answering the question correctly was consistently higher than for Democrats. The interaction effect between Facebook use and Party identity suggests that for Democratic respondents, the positive effect that Facebook use has on the likelihood of answering the question correctly is more negative compared to Republican respondents. This is interesting, as Model 4 was the only model containing a question that was aligned with neither party. Although the proportions of Republican and Democratic respondents answering the question correctly was very similar (See Table 1), Democratic respondents seem to be more affected by the negative effects of partisan perceptual bias linked to Facebook use than Republicans. Because the current research only contains one unaligned question, it is impossible to conclude that Democratic respondents are more affected than Republican respondents. It would be interesting to find out if this effect would be the same for other questions unaligned with a party.

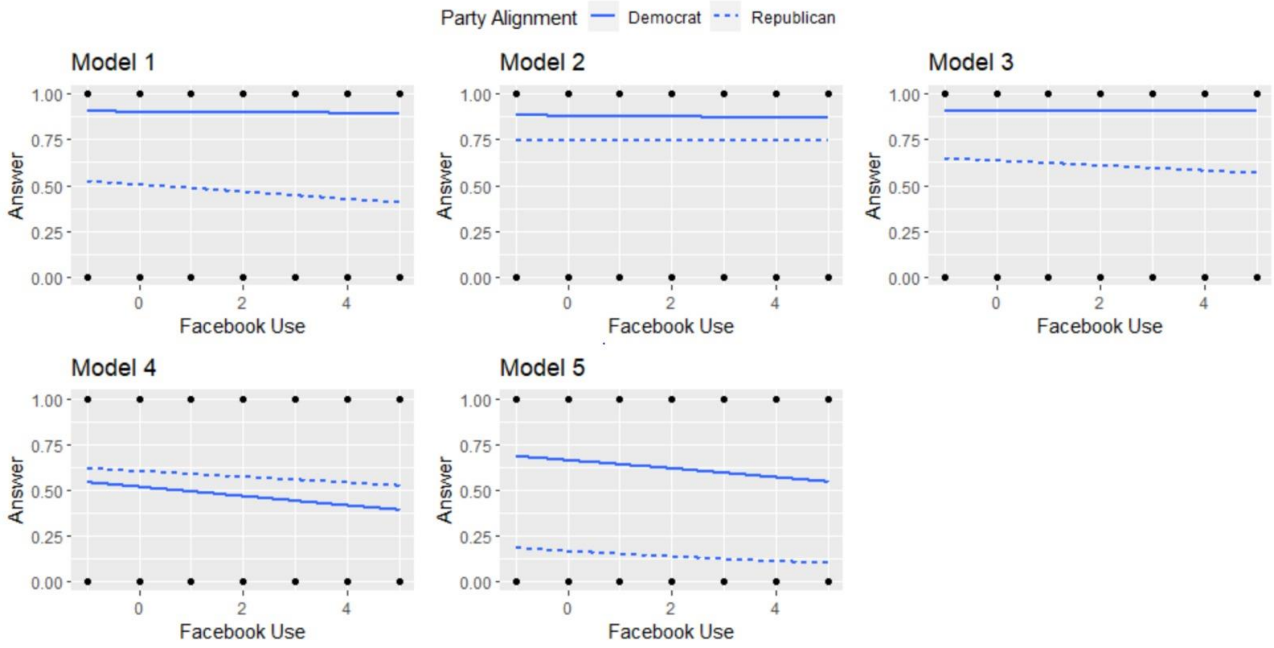

Figure 3: Line Graphs of 5 Models

Overall, these findings partly confirm the hypothesis posed in this paper. In the majority of cases, when the answer to the question aligned with a respondent's ideologies, they were generally more

likely to answer the question correctly as Facebook use increased. This suggests that the Opportunity and Motivation for political learning on Facebook is greater when information aligns with a person's pre-existing beliefs. If partisan perceptual bias is strengthened using social media platforms such as Facebook, this could cause an increasingly fragmented political environment where different ideological groups view political events very differently, as they all receive view different pieces of information (Kubin & Von Sikorski, 2021). This could explain why despite the great increase in availability of political information, the general level of political knowledge has not increased (Prior, 2005). Many researchers argue this trend leads to greater polarization (Kubin & Von Sikorski, 2021; Campbell, Leister & Zenou, 2019; Beaufort, 2018).

