

5-22-2020

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Recommended Citation

Sanders, Audrey C., "Developing a Conceptual Framework for Research on Social Media and Political Polarization" (2020). *University Honors Theses*. Paper 887.
<https://doi.org/10.15760/honors.908>

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Developing a Conceptual Framework for Research on Social Media and Political Polarization

by

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An undergraduate honors thesis submitted in partial fulfillment of the

requirements for the degree of

Bachelor of Arts

in

University Honors

and

Political Science

Thesis Adviser

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2020

Living in the United States in 2020 means living in a time rife with political division. Americans perceive levels of political polarization in society and government unprecedented in modern U.S. history (Jones 2019; Pew Research Center 2014); in fact, political division even defines the political culture of some states (Bowersox 2005; Buylova et al. 2018; Clucas 2018; Clucas and Henkels 2005). In an age characterized both by polarization and the prolific use of communication technologies, the confluence of technology and political attitudes demands further study. Much of the research that has been conducted in the past two decades regarding this issue examines the relationship between social media use and political polarization (Bail et al. 2018; Entman and Usher 2018; Lee et al. 2014; Sunstein 2001; 2002). Nonetheless, there exists little agreement on how to approach the discourse and little consensus on what conclusions can and should be drawn from the available data. Social media use and political polarization as a scholarly discourse requires an organization of its literature and a conceptual framework scholars can use when approaching the field as a whole.

After conducting a thorough literature review that describes the current state of the social media and political polarization discourse, I make broad generalizations of methodologies and theories commonly utilized in the literature to develop a conceptual and theoretical framework that can be used to two ends: the first is to organize the field into something more unified and approachable rather than scattered and the second is to support future researchers in developing effective, appropriate research designs that are able to make meaningful contributions to the literature. This framework is based on three major, if basic, components: Dependent Variables, Independent Variables, and Possible Controls and Theories. In a later section, I describe the methods in which I developed this framework. It is important to note that this framework was designed to support scholars who wish to understand, organize, and even operationalize

particular concepts within the discourse as a whole. It attempts to organize the field based on how certain works approach the study of the relationship between social media and political polarization. The framework that resulted from such organization, however, lends itself extraordinarily well to practical applications in research, and so should be valuable to scholars who wish to understand and contribute in meaningful ways to the discourse.

Literature Review

In order to understand this developing field of study, one must understand foundational concepts in the discourse. This understanding is developed by first discussing what it means when scholars use the term political polarization. From this understanding comes a discussion of the how social media transformed the fields of political science, social behavior, and many others to create the field of social media and political polarization. The discourse centers around central questions that interrogate how polarization operates and how social media may exacerbate, mitigate, or simply reflect trends in polarization. This literature review roughly follows the organization of the contextual framework to follow, illustrating the need for such a framework to exist.

Political Polarization. Scholars possess available data on polarization from as far back as the 1970s (Abramowitz and Saunders 2008), some degree of political division has existed in measurable amount since at least the 1970s (Abramowitz and Saunders 2008; Bowersox 2005; Buylova et al. 2018; Clucas 2018; Clucas and Henkels 2005; Jones 2019; Pew Research Center 2014). Scholarship and the media alike tend to use the term political polarization interchangeably with partisanship, political divide, and general feelings of distrust or anger toward members of the opposing political party. For example, the Pew Research Center published a report in 2014 that measured levels of political polarization quite thoroughly (Pew Research Center 2014);

however, the definition of political polarization used relies on an amalgamation of several concepts such as ideological extremism and partisanship, among others (Pew Research Center 2014). Cass R. Sunstein, in his widely cited article, “The Law of Group Polarization” (Sunstein 2002), offers a definition of group polarization, which he defines as meaning, “that members of a deliberating group predictably move toward a more extreme point in the direction indicated by the member’s predeliberation tendencies” (Sunstein 2002). While this definition undoubtedly helps to frame central debates in the literature, Sunstein’s definition (Sunstein 2002) describes a mechanism more than a concept, and so does little to help scholars define political polarization. Alan Abramowitz and Kyle Saunders offer a broader, more helpful definition by describing political polarization as general political ideological conflict (Abramowitz and Saunders 2008). As this definition encapsulates the most helpful aspects of what the Pew Research Center (Pew Research Center 2014) and Sunstein (Sunstein 2002) define as polarization, this definition will be the working definition for this conceptual framework.

