Does Social Media Use Promote or Hinder Political Knowledge?: Providing an Overarching

Framework and Testing Underlying Mechanisms

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A dissertation submitted in partial fulfillment of

the requirements for the degree of

Doctor of Philosophy

(Communication Arts)

at the

UNIVERSITY OF WISCONSIN – MADISON

2020

Date of final oral examination: 04/27/2020

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ProQuest Number: 27962798

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ABSTRACT

Social media sites have fundamentally changed the way in which people are exposed to political information, as well as how they acquire such information, which has necessitated the development of a new theoretical framework for understanding the impact of social media on political learning. Against this background, the present dissertation aims to develop a more comprehensive understanding of the role of social media in political learning by examining the causal effects of social media usage on individuals' political knowledge and the underlying mechanisms through which such effects occur.

The findings suggest that despite all the learning opportunities provided by social media platforms, social media use actually hinders rather than enhances an individual's knowledge and understanding of politics. However, this simple main effect does not reflect the full picture. Further cross-lagged path analysis suggests that using social media for news fosters the "news finds-me" (NFM) perception, which may in turn have a detrimental impact on individuals' learning about politics. However, those who use traditional media to a substantial degree to complement their news consumption via social media are less negatively affected. Implications and directions for future research are discussed.

ACKNOWLEDGEMENTS

Authoring this dissertation has been an immensely challenging yet rewarding experience, and I owe a tremendous debt of gratitude to all those who helped me complete this assignment and guided me during my doctoral studies. I feel incredibly fortunate to have spent the past five years surrounded by amazing scholars and friends at the University of Wisconsin-Madison, without whom this doctoral dissertation would never have been possible.

I am first and foremost grateful for my advisor, Mike Xenos, whose guidance during this project and throughout my graduate program has been truly invaluable. His constant support and encouragement has facilitated not only my intellectual growth as a scholar but my personal development as a teacher, writer, and listener. I also owe a great deal to my outstanding dissertation committee—including Zhongdang Pan, Dhahvan Shah, Hernando Rojas, and Lyn Van Swol—who have all given me insightful advice and feedback since the earliest stages of this dissertation. I am thankful to each of you for your insights, time, encouragement, and support along the way. I especially want to add special thanks to Dr. Pan, who has always welcomed me to come to his office whenever I have questions and things to discuss.

I also want to thank my dear friends who supported me throughout my graduate program. Completing a PhD is a demanding and occasionally solitary endeavor, and I am grateful to have had an incredible group of friends who kindly offered both technical and emotional support throughout the years.

Last but not the least, I am thankful for my wonderful family—my mom, dad, and sister—who have constantly furnished the kind of selfless and timeless support only family can provide. Throughout my academic career, and indeed my entire life, my family has never nagged, worried, or burdened me, instead choosing to reinforce my lofty ambitions with

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CHAPTER 1

General Introduction

Democratic theorists have long emphasized that an informed citizenry is the basis for a well-functioning democracy (Delli Carpini & Keeter, 1996; Gutmann & Thompson, 1996). Factual knowledge about politics often constitutes a critical component of citizenship, particularly if citizens are to connect their interests to broader notions of the public good (Delli Carpini & Keeter, 1996). In other words, if citizens are not informed, their decisions cannot reflect their real interests, which may threaten the ideals of the representative democracy. Furthermore, knowledge is a keystone to other aspects of good citizenship. For instance, political knowledge facilitates other forms of civic participation; the more people are informed about politics, the more they are likely to be attentive to politics and engage in various participatory activities, thus taking advantages of civic opportunities afforded to them (Delli Carpini & Keeter, 1996; Habermas, 1984; Verba, Schlozman, & Brady, 1995). In this sense, Delli Carpini and Keeter (1996) pointed out that "no other single characteristics of an individual affords so reliable a predictor of good citizenship, broadly conceived as their level of political knowledge" (Delli Carpini & Keeter, 1996, p. 6). Given this normative importance, political knowledge is deemed as a "cornerstone construct in research on political behavior" (Mondak, 2001, p.238).

Against this background, communication researchers have sought to investigate what factors make the public informed/uninformed. According to research by Delli Carpini and Keeter (1996), there are three core elements that influence one's knowledge gain: motivation, ability, and opportunity. Motivation is whether one has interest in consuming information. Ability is whether one has enough capacity to absorb and comprehend that information. Opportunity means the availability of information, of which the media environment represents an important

factor. Different media environments provide different opportunities for individuals to learn about political knowledge (Prior, 2007). Many researchers have consistently found that individual factors (i.e., motivation and ability) – such as formal education (Delli Carpini & Keeter, 1996), cognitive ability (Luskin, 1990), or partisan motivation (Jerit & Barabas, 2012) – play critical roles in making the public informed. In addition to such factors, structural factors such as the media environment can also influence individuals' learning about politics, because different types of media provide users with different structural opportunities to engage in the content. Extending Delli Carpini and Keeter (1996)'s opportunity-motivation-ability (OMA) framework, Prior (2007) has proposed a *Conditional Political Learning* model suggesting that each factor – opportunity, motivation, and ability – not only "directly" influence one's political knowledge gain, but also they are dependent on each other; that is, the effect of individual factors (i.e., motivation and ability) on political learning is conditional on the media environment. For instance, in a low-choice media environment (e.g., the era of broadcast television), where it is almost impossible for audiences to choose from among different options based on their preferences due to limited program/channel options, motivation plays only a partial role in predicting an individual's political knowledge. However, in a high-choice media environment (e.g., the Internet era), where individuals can freely choose the content based on their preferences, motivation (or personal preference) has become an increasingly important predictor of individuals' understanding of politics. Thus, the media environment's impact on individual learning does not merely lie in providing individuals with opportunities to learn about politics, but also influences individuals' motivation/preferences to learn about politics.

Against this background, this dissertation attempts to examine how the social media environment – which has unique characteristics, distinguished from the aforementioned "high-

choice" media environment – affects individuals' learning about politics. Social media, on the one hand, has characteristics that resemble a high-choice media environment (e.g., enabling users to self-select the content based on personal preferences); but on the other hand, it contains characteristics that resemble a low-choice media environment (e.g., a lot of information often obtained incidentally from one's social networks) (Bode, 2016). As such, Bode (2016) proposes that social media functions like a partial high-choice environment (somewhere between a high-choice and low-choice environment), whose details will be discussed in Chapter 2. Given this context, the main purpose of this dissertation is to: 1) examine how the unique social media environment – which falls neither into the high-choice nor the low-choice media environment – affects individuals' learning about politics, and 2) examine the causal mechanisms through which such effects occur. In this way, this dissertation attempts to draw a more fulsome picture of social media's influence on individuals' learning about politics and current affairs.

Overview of Dissertation

Chapter 1 begins by explaining the normative importance of political knowledge in a democratic society, and introduces two theories that postulate how people learn about politics and current affairs: the Opportunity-Motivation-Ability (OMA) framework by Delli Carpini and Keeter (1996) and the Conditional Political Learning model by Prior (2007). Based on these theories, I briefly introduce how opportunity structures, such as media environments, can affect one's learning about politics. I then expound upon how social media can influence political knowledge given its unique characteristics.

Chapter 2 covers the OMA framework and the Conditional Political Learning model in more detail. Then, I discuss the unique characteristics of social media sites and contrast those with earlier digital media platforms. On the one hand, social media shares many similarities with

high-choice media environments, because social media technically provides personalization features, which enable individuals to craft information environments based on their preferences. On the other hand, users may be "incidentally" exposed to certain content regardless of their personal preferences, making social media resemble a low-choice media environment. Based on this unique characteristic – that is, the amalgam of low and high-choice environments (Bode, 2016) — I propose three possible scenarios of how social media can affect one's learning about politics.

Chapter 3 examines the causal effects of social media on political knowledge. Drawing on both cross-sectional and panel data from two recent United States presidential elections (i.e., 2012 and 2016 U.S. presidential election), this study examines how political social media use and general social media use influence political knowledge, and how such effects differ by varying levels of political interest. The results suggest that the overall impact of social media on political knowledge is negative.

Building on the findings of Chapter 3, Chapter 4 explores the causal mechanisms underlying these effects. I first discuss possible mechanisms that can explain social media's negative influence on political knowledge — namely, the "News-Finds-Me" (NFM) perception, exposure to fake news, and selective scanning. Then, to test these mechanisms empirically, I collect two-wave panel survey data from the 2018 U.S. presidential election and analyze the results against each mechanism using cross-lagged path analyses. I also test whether these mediating mechanisms are moderated by the extent to which one uses traditional news media as a complementary news source. This study again found the negative effect of social media news use on political knowledge. One such explanation is because social media news consumption can foster the perception that one no longer needs to actively seek news in order to stay informed

(i.e., the NFM perception), which may in turn have a detrimental impact on political learning. However, those who use traditional media to a substantial degree to complement their news consumption via social media are less negatively affected.

Chapter 5 contains a summary of the results from the dissertation. It discusses the implications of the results, limitations of the study, and future research directions.

CHAPTER 2

Theoretical Overview

The Importance of the Political Information Environment in Political Learning

The way in which the media can influence individuals' knowledge and understanding of politics and current affairs has long been a central question in the field of political communication research (Holbert, 2005). What makes people more politically knowledgeable? Scholars have long suggested that socioeconomic factors such as education and income play a crucial role in an individual's knowledge gain (e.g., Delli Carpini & Keeter 1996; Tichenor, Donohue, & Olien, 1970; Verba et al., 1995); that is, those with higher socioeconomic status, such as those with higher education and income levels, are more likely to gain political knowledge. In addition, scholars have consistently found that political interest is a crucial factor that determines to what extent individuals hold political knowledge (e.g., Delli Carpini & Keeter 1996; Verba et al., 1995). These findings led to rather pessimistic conclusions, because these individual-level factors – which tend to be highly correlated to one's knowledge – are either fixed (e.g., race, gender) or ones that change very slowly (e.g., education, income, and political interest) and in turn exacerbate the so-called "rich get richer" phenomenon (Delli Carpini & Keeter, 1996; Jerit, Barabas, & Bolsen, 2006; Price & Zaller, 1993). However, static individual-level characteristics are not the only factors that influence citizens' knowledge. In addition to individual-level characteristics (e.g., education, income, political interest), changes in the information environment (or a media environment) can have a substantial influence over one's political knowledge acquisition, because changes in the information/media environment greatly influence the availability of information and, consequently, individuals' opportunities to obtain said information (Delli Carpini & Keeter, 1996; Luskin, 1990; Jerit et al., 2006; Prior, 2007). In

the following section, I introduce two theoretical models which have attempted to explain how individual and structural-level factors affect the extent to which individuals learn about politics and current affairs: the Opportunity-Motivation-Ability (OMA) model by Delli Carpini and Keeter (1996) and the Conditional Political Learning model by Prior (2007).

OMA Framework and Conditional Political learning

According to the OMA framework (Delli Carpini & Keeter, 1996; Luskin, 1990), how much citizens learn about politics depends on three factors: opportunity (i.e., availability of information), motivation (i.e., motivation to acquire and retain information), and ability (i.e., ability to acquire and retain information). After exploring each of these factors in depth, I then describe Prior's Conditional Political Learning Model, and explain how it extends and diverges from the OMA framework.

Ability covers "a fairly wide range of skills, talents, and attributes, from the physical (the ability to see and hear, for example) to the cognitive (the ability to process and retain information) to the social (the ability to read and write)" (Prior, 2007, p.29). These skills are innate to some extent, but they can also be learned through education. A number of scholars have pointed out that education plays one of the most crucial roles in learning about politics (.g., Delli Carpini & Keeter, 1996; Price & Zaller, 1993; Tichenor et al., 1970), because it provides not only the substance about politics but also the skills that are needed to glean additional information.

Motivation refers to the extent one is driven to follow politics, and thus to learn about it (Delli Carpini & Keeter, 1996; Prior, 2007). Higher motivation tends to lead to a more thorough processing of a message, which in turn facilitates political knowledge gain. Numerous studies

have found that political interest is one of the most crucial factors in predicting one's political knowledge (David, 2009; Luskin, 1990).

Despite the importance of these individual factors (e.g., ability and motivation to learn about politics) in political knowledge acquisition, these factors are largely static (Delli Carpini & Keeter, 1996; Jerit et al., 2006). Delli Carpini and Keeter (1996) proposed that in addition to these individual factors, a structural factor, which they term "opportunity," plays an important role in predicting one's knowledge gain. More specifically, they define opportunity as a function of "the state of knowledge about the topic in question . . . , the frequency with which information is made available . . . , [and] the communications technology available." (p.110). Among opportunity's multiplicity of factors, the media environment is arguably among the most important. Contrary to individual level factors that are relatively static overtime, media environments have been changing constantly, and changing media environments produce different opportunities to learn about politics. For instance, studies have found that people tend to acquire political knowledge more in informationally rich environments compared to informationally poor environments (e.g., Jerit et al., 2006). Despite theoretical contributions that the OMA framework has made to the literature on political knowledge, it nonetheless has theoretical shortcomings. For example, the OMA framework does not take into consideration the interactive effects of individual characteristics and the media environment, but rather treats each factor as independent of one another.

Prior (2007)'s Conditional Political Learning model extends the OMA framework and suggests that these three factors indeed interact with one another, such that the influence of the individual-level variables (e.g., motivation and ability) on political knowledge is contingent upon the macro-level opportunities produced by changing media environments. How changes in the

media environment produce different opportunity structures, and subsequently influence people's political learning, will be discussed in the following section.

Media Choice, Motivation, and Political Knowledge

In a low-choice environment (e.g., the era of broadcast television), wherein the diversity of the available content is very limited, it is almost impossible for audiences to choose from among many different options based on their motivations and preferences. Thus, motivation plays only a partial role in predicting an individual's political knowledge (Prior, 2007). For instance, in the evening, people historically did not have many choices to watch content other than primetime news, regardless of whether they were motivated to seek out the news or not. This type of media environment provided opportunities for those who are not motivated to seek out news (e.g., those with low political interest) to be incidentally exposed to news content and consequently obtain political knowledge (Prior, 2007).

However, in a high-choice environment (e.g., the Internet era), motivations and preferences have become increasingly important predictors of the kind of media content to which people are exposed, thus affecting how much people learn about politics (Prior, 2007; Shah, Kwak, & Holbert, 2001; Strömbäck, Djerf-Pierre, & Shehata, 2013). Scholars have found that digital media use *per se* (e.g., time spent in the Internet in general, frequency of Internet use, etc.) generally has minimal, if any, positive effects on political knowledge gain. Rather, scholars found differential effects depending on how people use media. For instance, Shah et al. (2001) argued that scholars must attend to particular patterns/motivations of Internet use, rather than hours of use, in order to better understand more accurate understanding of media effects (for more details of this argument, see Shah, Rojas & Cho, 2009). This argument is indeed not new in the digital media environment contexts. According to uses and gratification approach by Katz

and Gurevitch's (1974), individual's media use is goal-oriented. That is, individuals tend to use media for different purposes, including surveillance, identity construction, social interaction, and simple entertainment, which often produce different media effects. For instance, research has shown that using media for surveillance or informational function is positively associated with individual knowledge gain, while entertainment-oriented use may have a negative or muted effects (e.g., McLeod, Scheufele, & Moy, 1999; Norris, 2000; Prior, 2007; Shah, 1998; Wellman, Haase, Witte, & Hampton, 2001; Zhang & Chia, 2006).

This argument is more relevant in understanding the digital media environment, since it invariably provides enormous options to select the contents that individuals prefer, compared to the traditional media environment where there was little room for individual's motivations to come into play (Prior, 2007). For instance, those who are interested in learning about politics would seek out political information online, while those who are not interested in politics might avoid news content and consume more entertaining content instead. Since specific ways in which individuals use media vary tremendously in a digital media environment, media scholars have examined how *specific motivations* affect individuals' learning about politics (e.g., Dimitrova, Shehata, Strömbäck, & Nord, 2014; Prior, 2007; Shah et al., 2001). Not surprisingly, most research has found that digital media use has a positive impact on political knowledge when it is used for informational purposes (e.g., news consumption). For example, studies have found that political knowledge is positively associated with online news use (e.g., Boulianne, 2016; Dalrymple & Scheufele, 2007; Dimitrova et al., 2014; Groshek & Dimitrova, 2011) and online campaign exposure (e.g., Kenski & Stroud, 2006; Xenos & Moy, 2007). Although these studies rely on different sampling frames, these studies have commonly shown that using the Internet for political purposes tends to facilitate political learning.

Social Media: A Unique Media Choice Environment

In recent years, another significant change in news consumption patterns has been observed following the explosive growth of various social media sites. According to 2018 Pew Research data, about two-thirds (68%) of American adults reported that they get at least some news from social media (Matsa & Shearer, 2018). Moreover, another Pew Research Data poll from 2018 suggested that, in the United States, social media has surpassed print newspapers as a source of news (Shearer, 2018). The rising popularity of social media as a source of news has spurred research on how social media influences individuals' learning about politics and current affairs (e.g., Baumgartner & Morris, 2010; Bode, 2016; Gil de Zúñiga, Weeks, & Ardèvol-Abreu, 2017; Shehata & Strömbäck, 2018). Yet, the changes brought about by social media are not simply limited to matters of "quantity" (e.g., the increasing number of users who consume news via social media); rather, social media sites have also fundamentally changed the way in which news content is produced, disseminated, and consumed (Bode, 2016; Carlson, 2018; Klinger & Svensson, 2015).

Though some may perceive the social media environment as an extension of the digital media environment – which is characterized as a "high-choice media environment" – the former has unique features that are different from the earlier digital media environment (Bode, 2016). Thus, this dissertation attempts to propose a new framework to better understand the dynamic relationship that exists between social media usage and political knowledge.

The Uniqueness of Social Media

What is it that renders social media unique and hence distinguishes such sites from other types of digital media? To define social media, the concepts of Web 1.0 and 2.0 must first be introduced. Web 1.0 can be thought of as something akin to an online brochure (i.e., publishing

on the Internet). It is similar to traditional media in that it mostly relies on one-way communication with users (Bimber & Davis, 2003). However, as digital media evolved, Web 2.0 developed. Web 2.0 is more concerned with collaboration, interaction, and participation with users (Chadwick, 2009; Cormode & Krishnamurthy, 2008). It includes various digital media platforms, including blogs, YouTube, and various social media platforms such as Facebook and Twitter. While social media sites represent a significant aspect of Web 2.0, they are not equivalent to Web 2.0. Indeed, Kaplan and Haenlein (2010, p.61) state that social media is "a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of user-generated content." In other words, while user-generated content is an essential characteristic of social media (e.g., Thorson & Wells, 2016), what actually renders social media unique from other digital media platforms is the logic of *connectivity*; social media allows people to connect with others and share content within social networks that they have chosen (Bode, 2016; Lietsala & Sirkkunen, 2008; Safko & Brake, 2009). For instance, Facebook was initially launched in order to enable college students to connect with each other (boyd & Ellison, 2007). YouTube also aimed to connect users to self-made content (Arantes, Figueiredo, & Almeida, 2018). Taken together, social media sites can be conceptualized as a medium for connecting individuals with each other and sharing content within social networks (Ellison & boyd, 2013; Van Dijck & Poell, 2013).

The networked structure of social media makes it a unique media environment, distinguishable from other earlier digital media platforms (Bode, 2016; Ellison & boyd, 2013). In the digital media environment, people can freely choose whatever content they want based on their preferences, thus having great control over the information to which they are exposed (Prior, 2007). By contrast, in social media, the channel of consumption is different; users are

often incidentally exposed to content via those in their own social network, even though they may not necessarily actively seek out such content. According to a recent Pew Research reports, the majority of social media users are indeed incidentally exposed to news when using social media sites for other purposes, rather than actively seeking out news (Matsa & Mitchell, 2014; Mitchell et al., 2013).

These characteristics of social media make it function as a "partial control environment," somewhere between a high-choice and low-choice environment (Bode, 2016). On the one hand, it shares similarities with high-choice media environments, because social media technically provides personalization features – features which enable individuals to craft information environments based on their preferences. On the other hand, users may be "incidentally" exposed to certain content regardless of their personal preferences, making social media resemble a low-choice media environment. As such, Bode (2012, p. 20) argues that social media serves as "a new type of media environment, in which control is present but limited."