However, in Models 2 and 4, the effect of Facebook use in combination with party identity was different, suggesting that the topic might also influence the effect of Facebook use on political knowledge. This would make sense, as a person's pre-existing perceptions might determine some topics as more worth learning about than others, thus explaining why in some models, different parties have different coefficients when it comes to learning about politics from Facebook (Lodge & Taber, 2006). It is impossible to conclude from this research what causes different issues to have a different effect on partisan perceptual bias and Facebook use; this is something that would be worthwhile to research further.

Delli Carpini has argued that throughout human history, several 'media regimes' have appeared over time: "Each regime is associated with different notions of free speech, a free press, democratic citizen-ship, civic engagement, and the responsibility to participate in the political process" (Beaufort, 2018, p. 915). The problem we currently face is that while we are familiar with the rules of the old media regime (the broadcasting regime), we have entered the era of a new social media regime, and we cannot be certain about how it will undermine or enhance the democratic system (Williams & Delli Carpini, 2011). Different aspects of this new social media regime have been identified, and two facets of this theory can be applied to the findings in this thesis. Firstly, this new social media regime is characterized by a more personalized political experience and more individual motivations (Beaufort, 2018). This makes sense when looking at these findings; the fact that party identity and pre-existing opinions matter when learning about political issues suggests that the media environment encourages a more personalized view of politics. The second facet of a new social media regime is the frequently- discussed 'filter bubbles' that social media such as Facebook supposedly create, which some argue lead to increased polarization. Findings in this thesis show that party identity and pre-existing notions about topics do influence how much we learn about politics, that it may affect what we learn from social media and that it can create different ways of viewing a political issue for different demographics. However, it mainly shows that this effect varies per topic. Overall, the

specific filtering patterns that are associated with this new media regime are an unprecedented feature of this media regime, so its effects should be closely monitored over time to distinguish its true effects on political knowledge and democracy in general.

4.2. Attention to Politics and Education Level

Facebook use and party identity are variables affecting the Opportunity, Motivation and Ability to learn about politics. However, there are also other ways in which the Motivation and Ability to learn about politics can be affected. Firstly, Motivation does not solely focus on party identity, but also considers a person's general interest in politics. Results from the logistic regressions show mixed effects. Holding all other variables constant, Models 1, 4 and 5 show that, holding all other variables constant, an increase in the amount of attention paid to politics led to an increase in the log-odds that a question would be answered correctly, and thus suggests that increased political interest leads to greater levels of political knowledge. This effect was significant for Models 1 and 4 and is in line with expectations: the more attention a person pays to politics, the more interested they are in the topic. This increases the likelihood that political questions will be answered correctly (Luskin, 1990). For Models 2 and 3, on the other hand, the effect of political interest was negative: increasing the amount of attention paid to politics lead to a decrease in the log-odds that a question would be answered correctly. This effect was only significant for Model 2. Perhaps the reason why political interest has a different effect in different models is because it is moderated by another variable. Previous research has found that political attitudes such as political interest can be moderated by certain personality traits or even cognitive ability (Weinschenk et al., 2021). Although it is unclear from this research what could be moderating this variable, it is a possible explanation for the different findings.

The highest level of education a person has achieved is used as an indicator of Ability in this thesis. As can be seen from the results table, education level seems to matter more as the level of education goes up. The effect of education seems to be a positive one in all the models; keeping all other variables constant, as the level of education of a respondent increases, so do the log-odds of them answering the question correctly as compared to having no educational diploma at all (the reference category). This effect seems to grow stronger and more significant as the level of education increases. The results show that respondents who have achieved higher levels of education are significantly more likely to answer the question correctly compared to respondents with no educational achievements, and thus have a higher level of political knowledge. This is in line with my expectations, as it was expected that a greater ability to learn would lead to higher levels of

political knowledge (Weeks, Lane & Hahn, 2022). Additionally, many studies have found that higher education levels lead to higher levels of political knowledge (Galston, 2001; Robinson, 2020).