Though the existence of political polarization has been somewhat debated in political science literature (Abramowitz and Saunders 2008), some degree of political division has existed in measurable amount since at least the 1970s (Abramowitz and Saunders 2008; Bowersox 2005; Buylova et al. 2018; Clucas 2018; Clucas and Henkels 2005; Jones 2019; Pew Research Center 2014). In Oregon, for example, scholars can trace current trends of severe political partisanship back to the 1980s, which reflected national trends as well (Bowersox 2005; Clucas 2018; Clucas and Henkels 2005). Political partisanship in 2020 reflects an overall pattern of geographical partisanship in which larger, urban populations are more likely to be liberal and progressive than rural areas, which are more likely to be smaller, more conservative, and more populist (Bowersox 2005; Clucas 2018; Clucas and Henkels 2005; Pew Research Center 2014). In

general, Democrats and Republicans in Congress, state legislatures, and in the general population are moving toward more extreme ideologies and developing more extreme distaste for members of the opposing party (Jones 2019; Pew Research Center 2014).

In fact, Americans expressed an acute awareness of increased political polarization at least as far back as 2008 (Abramowitz and Saunders 2008; Jones 2019; Pew Research Center 2014). Research indicates that this perception reflects reality: since the 1970s when researchers first began collecting data on political polarization, levels of ideological conflict between political actors steadily increased over time (Abramowitz and Saunders 2008; Jones 2019; Pew Research Center 2014). Some states experience such severe and prolonged partisanship that scholars list political polarization as a characteristic of the states' political culture (Bowersox 2005; Clucas 2018; Clucas and Henkels 2005). It is evident that trends in polarization greatly interest political science scholars. Further, for almost as long as scholars have measured polarization, they have also endeavored to identify causal factors for such polarization.

Much of the current research on social media use and political polarization relies on theories developed in the early 2000s. Sunstein's book in particular made early connections between the internet's possible applications and political behavior. In particular, Sunstein's book *Republic.com* (Sunstein 2001) and his article "The Law of Group Polarization" (Sunstein 2002) drew together ideas about polarization, deliberative groups, and the capabilities of online communication technologies to develop foundational theories on how polarization may operate in online spaces. Sunstein asserts (Sunstein 2001; 2002) asserts that deliberative groups, or groups in which members gather to discuss certain topics, tend to be vulnerable to what he describes as the law of group polarization (Sunstein 2002). This law states that members who engage in deliberation within deliberative groups tend to leave deliberation with stronger

versions of the attitudes with which they entered deliberation (Sunstein 2002); in other words, individuals with liberal views tend to leave discussion groups with stronger liberal attitudes and conservatives would leave discussion groups with stronger conservative views than those with which they entered. To better understand how this idea may operate in online spaces, however, one must understand that this law as Sunstein describes it (Sunstein 2002) is predicated on two factors.

The first factor necessary for the law of group polarization (Sunstein 2002) to occur is common interest. Sunstein (Sunstein 2001; 2002) emphasizes that deliberative groups need not be overtly political and lists juries, parent-teacher associates, and reading groups as examples. Regardless of their actual goal or common interest, these groups tend to engage in discussions around certain topics. In order for members of such deliberative groups to become polarization in the manner Sunstein (Sunstein 2002) describes, they must meet another specification. According to Sunstein (Sunstein 2001; Sunstein 2002) the other factor necessary for this law (Sunstein 2002) to act as described are limited argument pools (Sunstein 2002). Argument pool refers to the number and diversity of perspectives and arguments available to a deliberative group (Sunstein 2001; 2002). A limited or homogenous argument pool leads to what Sunstein calls isolated enclaves (Sunstein 2002), or a group of people who share the same ideas and values and who maintain limited argument pools as a general rule. Sunstein's ideas (Sunstein 2001; 2002) regarding the law of group polarization and the concept of isolated enclaves are still used widely in the literature, despite having been developed over two decades ago. Though Sunstein's thinking was prescient in many ways, his theories are contested in the discourse, especially when applied practically in research.