Given these unique characteristics of social media sites, which differ from earlier digital media platforms, the simple theoretical application of existing theories based on the high-choice Internet environment, when applied to social media, would likely result in a failure to understand accurately how social media use impacts political learning. Thus, a new framework is needed to understand more precisely how social media usage affects individuals' learning about politics. The building of a new theory is especially relevant given Prior (2007)'s argument that new opportunity structures (e.g., the changing media environment) may alter the dynamics of political learning. For instance, it seems reasonable to assume that the incidental nature of news consumption via social media will have a different impact on political learning than the purposeful/motivation-driven nature of news consumption in the earlier digital media (or

Internet) environment. In addition, given that significant amounts of news content on social media are user-generated (rather than professionally curated), circulating in social networks of one's own choosing, the content to which one is exposed during use can be narrow in scope, biased, unverified, and even inaccurate (Brossard, 2013). With these unique characteristics of the social media environment in mind, this dissertation focuses on developing a new framework that provides a more complete picture of the relationship between social media use and political knowledge. To do so, in the following, I propose different theoretical pathways for social media's influence on political knowledge.

Three Possibilities

First, social media use can help individuals' learning about politics, especially for those with low political interest. Because social media users are often incidentally exposed to news content even when they do not seek out news, there is often an "incidental learning effect" (e.g., Bode, 2016; Fletcher & Nielsen, 2017; Lee & Kim, 2017). Scholars have long documented that active/purposeful learning is not the only way people can learn (e.g., Baum, 2003a, 2003b; Elenbaas, de Vreese, Schuck, & Boomgaarden, 2014; Kim, Chen, & Gil de Zúñiga, 2013; Krugman & Hartley, 1970; Shehata, Hopmann, Nord, & Höijer, 2015; Tewksbury, Weaver, & Maddex, 2001). They also passively learn about politics through incidental exposure. The idea of passive/incidental learning can be traced to Downs (1957), who suggested that political information may sometimes be incidentally obtained as a result of entertainment-seeking behavior; for instance, moviegoers were once shown newsreels before the feature films that brought them to the theater. Krugman and Hartley (1970) recognized the potential for incidental learning through television viewing and argued that viewers often learn even without intending to learn, due to "an absence of resistance to what is learned'' (p. 184). Baum (2003a, 2003b)

further developed these ideas and contended that soft news use (i.e., content combining entertainment and news) tends to facilitate political knowledge gain among individuals not otherwise inclined to consume political information (see Baum, 2003a, 2003b; Baum & Jamison, 2006). According to Baum (2003a, 2003b), soft news programs – such as talk shows, infotainment programs, and late-night comedies – "piggyback" high-cost political information onto low-cost entertainment content. Consequently, even those with marginal political interest may receive at least some exposure to political issues. In this way, soft news can serve as a "gateway" to political attention and knowledge (Baum, 2003b; Feldman & Young, 2008; Xenos & Becker, 2009).

This well-established line of argumentation on incidental learning has increasingly been applied to social media (e.g., Baumgartner & Morris, 2010; Boczkowski, Mitchelstein, & Matassi, 2018; Bode, 2016; Fletcher & Nielsen, 2017; Lee & Kim, 2017; Yoo & Gil de Zúñiga, 2014). Studies by Pew Research have suggested that most Facebook users are exposed to news *incidentally* through their social network ties (Matsa & Mitchell, 2014; Mitchell, Kiley, Gottfried, & Guskin, 2013). Social media users tend to be embedded in online social networks with many weak ties, increasing opportunities for inadvertent exposure to news/political information during social media use for other purposes (Gil de Zúñiga & Valenzuela, 2011; Tang & Lee, 2013; Yoo & Gil de Zúñiga, 2014). Users can incidentally encounter both types of news (news from traditional media and user-generated content) within and outside their social networks because in social media, information is passed based on users' endorsements and recommendations (e.g., Klinger & Svensson, 2015; Messing & Westwood, 2014). Some may wonder how social media incidentally exposes its users to new content given the large degree of control users seemingly exhibit over the structure of their networks, as well as the kind of

information to which they are exposed. But scholars have found that social media users do not often exercise as much control over their networks as the technologies' user interfaces seemingly allow (e.g., Bode, 2016; Krämer, Hoffmann, & Eimler, 2015). The explanation lies in the fact that online social networks largely mirror offline social interactions, which, for most of people, are driven by a number of exogenous factors (e.g. family, work and school ties) unrelated to informational/political factors (Bode, 2016). Put another way, though one may sometimes be exposed to content in which he or she is not particularly interested (and perhaps even annoyed by), there may be a variety of social reasons to retain that network (Bode, 2016; boyd & Ellison, 2007; Ellison, Steinfield, & Lampe, 2007). For instance, consider the uncle whose political views run counter to your own. If you unfriend/unfollow him simply because you do not want to see his political posts, you run the risk of violating social norms, potentially triggering negative social consequences. Despite the technical ability to opt in and out of a social network easily, social media users tend to exercise only limited control over how they compose their social networks and the kinds of information to which they are exposed, consequently increasing the likelihood of being "incidentally" exposed to news content (Bode, 2016; Baum, 2003a, 2003b).

Theoretically, the prevalence of incidental news exposure specifically benefits those with relatively lower levels of political interest, who would otherwise not consume political information (Bode, 2016; Baum, 2003a, 2003b; Prior, 2007). On the other hand, those with relatively higher levels of political interest may face a "ceiling effect" (Ettema & Kline, 1977; Zaller, 1992). If this is the case, social media would help those with lower levels of political interest learn about politics, while having little to no effect on those with higher levels of political interest.

Second, social media can help those with higher levels of political interest, because it provides greater opportunities for them to engage with news in various ways, while it may not help – and may even hinder – those with lower levels of political interest to gain political knowledge. Despite the prevalence of incidental news exposure on social media (and the potential of incidental exposure leading to incidental learning) as mentioned above, incidental news exposure *per se* does not actually guarantee that people would learn from such exposure. Given the previous knowledge literature that learning often requires attention to the content (e.g., Drew & Weaver, 1998, 2006; Weaver & Drew, 2001), even if those with low political interest may benefit somewhat from repeated incidental exposure, learning effects may still be minimal if they pay little attention to those types of information. On the other hand, those with high political interest may learn to a greater extent (compared to those with low political interest), because they have higher intrinsic motivation to learn about political issues from a variety of news sources – ranging from mainstream news providers (e.g., CNN's Facebook page) to journalists, politicians, parties, opinion leaders, and even lay people – which social media provides. In other words, those with high political interest can take advantages of these myriad news sources, in turn helping them to gain political knowledge, while those with low political interest are unlikely to take advantage of it, because social media gives options to opt out of politics. If this is the case, social media's positive effect on political learning would only be concentrated among those with high political interest.

Lastly, there exists the possibility that social media use may negatively affect individuals' knowledge regardless of their level of political interest. Despite social media's potential to help people learn about politics either through purposeful news consumption or incidental exposure, empirical results seem to dampen this optimism (e.g., Baumgartner & Morris, 2010; Cacciatore

et al., 2018; Dimitrova, Shehata, Strömbäck, & Nord, 2014; Feezell & Ortiz, 2019; Lee, 2019; Shehata & Strömbäck, 2018; Sveningsson, 2015; Xenos et al., 2018). For instance, Cacciatore and his colleagues (2018), based on the Gfk and Pew Research datasets, found that using Facebook for news consumption was negatively correlated with political knowledge. Similarly, Shehata and Strömbäck (2018), based on two panel surveys conducted in Sweden during both an election and a non-election setting, also proposed that using social media for political news does not facilitate learning about politics, and can even hinder such learning, especially during election periods.

Various explanations – though primarily speculation, and not empirically tested – can be put forth in explaining how social media has a net negative impact on learning about politics. For instance, social media news, which has intrinsic advantages over traditional news (e.g., immediateness/availability, fun, low information costs, autonomy in the news production and distribution process, etc.) (Sveningsson, 2015), still has many shortcomings that can hinder knowledge acquisition. For example, social media news tends to be biased, subjective, and often inaccurate/unverified (Brossard, 2013; Sveningsson, 2015). Despite such quality concerns over social media news, social media users often believe that they can still be well-informed through their social media news feeds, because a lot of news content will be pushed through their social networks anyway (Gil de Zúñiga et al., 2017; Müller, Schneiders, & Schäfer, 2016). This faulty perception may prevent individuals from paying attention to or elaborating on the news content, which can subsequently hinder their learning about politics. More detailed discussions of this observation will be made in Chapter 4.

In this chapter, I have provided a theoretical overview of the media environment – in particular, focusing on the uniqueness of the social media environment – and of political

knowledge. Against this backdrop, in the following sections, I empirically test my argument using multiple datasets.

CHAPTER 3

Study 1: Social Distraction? Social Media Use and Political Knowledge in Two U.S.

Presidential Elections

The purpose of this chapter is to test empirically the effects of social media use on political knowledge. As noted in the previous chapters, at first glance, the widespread availability of news and political information on social media might be considered ideal for improving citizens' knowledge of current events. News is ubiquitously available, and more accessible than ever before. In addition, there are a burgeoning number of news sources on social media; indeed, one can get news not only from mainstream providers on social media platforms (e.g., CNN's Facebook page) but also from individual journalists, politicians, parties, opinion leaders, and even lay people. Thus, if one is interested in politics and current affairs, s/he can easily take advantage of the opportunities that social media provides to obtain political knowledge. Furthermore, political learning can even occur for those who are generally disinterested in politics and current affairs, as these people may be incidentally exposed to a substantial amount of news content through their social network ties and feeds — even though they may not actively seek out such content (e.g., Bode, 2016; Gil de Zúñiga et al., 2017; Matsa & Mitchell, 2014).

Yet, the greater opportunities for learning made possible by social media do not necessarily mean that people who take advantage of these opportunities actually learn from them. A number of studies have explored the relationship between social media and political knowledge (e.g., Baumgartner & Morris, 2010; Bode, 2016; Cacciatore et al., 2018; Dimitrova et al., 2014; Feezell & Ortiz, 2019; Lee, 2019; Shehata & Strömbäck, 2018; Xenos et al., 2018). Most of these studies either report non-significant (e.g., Baumgartner & Morris, 2010; Cacciatore et al., 2018; Dimitrova et al., 2014; Lee, 2019; Shehata & Strömbäck, 2018; Xenos et al., 2018),

or even negative main effects (e.g., Cacciatore et al., 2018; Shehata & Strömbäck, 2018). While one study by Bode (2016) did find a positive link between social media use and political learning in an experimental setting, the experimental methods have critical limitations in assessing social media's impact on learning. For example, in an experimental setting, participants are "forced" to read the content, and learning may therefore occur as an artifact of mandatory exposure. Given that habits of reading news content in the real world (e.g., skimming through information) may be considerably different from an experimental setting, where participants are forced to read the content, the findings obtained from such studies may not be generalizable. Indeed, Bode (2016) also noted that while she found "potential" for learning through social media in her experiment, these positive findings did not hold true in the subsequent survey data with the general population.

Thus, the research literature suggests that despite the potential social media affords for political learning, it may not actually help — and can even hinder — one's learning about politics. Although these studies have significantly enhanced our understanding of the role of social media in political knowledge, there are still several important research gaps.

First, most studies on this topic have focused on how *political social media use* may influence political knowledge. Yet, given that most people who get news via social media do so while using social media for other purposes (Matsa & Mitchell, 2014), it is also important to examine how non-political social media use in our everyday lives influences political knowledge, beyond how political social media use affects political knowledge. Little research has been conducted on how both political and general social media use affect political knowledge.

Second, although the literature is beginning to disentangle the direct effects of social media use on political knowledge, how such effects vary by one's level of political interest has rarely been studied (except Bode, 2016; Feezell & Ortiz, 2019). I expect that use of social media would be directly associated with political knowledge, but that such learning effects may not be identical across the population.

Lastly, the majority of studies in this area were based on cross-sectional data (e.g., Baumgartner & Morris, 2010; Cacciatore et al., 2018; Lee, 2019; Xenos et al., 2018), which demonstrates only correlation rather than the causal direction in which this relationship occurs. There are indeed a few studies which have used panel data to examine this relationship (i.e., Dimitrova et al., 2014; Shehata & Strömbäck, 2018), but both of these studies have used Swedish data, whose media environment — characterized by the presence of strong public service elements — differs markedly from that of the United States. Thus, it is meaningful to test the causal effects of social media use on political knowledge in the U.S. election context.

To summarize, this study attempts to fill the gap in the existing literature by analyzing how both political and general social media use affect one's political knowledge, and how such effects vary depending on one's level of political interest. Building on two survey datasets collected during the 2012 U.S. presidential election (cross-sectional data) and the 2016 U.S. presidential election (two-wave panel data), I address previous methodological limitations and gain potentially valuable insights into the relationship between social media use and political knowledge. Also, by using two surveys conducted in two different U.S. presidential election cycles, this study aims to test the generalizability of the findings in multiple election contexts. Empirically, this research attempts to examine following four research questions.

RQ1. How does political use of Facebook affect political knowledge?

RQ2. How does general use of Facebook affect political knowledge?

RQ3. How would the effect of general Facebook use on political knowledge differ between those with high political interest and low political interest?

RQ4. How would the effect of political Facebook use on political knowledge differ between those with high political interest and low political interest?

Method

Data

The survey data for the 2012 U.S. presidential election (from now on, 2012 data) was collected during the final days of the 2012 U.S. presidential election cycle (October 29 through November 2, 2012). Participants were recruited from the Survey Sampling International (SSI), which created a sample of 1,149 respondents that closely mirrored census data on key dimensions, such as gender and age. I excluded respondents who took an unreasonable amount of time to complete the survey (less than 8 min. or more than 60 min.) or who showed unreasonably low response latency for certain items.

The survey data for the 2016 U.S. presidential election (from now on, 2016 data) was collected during the 2016 U.S. presidential election by YouGov. The sampling frame was constructed through stratified sampling that was designed to be representative of the U.S. population in terms of gender, age, race, education, party identification, ideology, and political interest. Data for the first wave were collected between September 20 and September 27, 2016 and included 937 respondents. Seven hundred fifty participants completed the second wave (a 80.04% retention rate), which was collected between November 18 and November 28, 2016. All variables including political knowledge were assessed at both waves 1 and 2 (except demographics).

Measures

Political knowledge. For the both data sets, I asked a series of factual knowledge questions about respondents' awareness of issues during the presidential election and their more general knowledge of the U.S. political system and institutional rules. The aim was to assess participants' levels of political knowledge. For the 2012 data, I assessed political knowledge based on a set of 20 factual questions about politics, including six items on general political knowledge (e.g., "Which party is generally more supportive of reducing the size and scope of the federal government?") and 14 items on campaign knowledge of issues pertinent to the 2012 presidential election (e.g., "Which presidential candidate has raised concerns about the U.S. Navy having too few ships?"). Correct responses were coded as "1," and incorrect responses were coded as "0." A composite measure of total political knowledge was constructed by adding all 20 knowledge items (Cronbach's $\alpha = .81$, $M = 10.52$, $SD = 5.12$). For the 2016 data, I assessed political knowledge at both Waves 1 and 2. In Wave 1, I asked five factual questions related to campaign knowledge of issues pertinent to the 2016 presidential election (e.g., "What job or position is now held by Pam Bondi?"). Correct answers to these five items were summed into an additive index (Cronbach's $\alpha = .65$, $M = 2.08$, $SD = 1.50$). In Wave 2, I asked 10 factual questions about politics, all of which were composed of campaign knowledge that referred to the 2016 presidential election (e.g., "A late October surprise came when James Comey told Congress [that] the FBI had found new emails that 'may be pertinent' to a previously closed investigation into Hillary Clinton's email use. The messages were found on the laptop of which former congressman?"). More specifically, respondents were asked about issues and events that occurred between Waves 1 and 2; this enabled us to gauge the extent to which respondents gained new political information that was not available during Wave 1 (Shehata et al., 2015;

Shehata & Strömbäck, 2018; Strömbäck, 2017). Correct responses were coded as 1, while incorrect responses and don't knows were coded as 0. Following the recommendations from previous research (e.g., Mondak, 2001; Mondak & Anderson, 2004), "don't know" option was also included to prevent respondents from guessing the answers. Correct answers to these ten items were summed into an additive index (Cronbach's α = .81, M = 4.76, SD = 2.74. The distribution of correct answers for these data sets are presented from Figure 5 to Figure 7. A complete list of political knowledge items and the percentage of respondents answering each item correctly can be found in the Appendix section.

Frequency of Facebook use. Respondents rated the frequency of their Facebook use, on a 7-point scale ranging from "Never" (0) to "Daily" (6) (2012 data: M = 3.74, SD = 1.61; 2016 data W[1]: M = 3.85, SD = 2.46; 2016 data W[2]: M = 3.90, SD = 2.44). I used the same measure for both studies.

Political use of Facebook. In the 2012 data, respondents were asked to report whether they have ever used Facebook or other social networking tools to do any of the following: 1) Post links to political stories or articles for others to read (2012 data: Yes = 41.5%; 2016 data W[1]: Yes = 36.6 %; 2016 data W[2]: Yes = 42.6 %); 2) Post your own thoughts or comments on politics or social issues (2012 data: Yes = 52.6% ; 2016 data W[1]: Yes = 38.8 %; 2016 data W[2]: Yes = 45.5 %); 3) Encourage other people to take action on a political or social issue that is important to you (2012 data: Yes = 39.5%; 2016 data W[1]: Yes = 26.8 %; 2016 data W[2]: Yes = 27.5 %); 4) Encourage other people to vote (2012 data: Yes = 42.4%; 2016 data W[1]: Yes = 32.7 %; 2016 data W[2]: Yes = 39.6 %); 5) Re-post content related to politics or social issues that was originally posted by someone else (2012 data: Yes = 41.4%; 2016 data W[1]: Yes = 42.7 %; 2016 data W[2]: Yes = 43.9 %); and 6) "Like" or promote material related to political or social

issues that others have posted (2012 data: Yes = 55.2%; 2016 data W[1]: Yes = 58.3 %; 2016 data W[2]: Yes = 59.0 %). All questions were measured dichotomously, "No" (0) or "Yes" (1). For the 2016 data, respondents were asked to report whether they had used social networking tools for political activities in the past month (No = 0, Yes =1).

Control variables. Additional independent variables included a series of demographic and political variables, such as political interest, ideological conservatism, and measures for gauging attention to news. The demographic variables included age, education, gender, race, and household income (see Table 1). *Political interest* was measured by asking respondents to indicate the level of agreement with the statement "Some people are interested in politics all the time, even when there isn't an election going on. Thinking about yourself, how interested in politics would you say that you are?", on a 5-point scale ranging from "not at all interested" (0) to "extremely interested" (4), (2012 data: M = 2.27, SD = 1.22; 2016 data W[1]: M = 2.18, SD = 1.01; 2016 data W[2]: M = 2.24, SD = .95). *Ideological conservatism* was measured by asking respondents to report their political ideology, on a 5-point scale ranging from "Strong Liberal" (1) to "Strong Conservative" (5), (2012 data: M = 3.11, SD = 1.11; 2016 data: M = 3.12, SD = .99). Lastly, to measure attention to a variety of news, I created an index of *attention to news* based on the attention participants had to five different types of news, which were political news, news about their community, national news, news about international affairs, and entertainment news/celebrity gossip. Response options were on a 4-point scale ranging from "Not at all" (0) to "A great deal" (3). Responses to these items were averaged to create a composite score. I dropped the item pertaining to entertainment news/celebrity gossip, as that item was only weakly related to other news attention items. Exclusion of this item improved the internal consistency of the scale from alpha values of .80 to .87 (2012 data), and .73 to .84 (2016 data W[1]), and .75 to

.85 (2016 data W^2) (2012 data: $M = 2.14$, $SD = .75$; 2016 data W^1: $M = 3.03$, $SD = .75$; 2016 data W^2: $M = 3.07$, $SD = .75$).

Analysis

For the 2012 data, I specified a series of hierarchical ordinary least squares (OLS) regression models. Demographic variables were entered in the first block, followed by political variables in the second block. Then, Facebook use variables (i.e., political Facebook use and general Facebook use) were entered in the model as the third block, to assess the unique amount of variance accounted for by Facebook use beyond the effects of previous blocks.

For the 2016 data, I employed an OLS lagged dependent variable regression model, which is also referred to as *conditional change model* (Finkel, 1995). This model accounts for prior values of the dependent variable when predicting current values of the dependent variable with other explanatory variables. By controlling for lagged values of DV, we can gain substantial leverage over questions of causality because the model assesses individual-level changes in political knowledge gain as compared to baselines at wave 1. Thus, in the present analysis, I controlled for respondents' political knowledge during wave 1. The order of entering blocks was same as that used in the 2012 data.