4.3. Other Control Variables

In the theory section of this thesis, it was mentioned that the potential of political learning could be hindered by the 'false heuristic' of feeling politically well-informed, whereas this is not necessarily the case (Van Erkel & Van Aelst, 2020). Increased volume of news exposure is theorized to lead to a greater feeling of being well-informed, but not with an actual increase in political knowledge (Schäfer, 2020). To test this theory, a variable measuring a respondent's level of perceived political knowledge was added as a control variable. The results show that there is a positive relationship between perceived knowledge and political knowledge. Keeping all other variables constant, as the level of perceived knowledge went up, the log-odds of the respondent answering the question correctly also increased. This effect was the same for all five models, although it was not statistically significant for all of them. In this dataset higher levels of perceived knowledge indicated higher levels of political knowledge when Facebook was used less than once a month. The theorized effect talks about amount of news read, while this measure assesses how much knowledge a respondent thinks they have about politics as compared to others. Perhaps if the question was more based on news exposure, this effect would be different.

Finally, two control variables were added to better isolate the effects of Facebook use and party identification on political knowledge. Age did not seem to have a very strong effect on the log-odds of a respondent answering the question correctly. In Models 1, 2 and 4 the effect of age seems positive; as a respondent's age increased, so did their log-odds of answering the question correctly, holding all other variables constant. This effect was only significant for Model 2. For Models 3 and 5, the effect of age was slightly negative and significant only for Model 5.

The effect for gender was the same for all five models: while holding all other variables constant, being a female respondent decreased the log-odds of answering the question correctly. This effect was statistically significant for Models 1, 3 and 4 and indicates that males have a higher chance of answering these questions correctly. This gender gap between political knowledge has been identified before by other political scientists but can be changed in certain circumstances: "When questions focus on topics that are of direct relevance to women as a group—either because they ask about female politicians or policies that concern women—the gender gap disappears and sometimes even reverses" (Barabas et al., 2014, p. 843). This suggests that if the topics of the questions were more geared towards women, our findings on the effect of gender may have been different.

4.4. Model Comparison

Finally, while all five models have thus far been discussed together, it is also interesting to see how they compare to one another. Based on the R^2 statistics, Model 5 is best able to explain the observed data. It explains 28% of the variance according to Cox and Snell’s calculation, and 38% of the variance based on Nagelkerke’s calculation. However, the AIC statistic, which is commonly used to compare different models together, indicates that Model 2 is significantly the best model when it comes to efficiently predicting outcomes. These different outcomes show that not one model can best be used to interpret the effect of Facebook use on partisan perceptual bias and political learning.

5. Conclusion

Political knowledge is one of the most important determinants of the political behavior of citizens and their ability to participate in the democratic system (Galston, 2001). The amount of political knowledge that citizens possess and the process of political learning has been changed by the rise and use of Facebook through Motivation, Opportunity and Ability. Previous research on the effect of Facebook on political knowledge has yielded divergent results, suggesting there might be another aspect influencing the relationship between the two. In this thesis, I argued that Facebook use affected political knowledge through its influence on partisan perceptual bias. Using data from the ANES 2020 Social Media Survey, I show that partisan bias was strongly present in the knowledge levels of respondents. In general, increased Facebook use tends increase knowledge about party congruent information, while decreasing knowledge about party incongruent information. But more importantly, results show that this effect varies for different questions and issues. This thesis suggests a new different manner of viewing the relationship between Facebook use and political knowledge and opens avenues for further research. In the remainder of this conclusion, I discuss limitations of this study and potential avenues for future work.

The first limitation is that the research is based largely on questions aligned to Democrats, instead of using a more balanced set of partisan aligned questions. This has potentially skewed the results of this research and has made drawing generalizable conclusions more difficult. This became especially apparent when the one question without party alignment showed such significantly different and interesting results. In this statistical model, Democrats seemed more susceptible to the effects of partisan bias on Facebook than Republicans, but as there are no similarly aligned questions and models to compare this finding with, no such conclusions can be drawn. More research based on more differently aligned issues needs to be done to make more generalizable conclusions and determine the true effect of Facebook use on partisan perceptual bias.