Social Media. A technological advent in the late 1990s interrupted and quickly transformed this thinking and inspired a new field of research in political science and technologies. Sunstein's work (Sunstein 2001; 2002) marks this unique historical phenomenon, as Sunstein was writing when the world began transitioning into the digital age. The advent of the internet and online communication tools rapidly transformed the landscapes of government, popular culture, research, and worldwide marketplaces and economies. Online communication tools and platforms have proliferated with incredible speed since their initial advent. In 2020, internet and online communication tools are crucial for the proper management and functioning of government, companies, and economies. Theories developed in these early days of the internet such as those offered by Sunstein (Sunstein 2001; 2002) still have an earned relevancy and presence in this literature. However, the discourse community as a whole has struggled to keep pace with the speed at which online communication platforms, and specifically social media, develop.

Social media platforms such as Facebook, Instagram, Twitter, and online blogs are often termed as social networking sites or SNS in the literature (Gil de Zúñiga et al. 2012). SNS have been present online in one form or another since the early 2000s (Sunstein 2001; 2002). SNS are increasingly used convey politically relevant information such as news, opinions, and advertising to users (Bail et al. 2018; Entman and Usher 2018; Gentzkow and Shapiro 2011; Geschke et al. 2019; Gil de Zúñiga et al. 2012; Lee 2016; Lee et al. 2014; Sunstein 2001; Wojcieszak and Mutz 2009). Due to the ability of users to design what content they can and cannot see on many platforms using options such as blocking, muting, and unfollowing, many scholars view social media platforms as curators of what Sunstein refers to as isolated enclaves (Sunstein 2002). Current scholarship and popular media use the term echo chamber to refer to a similar concept

(Bail et al. 2018; Geschke et al. 2019; Lee et al. 2014; Wojcieszak and Mutz 2009) in which users only hear their own opinion parroted back to them, which serves to reinforce preexisting beliefs. However, others maintain that the proliferation of news and information options on SNS present, in essence, unlimited argument pools (Sunstein 2001; 2002). In this view, SNS and the internet act as the world's largest public arena (Bail et al. 2018; Gentzkow and Shapiro 2011; Geschke et al. 2019; Lee et al. 2014; Sunstein 2001; 2002).

In fact, some data support the idea of SNS operating as a public arena rather than as an echo chamber. Scholars agree that the internet has disrupted, if not completely transformed, traditional structures of news gathering and dissemination (Bail et al. 2018; Entman and Usher 2018; Geschke et al. 2019; Gentzkow and Shapiro 2011; Lee et al. 2014; Wojcieszak and Mutz 2009), though the exact effects that such change incurred upon Americans or their news consumption habits have yet to be shown in significant terms. Further, there have been few studies as of yet that address specifically the effects of the number and diversity of opinion news sites and social media personalities online. That does not mean, however, that such diversity does not factor into current research at all.

Another broad discussion about social media use in the literature deserves special mention. This is confirmation bias theory, popularized in the field of psychology by Raymond Nickerson (Nickerson 1998) and has recently been adapted to the field of social media and political polarization by other authors (Bail et al. 2018; Geschke et al. 2019; Wojcieszak and Mutz 2009). This theory posits that because SNS users can utilize personalization preferences such as those described previously to consciously choose the media to which they are exposed (Bail et al. 2018, Geschke et al. 2019, Wojcieszak and Mutz 2009). In this way, SNS users can ensure that most of the arguments they come across on SNS would likely confirm their

preexisting biases rather than challenging or changing them. Some scholars contend that confirmation bias theory may operate in other ways as well, leading to what some have coined as a backfire effect (Bail et al. 2018). This concept will be explained in more detail in the sections to follow that deal more explicitly with SNS theory. However, it is important to note that confirmation bias theory, at least in this discourse community, can work with or against either of the two previously described theories.

Understanding the three basic theories of the discourse—whether the internet functions as a series of echo chambers (Bail et al. 2018; Geschke et al. 2019; Sunstein 2001; 2002; Wojcieszak & Mutz 2009), a public arena (Bail et al. 2018; Gentzkow & Shapiro 2011; Geschke et al. 2019; Lee et al. 2014; Sunstein 2001; 2002), or whether confirmation bias or “backfire effects” play a predominant factor in polarization (Bail et al. 2018; Geschke et al. 2019; Nickerson 1998; Wojcieszak & Mutz 2009)—guides scholars in a fundamental way through the discourse. These ideas tend to dominate and guide research in the political polarization and social media discourse, so scholars should be intimately familiar with each before plunging into the rest of the literature or into the design of their own research.