<center>**Results**</center>

The 2012 data

RQ1 explored the association between political Facebook use and political knowledge. The results showed that none of the political Facebook use activities were significantly related to political knowledge, after controlling for demographic variables and political variables ($p > .05$). Among all the controls introduced in our analysis, age (older), education (more educated), household income (higher income), gender (men), and race (Whites), political interest, and

political ideology (less conservative) were positively related to political knowledge (see Table 2). RQ2 explored the association between general Facebook use and political knowledge. The results indicated that the frequency of Facebook use was moderately negatively associated with political knowledge (β = -.18, p < .001), after controlling for demographic variables and political variables. The magnitude of this relationship is relatively strong in comparison to other factors. Overall, these results provide no evidence that Facebook use (either for political or general uses) has a positive effect on political knowledge.

Moving beyond the direct effect of Facebook use on political knowledge, RQ3 and RQ4 explored whether such effects are moderated by one's level of political interest. The results suggest that there are no moderation effects. In other words, social media's negative effect on political knowledge holds, regardless of one's level of political interest.

The 2016 data

As the findings from the 2012 cross-sectional data do not offer insight into the causal relationship among the variables, panel designs were employed for the 2016 data, in order to provide better answers to questions regarding the causal relationship between Facebook use and political knowledge. Using the same research questions and hypotheses, the 2016 data sought to replicate and expand on the findings of the 2012 data). The results were overall very consistent with those from the 2012 cross-sectional data, with only minor differences.

As expected, knowledge level at Wave 1 was a highly significant predictor of knowledge level at Wave 2 (B = .41, p <. 001), indicating the relative stability of political knowledge over time. Gender (male), education (the better educated), and race (Whites) were also significant predictors of knowledge level at wave 2. Political interest (Wave 1) strongly predicted

knowledge (Wave 2), such that greater political interest led to greater political knowledge (Wave 2) ($B = .27$, $p <. 001$).

RQ1 explored the effect of political Facebook use (Wave 2) on political knowledge (Wave 2), controlling for baseline political knowledge (Wave 1). Overall results showed that political Facebook use (Wave 2) did not predict political knowledge (Wave 2). Among the six types of political Facebook use, only one activity (i.e., "Like" or promote material related to political or social issues that others have posted) positively influenced political knowledge (Wave 2). The null findings of this study are consistent with the results of most of previous research on this scholarship, which showed null or weak negative associations (e.g., Gil de Zúñiga et al., 2017; Shehata & Strömbäck, 2018). RQ2 explored the effect of general Facebook use (Wave 2) on political knowledge (Wave 2), controlling for baseline political knowledge (Wave 1). The results suggest that, while controlling for other relevant factors, frequency of Facebook use (Wave 2) negatively affected political knowledge (Wave 2) ($\beta = -.11$, $p <.001$).

Overall, the results from the cross-sectional and the panel analyses in these two election cycles lead to the same conclusions. The data provide no evidence of a significant effect of political Facebook use on political knowledge, while general Facebook use has a modest negative effect on political knowledge.

As with the 2012 cross-sectional data, RQ3 and RQ4 explored whether such effects are moderated by one's level of political interest. Consistent with the findings from the 2012 cross-sectional data, the results suggest that there are no moderation effects. In other words, social media's negative effect on political knowledge holds, regardless of one's level of political interest.

Discussion

The overall purpose of this study was to investigate: 1) how different types of Facebook use (i.e., political and general Facebook use) influence individual's political knowledge; and 2) whether these findings are consistent across two different U.S. presidential election cycles. I used two different datasets (both cross-sectional and panel dataset) to draw causal inferences with greater confidence. In this section, I discuss the key findings of the study, followed by the limitations and implications of the findings, and suggestions for further research.

Discussion of Key Findings

The findings were consistent across the two datasets. First, I found no evidence suggesting that political Facebook use was significantly related to political knowledge, which accords with previous findings that have failed to demonstrate the association between political social media use and political knowledge (e.g., Baumgartner & Morris, 2010; Dimitrova et al., 2014; Shehata & Strömbäck, 2018). The consistent pattern of insignificant findings in previous studies and this study warrant further investigation of the possible reasons for this insignificant effect. In this regard, recent research by Shehata and Strömbäck (2018) may present some possibilities. Shehata and Strömbäck (2018) noted that social media users are "nested in personalized, issue-specific, and network-dependent streams of news" (p.5), which likely discourages users from learning about the broader political news often provided by traditional news media outlets. In other words, even if users use social media platforms for political purposes, including consuming news, to a substantial degree, such news does not tend to cover a broad range of political issues often found in traditional news media. Social media users exercise a great degree of selectivity when deciding what political information to read and may easily skip information necessary for gaining political knowledge (at least, the set of factual knowledge questions scholars typically use to measure political knowledge).

Perhaps the more interesting finding in this study was that general Facebook use had a modest negative relation to political knowledge. Given how pervasive general Facebook use is, relative to political use, this finding suggests that the overall impact of Facebook on political knowledge was negative. Further knowledge gap tests also revealed that its negative effect was consistent regardless of one's level of political interest.

Several possible mechanisms could drive this negative effect. First, Facebook may distract its users from learning politics. Although Facebook users are exposed to a sheer amount of news from social media, most of such exposure is *incidental* when using Facebook for non-informational purposes (Matsa & Mitchell, 2014) or using it habitually or routinely (Vishwanath, 2014). As a result, even if users are exposed to news or political information to some extent, they may lack a desire to truly learn from such exposure (Gil de Zúñiga et al., 2017). Given that learning often requires a great amount of cognitive processing (Chaffee & Schleuder, 1986; Eveland, 2002; Eveland, Shah, & Kwak, 2003), the incidental nature of news exposure indicates that Facebook may not be a good place for learning to occur.

Second, Facebook users are often exposed to unverified and inaccurate information, such as fake news (Allcott & Gentzkow, 2017; Barthel, Mitchell, & Holcomb, 2016), which may produce a negative learning effect. In addition, increasing Facebook use may lead to a decrease in traditional news consumption. With the rise of digital media, patterns of news consumption are shifting. According to the recent pew research report, time spent watching television news has been dramatically declining while consuming news via digital or social media has been increasing rapidly (Sheaer, 2018). Given that traditional news media, especially television, have been central in informing the public over the last half century (Neumann, Just, & Crigler, 1992;

Prior, 2007; Xenos et al. 2018), this trend of displacement from traditional news media to digital or social media may result in a political knowledge drop among the public.

Finally, Facebook may have a negative effect on knowledge gain, as frequent exposure to news content on the Facebook newsfeed may create the feeling of being informed. Scholars suggested that such feelings can increase users' perceived knowledge without necessarily enhancing their actual knowledge (Hollander, 1995; Park, 2001). Park (2001) noted that "as exposure increases, media audiences may increasingly recognize frequently portrayed events as familiar, without necessarily gaining knowledge" (p.419), which may cause news consumers to perceive themselves as being informed when they may have not actually gained any information. Similarly, Kruger and Dunning (1999) noted that the ignorant often do not recognize their ignorance; thus, they overestimate their abilities, a phenomenon known as the "Dunning-Kruger effect." These psychological mechanisms suggest that frequent exposure to news content may not lead to actual knowledge gain. Hermida (2010) also noted that the omnipresence of news may enhance ambient awareness of news events, rather than generating actual knowledge. This circumstance is especially relevant for news posts on Facebook as users increasingly encounter political content when visiting the site—either news articles shared by traditional news media outlets or user-generated content shared by members of the users' unique social networks. This might lead to the misperception that Facebook helps them stay updated, even if they are not actively seeking news elsewhere. Indeed, what may be happening is that users gain only a little knowledge from Facebook, because most of them skim the political content rather than devote much cognitive processing to it. Perhaps even worse, this misunderstanding of knowledge gain may discourage users from seeking news elsewhere or from paying attention to the news in general, negatively affecting their political knowledge.

Limitations

The current study has several limitations. First, I used a binary measure of whether respondents have experienced using social media for political purposes. The use of a binary response format is not the best way to capture variability in participant responses (e.g., Cook, Heath, Thompson, & Thompson, 2001). This format does not allow the respondents to report their intensity or frequency of usage; instead, they must choose between non-use and use, which may lower true score variance. In this regard, one could argue that political Facebook use indeed has a positive effect on the outcome variable, yet a binary measure may have prevented researchers from detecting a positive relationship. Although a continuous measure would enable researchers to better account for the full spectrum of effects in general, there is no reason to believe these measurement differences affect our ability to capture the general impact of political Facebook use on political knowledge. Given that a majority of respondents reported not having used Facebook for political purposes, I expect that there should be relatively small variation in terms of individuals using Facebook for political purposes. Even if there is any effect, it should be small, which does not affect the study's conclusion that the overall impact of social media on political knowledge is negative.

Another limitation is that the current analysis leaves an important question unanswered. Contrary to the widespread popular belief that social media makes its users politically informed, what is it that makes social media not only ineffective, but also an often-negative platform for learning about politics? Although this study enables some causal inferences about the effects of social media use on knowledge by using different sets of data, the findings do not tell us what mechanism causes such effects to occur.

Implications and Future Research

This study makes two contributions to the field of social media and political knowledge. First, unlike previous studies focused solely on the relationship between political knowledge and political social media use (e.g., social media use for news or performance of other various political activities on social media), this study examines how political social media use and general social media use influence political knowledge. Users not only receive political information and purposefully engage in political activities on social media, but also are incidentally exposed to such information while using social media for other purposes (e.g., Bode, 2016; Fletcher & Nielsen, 2017; Matsa & Mitchell, 2014). This study, therefore, explores the effects of both political and general social media use on political knowledge simultaneously. Future research can look at how other motivations of using social media may influence political learning.

Second, although previous studies mostly rely on cross-sectional data, this study uses both cross-sectional and panel data to allow for a robust examination. Using cross-sectional and panel data together offers clear advantages. In this study, the cross-sectional data allowed for the examination of the average association between social media use and knowledge. It is important to know whether heavy social media use (either political use or general use) is more likely to be advantageous or disadvantageous to political learning, regardless of the directionality of this relationship. However, patterns observed from cross-sectional data are not suitable for drawing causal inferences. Panel data permits detecting changes at the individual level across time, and thus, assessing the temporal nature of the relationship with greater confidence. Together, both approaches enable the exploration of how social media use and knowledge are associated in general and over time. By filling these gaps in the literature, this study contributes to improving the understanding of the role of social media use in political knowledge.

The findings of this study provide a fuller picture of the implications of social media use for political learning by examining how political Facebook use and general Facebook use influence political knowledge. The increasing use of Facebook in general, as well as for political purposes, necessitates a deeper understanding of this relationship. Based on survey data from two recent U.S. presidential elections, I find that political use of Facebook does not help users stay informed about politics, and unfortunately, general Facebook use negatively affects users' learning about current political affairs. Furthermore, this negative pattern was consistent regardless of one's level of political interest. Further research is needed to examine what mechanisms drive this negative relationship.

Conclusion

The use of Facebook has increased over recent years, which include the use political Facebook use. The present study shows that political social media use does not have a significant effect on political knowledge, while general social media use has a moderately negative effect on political knowledge. These findings suggest that on balance, the overall impact of social media use on political knowledge appears to be negative. As such, this study contributes to a better understanding of social media use's role in political learning.

CHAPTER 4

Study 2: Probing the mechanisms through which social media erodes political

knowledge: The role of the news-finds-me perception

Despite the contribution of Study 1 to the scholarship of media use and political

knowledge, there are some critical remaining questions. First, Study 1 found that general social

media use had a negative impact on learning about politics, regardless of one's level of political

interest. The more one uses social media, the less they are politically informed. Even though this

finding suggests that social media platforms may not be conducive to and even harmful to

learning about politics and current affairs, it does not show how such effect would differ

depending on an individual's specific motivations. Scholars found differential effects depending

on how people use media (e.g., Shah et al., 2001, Shah et al., 2009). Especially in digital/social

media environments where individuals enjoy enormous options to select the contents based on

their goals, individuals tend to use media for different purposes which often produce different

media effects. This line of argument suggests that even if general social media use is found to

exert a negative impact on political knowledge, this does not ensure that negative effect would

also occur when social media is used for specific goals—in this case, for news consumption

purposes. Thus, this study will revisit the main effect of social media use on political knowledge

with *social media news use* as an independent variable rather than general social media use as an

independent variable.

Also, more importantly, this study will explore the causal mechanisms behind the main

effect. Despite recent negative findings (e.g., Cacciatore et al., 2018; Lee & Xenos, 2019;

Shehata & Strömbäck, 2018), no studies published to date have addressed the underlying

mechanisms behind this effect. It is important to look at the causal mechanisms behind the direct

relationship in order to fully understand what drives the phenomenon. Moreover, understanding the processes through which social media may diminish political knowledge may help identify promising opportunities for individuals and organizations to foster better relationships between users and social media. For this reason, the present study extends the work of prior literature by not only analyzing the direct effect of social media news use on individuals' political knowledge, but also exploring the causal mechanisms through which it occurs.

To empirically test the causal effects and mechanisms, this study uses panel data collected during the 2018 U.S. midterm election. In addition, recognizing that political knowledge is often operationalized in different ways, this study adopts two different types of political knowledge measures (i.e., factual political knowledge and confidence-in-knowledge) to test whether the relationship between social media use and political knowledge holds across different types of political knowledge measures. In these ways, this study attempts to better understand the dynamic picture between social media use and the extent to which people learn about politics and current affairs.

Literature Review

As covered in Chapter 2, despite the potential of social media to help people learn about politics (either through purposeful news consumption or incidental news exposure), Empirical data also suggest a pessimistic picture in terms of the influence of social media use on political learning. In fact, the majority of recent empirical studies either failed to find a relationship between social media news use and political knowledge (Baumgartner & Morris, 2010; Dimitrova et al., 2014; Lee, 2019; Oeldorf-Hirsch, 2018) or found a negative relationship (Cacciatore et al., 2018; Gil de Zúñiga et al., 2017; Lee & Xenos, 2019; Shehata & Strömbäck, 2018). For instance, Cacciatore et al. (2018) noted that the use of Facebook for news

consumption and news sharing was negatively related to individuals' political knowledge, with this pattern being found to be consistent across the GfK Knowledge Networks data and the Pew data. Further, Shehata and Strömbäck (2018) found that the use of social media for political news had a negative impact on individuals' political learning, with this pattern also proving consistent across two different sets of panel data covering different political contexts. Thus, the following hypothesis is proposed.

H1. Social media news use (W^1) is negatively related to political knowledge (W^2).

However, this hypothesis does not explain why such an effect occurs. Hence, the potential mechanisms behind the negative relationship will be discussed in the following section.

The News-Finds-Me Perception as a Mediator

One possible causal mechanism is that using social media for news can create a false perception of being informed (rather than actually being informed). This concept, referred to as the "news-finds-me" (NFM) perception (Gil de Zúñiga et al., 2017; Gil de Zúñiga & Diehl, 2019), may be one key to understanding the mechanisms that underlie the negative relationship between social media news use and political knowledge. The NFM perception is defined as "the extent to which individuals believe they can indirectly stay informed about public affairs—despite not actively following the news—through general Internet use, information received from peers, and connections within online social networks" (Gil de Zúñiga et al., 2017, p. 107). In other words, people often believe that they are well informed about current events, even though they do not actively/purposefully follow the news, because the news effectively finds them through their peers and social connections (Gil de Zúñiga & Diehl, 2019). The concept of the NFM perception must be distinguished from the concept of news avoidance (see Gil de Zúñiga et al., 2017). The NFM perception does not indicate that people avoid news; rather, it means that

people believe news will be channeled toward them anyway, and so they do not actively seek it out.

News-consuming activities on social media may enhance this perception because, the nature of news consumption in social media – where news items and other posts are literally *fed* to the user — does not often require any active effort (Gil de Zúñiga et al., 2017; Gil de Zúñiga & Diehl, 2019). Most social media news can be easily acquired by skimming a social media newsfeed, thus the motivation to seek and engage with news actively may be diminished (Gil de Zúñiga et al., 2017; Müller et al., 2016). This is reflected in a recent Pew Research report suggesting that the majority of social media users (78%) are incidentally exposed to news content rather than actively seeking out news content (Matsa & Mitchell, 2014).

A particular problem of this pattern of news consumption is that even though the social media environment often seems to fulfill users' news-gathering needs, the perception that social media-delivered news will find users regardless of effort is often a "misperception" (Gil de Zúñiga et al., 2017; Gil de Zúñiga & Diehl, 2019). Similarly, Müller et al. (2016) also argued that by making its users exposed to a lot of news in their timelines, social media use may only boost their subjective knowledge (i.e., the feeling of being informed), rather than actual knowledge. Yet, if individuals feel that they can stay well-informed through incidental news exposure, they may not "click on it, attend to it, or process it in any depth" (Gil de Zúñiga et al., 2017, p.110). Given that elaborate of content vital for learning (e.g., Eveland & Dunwoody, 2002), the NFM perception and users' subsequent heavy reliance on social media news may ultimately hamper knowledge gain.

Exposure to Fake news as a Mediator

Another potential mechanism that can explain negative effect of social media on political knowledge is that social media makes users vulnerable to misinformation/disinformation. One distinctive feature of social media news that is distinguished from traditional news is that news circulating in social media is not often produced by professional journalists (Bode, 2016; Hermida, 2012; Tandoc & Vos, 2016). People often produce news by themselves and disseminate news to their social networks (Bode, 2016; Hermida, 2010). In other words, there is no "gatekeeping" process (i.e., the process by which professional news organizations selectively choose what content to make public) used to assure veracity and credibility of news contents (Hermida, 2012). It is also hard to identify the source of news, which makes it difficult to verify credibility (Brossard, 2013; Sveningsson, 2015). In addition, rapid news dissemination on social media often make its users to reduce deliberation time, which hamper people from critically evaluating authencity of the content (Tandoc et al., 2018). Given this characteristic of how news is produced and circulated in the social media sphere, it is not surprising that there are lots of news content that contains misinformation (i.e., false/misleading information that does not have a deliberate intent) and/or disinformation (i.e., false/misleading information that has a deliberate intent) which may hamper an individual's acquisition of factual knowledge about current affairs and politics.

Danger of inaccurate social media news content in informed citizenry is well-noted in recent nationwide survey data. In 2016, the Pew Research Center reported that a substantial amount of political news on social media is either inaccurate or completely fake (Barthel et al., 2016). The more serious issue is that about two-thirds of U.S. adults (64%) say fake news causes a great deal of confusion about factual political information and 22% say that it caused some

confusion (Barthel et al., 2016). In addition, that 51% of U.S. adults reported that the news they see on these platforms is at often inaccurate (Barthel, et al., 2016).

An even more serious problem is that studies have shown that people are even more susceptible to fake news than they really are (e.g., Kuklinski, Quirk, Jerit, Schwieder, & Rich, 2000; Moravec, Minas, & Dennis, 2018; Wineburg, McGrew, Breakstone, & Ortega, 2016). For instance, Kuklinski et al. (2000) found that misinformed people are often confident that they are holding correct information.For instance, Kuklinski et al. (2000) found that misinformed people are often confident that they are holding correct information. In addition, given that 1) people mostly come across news while doing other things in social media (i.e., incidental exposure) rather than actively seeking out and processing news content, and 2) people are less like to scrutinize news when it comes from social network connections whom they already trust (e.g., Hermida, Fletcher, Korell, & Logan, 2012; Metzger, Flanagin, & Medders, 2010; Turcotte, York, Irving, Scholl, & Pingree, 2015), people would be extremely susceptible to inaccurate/unverified information circulating in social media (Lee & Shin, 2019; Tandoc et al., 2018; Weeks & Gil de Zúñiga, 2019).

Selective Scanning as a Mediator

Finally, selective scanning may explain social media's negative impact on individual's knowledge about politics. Selective scanning refers to the behavior of picking and choosing information based on personal preferences (Eveland & Dunwoody, 2002; Kosicki & McLeod, 1990). A number of media scholars and communication researchers found that selective scanning is harmful for learning about politics (e.g., Eveland & Dunwoody, 2002; Tewksbury & Althaus, 2000). While selective scanning enables users to engage freely with information that interests them, this also implies that users may easily skip information that is necessary for gaining

knowledge; Internet users tend to use their own interest to guide their decision about what to read or not. Tewksbury and Althaus (2000) argued that web delivery decreases learning because the greater opportunity to personalize the selection of news often limits exposure to politically important stories; readers are found to read news more about crime, health, and sports, rather than public affairs.