Additionally, as this study focused solely on the United States with its two-party system, focusing on a different country with a multi-party system might also lead to very different effects. Based on the strength of party biases in multi-party countries (Bankert, Huddy & Rosema, 2016), one would expect the effects of Facebook use on partisan bias to be less strong, but more research needs to be done to determine these effects.

However, even among the four democratically aligned questions and models, different results were found. This implies that some issues elicited different behaviors and knowledge levels from the respondents. From this research, it is impossible to find out what aspect of these issues is causing these different patterns, and if these patterns can also be found in other issues not researched in this

thesis, forming the second limitation of this paper. More research needs to be done to find out what the true effect of Facebook is on partisan perceptual bias and political knowledge, and what aspect of issues causes these different patterns.

As mentioned in the Results section, researchers like Delli Carpini state society now finds itself in the era of a new media regime. It has largely left behind the era of broadcasting; of radio, television, and more limited options of receiving news. Society has now entered a new era of media with personalized news, filtering systems and news overload. It is vital to understand what these new conditions under which we gather information will do to the democratic system and way of living. This will allow society to better equipped to deal with the repercussions. The research conducted in this thesis is merely a start; much more research needs to be done before the bounds of this new media regime can be fully understood and harnessed for the benefit of society.

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7. Appendices

7.1. Relevant Survey Questions

The questions below are the survey questions that respondents were asked to fill out. Only the questions relevant to this research are included.

7.1.1. Survey Questions Dependent Variable

1 - [w2interfere]: Which of these do you think is most likely to be true about the presidential election held 4 years ago?

- Russia tried to interfere in the 2016 presidential election [1] | Recoded: [Correct]
- Russia did not try to interfere in the 2016 presidential election [2] | Recoded: [Incorrect]

2 - [w2illegal]: Which of these do you think is most likely to be true about the presidential election 4 years ago?

- Millions of people voted illegally in the 2016 election [0] | Recoded: [Incorrect]
- Very few people voted illegally in the 2016 election [1] | Recoded: [Correct]

3 - [w2aca]: Which of these two statements do you think is most likely to be true about the Affordable Care Act of 2010 (ACA), also known as Obamacare?

- The ACA increased the number of people with health insurance [1] | Recoded: [Correct]
- The ACA did not increase the number of people with health insurance [0] | Recoded: [Incorrect]

4 - [w2deport]: Whose administration deported more unauthorized immigrants during the first three years?

- Donald Trump’s administration [1] | Recoded: [Incorrect]

- Barack Obama’s administration [0] | Recoded: [Correct]

5 - [w2c_self]: Climate change refers to a long-term change in Earth’s climate due to an increase in average atmospheric temperature.

Which of these statements best describes what you think about climate change?

- It is not happening [1] | Recoded: [Incorrect]
- It is caused mostly by natural events [2] | Recoded: [Incorrect]
- It is caused about equally by human activity and natural events [3] | Recoded: [Incorrect]
- It is caused mostly by human activity [4] | Recoded: [Correct]

7.1.2. Survey Questions Independent Variable

1 - [w2fb3]: How often do you visit or use Facebook?

- Many times every day [1] | Recoded: [6]
- A few times every day [2] | Recoded: [5]
- About once a day [3] | Recoded: [4]
- A few times each week [4] | Recoded: [3]
- About once a week [5] | Recoded: [2]
- Once or twice a month [6] | Recoded: [1]
- Less than once a month [7] | Recoded: [0]

7.1.3. Survey Questions Moderating Variable

[USE PREVIOUSLY GENERATED RANDOMIZATION VARIABLE RAND_PID = 1 OR 2]

[IF RAND_PID =1]

1 - [w2pid1d]: Generally speaking, do you usually think of yourself as a Democrat, a Republican, an independent, or what?