Values and Limits of the Literature. Though there are three dominate theories that can support, challenge, and complicate one another, there remain significant gaps in the literature. Scholars still labor away at the twenty-year question of whether there is a significant relationship between social media and political polarization. As will be discussed in more detail later, there exist many reasons for this struggle. Scholars must content with a host of exogenous factors as well as with the obstacle of operationalizing abstract concepts, among other challenges. However, the literature has larger gaps than the conversations around these central questions. As a whole, when departing from those foundational theories and voices of the discourse

community, the literature seems scattered and unable to engage fully with other, contemporary work. This is not to make an argument that studies in this field are not well-researched. But because the field remains necessarily, yet often overwhelmingly, interdisciplinary, scholars are presented with such a wide breadth of possible avenues of research that getting lost in tangentially related questions and fields becomes too easy. Many published works that contribute to the literature come from different fields and remain rooted there despite the efforts of scholars in the social media and political polarization community to adapt these ideas to current research. Such works too often remain rooted in their fields without referencing much else in the literature other than the three foundational theories described previously. Scholars approach the study of this relationship from backgrounds in psychology, political science, sociology, technology, and more. As an unfortunate result of such interdisciplinary work, the literature lacks an internal organization and structure that would aid scholars in identifying relevant literature and in organizing that literature in a way conducive to developing their own research designs.

Methodology

Ultimately, research in this field is limited by the ability of researchers to adequately and appropriately organize the literature, as well as their ability to operationalize concepts and establish adequate controls for their studies. The limited ability to organize the literature as it exists has been touched on already; however, the actual mechanics of research in this field has not. Considering the two in tandem is crucial to developing a workable framework. After all, operationalizing concepts such as political polarization and SNS take careful work on the part of scholars in defining and measuring those concepts. Because the current state of the literature has already been described, this section will rely more on the mechanics of research design to explain how this framework was developed.

Many factors could possibly contribute to a person's level of political polarization: preexisting attitudes, life experiences, education and upbringing, and so much more. Due to this plethora of possible alternative variables, researchers encounter tremendous difficulty in operationalizing concepts in the discourse. Further, securing reliable data on an individual's SNS use presents similar difficulties. Researchers often rely on self-reporting (Bail et al. 2018; Geshcke et al. 2019; Gil de Zúñiga et al. 2012) or on secondary data from data mining companies (Gentzkow and Shapiro 2011; Lee 2016). As a result of the diversity in variables and the difficulty in operationalizing key concepts, scholars have developed incredibly diverse methodologies in studying the relationship between social media and polarization. Such diversity guides and constrains what a truly helpful organizational and conceptual framework would look like in this field.

Because the field is necessarily interdisciplinary, and because researchers have developed such ingenious and diverse methodologies thus far in pursuit of furthering understanding, a framework for approaching this field should allow scholars as much freedom as possible in designing their own research. Further, scholars should feel free to pull from other fields such as psychology (Nickerson 1998), sociology (Gil de Zúñiga et al. 2012), and technology (Geschke et al. 2019). A conceptual design should not be too constraining in its theoretical basis nor in its identification of specific methodologies researchers should use. As a result, the conceptual framework described below functions as more a guide to the literature and to developing research designs that can more fully engaged in an organized discourse. This framework was intentionally developed to be broad enough to allow scholars the necessary freedom to rearrange or focus in on particular aspects of the literature and their research design to enable the

development of more effective, appropriate, and diverse methodologies for data collection and analysis in this field.

This should not be taken as a slight against scholars who have already contributed to the discourse. Truthfully, it is not the fault of scholars that contributions to the literature seem scattered, disorganized, and disconnected from one another in meaningful ways. Methodology ranges far and wide, it is true, but much of the work in this field is generally unified by scholars working with the foundational theories in this community. However, this conceptual framework seeks to do more than unify a discourse by identifying three working theories that happen to be heavily referenced in the literature. To ensure scholars develop a solid footing when approaching this field, any conceptual framework developed must also recognize the more applied, data-driven side of the field and not simply engage with theory.