Selective scanning is also prevalent in the social media sphere. Since social media networks tends to be comprised of a considerable number of loose social ties, individuals are likely to be exposed to all kinds of information – including information in which they are not particularly interested, which may create a sense of information overload (Pentina & Tarafdar, 2014). To reduce information overload, users may end up skimming over the content in which they are not interested, while putting relatively more focus on the content in which they are. Furthermore, social media users can more actively craft/customize an information environment to fit their personal preferences by using features such as friending/unfriending, following, blocking, and so on, which would make them more easily exposed to the kind of content in which they are already interested, while ignoring uninteresting content or posts that challenge their pre-existing beliefs (e.g., Klinger & Svensson, 2015; Pariser, 2011). Regardless of the reasons for which social media users selectively scan information – whether to avoid political content or to consume more political content that already aligns with one's existing beliefs – what is common is that social media's filtered environment, by facilitating selective scanning, makes users "nested in personalized, issue-specific, and network-dependent streams of news" (Shehata & Strömbäck, 2018, p.5). This can subsequently discourage users from learning the broad/balanced set of political news that is often provided by traditional news media outlets (Bright, 2016; Shehata & Strömbäck, 2018; Sveningsson, 2015).

Considering the three theoretical explanations for the expected negative relationship between social media news use and political knowledge discussed so far, the following hypotheses are proposed.

H2a: The NFM perception mediates the relationship between social media news use and political knowledge.

H2b: Exposure to fake news mediates the relationship between social media news use and political knowledge.

H2c. Selective scanning mediates the relationship between social media news use and political knowledge.

Traditional News Use as a Moderator

Moving beyond the mediating mechanism of social media news use in relation to political knowledge, we anticipate that this effect will not hold for all people. In the current media environment, people do not solely rely on a specific medium to get news; rather, they use multiple ones. The majority of social media users who get their news via social media also use other traditional news platforms to get the news (Shehata & Strömbäck, 2018). Thus, the proposed negative pathways through which social media news negatively affects one's knowledge gain may be amplified or dampened by the extent to which an individual uses traditional news platforms alongside social media news platforms. The traditional news media is considered to represent one of the most important avenues for individuals to gain political information (e.g., Neumann, Just, & Crigler, 1992; Prior, 2007). For instance, numerous studies have identified positive links between political knowledge and both reading newspapers (e.g., Chaffee & Kanihan, 1997; Chaffee, Zhao, & Leshner, 1994) and watching television news (e.g., Neuman et al., 1992; Prior, 2007; Xenos et al., 2018). Researchers have also found that

traditional news use is far better in helping people learn about politics compared to other media platforms (e.g., Shehata & Strömbäck, 2018; Xenos et al., 2018). For instance, Shehata and Strömbäck (2018) pointed out that compared to social media news, which is likely to be filtered by algorithms, one's own networks, and one's preferences, traditional media covers a relatively broad range of issues and provides a balanced overview of what is going on in politics and society. Also, news content is selected and produced by professional news organizations, which assures quality and veracity of information (e.g., Strömbäck & Esser, 2014).

Thus, given that traditional news media has been found to help people become politically informed – while social media does not, and can even stymie, political learning – the strengths of the negative effects of social media news on political knowledge will be contingent on the extent to which people would use traditional news media as a complementary news source. For instance, the negative effects of social media (through the proposed mediating mechanisms) may be weaker for those who use traditional news as a complementary news source, and stronger for those who do not. Some may argue that social media use would directly reduce traditional news consumption via a "displacement effect," and that the corresponding curtailment of traditional news is the primary factor adversely impacting political knowledge. However, researchers have found little empirical support for a "media displacement effect" (for a notable exception, see Bucholtz, 2015); while some social media users may reduce traditional news use as they rely more on social media to get news, others may use both mediums complementarily (e.g., Dutta-Bergman, 2004a, 2004b; Robinson & Martin, 2008; Shehata & Strömbäck, 2018). A study by Shehata and Strömbäck (2018) showed that the majority of frequent social media news users also get news from news websites at least five days a week. Sterret et al. (2018) also noted that the majority of Americans get news from multiple news sources. These findings suggest that social

media news consumption tends to complement rather than displace traditional news consumption.

This can lead to the logic that the mediating paths from social media use to political knowledge are *conditioned* by how much one uses traditional news use, rather than social media use directly reducing one's traditional news consumption. Therefore, the following moderated-mediation hypotheses are proposed.

H3a. The indirect effect of social media use for news on political knowledge through the NFM perception is contingent on an individual's level of traditional news use such that the negative effect is stronger for those who less frequently use traditional news.

H3b. The indirect effect of social media use for news on political knowledge through the fake news exposure is contingent on an individual's level of traditional news use such that the negative effect is stronger for those who less frequently use traditional news.

H3c. The indirect effect of social media use for news on political knowledge through the selective scanning is contingent on an individual's level of traditional news use such that the negative effect is stronger for those who less frequently use traditional news.

Method

Sample

The data for this study were drawn from a two-wave U.S. national panel study that was conducted during the 2018 U.S. midterm election. Both waves of the survey were conducted using Survey Sampling International (SSI), which created a sample of 1,555 respondents. Data for the first wave were collected between September 26 and September 30, 2018 and included 1,555 respondents. 824 participants completed the second wave (a 53 % retention rate), which

was collected between November 7 and November 13, 2018. All variables except demographics were measured at both waves.

Measures

      Political knowledge. In the present study, political knowledge was operationalized in two different ways, namely *factual political knowledge* and *confidence-in-knowledge.* First, *factual political knowledge* was assessed by how accurately the survey respondents answered a series of factual questions about politics (e.g., political systems, political figures, candidate's issue stance, and current events). For Wave 1 knowledge, questions about both general/chronic political knowledge (total 6 items; e.g., How much of a majority is required for the U.S. Senate and House to override a presidential veto?) and campaign specific knowledge regarding 2018 midterm election (total 5 items; e.g., What is the name of the special counsel that is overseeing the investigation into Russian tampering with the 2016 US election?) were asked. A composite measure of total political knowledge was constructed by adding these items from general and campaign knowledge (Cronbach's α = .86, M = 6.67, SD = 3.39). For Wave 2 knowledge, respondents were only asked questions about issues and events that occurred between Wave 1 and Wave 2 (e.g., On October 24th, a package containing a pipe bomb was delivered to several places. Which is one of the places these packages were delivered to?). This measure enabled us to gauge the extent to which the respondents had gained new information that was not available during Wave 1 (e.g., Shehata et al., 2015; Shehata & Strömbäck, 2018). In both cases (i.e., both Wave 1 and Wave 2 knowledge), correct responses were coded as 1, while incorrect responses and don't knows were coded as 0 (Cronbach's α = .86, M = 5.16, SD = 2.95). The distribution of correct answers are presented in Figure 8 (Wave 1) and Figure 9 (Wave 2). A complete list of

political knowledge items and the percentage of respondents answering each item correctly can be found in the Appendix section.

The vast majority of prior communication studies have operationalized and measured political knowledge in the aforementioned way (e.g., Dimitrova et al., 2014; Gil de Zúñiga et al., 2017; Kenski & Stroud, 2006; Shehata & Strömbäck, 2018; Xenos & Moy, 2007), although this conventional means of measuring political knowledge does have certain limitations. For instance, this way of measuring political knowledge does not allow researchers to distinguish a response based on guesswork (or offered with a lack of confidence) from a response based on knowledge (or offered with a strong degree of confidence). Without measuring the respondents' confidence in their knowledge, it is difficult to determine accurately the extent to which they are informed about political issues (see Kuklinski et al., 2000; Lee & Matsuo, 2018). Based on prior research, the present study came up with a new way of measuring political knowledge, incorporating the respondents' confidence in answering each knowledge item, which we have termed "confidence-in-knowledge."

The respondents were asked how confident they were of their answers after each factual knowledge question, with the response options ranging from "not at all confident" (1) to "very confident" (4). To create a knowledge index that ranges from confidently misinformed to uninformed to confidently informed, I first recoded the wrong answers as -1, the did not knows answers as 0, and the correct answers as 1. Then, I computed each respondent's overall confidence score by averaging the sum of the confidence scores by the number of knowledge items. Lastly, I multiplied the two variables to create an index that ranges from -4 (confidently misinformed) to 4 (confidently informed) (W^1 $M = 1.63$, $SD = 1.60$; W^2 $M = 1.38$, $SD = 1.38$).

Social media news use. Building on previous studies (Gil de Zúñiga et al., 2017), an index of social media use for news was created by averaging 12 items measured on a 10-point scale (1= never to 10 = all the time). Nine items asked respondents how often they used Facebook, Twitter, Snapchat, WhatsApp, Google+, YouTube, Instagram, Reddit, and LinkedIn for getting news. In addition, three general items asked respondents how often they used social media "to stay informed about current events and public affairs," "to get news about current events from mainstream media," and "to get news from online news sites" (12 items averaged scale W[1] Cronbach's α = .95, M = 3.73 , SD = 2.59 ;W[2] Cronbach's α = .94 , M = 3.10 , SD = 2.31).

NFM perception. Based on the seminal work of the NFM perception (Gil de Zúñiga et al., 2017, and Gil de Zúñiga & Diehl, 2019), a measurement improvement has recently been introduced by Song, Gil de Zúñiga, and Boomgaarden (2020). Respondents were asked to respond to the following statements on a scale from 1 (strongly disagree) to 10 (strongly agree): "I rely on my friends to tell me what's important when news happens," "I can be well informed even when I don't actively follow the news," "I don't worry about keeping up with the news because I know news will find me," "I rely on information from my friends based on what they like or follow through social media," "I do not worry about keeping up with news because I know news will finds me," and "I do not have to actively seek news because when important public affairs break, they will get to me in social media." (six items averaged scale, W[2] Cronbach's α = .90; M = 4.23, SD = 2.33).

Selective scanning. This concept is expanded from Eveland and Dunwoody (2002). Participants will be asked to rate the extent to which they agree with following six statements in a 10-point scale (1 = strongly disagree, 10 = strongly agree); "I only read news articles/political

information that are interesting to me", "I skip news articles/political information which do not interest me", "I only pay attention to news articles/political information which interest me", "I only read news articles/political information in social media which is in line with my political beliefs", "I skip news articles/political information which is at odds with my political beliefs", and "I only pay attention to news articles/political information which is in line with political beliefs" (six items averaged scale, W^2 Cronbach's α = .92; M = 5.09, SD = 2.67).

Exposure to fake news. To measure this variable, respondents were presented with nine false headlines, and were asked whether they have heard about each story. If they had not, it was coded as 0, while if they have heard of the false story, it was coded as 1. Then, the scores for each item were summed up to create a composite index of exposure to fake news, the high score indicating higher exposure to fake news stories (W^2 Cronbach's α = .83, M = 1.94, SD = 2.31). The distribution of the number of false headlines exposed (self-reported) is presented in Figure 10.

Traditional news use. To create a composite index of traditional news use, radio, newspaper, and television news use were measured separately and totaled. To measure radio news use, respondents were asked the following two questions: "How often do you get news from radio?" and "How often do you use radio for news?" (W^2 Spearman-Brown=.95; M = 4.71, SD = 3.05). To measure newspaper news use, respondents were asked to indicate how often they get print news from local newspapers and national newspapers. They were also asked to rate their overall frequency of reading printed news sources (W^2 Cronbach's α = .91, M = 4.30, SD = 2.93). Finally, respondents were asked to indicate how often they get news from "TV," "network TV," "local TV," and "cable TV" (W^2 Cronbach's α = .89, M = 6.46, SD = 2.73). All of these

data were then combined to form an additive index of traditional news use (10-point average scale, W[1] Cronbach's α = .70, M = 5.57 SD = 2.26).

Political discussion. Respondents were asked how frequently in the past year they had talked about politics or public affairs via 1) face-to-face or over the phone and 2) the Internet, including e-mail, chat rooms and social networking sites. The response options ranged from 1 (never) to 10 (all the time) (W[1] Spearman-Brown = .58, M = 4.20, SD = 2.91)

Demographic variables. Demographic variables include age (M = 45.38, SD = 16.33), gender (50.5% females), race (65 % white), education (operationalized as highest level of education that they have completed; M = 4.08, Mdn = 2-year college degree), and total annual household income (Mdn = \$60,000 - \$69,999).

Analytical Procedure

To test our set of hypotheses and research questions, a series of regression analyses and path analyses were conducted. First, three different types of ordinary least-square regression analyses (i.e., cross-sectional, lagged, and autoregressive) were conducted. While the use of a cross-sectional model limits researchers' ability to infer causal relationships, the other two regression analyses provide clearer evidence of causation. A time-lagged model enables researchers to assess the effect of social media news use in Wave 1 on political knowledge in Wave 2. An autoregressive model enables researchers to assess the effect of social media news on *change*s in the respondents' political knowledge gain when compared to the baselines scores taken during Wave 1. By controlling for the prior effects of the dependent variable, an autoregressive model allows us to make a better causal inference when compared to the cross-sectional and time-lagged models.

Subsequently, to explore the causal mechanisms through which social media use influences political knowledge, a series of path analyses were conducted using "lavaan" package in R (Rossell, 2012). Model fit was assessed by using several fit indicators, including chi-square, CFI, RMSEA, SRMR, and the Bayesian information criterion (BIC). Both the global fit of the model and the individual path coefficients were assessed to determine whether the hypotheses were supported. Sociodemographic variables (i.e., gender, age, education, ethnicity, income, and political interest) were residualized. The bootstrapping technique was used with 1000 bootstrap samples at a 95% bias-corrected percentile. Cross-lagged path analyses were conducted to examine the moderated mediation hypotheses. The correlations of the variables in the model are presented in Table 3.

Results

H1 stated that social media news (W^1) will be negatively associated with political knowledge (W^2). I tested this hypothesis using three different modeling strategies: cross-sectional, lagged, and autoregressive. As presented in Table 4 and 5, the results suggest that social media news (W^1) is overall negatively related to both types of political knowledge (W^2). These effects are consistent across the cross-sectional model (for factual political knowledge: $\beta = -.42$, $p <.001$, $\Delta R^2 = 45.8\%$; for confidence-in-knowledge: $\beta = -.46$, $p <.001$, $\Delta R^2 = 48.9\%$), lagged model (for factual political knowledge: $\beta = -.24$, $p <.001$; $\Delta R^2 = 42.0\%$; for confidence in knowledge: $\beta = -.34$, $p <.001$, $\Delta R^2 = 41.0\%$), and the autoregressive model (for confidence in knowledge: $\beta = -.07$, $p = .04$, $\Delta R^2 = 62.1\%$; for confidence in knowledge: $\beta = -.16$, $p <.001$, $\Delta R^2 = 63.1\%$). This finding is consistent with Cacciatore et al (2018)'s finding that was based on cross-sectional data. Aside from this focal independent variable, some other control variables had significant influence on both types of political knowledge in Wave 2, such as political interest

(for factual political knowledge: $\beta = .28$, $p <.001$; for confidence in knowledge) and discussion

frequency (for factual political knowledge: $\beta = .09$, $p <.01$; for confidence in knowledge: $\beta = .08$,

$p <.01$).

To explore possible causal mechanisms behind this negative effect, H2 proposed that the

effect of social media news use on political knowledge is mediated in three ways: the NFM

perception (H2a), exposure to fake news (H2b), and selective scanning (H2c). The path analysis

showed that the social media news facilitated the NFM perception ($\beta = .39$ $p < .001$), which in

turn had negative effect on political knowledge ($\beta = -.12$, $p < .01$). In addition, mediation effect

was significant ($b = -.05$, $SE = .02$, $p = .01$), providing support for H2a. On the other hand, other

proposed mechanisms (i.e., social media news use → exposure to fake news → political

knowledge; social media news use → selective scanning → political knowledge) turned out to be

insignificant ($p >.05$). The patterns hold the same when the dependent variable was confidence-

in-knowledge (the NFM perception functioning as an only significant mediator; $b = -.05$, SE

$= .02$, $p <.001$). Thus, neither H2b nor H2c were supported.

To determine whether these indirect effects were also contingent on traditional news use,

a series of path analyses were conducted (H3a, H3b, and H3c). The initial path model tested the

moderated mediation model with all three mediating paths that were originally proposed (i.e., the

NFM perception, exposure to fake news, and selective scanning) (see Figure 1). The results did

not show a good fit to the data according to the fit statistics [$\chi^2 = 157.08$, $df = 15$, $p < 0.001$; CFI

$= .65$; RMSEA $= .12$; SRMR $= .07$; BIC $= 12622.90$]. Thus, I trimmed the model by removing

non-significant paths from the initially proposed model (see Figure 2).

The model seen in Figure 3 and Figure 4, in which the NFM perception is the only

significant mediator shows the results for the finally-selected model. Although the chi-square

value was significant (χ^2 = 16.17, *df* = 2, *p* < .001), other fit statistics were within an acceptable

range (for factual knowledge: CFI = .90; RMSEA = .10; SRMR = .03; BIC = 6348.98; for

confidence-in-knowledge: CFI = .93, RMSEA =.10, SRMR = .03, BIC = 5259.13). Looking at

the specific paths, the results suggest that the mediated effect (social media news use → the

NFM perception → political knowledge) is conditioned on the extent to which an individual uses

traditional news platforms as news sources (H3a supported). The findings show that the indirect

effect of social media news use on political knowledge through the NFM perception becomes

weaker as individuals' use of traditional news increases. Bootstrap confidence intervals for the

conditional indirect effect of social media on political knowledge through the NFM perception at

low (16th percentile), moderate (50th percentile), and high (84th percentile) values of traditional

news use can be found in Table 6. As noted in this Table, the indirect effect of social media news

use on political knowledge through the NFM perception was significant for the middle and high

levels of traditional news use. However, the indirect effect was not significant for the low level

of traditional news use, since the confidence interval does not include zero. This indicates that

the overall indirect effect is statistically negative. In other words, those who more frequently use

traditional news platforms will experience a weaker negative influence on the part of social

media use on their political knowledge through the NFM perception.

Additional Analyses

Multiple additional analyses were conducted to examine possible factors that may

moderate the relationship between social media news consumption and political knowledge (e.g.,

political interest, political discussion, network size, age, and education), but the results were

invariant across different groups.

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Discussion

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The primary aim of this study was to examine the causal effects of social media use on political knowledge as well as the underlying mechanisms through which such an effect occurs. To this end, we adopted different modeling strategies based on panel data, which allowed us to more rigorously test the causal structure of the data when compared to cross-sectional data.

The findings suggest that social media news use has a negative effect on political knowledge. These findings are consistent with those of recent studies by Cacciatore et al. (2018) and Shehata and Strömbäck (2018), but extend these works by more clearly showing the dynamics through which social media use actually hinders rather than enhances an individual's knowledge and understanding of politics. That is, in addition to the main negative effect, the further path analysis suggests that the NFM perception mediates the negative relationship between social media usage and political knowledge. In other words, accessing news via social media creates a perception that the news will find the user anyway, which in turn negatively affects the user's learning about politics. Further, this mediating mechanism is moderated by the extent to which individuals also use traditional news platforms, such that those who access news in the traditional manner to a great degree in addition to using social media sites for news-related purposes suffer to a lesser degree from the negative impact of social media usage on political knowledge.

The findings of this study hence call for a nuanced interpretation. The overall negative effect of social media use on political knowledge presents the decidedly pessimistic picture that social media use, rather than actually serving to inform individuals, may simply foster a false sense of being informed due to triggering the NFM perception, which may in turn have a detrimental impact on individuals' learning about politics. This negative effect is even more serious for individuals who do not actively seek out traditional news media to complement their

social media news consumption. However, while this picture may seem dismal at first, there is hope. The finding of a moderated mediation effect suggests that those who use traditional media to a substantial degree to complement their news consumption via social media are less negatively affected.

Thus, it appears to be important to prompt the public to realize that social media sites may foster a false sense of being informed, rather than actually serving to inform people. This does not necessarily mean that news delivered via social media is merely harmful in relation to informing the public. Indeed, we acknowledge that social media news does have its values. It can be spread quickly and widely, and it sometimes covers issues that have been neglected by traditional news media (e.g., Lee, 2018; Valenzuela, 2013). However, the social media news environment is not only "personalized, issue-specific, and network-dependent" (Shehata & Strömbäck, 2018, p.5), but is also full of "biased, false, deliberately inaccurate, and unverified information" (Shavelson, 2018, p.281). In addition, recent studies have found that social media users are often exposed to "snack news" – which merely convey a shortened version of a news story and are "composed of a headline, a picture, a teaser of the news story, and social endorsement cues including 'likes,' 'shares' or comments of other users" (Schäfer, Sülflow, & Müller, 2017) rather full news articles, which does not help social media users' learning new information. Given this kind of quality issue of social media news, social media users should be aware that relying solely on social media platforms to stay informed may actually render them uninformed. Hence, they should consume traditional news media in addition to consuming news via social media to stay informed.