- Democrat [1]
- Republican [2]
- independent [3]
- something else [4]

[IF RAND_PID =2]

[NOTE RESPONSE CODE VALUES MATCH pid1d BUT ORDER (2,1,3,4) DIFFERS]

2 - [w2pid1r]: Generally speaking, do you usually think of yourself as a Republican, a Democrat, an independent, or what?

- Republican [2]
- Democrat [1]
- independent [3]
- something else [4]

[IF W2pid1d = 1 OR 2 OR w2pid1r = 1 OR 2]

[IF w2pid1d = 1 OR w2pid1r = 1 INSERT “Democrat” in (Democrat/Republican);

IF w2pid1d = 2 or w2pid1r = 2 INSERT “Republican” in (Democrat/Republican)]

3 - [w2pidstr]: Would you call yourself a strong (Democrat/Republican) or a not very strong (Democrat/Republican)?

- Strong (Democrat/Republican) [1]
- Not very strong (Democrat/Republican) [2]

[IF w2pid1d=3 OR 4 OR NO ANSWER OR w2pid1r = 3 OR 4 OR NO ANSWER]

4 - [w2pidlean]: Do you think of yourself as closer to the Republican Party or to the Democratic

Party?

- Closer to the Republican Party [1]
- Closer to the Democratic Party [2]
- Neither [3]

5 – [w2pid7x]: Party ID summary, post-election

- Strong Dem [1] | Recoded Party Identity: [Democrat] | Recoded Party Strength: [Strong Partisan]
- Not very strong Dem [2] | Recoded Party Identity: [Democrat] | Recoded Party Strength: [Not So Strong Partisan]
- Ind, closer to Dem [3] | Recoded Party Identity: [Democrat] | Recoded Party Strength: [Lean Partisan]
- Independent [4] | Recoded: [NA]
- Ind, closer to Rep [5] | Recoded Party Identity: [Republican] | Recoded Party Strength: [Lean Partisan]
- Not very strong Rep [6] | Recoded Party Identity: [Republican] | Recoded Party Strength: [Not So Strong Partisan]
- Strong Rep [7] | Recoded Party Identity: [Republican] | Recoded Party Strength: [Strong Partisan]

7.1.4. Survey Questions Control Variables

1 - [w2polattrev]: How often do you pay attention to what’s going on in government and politics?

- Always [1] | Recoded: [4]
- Most of the time [2] | Recoded: [3]
- About half the time [3] | Recoded: [2]

- Some of the time [4] | Recoded: [1]
- Never [5] | Recoded: [0]

2 - [w2rpk1]: Compared to most Americans, how much do you think you know about politics?

- Much more [1] | Recoded: [4]
- Slightly more [2] | Recoded: [3]
- About the same [3] | Recoded: [2]
- Slightly less [4] | Recoded: [1]
- Much less [5] | Recoded: [0]

3 – [profile_educ5]: Profile Education

- Less than HS [1] | Recoded: [Less Than Highschool]
- HS graduate or equivalent [2] | Recoded: [HS Graduate]
- Vocational/tech school/some college/ associates [3] | Recoded: [Vocational/ Tech School/ Some College]
- Bachelor's degree [4] | Recoded: [Bachelor’s degree]
- Post grad study/professional degree [5] | Recoded: [Post grad study/ Professional degree]

4 – [profile_age]: Continuous age till 80, then combined to form '80+'

- People fill this out themselves; the numbers range from 18 to 80.

5 – [profile_gender]: Respondent gender

- Male [1] | Recoded: [0]

- Female [2] | Recoded: [1]

7.2. Variables Used in Analysis

The table below shows all variable names as coded in R together with a description. These twelve variables were included in the statistical models used to run the analysis.

Table 5. Variables Used in Analysis

Variable Name (in R)	Variable Description
Russia_interfere	Did Russia try to interfere in the 2016 presidential election?
Vote_illegal	How many people voted illegally in the 2016 election?
ACA	Did the ACA increase the number of people with health insurance?
Deport	Did Obama's or Trump's administration deport more unauthorized immigrants during the first three years?
Climate_change	What is causing climate change?
FB_use	How often do you use or visit Facebook?
Party_identification	Which political party do you most closely identify with?
Politics_attention	How often do you pay attention to what's going on in government and politics?
Perceived_knowledge	Compared to most Americans, how much do you think you know about politics?
Educ_level	Education level of the respondent
Age	Age of the respondent
Gender	Gender of the respondent

7.3. Assumption Checks

To perform binary logistic regression analysis, the data used must adhere to five assumptions to make sure the model is interpretable. The five assumptions and their checks are listed below. All five assumptions have been checked and the data meets all the criteria.