Because this framework endeavors to unite theory with common research practices to produce a useful approach to the discourse, a significant portion of the design of this framework was dedicated to understanding how current and past research has operationalized certain concepts. The literature review aided enormously in this regard. After completing the literature review, it became obvious that scholars measure and define polarization in many ways, as evidenced by the Pew Research Center (Pew Research Center 2014), among others. Scholars engage with different aspects of the literature, sometimes focusing on questions of network heterogeneity and homogeneity (Bail et al. 2018; Gentzkow and Shapiro 2011; Gil de Zúñiga et al. 2012; Geschke et al. 2019; Sunstein 2001; 2002; Wojcieszak and Mutz 2009), algorithmic behaviors (Geschke et al. 2019), and other such subsets of the field. As will be described in further detail, scholars wishing to organize and contribute to such a diverse and interdisciplinary

field are presented with a plethora of ways to define terms, operationalize concepts, and collect and analyze data.

What follows is a conceptual framework that endeavors to describe the current literature by balancing considerations of what unites research in theory and what unites research in practice. The organization of central themes in the discourse lends itself well to scholars who wish to develop their own research design as the conceptual framework is built off of the core components of a research design. This framework was developed after a thorough literature review was conducted in which books, studies, experiments, newspaper articles, and government reports were studied to identify commonalities in their methodologies and use of theory. Though the field includes myriad approaches to common themes, it seems more appropriate to organize the literature around common approaches rather than central questions. This accomplishes the desire to keep the framework broad enough to be helpful to future scholars while making a robust and necessary contribution to the literature.

Conceptual Framework

Progress in online communication technologies shape how SNS have developed over the past twenty years. Though much of the foundational theory in the field was developed in the late 1990s and early 2000s (Nickerson 1998; Sunstein 2001; 2002), current research does not necessarily bely the difficulty in applying such aged concepts to the current SNS landscape. What presents more obstacles to scholars attempting to organize and contribute to the literature is the pace at which SNS develop, degrade, and come in and out of vogue. Researchers who want to understand the relationship between SNS and polarization must be aware of these technologies, their capabilities and constraints, their operation and regulation, and so much more. While scholars may understandably feel overwhelmed by the breadth of possible avenues down

which they could go, approaching the field by organizing it as one would a research design enables researchers to comprehend the literature as more a conversation and less a disjointed collection of vaguely connected texts.

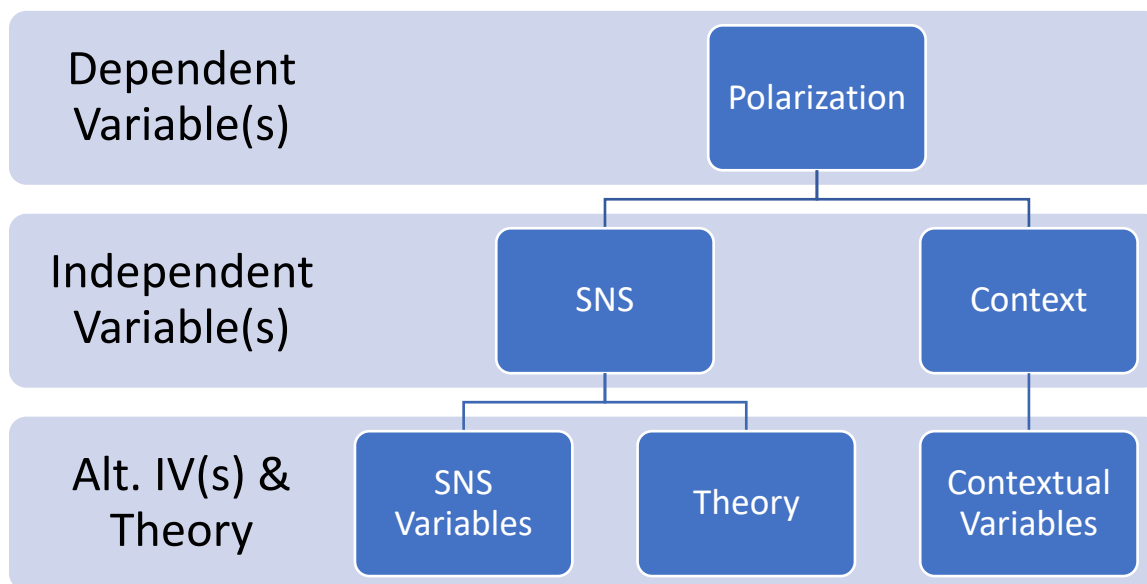
The conceptual framework I propose endeavors to encapsulate portions of the discourse most salient to a specific scholar's purpose in approaching the literature. This framework assists those who simply wish to organize the discourse in a way that makes sense, but also lends itself well to those who want to design their own research and to contribute to the literature in a substantial way. When the literature is as diverse and somewhat disjointed as described, such a unifying framework will position scholars to better comprehend how to approach the study of SNS and polarization. While recognizing the importance of foundational voices in the literature, this framework also allows scholars the freedom to align their organization with any particular subset of the discourse or to approach and understand the field as a whole.