Speculations for the Null Findings

While the NFM perception turned out to be an important mechanism that can explain the negative effect of social media news use on political knowledge, the results showed that other theorized mechanisms, such as exposure to fake news and selective scanning, did not turn out to be significant mechanisms that underlie the negative effect of social media use on political knowledge. The current data do not speak directly to these null findings; however, I speculate that null findings may be due in part to methodological and/or theoretical limitations associated with each theoretical mechanism.

First, with regard to operationalization of *exposure to fake news*, it would be ideal if respondents could accurately answer to what extent they are exposed to fake news stories. But this is not the case. Thus, this study adopted a measurement to indirectly capture to what extent respondents are exposed to fake news stories; that is, presenting fake and true news stories that circulated during the election, and asking whether respondents heard about that news, whose measurement is also often used by other scholars (Allcott & Gentzkow, 2017; Valenzuela, Halpern, Katz, & Miranda, 2019). But despite the popularity of this measurement, there are some theoretical and methodological level issues. Theoretically, there is no strong reason to believe that exposure to fake news *per se* leads to decrease in political knowledge gain. Media theorists have consistently found that media exposure *per se* is not a good predictor of media effects, rather, what is more important is how people use that media content (e.g., McLeod et al., 1999; Shah et al., 2001). For instance, if people scrutinize news content, exposure to fake news per se may not hinder individual's gaining factual political knowledge.

Aside from theoretical shortcomings, it may also suffer from methodological limitations. That is, respondents may not accurately remember whether they have really been exposed to fake news. For instance, Allcott and Gentzkow (2017) invented some fake news stories (placebo fake

news headlines) and asked respondents whether they have seen following news stories. Surprisingly, 14% of the sample reported that they have seen that fake news even though it never existed. This finding shows that people's ability to estimate frequency of exposure to fake news may not be very accurate.

In addition, this null effect of fake news exposure on political knowledge may be due to characteristics of midterm election. As can be seen in Figure 9, a relatively small percentage of respondents were exposed to fake news during the 2018 midterm election, which may be one reason that exposure to fake news failed to mediate the relationship between social media news consumption and political knowledge. Fake news exposure may play a more crucial role in a presidential election, when people are more likely to consume political news and fake news tends to be in greater circulation.

Second, the null finding of effect of selective scanning on political knowledge may be due in part to how political knowledge is measured. Media effects research suggest that media effects may depend on how knowledge is operationalized and measured (Delli Carpini & Keeter, 1996; Elenbaas, de Vreese, Schuck, & Boomgaarden, 2014). Selective scanning may not impair people's ability to have some rudimentary factual understanding about politics (e.g., figures, events, etc.) because obtaining factual information about politics and current events may not be so much related to how much people selectively consume information, but it still has a chance to negatively affect other types of knowledge, such as Knowledge Structure Density (Eveland, Marton, & Seo, 2004), which measures to what extent individuals are able to connect different political issues/concepts.

However, at present, these are just speculations. Further investigations – with refinement of theory and measurements – may be needed to probe whether these mechanisms actually serve

as meaningful mechanisms that drive the negative effect of social media use on political knowledge.

Implications for the Findings

Despite some null findings, the present study makes several important contributions to ongoing efforts to better understand the relationship between social media use and political knowledge. First, it clearly extends the prior literature in this area by examining the underlying mechanisms between social media news use and political knowledge. Although recent studies concerning social media news use and political knowledge have constantly failed to identify a positive relationship, or else have found a negative relationship between social media news use and political knowledge, no research has been conducted to test the underlying mechanisms. This is the first study to empirically test the causal mechanisms underlying social media use and political knowledge. Moreover, the present study uses panel data with different modeling strategies so as to more rigorously test the causal mechanisms. Second, unlike most previous studies in this area (e.g., Cacciatore et al., 2018; Gil de Zúñiga et al., 2017; Shehata & Strömbäck, 2018), the present study considered different types of political knowledge. By showing that our model holds across different forms of knowledge, our findings are demonstrated to be robust.

However, it must be recognized that the present study did have certain limitations. First, there could be additional uncovered causal mechanisms behind the negative effect of social media use on political knowledge. Though the current study found that NFM perception can be one mechanism that can explain the negative effect of social media news use on political knowledge, I remain cautious about making the claim that it is this only relevant mechanism. The main negative effect of social media news use on political knowledge in the theoretical

model suggests that there are additional unexplained causal mechanisms. Future research should explore further causal mechanisms that can explain this remaining negative direct effect.

Second, there are some limitations with measuring this study's independent variable – social media news use. Following most of previous research in this field (e.g., Gil de Zúñiga et al., 2017; Shehata & Strömbäck, 2018; Valenzuela, 2013), respondents were asked how often they use different social media platforms to access news and combined to create a composite index of social media news use. Aside from the fundamental limitations of self-report measurements (e.g., social desirability bias, inaccurate recall), there are two potential problems with this measurement. First, there is no clear-cut line of "social media news" (e.g., Vraga, Bode, Smithson, & Troller- Renfree, 2016). For instance, some may think of celebrity news as news, but some may think of news as just hard political news. Some may count political opinion circulating in social media as news while others may not. If social news is perceived in different ways, this may distort the results.

Another issue with the measurement of social media news use is that it does not capture where social media news originates. Social media news sources vary a lot (e.g., Fletcher & Nielsen, 2017; Hermida et al., 2012). For instance, some social media news come from established media outlets such as CNN (e.g., CNN Facebook page), but for some social media news, it is even hard to identify the source, which can also include inaccurate information. So, by just asking how much respondents consume news from "social media", we cannot really know where this news is coming from and what kind of content he/she is consuming from social media. Future research should be more sensitive to the social media sources of consumed news.

Last, although our testing model using different forms of political knowledge revealed the same pattern of findings, and hence demonstrated the robustness of those findings, this

study's knowledge measurement is also not without limitations. That is, the different forms of knowledge measurements used in this study are still based on the factual knowledge type. Even though factual knowledge represents a dimension of political knowledge, it is not able to fully capture the whole universe of political knowledge (Graber, 1996; Lupia, 2016). Indeed, it may not capture "a more abstract and in-depth understanding of a respondent's knowledge of politics" (Cacciatore et al., 2018, p.418). For instance, factual knowledge does not account for the extent to which an individual is able to connect political issues (i.e., connotative information) (e.g., Darlymple & Scheufele, 2007; Eveland et al., 2004). Measuring an individual's ability to connect such political issues/concepts is especially relevant in the digital/social media environment in which information is connected by links (Eveland et al., 2004). Thus, future studies should replicate this knowledge model using an alternative measurement of political knowledge, for example, the knowledge structure density (KSD), as suggested by Eveland and his colleagues (2004).

Despite these limitations, the present study represents a first step toward achieving a better understanding of why social media does not help, and why it may even hinder, an individual's knowledge and understanding of politics. Social media sites have a number of characteristics that are distinguishable from those of earlier media platforms; thus, future research should continue to explore the affordances/characteristics of social media sites that render them negative platforms with which to learn about politics, as well as the conditions under which such effects could be alleviated.

CHAPTER 5

Discussion and Conclusion

A primary function of the news media in any democratic society involves keeping citizens informed, while an informed citizenry is crucial if a democracy is to function well. In this regard, Holbert (2005) suggests that understanding how the media can influence individuals' knowledge and understanding of politics and current affairs is "the central question for the discipline" (p. 511). Against this background, my dissertation examined the causal effects of social media on political knowledge (Study 1) and the causal mechanisms through which such effects occur (Study 2). As social media sites exhibit a number of unique characteristics vis-à-vis other digital media platforms (e.g., having a "partial control environment" as opposed to a "high-choice" environment), rather than simply applying existing theories that explain the relationship between news media use and political knowledge, this dissertation has focused on developing a new framework for understanding a more complete picture of the relationship between social media usage and political learning.

To summarize the findings of this dissertation, Study 1 examined how political social media use and general social media use influence political knowledge. The results showed that political social media use does not have a significant effect on political knowledge, while general social media use has a moderately negative effect on political knowledge. These findings are consistent across two different U.S. presidential election cycles (namely, the 2012 and 2016 U.S. presidential elections) and suggest that, on balance, the overall impact of social media use on political knowledge appears to be negative. Building upon these findings, Study 2 built upon existing social media literature by analyzing the effect of social media news use on political knowledge, and exploring the mechanisms through which it occurs. The study adopted different modeling strategies based on panel data (pre- and post-midterm of the 2018 elections), which

allowed rigorous testing of the causal structure of the data when compared to cross-sectional data. Consistent with the results obtained in Study 1, as well as those of several recent studies (e.g., Cacciatore et al, 2018; Shehata & Strömbäck, 2018), the findings suggest that despite all the learning opportunities provided by social media platforms, social media use actually hinders rather than enhances its users' knowledge and understanding of politics. However, this simple primary effect does not reflect the full picture. Further cross-lagged path analysis suggests that using social media for news fosters the "news finds-me" (NFM) perception, which may in turn have a detrimental impact on one's learning about politics. However, those who use traditional media to a substantial degree to complement their news consumption via social media are less negatively affected.

Overall, this study suggests a somewhat disappointing conclusion: namely, that the use of social media to access news hinders learning about politics, in part because it fosters a faulty perception that the news will find them and inform them, even if they do not actively seek it out. Although this negative effect can be mitigated by the complementary use of traditional news sources, given the trend whereby traditional news media are slowly but surely losing ground as a news source (for more details, see Shearer, 2018), it appears that the future is not very bright. Given these circumstances, what should scholars do in the face of such a crisis of democracy?

Unfortunately, there does not appear to be a surefire solution. However, the lessons that can be learned from the present study are obvious. It is important to awaken the public to the possibility that social media sites may foster a false sense of feeling informed, rather than actually serving to inform, as perception and awareness can have a positive effect on keeping them politically informed. To minimize the negative effects of social media use on an informed citizenry, moreover, we may need to (re)turn to traditional news as a complementary news

source. However, this proposal may not be as easy as it seems. As Costera Meijer (2007) has noted, while people - especially youngsters - value traditional news in that it is objective, reliable, and informative, they may choose to disregard it because it is often "too boring." On the other hand, social media news is often presented in more appealing ways; it is convenient, digestible, and entertaining, leading users to enjoy and turn to it as a source of news (Sveningsson, 2015). Given the popularity and merits of social media news, it is not only unrealistic but also undesirable to argue that people should stop using social media for news. A more realistic way forward would be to promote literacy-related education that emphasizes the value of traditional news media alongside the potential threat that social media news consumption presents. More specifically, we need to inform the public that consistent exposure to social media news content often creates a false belief that they are politically informed, even though they do not actively seek out the news. A broader awareness of how a multiplicity of news sources can help combat bias and misperception may ultimately be the best way for the public to stay politically informed.

Limitations and Future Research

The findings from this study should be interpreted in light of its limitations. Future research should address the weaknesses in this study to more fully understand the dynamic relationship between social media use and political knowledge.

Refinement of Measurement

Social Media news use. This study relied on a relatively simple measurement of the frequency of social media news use (e.g., "How often do you use following social media for getting news online?"). Even though this represents a typical means of measuring the extent to which individuals consume news via social media in the field of communication research (e.g.,

Dimitrova et al., 2014; Gil de Zúñiga et al., 2017; Shehata & Strömbäck, 2018), this survey

measure has some methodological issues. First, there is no clear-cut line of "social media news"

(e.g., Vraga et al., 2016). For instance, some may think of "celebrity news" as news, whereas

others may consider only "hard" political news to be news. Similarly, some may count political

opinions circulating on social media platforms as news, while others may not. Future research

should more clearly define what we truly mean by "news." Second, the current questionnaire

does not capture from where social media news originates. By asking only how much

respondents consume news from "social media," we cannot really know where this news is

coming from, and what kind of content he/she is consuming from social media. Future research

should be more sensitive to the social media sources of consumed news.

Lastly, the current measurement does not capture the different ways that social media

users encounter news content via social media. While users may purposefully/actively seek out

news content on a site, they sometimes stumble upon news incidentally while using the platform

for other purposes (Bode, 2016; Fletcher & Nielsen, 2017). These different avenues for accessing

the news may alter readers' expectations of new information and their willingness to engage with

it (Costera Meijer & Groot Kormelink, 2015; Möller, van de Velde, Merten, & Puschmann,

2019; Schrøder, 2015)

Yet, even if future research adopts more refined and granular taxonomies for social media

news use, this kind of measurement is still limited insofar as it is self-reported, rendering it

vulnerable to issues such as social desirability bias and inaccurate recall (Price & Zaller, 1993;

Prior, 2009). In other words, the actual amount of news exposure/consumption may differ from

one's perception of news exposure/consumption. Given social media's propensity to promote

incidental exposure, and the fact that most social media activity itself is habitual – making it

especially difficult for respondents to recall accurate usage patterns – self-reported measures will not allow us to disentangle how, and to what extent, news content is actually consumed (Junco, 2013; Vraga, Bode, & Troller-Renfree, 2016). In this regard, a recent study by Möller et al. (2019) showed that to capture behavioral differences in news consumption patterns, we need to adopt behavioral tracking data in addition to self-reported measures. Thus, for future research, survey measurement – but with more refined categories – will be used again, but tracking data will also be utilized to ensure the robustness of the findings.

Political Knowledge. Future studies should develop a more granular, empirical measure for capturing political knowledge. Indeed, how political knowledge is measured can also influence the study's model construction and, thus, its findings. This dissertation's studies have utilized factual-type knowledge (i.e., recall of factual pieces of information), focusing in particular on issue knowledge (e.g., awareness of policy, political stances of candidates, current events, etc.) to capture how much information citizens have learned during a campaign. Though issue knowledge is undoubtedly an important dimension of political knowledge, a number of scholars have rightly noted that it is but one type of factual knowledge – and does not fully capture the universe of political knowledge (e.g., Eveland et al., 2004; Graber, 1996; Lupia, 2016). For instance, factual political knowledge does not capture one's level of reflection or complexity of thinking (e.g., Sotirovic & McLeod, 2004), nor does it capture one's knowledge in long-term memory (e.g., Price & Tewksbury, 1997).

Facing these criticisms, Eveland et al (2004) developed an alternative measure of knowledge – what he referred to as "structural knowledge." The core tenet of structural knowledge is that "the ability to reason effectively depends on the ability to make connections among ideas" (Graber, 2001, p. 14). The purpose of measuring structural knowledge does not lie

in assessing how much information one holds, but rather one's "knowledge structure density" (KSD), which refers to how effectively an individual is able to connect political issues/concepts (i.e., connotative information) (Darlymple & Scheufele, 2007; Eveland et al., 2004). KSD is especially relevant in the social media environment, where news content is not presented in a linear fashion, as traditional news media often is, but rather buried amidst in-text hyperlinks and other content (Van Leuven et al., 2014), which makes an individual's ability to connect related constructs more important than the ability to recall the information accurately or in its entirety (Eveland et al., 2004). Thus, for future research in this area, a KSD measure (as a way of measuring structural knowledge) could be utilized along with factual knowledge to enhance the robustness of this study's findings.

In addition to the aforementioned types of knowledge (i.e., factual knowledge and structural knowledge), another important aspect of knowledge is how severely one is "misinformed." Especially in today's social media environment, where users encounter unprecedented amounts of misinformation, the extent to which individuals can protect themselves against such information should be deemed an important part of an informed citizenry. While some may argue that factual knowledge and vulnerability to misinformation are strongly correlated – that is, the more factual knowledge one has, the less vulnerable one is to misinformation – this might not always be the case. For instance, even though one may hold *basic* factual knowledge about current events, it is theoretically possible that he/she may be misinformed (or at least confused) about the specifics of those events. Additionally, the idea of motivated reasoning suggests that even politically sophisticated individuals (i.e., those who have high factual political knowledge) might be more vulnerable to biased and even inaccurate information (Kahan, 2017; Van Bavel & Pereira, 2018). Thus, both theoretically and empirically,

how much factual information one holds does not necessarily go hand-in-hand with one's susceptibility to misinformation, inviting a need to measure the latter to draw more meaningful conclusions about the role of social media use in creating an informed citizenry.

Taken together, future research should adopt different types of knowledge measurements – including, but not limited to, those mentioned above – and continue to develop effective measures to capture political knowledge to achieve a more nuanced understanding of the relationship between social media use and political knowledge.

Exploring Additional Mechanisms

Future studies should explore additional mechanisms underlying the negative relationship between social media news use and political knowledge. For instance, *distraction* may be one mechanism. Social media users are exposed to so much information on social media that it is often hard to process information thoroughly or pay attention to news content (Pentina & Tarafdar, 2014). As Chadwick (2009) has noted, political content in one's newsfeed is generally interspersed with all kinds of non-political content, including personal updates from friends, entertainment news, and lifestyle news, among others. Thus, even when reading news on social media, one can easily be distracted by: 1) other content that is unrelated to news/politics popping up in one's newsfeed (Chadwick, 2009; Pentina & Tarafdar, 2014); 2) hyperlink structures that divert users' attention away from news and other content to which they may originally have been fixated (Eveland et al., 2004); and 3) constant notification of updates. If social media makes one constantly distracted, it would be difficult to invest sufficient cognitive effort when consuming news from social media, which may subsequently inhibit political learning. Although they did not directly test social media's distracting effect on political knowledge, Ran, Yamamoto, and Xu (2016) found political news consumption while media multitasking lead to less learning

about politics. This result was most likely found because such media multitasking can cause cognitive overload. Following this literature, future research should test this possibility via experimental research.

In addition, the prevalence of user-generated content on social media may be another reason why social media news consumption can impede political learning. Since user-generated content often contains substantial amounts of misinformation (e.g., fake news), this dissertation also examined exposure to "fake news" as a possible mediating variable. To be sure, fake news is but one of the many concerns related to user-generated characteristics of social media news; a number of scholars have noted other quality concerns of social media news content, ranging from superficiality to bias and unverifiability (e.g., Brossard, 2013; Sveningsson, 2015, Tandoc et al., 2018). Scholars have also found that the kind of news content that most frequently appears on users' feeds were "tabloid news" (Bro & Wallberg, 2014) and "fun/weird news," sensationalized to pander to its users (Newman & Levy, 2014). The questionable quality of news content on social media, derived from user-generated content, may be one reason why consuming news from social media may in fact hinder one's knowledge acquisition.

Lastly, future research can extend this model by examining how it works in the presence, or absence, of other factors. Though this study conducted multiple supplementary analyses to examine additional variables that may moderate the relationship between social media news consumption and political knowledge (noted in the results section), the results were invariant across different groups. However, there remains a number of untested social network factors that might play a moderating role.

For instance, this model may work differently depending on the kind of social networks in which one is embedded—and, consequently, the kind of news content/political information to

which one is exposed. For example, if one is surrounded by politically knowledgeable social networks that tend to post high-quality news content on social media, social media news consumption may advance one's political knowledge even if the consumer does not heavily rely on traditional news as a complementary news source. Similarly, social media users can be exposed to very different types of news contents/political information depending on the ideological orientations of their social networks. A number of studies suggest that partisans tend to have very different social networks, implying that they will be exposed to substantially different kinds of news content (e.g., Halberstam & Knight, 2016; Himelboim, McCreery, & Smith, 2013). Future research should explore how the theoretical model used in this dissertation—which admittedly illustrates but one part of the link between social media consumption and political knowledge—can vary depending on one's network characteristics.

Clearly, recent studies (including this dissertation research) are beginning to acknowledge the negative influence of social media on political knowledge, and this dissertation is among the first to have uncovered some potential drivers of this effect. Yet, there still remains the issue of model under-specification. More work ought to be conducted to develop a more robust and sophisticated model, with the aim of better understanding of why social media news use negatively affects one's learning about politics—and what kind of consumers may be more or less susceptible to such effects.

Different Political Contexts

The current theoretical model should also be tested in various political contexts. For instance, different countries tend to differ in terms of their media systems and political contexts, which may produce different media effects (for details, see Hallin & Mancini, 2004). Presumably, the effects of social media use on political knowledge may also differ between

democratic countries (where there is no censorship of traditional media) vis-à-vis non-democratic countries (where there is strong censorship of traditional media) and countries somewhere in between (where there is regulation of traditional media but not strong censorship, such as Singapore). However, previous studies on this issue have mostly been based on democratic press systems, such as the systems of the United States and other Western countries (e.g., Baumgartner & Morris, 2010; Bode, 2016; Cacciatore et al., 2018; Dimitrova, Shehata, Strömbäck, & Nord, 2014; Gil de Zúñiga et al., 2017; Shehata & Strömbäck, 2018; Sveningsson, 2015). For instance, under democratic process systems, traditional news media are unrestricted and tend to cover a wide range of topics, while social media tends to cover a much narrower range of topics because friend networks tend to focus on shared interests (Bright, 2016; Shehata & Strömbäck, 2018; Sveningsson, 2015). Thus, reliance on social media platforms as a source of news consumption may negatively affect knowledge acquisition. This assumption may not hold in authoritarian countries where traditional news media are largely controlled by the government. In such a press environment, social media may serve as an alternative sphere in which political information is disseminated without the government's filtering process, which could enable social media users to acquire valuable political content unobtainable through the traditional news media (Reuter & Szakonyi, 2015). Thus, recent skeptical findings regarding social media use and political knowledge gain, which have mostly been based on research conducted in Western countries, may not hold for authoritarian press systems.