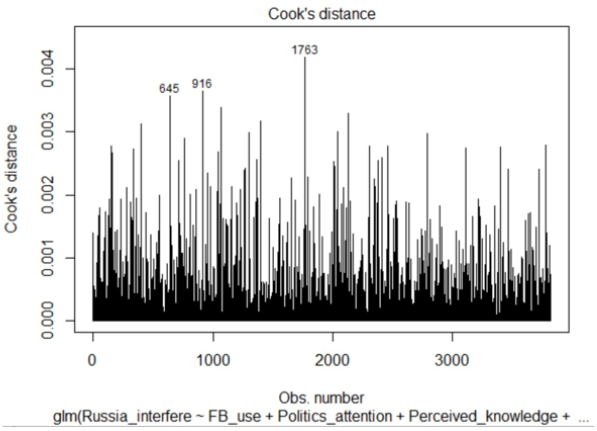
7.3.1. Outcome Must Be a Binary Variable

The first assumption stipulated that the outcome variable must be binary or dichotomous variable. This is the case for all five models in this paper, where the outcome variable shows whether a respondent has correctly or incorrectly answered the question.

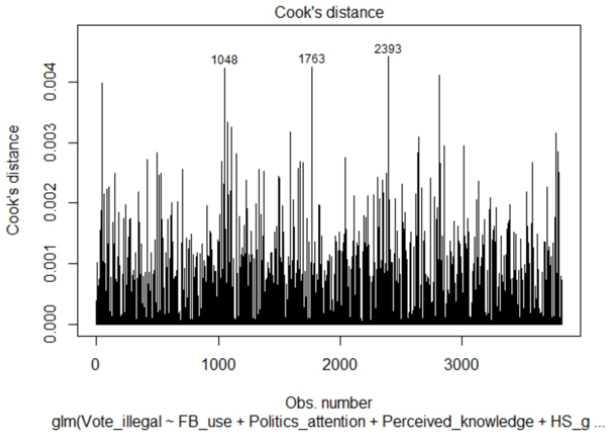
7.3.2. No Influential Cases

The final assumption assumes that there are no influential cases within the model that might skew any observations. To check this, we must look at the Cook's Distance for these models. The Cook's Distance statistic and all extreme values for every model are shown in the plots below. As we can see on the graph, it appears that there are not really any very extreme cases. Even the greatest outliers appear to not deviate too far from other observations.