Yet, different political contexts are not merely confined to different political systems (e.g., democratic vs authoritarian regimes); conceptually, different political contexts also include different types of election contexts (e.g., presidential election vs. midterm election vs. non-election context). For instance, Study 2 of this dissertation, which tested causal mechanisms, was

based on the 2018 U.S. midterm election. Even though the voter turnout for the 2018 midterm election was fairly high, the dynamics and the level of public attention associated with midterm elections differ from those associated with presidential elections, where the majority of citizens tend to pay more attention to election news (or, at least, tend to be more exposed to news/information related to the election). For instance, as noted in Figure 9, a relatively small percentage of respondents were exposed to fake news during the 2018 midterm election, which may be one reason that exposure to fake news failed to mediate the relationship between social media news consumption and political knowledge. Fake news exposure may play a more crucial role in a presidential election, when people are more likely to consume political news and fake news tends to be in greater circulation. Thus, in presidential election contexts, the mechanisms that explains the negative effect of social media news consumption on political knowledge might be different. In addition, Shehata and Strömbäck (2018) found that the relationship between social media and political knowledge also differed slightly when considered in election versus non-election settings. Thus, future studies may replicate the present findings in presidential election campaigns, as well as during non-election periods, where the news/political information circulation process tends to differ from that seen during election periods. In this way, we could develop a better understanding of the extent to which the current theoretical model is generalizable.

Different Social Media Platforms

To eliminate additional noise associated with the unique features of different social media platforms, future research may consider looking at each individual platform rather than the collective concept of the social media environment. Scholars have suggested that different social media platforms provide different technical and social affordances, which may result in different

media effects (e.g., Boulianne, 2015; Pasek, More, & Romer, 2009; Treem & Leonardi, 2013). For example, whereas "friend networking" sites such as Facebook are more oriented toward facilitating reciprocal communication within relatively close networks, microblogs such as Twitter are geared more toward the sharing of information among loosely connected users (Costera Meijer & Groot Kormelink, 2015; Kwak, Lee, Park, & Moon, 2010; Lee & Oh, 2013). Compared to Facebook, where mutuality is required, Twitter feeds are more free-flowing and spontaneous (Bode, 2012; Hughes, Rowe, Batey, & Lee, 2012).

The different characteristics embedded in different social media platforms may have a differential impact on learning. For instance, incidental exposure – a unique characteristic of social media that differentiates it from other digital media platforms – is much more likely on Facebook, where the networks are mainly connected for non-informational reasons (thus making it relatively hard to "unfriend" others), compared to Twitter, where the networks are more frequently used for informational reasons (thus, relatively easier to unfollow others). Given their unique and disparate characteristics, different social media platforms can theoretically exert different effects on political learning (or even if the main effect is the same, the mechanisms underlying the main effect may differ). Furthermore, social media platforms are continually evolving, and the overall popularity of specific platforms changing by the day (Newman et al., 2019), calling for a need to examine each platform individually rather than collectively. Thus, future studies should test whether the proposed theoretical model functions differently across different types of social media – and if so, how.

Different Devices

Social media news can be consumed via computer, tablet, or mobile device. According to a recent survey by Reuters Institute Digital News, news consumption via computer is declining

sharply, whereas news consumption via mobile is increasing dramatically (Newman et al., 2019); indeed, the majority of those surveyed actually reported that they preferred consuming news via mobile due to the convenience and versatility of their smartphones. Though most prior studies have not segregated these consumption channels, different types of devices – which provide very different technological capabilities – may also produce differential learning effects. Recent research conducted by Dunaway and Soroka (2019) revealed that smartphones, while inducing people to seek and consume news more frequently, also have functional shortcomings; for example, smartphones' relatively small screen size makes it difficult for users to process messages, in turn hampering their ability to take in and comprehend information. Similarly, when people access news via mobile, they tend to rely more on peripheral cues for authenticating information (Tandoc et al., 2018), which can make people more susceptible to misinformation and prevent them from more deeply processing the content, in turn limiting their political knowledge acquisition. Future research should also test whether or not the specific medium through which people consume social media news produces differential learning effects.

Seeking for Remedies

In terms of practical application, future research would identify ways to help people stay more politically informed. The mere awareness that social media news consumption may be detrimental to one's learning about politics may not shield people from the negative influence of social media on learning. The findings of this dissertation suggest that people should turn more to traditional news media rather than rely too heavily on social media for news consumption in order to stay informed. Yet, this solution may not be very realistic, as many social media users are already aware of social media's shortcomings vis-à-vis traditional news platforms, yet continue to prefer the former because it is entertaining and accessible, rather than "boring" like

the latter (Sveningsson, 2015). Thus, a return to traditional news media as a complementary news source may be neither plausible nor pragmatic. Future research should take this question one step further and discuss how we can: 1) help traditional news media evolve to become more engaging, and 2) enhance social media news quality so that social media news platforms more accurately and effectively serve the public.

Likewise, if future research finds additional mechanisms that can explain the negative effects of social media news on political learning, subsequent research should explore effective and practical mitigants for those mechanisms.

Summary of Future Directions

Based on the aforementioned limitations, the current theoretical model of my dissertation can be extended in multiple ways: 1) refining the taxonomies for focal variables used in the model; 2) exploring more potential mediators and moderators; 3) testing the model in different political contexts other than liberal democratic countries; 4) examining how the model works across different social media platforms and devices; 5) using other methods – such as interviews, experiments, and computational methods – to address the weaknesses of the existing survey methods; and 6) seeking practical solutions to minimize the negative influence of social media use on political knowledge.

Conclusion

As social media sites have become increasingly incorporated into daily life, it is not uncommon for people to use social media to access news and political information. Despite the obvious potential of social media sites in terms of informing citizens, this study suggests that social media use does not actually enhance – and may even hinder – one's knowledge and understanding of politics. This problem stems from the fact that social media use fosters a faulty

perception that the news will find them and inform them, even if they do not actively seek it out. In this process, the role of traditional news platforms is highlighted, since the extent to which individuals consume traditional news alongside the consumption of social media news can either exacerbate or attenuate the identified negative effect.

From a theoretical perspective, my dissertation contributes to the emerging literature on social media and political learning by providing a new framework for understanding how social media use (including social media news use) can hinder rather than help one's learning about politics and current affairs. To this end, my research aids us in better gauging the role of social media in a democratic society, and ultimately helps us think about ways in which we can leverage social media to benefit society. Yet, despite the significance of this study, there are various limitations, opening new avenues for future studies. Such research should explore additional mediating and moderating mechanisms using more refined and sophisticated measures of the focal variables across different political environments. In doing so, a more comprehensive understanding of the implications of social media use for the political learning process can be achieved.

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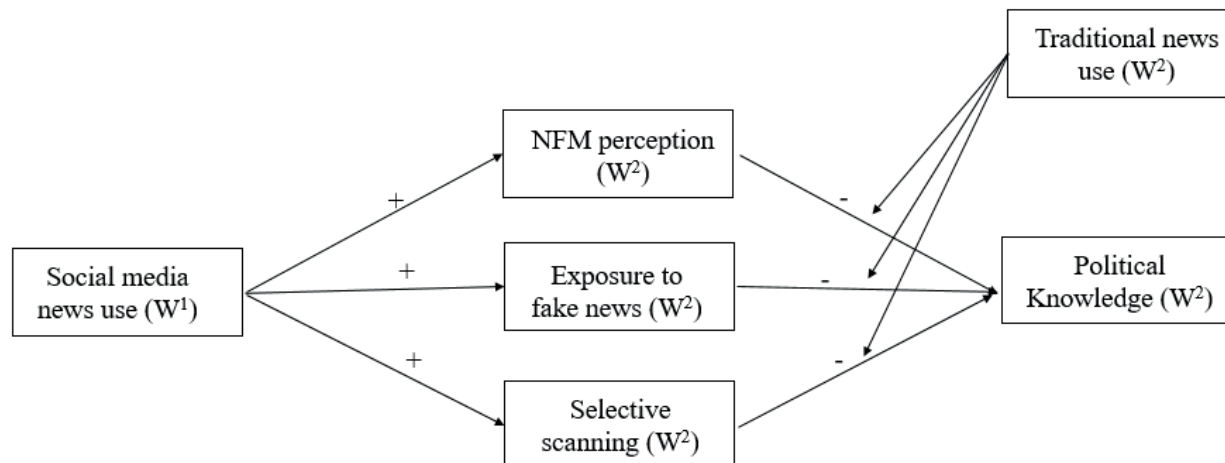
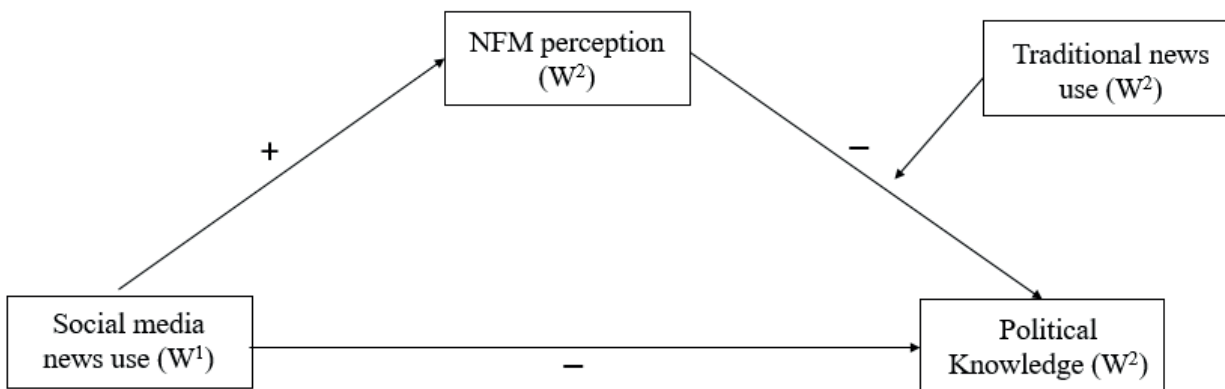*Figure 1.* Initial Theoretical Model (2018 data)

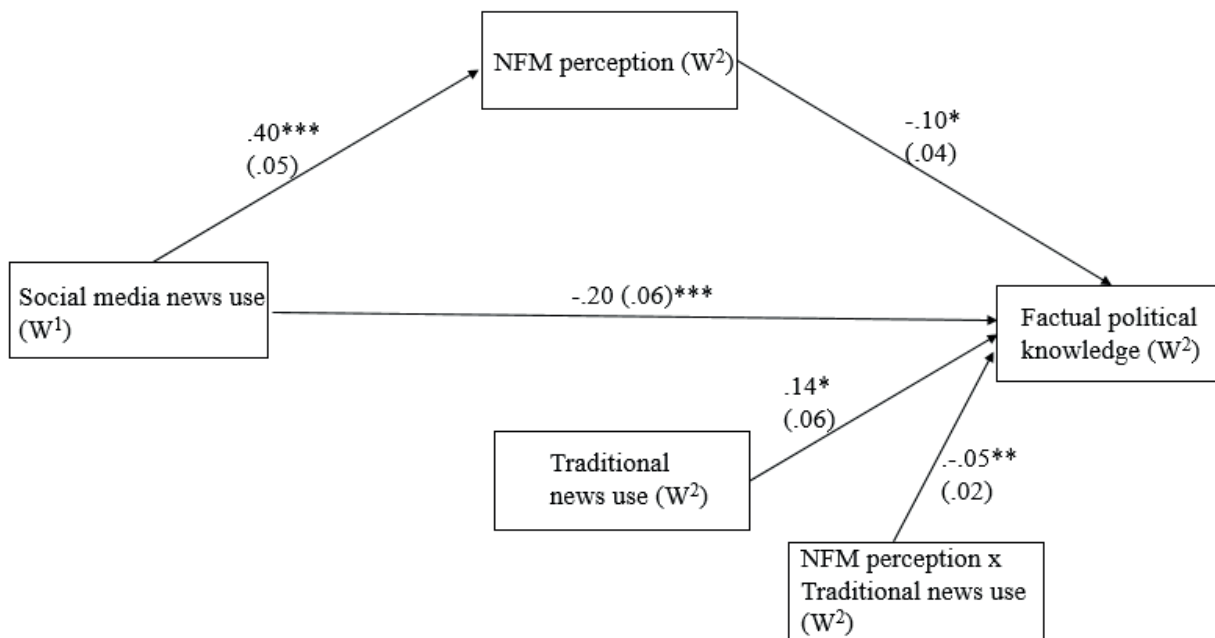*Figure 2.* Final Theoretical Model (2018 data)

Figure 3. Final Empirical Model – DV: factual political knowledge (2018 data)
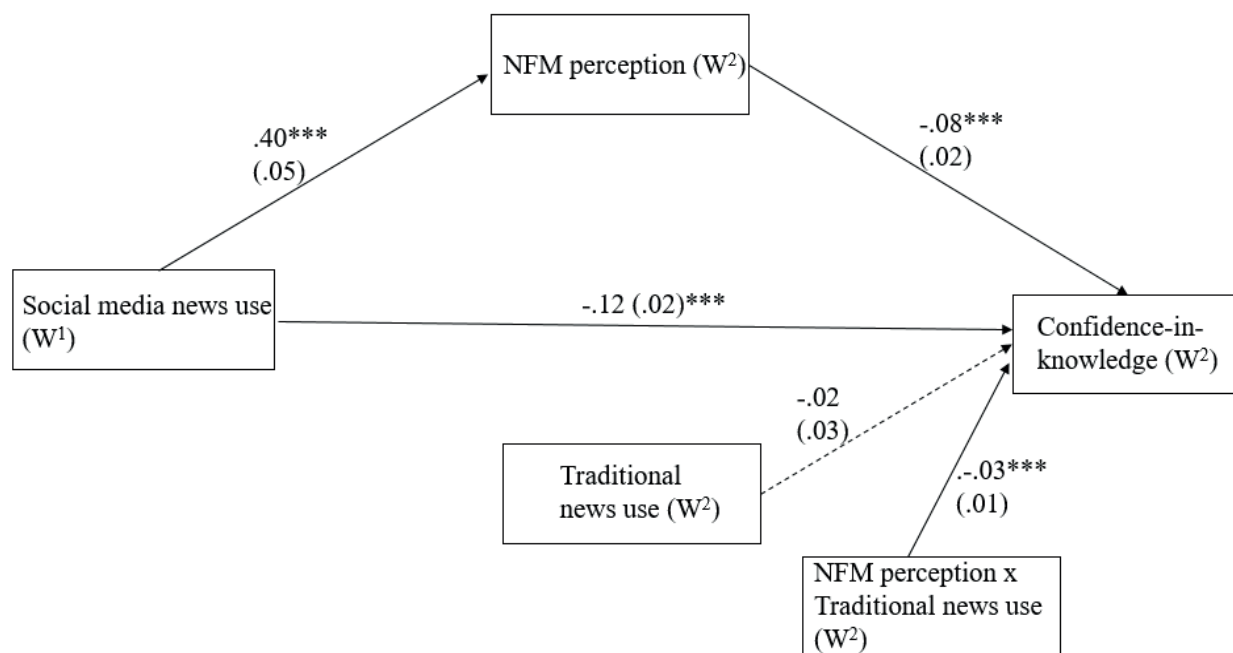
Figure 4. Final Empirical Model – DV: confidence-in-knowledge (2018 data)

Figure 5. Number of Correct Answers (2012 data)
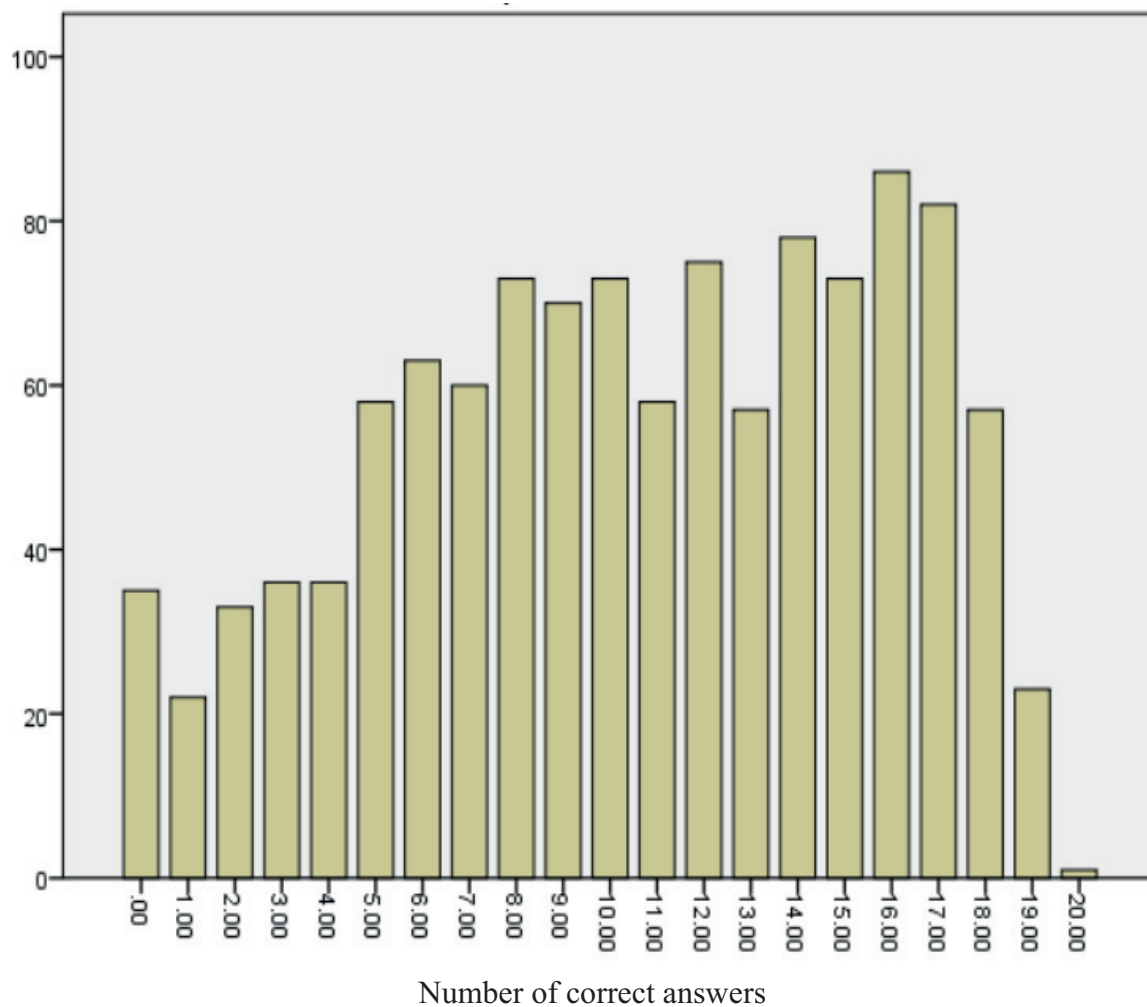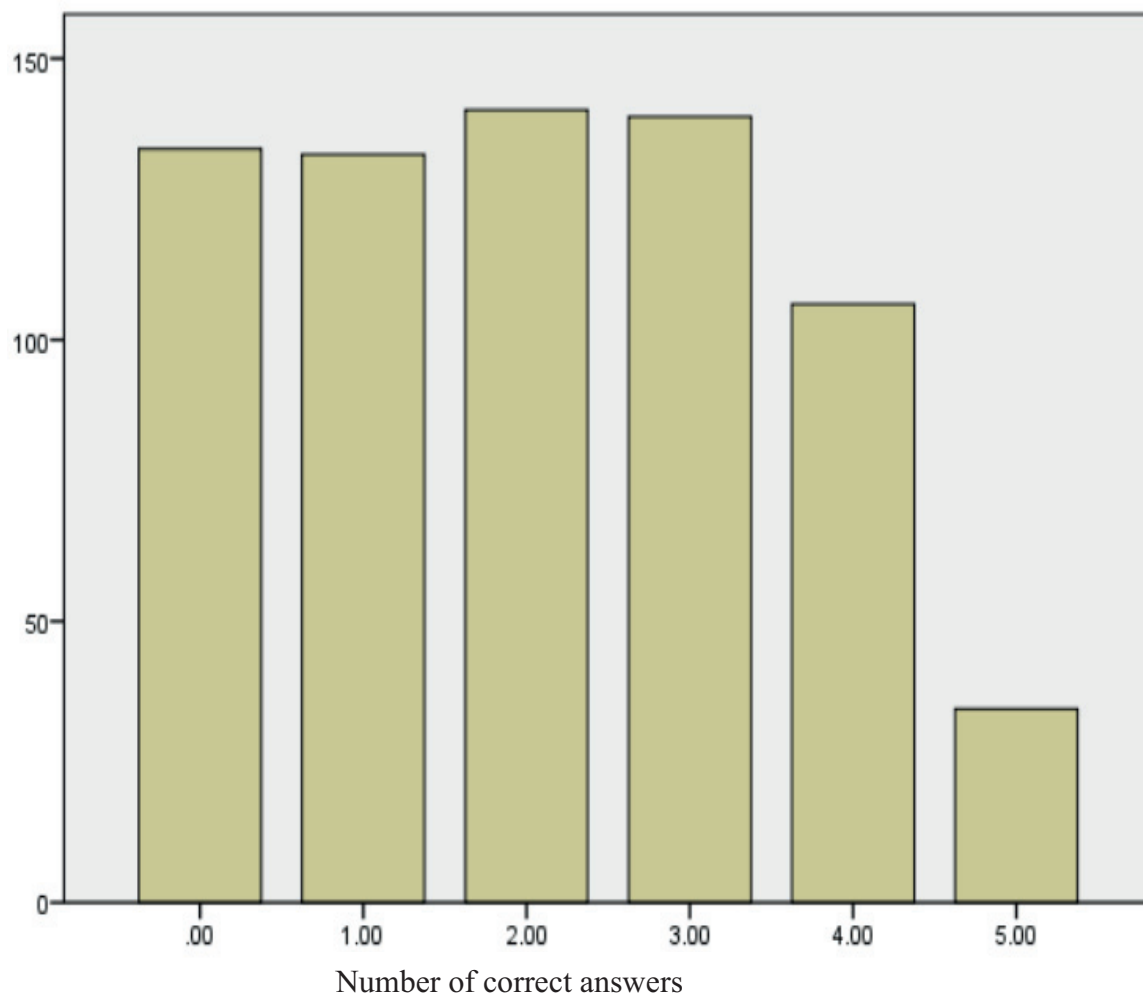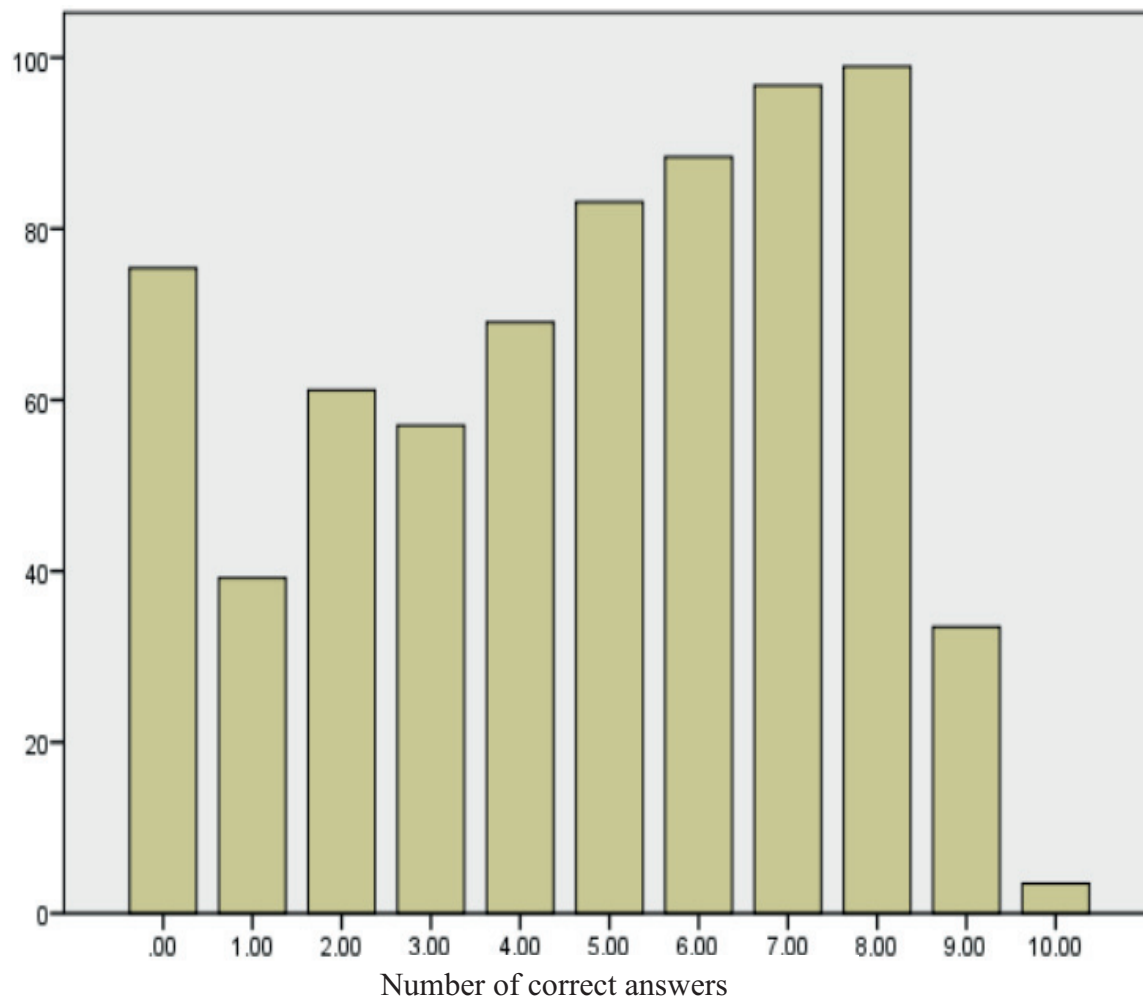
Figure 6. Number of Correct Answers (2016 data – W[1])

Figure 7. Number of Correct Answers (2016 data – W^2)

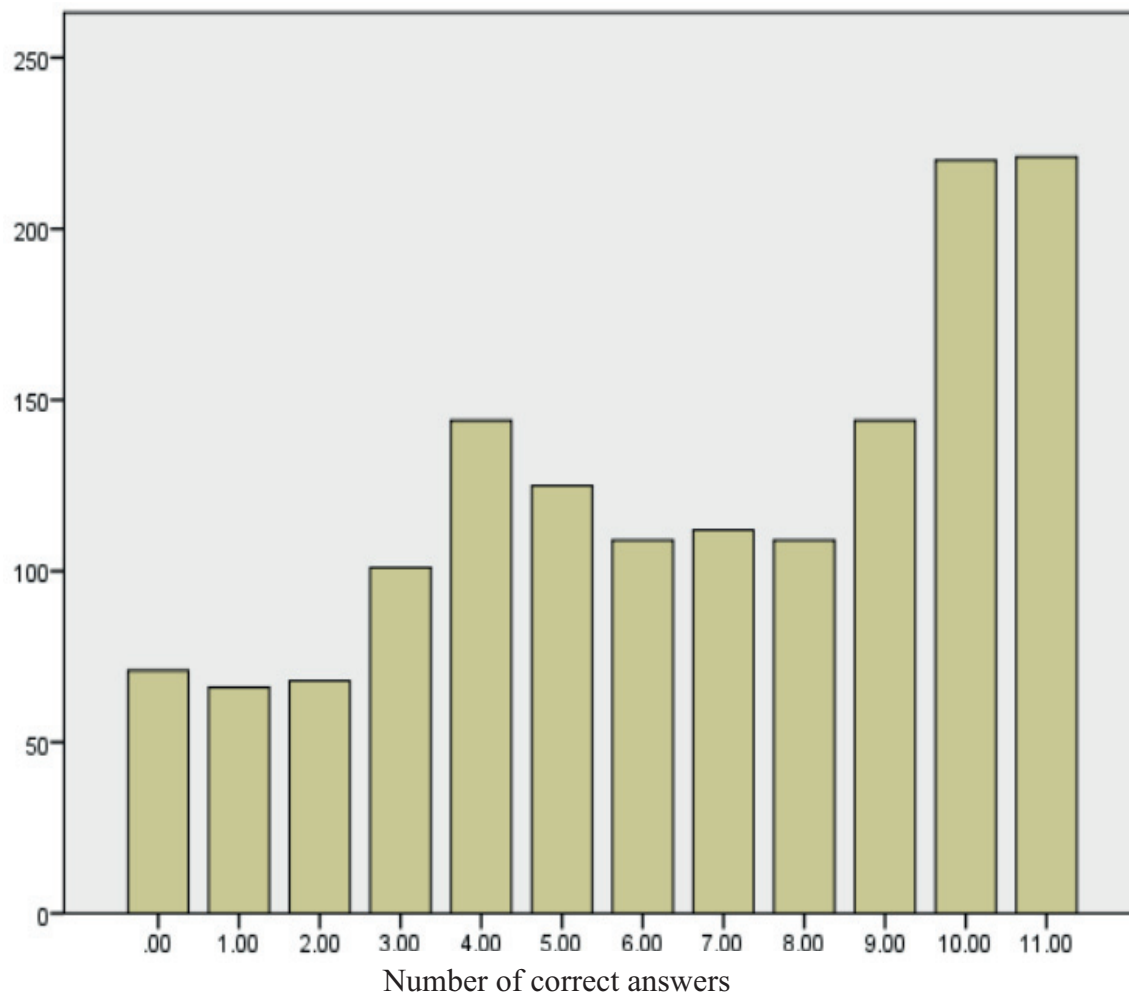*Figure 8.* Number of Correct Answers (2018 data – W[1])

Number of correct answers
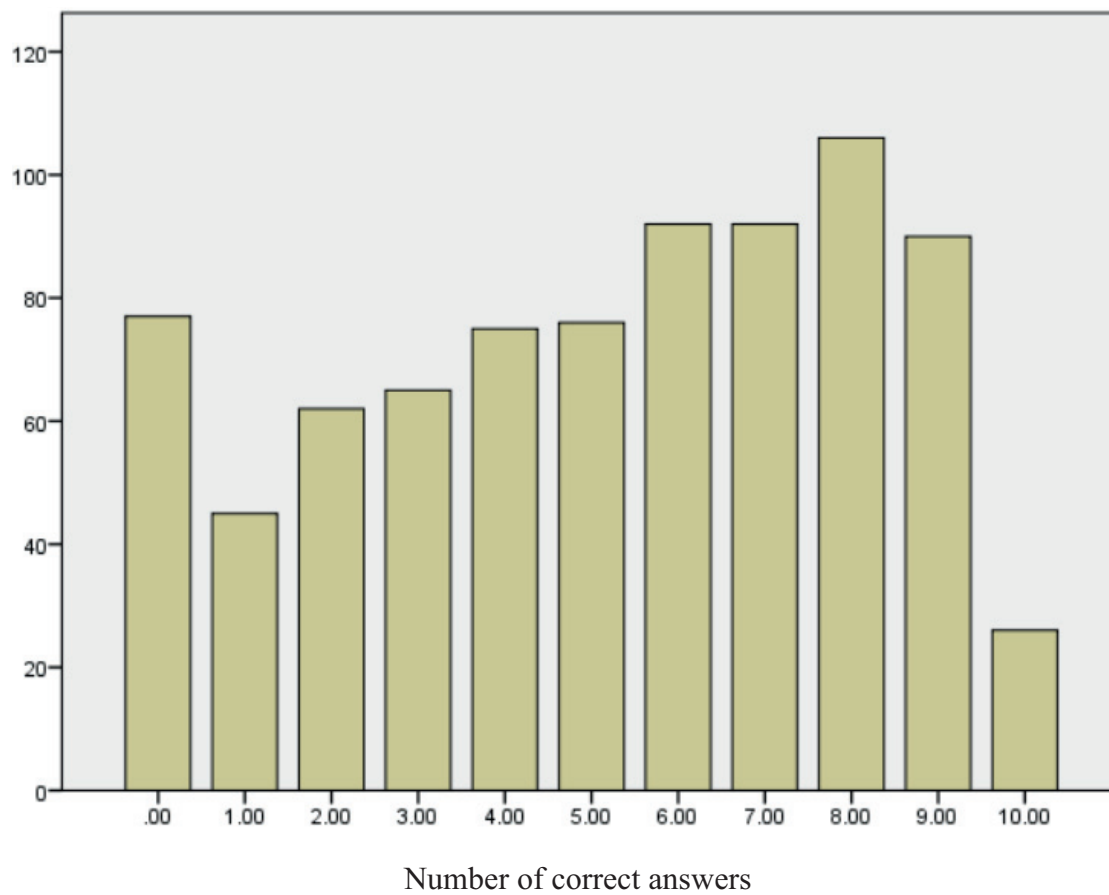
Figure 9. Number of Correct Answers (2018 data – W^2)

Number of false headlines exposed (self-reported)
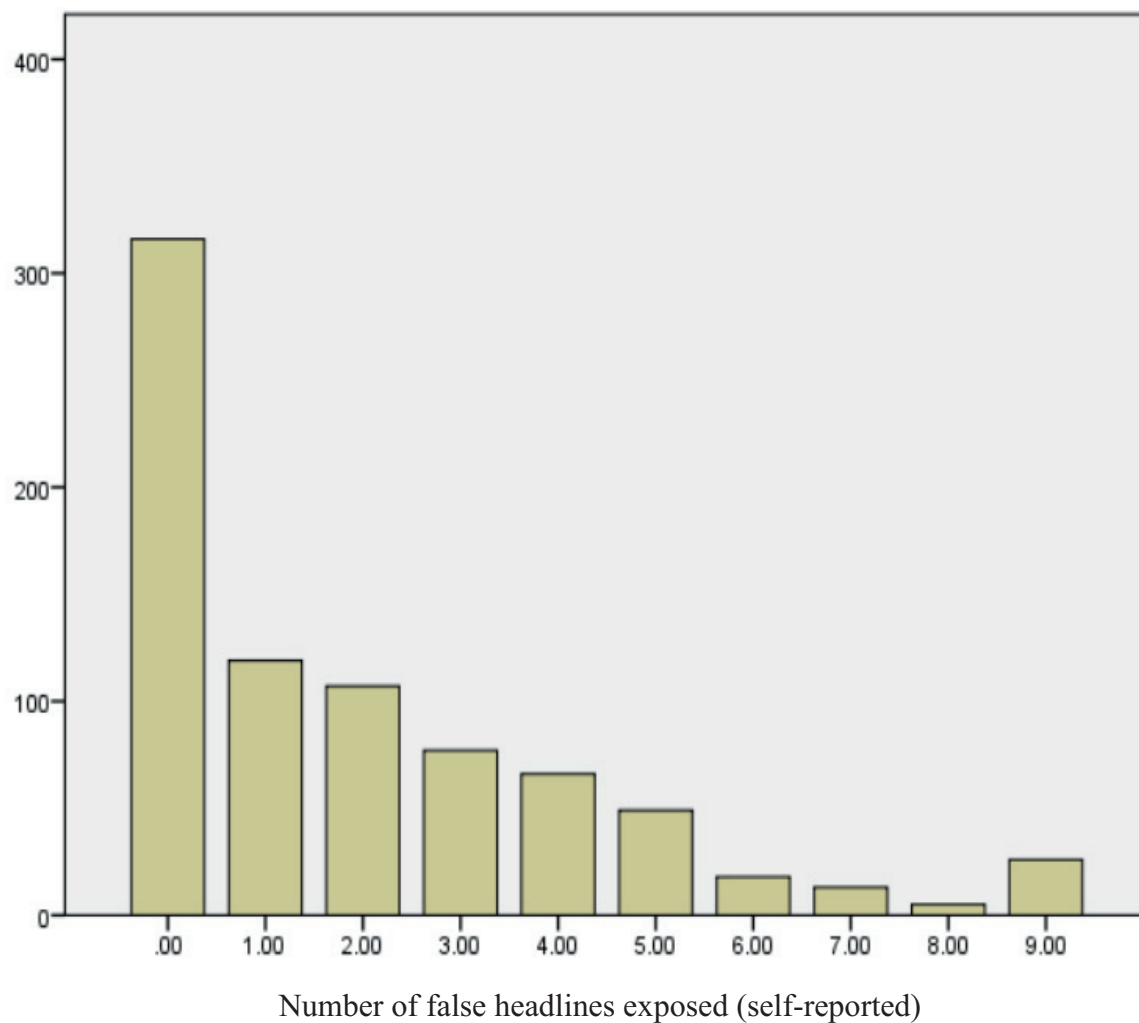
Figure 10. Number of False Headlines Exposed (2018 data – W^2)

Table 1

Demographics of Respondents

Demographic	n	%	M	SD
2012 U.S. presidential election				
Age	1148		45.63	16.97
Education[a]	1148		3	
Gender (female)	1148	50		
Race (nonwhite)	1092	26.1		
Household Income[b]	1143		4	
2016 U.S. presidential election				
Age	750		46.81	16.57
Education[a]	750		3	
Gender (female)	750	48.4		
Race (nonwhite)	750	34		
Household Income[b]	672		5	

Note. a. The education variable was measured with a 6-point ordinal scale ranging from "less than high school" (1) to "a graduate degree" (6). The numeric value indicates median (instead of mean), which represents "some college".

b. Household income was measured with Income was measured with a 17-point ordinal ranging from "Less than $10,000" (1) to "$150,000 or more" (17). The numeric value indicates median (instead of mean), which represents the $30,000 to $39,999 bracket for the 2012 data and the $40,000 to $49,999 bracket for the 2016 data.

Table 2

Effects of Facebook Use on Political Knowledge

	2012	2016
Step 1- Demographics		
Age	.20***	-.06
Education	.15***	.14***
Household income	.08*	-.04
Gender	-.06*	-.13***
Race	-.15***	-.16***
ΔR^2	22.7%	26.9%
Step 2- Political variables		
Political interest	.17***	.27***
Ideological conservatism	-.07*	-.10*
Attention to news (W[1])	.18***	.02
Political knowledge (W[1])	-	.41***
ΔR^2	8.8%	32.1%
Step 3- Facebook use		
General FB use	-.18***	-.11**
Political FB use		
Post links to political stories or articles for others to read	-.04	.01
Post your own thoughts or comments on politics or social issues	.07	-.03
Encourage other people to take action on a political or social issues	-.01	-.07
Encourage other people to vote	.04	.03
Re-post content related to politics or social issues	-.07	.01
"Like" or promote material related to political or social issues	.10*	.19***
ΔR^2	3.4%	2.9%
Total R^2	34.9%	61.9%

Note. Cell entries are standardized regression coefficients.
*p < .05; **p < .01; ***p < .001

Table 3

Zero-order Correlations among All Key Variables in the Study (2018 data)

Variables	1	2	3	4	5	6	7	8	9	10	11	12
1. Social media news (W^1)	1	.54***	.60***	-.18***	-.32***	-.42***	-.01	.02	.17***	-.03	.34***	.63***
2. Traditional news use (W^1)	.54***	1	.29***	.22***	.09*	.03	-.14***	.15***	-.01	.13***	.54***	.51***
3. News-Finds-Me Perception (W^2)	.60***	.29***	1	-.14***	-.26***	-.26***	.12**	.00	.21***	-.15***	.15***	.38***
4. Factual political knowledge (W^2)	-.18***	.22***	-.14***	1	.92***	.43***	-.26***	.28***	-.21***	.29***	.44***	.13***
5. Confidence-in-knowledge (W^2)	-.32***	.09*	-.26***	.92***	1	.43***	-.29***	.24***	-.25***	.28***	.35***	.03
6. Age	-.42***	.03	-.26	.42***	.43***	1	.22***	.15***	-.22***	.20***	.10***	-.24***
7. Gender	-.01	-.13***	.12**	-.26***	-.29***	-.22***	1	-.19***	.19***	-.21***	-.21***	-.09**
8. Education	.02	.15***	.00	.28***	.24***	.15***	-.19***	1	-.03	.48***	.21***	.12***
9. Race	.17***	-.01	.21***	-.21***	-.25***	-.22***	.19***	-.03	1	-.15***	-.07**	-.00
10. Income	-.03	.13***	-.15***	.29***	.28***	.20***	-.21***	.48***	-.15***	1	.17***	.07**
11. Political interest (W^1)	.34***	.54***	.15***	.44***	.35***	.10***	-.21***	.21***	-.07**	.17***	1	.46***
12. Political discussion (W^1)	.63***	.51***	.38***	.13***	.03	-.24***	-.09**	.12***	-.00	.07**	.46***	1

Note. Cell entries are two-tailed zero-order correlation coefficients. For dichotomous variables, Pearson's point-biserial correlations were used. $*p < .05$, $** p < .01$, $*** p < .001$.