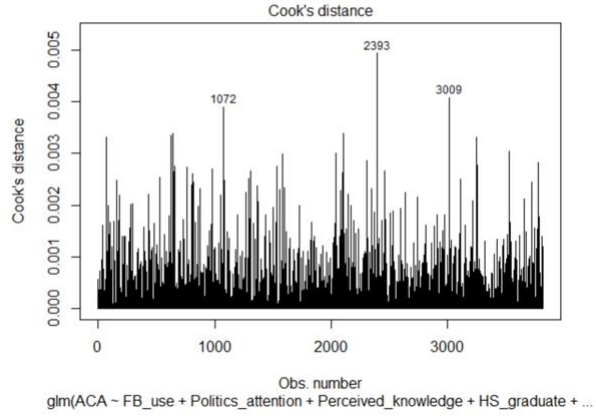
Model 1



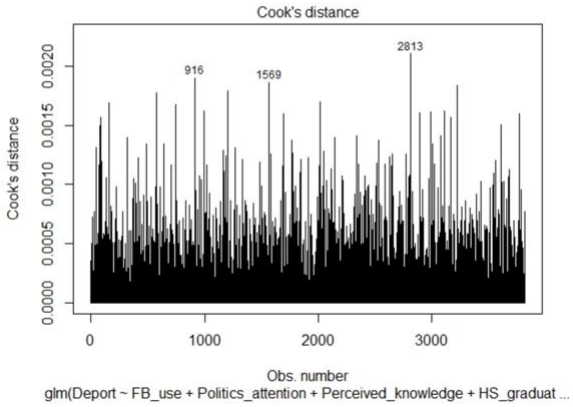
Model 2



Model 3



Model 4



Model 5

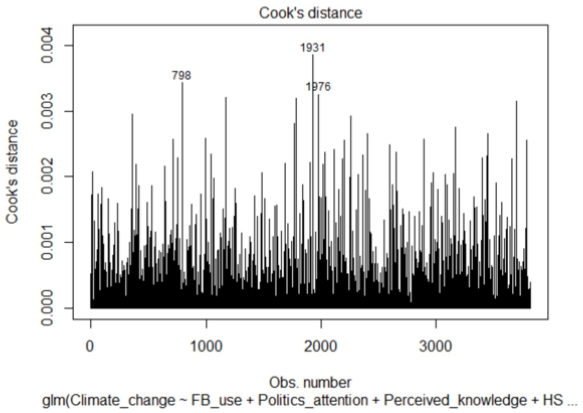


Figure 4: Cook's Distance For All Models

It was tested per model how many observations had a Cooks’ Distance value greater than three times the mean, which is one of the more common ways to use the statistic (Thieme, 2021). As can be seen from Table 6, each model had several observations where the Cook’s Distance value was higher than three times the mean. Because the dataset contains 3437 observations in total, these cases do not significantly change the model. As there is no grounded theoretical reason to exclude the cases from the dataset, the model will still contain these influential cases and accept that there will always be cases that deviate slightly from what is expected, and that this is part of the world.

Table 6. Table of Influential Cases

	Model 1 | Russia Interference	**Model 2 | Illegal Voting**	**Model 3 | ACA**	**Model 4 | Deported**	**Model 5 | Climate Change**
# of Influential Cases	296	460	365	160	307

7.3.3. Data Must be Linear

To check the linearity of the data, we take a closer look at the residuals vs. fitted plot, which plots the residual values against the estimated responses. This graph is often used to check linearity of the data. All five graphs below show a relatively straight red line through the plot, indicating that the linearity assumption has indeed been met for all five models.