Table 4

Cross-sectional, Lagged, and Autoregressive Regression Models Estimating the Effects of Social Media News Use on Factual Political Knowledge (2018 data)

	Factual political knowledge W^1 (Cross-sectional)	Factual political knowledge W^2 (Lagged)	Factual political knowledge W^2 (Autoregressive)
Age	.27***	.22***	.07*
Gender (male = high)	.05*	.06	-.03
Education	.13***	.07*	-.00
Race (non-white = high)	-.03	-.06	.01
Household income	.07**	.11**	.04
Political interest (W^1)	.36***	.34***	.10**
Political discussion (W^1)	.08**	.15***	.09**
Traditional news use (W^1)	-.03	.04	.06*
Social media news use (W^1)	-.32***	-.24***	-.10***
Factual political knowledge (W^1)	–		.68***
Total R^2	39.8%	39.1%	66.2%

Note. Cell entries are final-entry OLS standardized Beta (β) coefficient regression coefficients.
*p < .05; **p < .01; ***p < .001

Table 5

Cross-sectional, Lagged, and Autoregressive Regression Models Estimating the Effects of Social Media News Use on Confidence-in-Knowledge (2018 data)

	Confidence-in-knowledge W^1 (Cross-sectional)	Confidence-in-knowledge W^2 (Lagged)	Confidence-in-knowledge W^2 (Autoregressive)
Age	.25***	.19***	.03
Gender (male = high)	.04*	.08**	-.02
Education	.09***	.04	-.03
Race (non-white = high)	.00	-.08*	-.01
Household income	.05*	.11**	.03
Political interest (W^1)	.33***	.32***	.07*
Political discussion (W^1)	.02	.14***	.09**
Traditional news use (W^1)	-.09**	-.02	.04
Social media news use (W^1)	-.45***	-.35***	-.13***
Confidence-in-knowledge (W^1)	–		.71***
Total R^2	45.3%	38.3%	65.0%

Note. Cell entries are final-entry OLS standardized Beta (β) coefficient regression coefficients.
*p < .05; **p < .01; ***p < .001

Table 6

Bootstrapped Indirect Effects of Social Media News Use on Political Knowledge through the NFM Perception at the Specific Values of the Moderator (Traditional News Use)

Mediator	Moderator	DV: Factual political knowledge			DV: Confidence-in-knowledge		
NFM Perception	Traditional news use	b	SE	Bootstrap 95% CI	b	SE	Bootstrap 95% CI
	Low	-.00	.06	[-.11,.11]	-.02	.02	[-.06, .02]
	Moderate	-.10	.04	[-.18,-.02]*	-.08	.02	[-.12,-.05]***
	High	-.19	.05	[-.28,-.09]***	-.15	.03	[-.20,-.10]***

Note. Entries are unstandardized regression coefficients. Bootstrap resample = 1,000. We used the 16ths, 50ths, and 84ths percentiles of the distribution of traditional news use to estimate conditional indirect effects at low, moderate, and high values of traditional news use, respectively. *p* < .05; **p* < .01; ***p* < .001

APPENDIX

Survey Data I (2012 U.S. Presidential Election)

Demographics:

Age: M = 45.63, SD =16.97

Gender: 50.0% female; higher values indicate female.

Education (The highest level of education one has completed): 6-point ordinal scale ranging from "less than high school" (1) to "a graduate degree" (6). Median = 3 (some college).

Race: White (73.9%). Non-White (26.1 %)

Household income: 17-point ordinal ranging from "Less than $10,000" (1) to "$150,000 or more" (17). Median = 4 ($30,000 to $39,999),

Political Interest:

"Some people are interested in politics all the time, even when there isn't an election going on. Thinking about yourself, how interested in politics would you say that you are?", on a 5-point scale ranging from "not at all interested" (0) to "extremely interested" (4).

Ideological conservatism:

"Many people use the terms "left" and "right" when it comes to characterizing different political views. We have a scale below that runs from left to right. If you think about your own political views, where would you classify these views on this scale?" , on a 5-point scale ranging from "Strong Liberal" (1) to "Strong Conservative" (5).

Attention to news:

In general, how much attention do you pay to:

- News about your community?
- Political news, including news about the presidential election and other elections happening this fall?
- National news?
- News about international affairs?
- Entertainment news/Celebrity gossip?

Response options: 4-point scale ranging from "Not at all" (0) to "A great deal" (3). Responses to these items were averaged to create a composite score. The item pertaining to entertainment news/celebrity gossip was excluded due to low reliability.

Frequency of Facebook use:

"Please tell us if you use Facebook, and if so how often", on a 7-point scale ranging from "Never" (0) to "Daily" (6).

Political use of Facebook:

"Do you ever use Facebook or other social networking tools to do any of the following things?", with a response options "No" (0) and "Yes" (1).

- Post links to political stories or articles for others to read (Yes = 41.5%)
- Post your own thoughts or comments on politics or social issues (Yes = 52.6%)
- Encourage other people to take action on a political or social issue that is important to you (Yes = 39.5%)
- Encourage other people to vote (Yes = 42.4%)
- Re-post content related to politics or social issues that was originally posted by someone else (Yes = 41.4%)
- "Like" or promote material related to political or social issues that others have posted (Yes = 55.2%).

Political knowledge:

- Whose responsibility is it to determine if a law is constitutional or not... is it the president, the Congress, or the Supreme Court? (Correct: 61.5%)
- Which party is generally more supportive of increasing taxes on higher income people to reduce the federal budget deficit? (Correct: 64.5%)
- Which party is generally more supportive of reducing the size and scope of the federal government? (Correct: 52%)
- Which party is generally more supportive of allowing drilling for oil in the Arctic National Wildlife Refuge? (Correct: 54.8%)
- How much of a majority is required for the U.S. Senate and House to override a

presidential veto? (Correct: 57%)

- Do you happen to know which party currently has the most members in the House of Representatives in Washington? (Correct: 49.9%)

- In which country was Osama bin Laden killed by agents of the U.S. military? (Correct: 49.7%)

- In which state did Mitt Romney serve as governor? (Correct: 70.8%)

- Which presidential candidate advocates reducing federal funding for public broadcasting? (Correct: 59.4%)

- Which presidential candidate has raised concerns about the U.S. Navy having too few ships? (Correct: 55.3%)

- In the second presidential debate between Barack Obama and Mitt Romney, Governor Romney made a statement in which he referred to "binders full of women." What was the question that prompted his response about? (Correct: 32.1%)

- When Michelle Obama appeared on stage at the Democratic National Convention back in September, she wore a dress designed by Tracy Reese. About how much would someone pay for a very similar Tracy Reese dress in a retail store? (Correct: 7.7%)

- Which of the following popular music artists appears most frequently at Mitt Romney and Paul Ryan campaign events? (Correct: 15.3%)

- Mitt Romney was the CEO of which of these companies? (Correct: 58.7%)

- Which presidential candidate supports raising taxes on income over $250,000? (Correct: 68.0%)

- Which presidential candidate supports allowing many illegal immigrants who were brought to the U.S. as children to remain in the country? (Correct: 64.1%)

- Which presidential candidate is PRO-LIFE, that is, supports restricting access to abortion in most cases? (Correct: 59.4%)

- Which presidential candidate opposes allowing gays and lesbians to marry legally? (Correct: 62.8%)

- What does the term "super PAC" refer to? (Correct: 40.3%)

- Which state did Barack Obama represent in the United States Senate, before he became President? (Correct: 69.0%)

Survey Data II (2016 U.S. Presidential Election)

Demographics:

Age: *M* = 46.81, *SD* = 16.57

Gender: 48.4% female; higher values indicate female.

Education (The highest level of education one has completed): 6-point ordinal scale ranging from "less than high school" (1) to "a graduate degree" (6). Median = 3 (some college).

Race: White (66.0 %). Non-White (34.0 %)

Household income: 17-point ordinal ranging from "Less than $10,000" (1) to "$150,000 or more" (17). Median = 5 ($40,000 to $49,999),

Political Interest:

"Some people are interested in politics all the time, even when there isn't an election going on. Thinking about yourself, how interested in politics would you say that you are?", on a 5-point scale ranging from "not at all interested" (0) to "extremely interested" (4).

Ideological conservatism:

"Many people use the terms "left" and "right" when it comes to characterizing different political views. We have a scale below that runs from left to right. If you think about your own political views, where would you classify these views on this scale?" , on a 5-point scale ranging from "Strong Liberal" (1) to "Strong Conservative" (5).

Attention to news:

In general, how much attention do you pay to:

- News about your community?
- Political news, including news about the presidential election and other elections happening this fall?
- National news?
- News about international affairs?
- Entertainment news/Celebrity gossip?

Response options: 4-point scale ranging from "Not at all" (0) to "A great deal" (3). Responses to these items were averaged to create a composite score. The item pertaining to entertainment news/celebrity gossip was excluded due to low reliability.

Frequency of Facebook use:

"Please tell us if you use Facebook, and if so how often", on a 7-point scale ranging from "Never" (0) to "Daily" (6).

Political use of Facebook:

"Do you ever use Facebook or other social networking tools to do any of the following things?", with a response options "No" (0) and "Yes" (1).

- Post links to political stories or articles for others to read (W^1: Yes = 36.6 %; W^2: Yes = 42.6 %)
- Post your own thoughts or comments on politics or social issues (W^1: Yes = 38.8 %; W^2: Yes = 45.5 %)
- Encourage other people to take action on a political or social issue that is important to you (W^1: Yes = 26.8 %; W^2: Yes = 27.5 %)
- Encourage other people to vote (W^1: Yes = 32.7 %; W^2: Yes = 39.6 %)
- Re-post content related to politics or social issues that was originally posted by someone else (W^1: Yes = 42.7 %; W^2: Yes = 43.9 %).
- "Like" or promote material related to political or social issues that others have posted (W^1: Yes = 58.3 %; W^2: Yes = 59.0 %).

Political knowledge:

<u>Wave 1</u>

- What job or political office is held by Pam Bondi? (Correct: 26.2%)
- Has Vice-Presidential candidate Mike Pence recently released a letter from his doctor describing his health as "excellent"? (Correct: 35.8%)
- Recently there has been some discussion of a video clip showing Hillary Clinton requiring assistance to get into a secret service van. Where was this video taken? (Correct: 66.7%)
- On Friday, September 16th, Presidential candidate Donald J. Trump stated publicly, "President Barack Obama was born in the United States, period." Where did he make this announcement? (Correct: 21.5%)
- Which presidential candidate was recently in the news for asking "What is Aleppo" in an interview on MSNBC? (Correct: 52.3%)

<u>Wave 2</u>

- Thinking back to the recent presidential election, what is the name of the person who ran for president from the Libertarian Party? (Correct: 72.1%)
- What was the name of the Green Party's candidate for president in the recent election? (Correct: 67.0%)
- The second televised presidential debate was overshadowed by a tape in which Trump was heard using obscene language to brag about groping women. "You can do anything," he boasted to a TV host. The host in question is a cousin of which former president? (Correct: 39.7%)
- A late October surprise came when James Comey told Congress the FBI had found new emails that 'may be pertinent' to a previously closed investigation into Hillary Clinton's email use. The messages were found on the laptop of which former congressman? (Correct: 64.2%)
- Which newspaper obtained a copy of Donald Trump's 1995 income tax returns, reporting his declaration of a $916 million loss that year? (Correct: 42.7%)
- What kind of policing strategy did Donald Trump say "had a tremendous impact on the safety of New York City," before advocating its use in Chicago? (Correct: 58.5%)

- Presidential candidate who advocated for a package healthcare reform that include: reducing barriers to the interstate sale of health insurance, making insurance premium payments deductible on one's personal income taxes, and making HSAs inheritable (Correct: 34.0%)

- Which of the following candidates for president in the recent election supports the legalization of marijuana for medical use? (Correct: 10.5%)

- Under Clinton's plan, which students would be able to take advantage of tuition-free in-state university education? (Correct: 19.4%)

- Which of the following candidates for president in the recent election is the strong supporter of the Paris Agreement to combat climate change. (Correct: 60.2%)

Survey Data III (2018 U.S. Midterm Election)

Demographics:

Age: M = 45.38, SD = 16.33

Gender: 50.5 % female; higher values indicate female.

Education (The highest level of education one has completed): 6-point ordinal scale ranging from "less than high school" (1) to "a graduate degree" (6). Median = 4 (2-year college).

Race: White (65.0 %). Non-White (35.0 %)

Household income: 17-point ordinal ranging from "Less than $10,000" (1) to "$150,000 or more" (17). Median = 7 ($60,000 to $69,999),

Political Interest:

"Some people are interested in politics all the time, even when there isn't an election going on. Thinking about yourself, how interested in politics would you say that you are?", on a 5-point scale ranging from "not at all interested" (1) to "extremely interested" (5).

Social media news use:

"How often do you use following social media (via computer, tablet, mobile, or any device) for getting news online?"

- Facebook
- Twitter
- LinkedIn
- Reddit
- Instagram
- Snapchat
- WhatsApp
- YouTube
- Google +

"How often do you use social media to stay informed about current events and public affairs?"

"How often do you use social media to get news about current events from mainstream media?"

"How often do you use social media to use social media to get news from online news sites?"

: Response options ranging from 1 (never) to 10 (all the time)

Traditional news use:

"In general, how often do you get news from radio?"

"In general, how often do you use radio for news?"

"In general, how often do you - get print news from local newspapers?"

"In general, how often do you - get print news from national newspapers?"

"In general, how often do you - get news from print news overall?"

"In general, how often do you - get news from TV?"

"In general, how often do you - get news from network TV?"

"In general, how often do you - get news from local TV?"

"In general, how often do you - get news from cable TV?"

: Response options ranging from 1 (never) to 10 (all the time)

Political discussion:

"During the past month, how often did you talk about politics or public affairs via - face-to-face or over the phone?"

"During the past month, how often did you talk about politics or public affairs via - the Internet, including e-mail, chat rooms, and social media platforms?"

NFM perception:

"Please indicate how much you agree with the following statements. During the past month (…)"

- I rely on my friends to tell me what's important when news happens
- I can be well informed even when I don't actively follow the news
- I don't worry about keeping up with the news because I know news will find me
- I rely on information from my friends based on what they like or follow through social media
- I do not worry about keeping up with news because I know news will finds me
- I do not have to actively seek news because when important public affairs break, they will get to me in social media.

: Response options ranging from 1 (strongly disagree) to 10 (strongly agree)

Selective scanning:

Please rate the extent to which they agree with following six statements in a 10-point scale (1 = strongly disagree, 10 = strongly agree). When I encounter political news or political information on social media such as Facebook, Twitter, and Snapchat,

- I only read news articles/political information that are interesting to me
- I skip news articles/political information which do not interest me
- I only pay attention to news articles/political information which interest me
- I only read news articles/political information in social media which is in line with my political beliefs
- I skip news articles/political information which is at odds with my political beliefs
- I only pay attention to news articles/political information which is in line with political beliefs

Exposure to fake news:

Wave 1

In the following, you will be asked about twelve stories circulated online in the past month. Each story is presented in each row. For each story, please choose option that applies to you.

(Clickable) <u>I have not been aware of this story</u>

- A new Facebook algorithm shows posts from about two dozen friends in your newsfeed.
- Former NFL quarterback Tim Tebow knelt on the field during the national anthem as a protest against abortion
- Trump disputed hurricane death toll in Puerto Rico, and blamed Democrats for making him "look bad". (TRUE)
- A species of spider new to the U.S. has a lethal bite which killed five people in the summer of 2018
- Text messages from a social app called "IRL" have been linked to sex trafficking.
- Hurricane Florence has sucked up sharks.
- First lady Melanie Trump stole Michelle Obama's speech from 2014.
- President Donald Trump did not attend McCain's funeral. (TRUE)
- Senator John McCain's final words consisted of a foul-mouthed attack on President Donald Trump.
- John McCain hided the fact that he 'accidentally' killed 134 American sailors.

- President Donald Trump signed an order allowing veterans to get full medical bills paid at hospitals outside the VA
- In the summer of 2018, President Donald Trump donated his entire $400,000 annual salary to the Department of the Interior for the purpose of rebuilding military cemeteries.

Exposure to fake news:

Wave 2

- President Donald Trump suggests sending troops to US-Mexico border to counter migrant caravans (TRUE)
- All the Congressional Democrats voted against a 2.8 percent raise in Social Security cost of living allowance.
- A screenshot from MyLife.com confirms that mail bomb suspect Cesar Sayoc was registered as a Democrat.
- You can vote by text
- There are female Muslims who ran for office to serve in Congress in this 2018 midterm election. (TRUE)
- Democratic leadership in the House and Senate have proposed to change policy in a way that noncitizens can vote in federal elections.
- The lottery process of the diversity visa lottery program is handled by the immigrants' home countries, such that they send their people to the U.S.
- Nancy Pelosi is advocating for an open border policy.
- George Soros was a Nazi soldier.
- George Soros paid refugees in Honduras to join a caravan and storm the US border.
- The migrant caravan was funded by Democrats.

Political knowledge:

Wave 1

- Whose responsibility is it to determine if a law is constitutional or not... is it the president, the Congress, or the Supreme Court? (Correct: 61.2%)

- Which party is generally more supportive of increasing taxes on higher income people to reduce the federal budget deficit? (Correct: 62.1%)
- How much of a majority is required for the U.S. Senate and House to override a presidential veto? (Correct: 57.6%)
- Do you happen to know which party currently has the most members in the House of Representatives in Washington? (Correct: 67.5%)
- Do you happen to know which party currently has the most members in the Senate in Washington? (Correct: 60.5%)
- What is the name of the current Vice President of the U.S.? (Correct: 76.7%)
- Players of this organization have sought to call attention to police brutality toward African-Americans and minorities and racial oppression by taking a knee during the anthem before games. Trump said kneeling players "maybe shouldn't be in the country". Which organization is it? (Correct: 75%)
- Where did U.S. President Donald Trump and North Korean leader Kim Jong Un meet face-to-face for a historic summit in this June? (Correct: 41.2%)
- What is the name of the special counsel that is overseeing the investigation into Russian tampering with the 2016 US election? (Correct: 58.9%)
- This person was recently convicted in his financial fraud trial. He hid millions of dollars in foreign accounts to evade taxes and lied to banks repeatedly to obtain millions of dollars in loans. He was the President Trump's former campaign chairman. Who is he? (Correct: 46.9%)
- Who are two politicians who spoke at McCain's service at the National Cathedral? (Correct: 56.6%)

Political Knowledge:

Wave 2

- In 2018, Stacey Abrams was nominated by a major political party to run for governor. Who is Stacey Abrams? (Correct: 46.0%)
- This person is an American lawyer and jurist who serves as an Associate Justice of the Supreme Court of the United States. This person has recently been accused of several sexual misconducts. Who is he? (Correct: 72.1%)

- Eleven (11) people were killed on the morning of October 24th at Pittsburgh, Pennsylvania. Who were the victims? (Correct: 76.0%)

- This person is well-known for never taking a public stance on politics. During the polarization of the U.S. 2016 election, this person drew criticism for not declaring his/her support for a specific presidential candidate. However, for the 2018 midterm election, this person has endorsed two Democratic candidates in his/her home state of Tennessee. Who is this person? (Correct: 50.9%)

- What was the most common subject of televised campaign advertisements (during the 2018 Midterm election) by Democrats in both the House and the Senate? (Correct: 38.1%)

- On October 24th, a package containing a pipe bomb was delivered to several places. Which is one of the places these packages were delivered to? (Correct: 59.3%)

- Do you happen to know which prominent political figure recently released an analysis of his/her DNA indicating that he/she has a Native American ancestor? (Correct: 60.2%)

- At a United Nations meeting, President Donald Trump claimed the U.S. "this country" has been attempting to interfere in this past 2018 midterm election. What country is it? (Correct: 19.9%)

- In the 2018 Midterm elections, which state became the first Midwestern state to legalize cannabis? (Correct: 26.7%)

- Which of the following statements is true about the 2018 Midterm elections?
  (Correct: 64.9%)
  o Dont' know/Not sure/Can't remember the answer now.
  o Democrats took the majority of the House and the Senate.
  o Republicans took the majority of the House and the Senate.
  o Democrats took the majority of the House, and Republicans took the majority of the Senate.
  o Republicans took the majority of the House, and Democrats took the majority of the Senate.