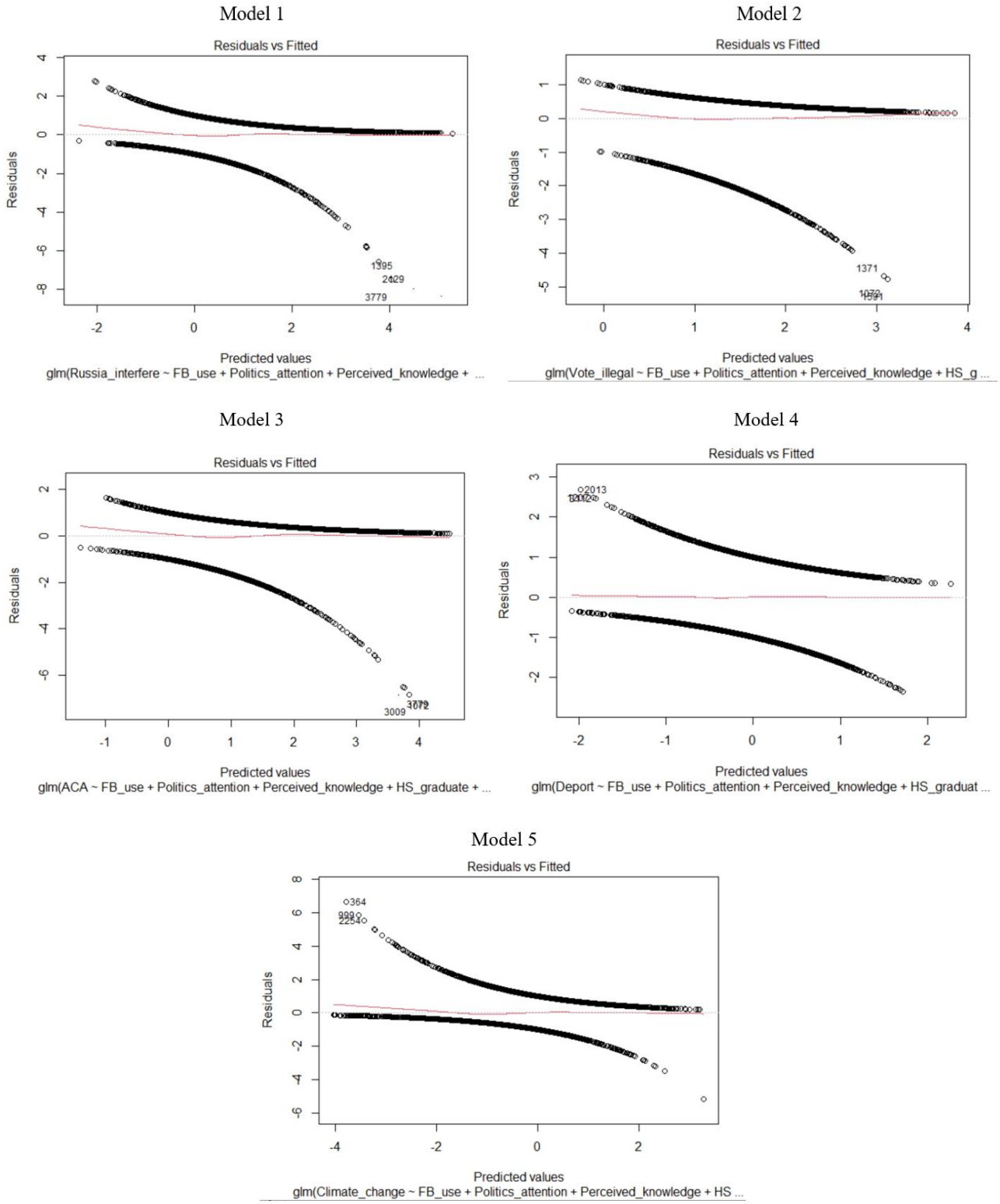


Figure 5: Residuals Vs. Fitted Plot For All Models

7.3.4. No High Multicollinearity

A third assumption is that there must be no high multicollinearity between data, meaning that there must be no highly correlated predictor variables. The multicollinearity can be measured using the Variance Inflation Factor (VIF). This measure is shown for all models in the table below. It shows that for most variables, there is no high multicollinearity. The VIF statistic is between 1 and 5 for most variable, indicating a moderate correlation but no cause for concern (Glen, n.d.; STHDA, 2018). The only variables that have a VIF above 5 are some of the dummy variables for the 'Education level' variable, and the interaction term in Model 5. Research shows that a higher VIF is quite common for dummy variables made from a variable with more than three categories or when a product like an interaction is included in the statistical model (Glen, n.d.). The correlation can be explained, and therefore is no cause for concern there either. The third assumption has also been met.

Table 7. VIF Statistic For All Models

	Model 1 | Q1	**Model 2 | Q2**	**Model 3 | Q3**	**Model 4 | Q4**	**Model 5 | Q5**
Facebook use	1,575	1,839	1,555	2,418	3,508
Party identity	2,928	2,980	2,825	2,886	2,543
Facebook use * Party identity	3,289	3,566	3,157	4,041	5,170
Not so strong partisan	1,657	1,740	1,668	1,646	1,645
Strong Partisan	1,675	1,751	1,679	1,675	1,657
Attention to politics	1,465	1,479	1,485	1,468	1,498
HS graduate	3,767	3,919	3,652	3,899	3,825
Vocational/ Tech School/ Some College	5,933	5,877	5,474	6,646	6,891
Bachelor's degree	4,774	4,397	4,249	5,461	5,821
Post grad study/ Professional degree	3,320	2,922	2,939	4,340	4,747
Perceived knowledge	1,554	1,559	1,571	1,534	1,597
Age	1,158	1,142	1,143	1,127	1,154
Female	1,146	1,123	1,138	1.095	1,141