The conceptual framework I propose organizes the field by breaking down the literature as it exists into three broad categories: Dependent Variable(s), Independent Variable(s), and Alternate Independent Variable(s) (IVs) and Theories. This last category, Alternate IVs and Theories, provides the basis for any portion of the literature that catches a researcher's attention and serves to orient scholars in the field by going in-depth into the basic components of the literature. As researchers continue up the framework to the Independent Variable(s), individuals can attain a much broader, more unified view of current scholarship by increasing the breadth of their research to include more fields of study and related research without worrying too much about being led away from core themes and discussion in the discourse. Finally, scholars can assess the most common and unifying factor of the discourse, whether theory- or data-driven:

measurements of political polarization. Because the dependent variable is typically the variable of most interest to scholars, this category will be discussed first.

Before the components of the framework are discussed much further, it is important to note that the model shown below in Figure 1 is a simplified version of an ideal model. What an ideal framework would show is a much messier, more iterative process in which the dependent variable may impact one of the more exogenous factors discussed in the Alternate IVs and Theories section. Similarly, machine learning algorithms and company policies that govern SNS today may have more bearing on their relationship to an individual's level of political polarization. Because so little research has been done as of yet on more clearly defining the relationship between SNS and polarization, this framework should be understood explicitly as a model for approaching the literature and designing research, not as a conclusive model of how SNS use may be related to polarization.

Figure 1. Conceptual Framework



Dependent Variable(s). Much of the current research being done on SNS and polarization identifies some iteration of “level or measurement of political polarization” as the variable of change. Scholars often attempt to measure whether SNS use for particular lengths of time or for particular reasons impact their levels of polarization (Bail et al. 2018; Entman and Usher 2018; Gentzkow and Shapiro 2011; Geschke et al. 2019; Gil de Zúñiga et al. 2012; Lee 2016; Lee et al. 2014; Wojcieszak and Mutz 2009). Though jobs and industries have been designed around effectively managing SNS to attain some political goal, little concrete research has established a significant relationship between SNS and polarization. This connection—or lack of one—carries much more interest and weight in 2020 than in past years. In the aftermath of the 2016 elections, government officials in the United States have published findings that foreign entities strategically utilized social media to interfere in U.S. elections (Cassidy and Jalonick 2019; Mak 2019; Packham 2019; Select Committee on Intelligence 2019). The ability of SNS to impact the outcome of U.S. elections, as well as its common use to attain political goals, points to the power of SNS in leveraging political sway. Nonetheless, scholars still struggle to establish a significant relationship between polarization and SNS due to the difficulty in identifying, operationalizing, and controlling for certain variables.

Identifying a common dependent variable in the literature seems an obvious first step in developing a conceptual framework from which scholars can work. This common variable of interest serves to somewhat unify a discourse composed of disparate fields and methods of analysis. It also reveals a necessity and relevance behind research of this kind. While the field struggles to keep pace with the development of SNS, a unifying factor of the discourse is the commonality of this general dependent variable. As a result, taking steps to identify how other scholars define and operationalize this concept is crucial if researchers wish to understand the

discourse as a whole. Such identification is essential to understanding how and why scholars have approached major conversations in the discourse in particular ways. The manner in which scholars work with such a broad concept as polarization is typically indicative of how the author approached the field as a whole and what contributions the author intends to make to the discourse. Of course, the dependent variable is only one component of a research design and thus only one component of this framework.

Independent Variable(s). The first kind of IV commonly used in the literature is some variation of social media or SNS. The term can refer to an incredibly diverse array of platforms and technologies, each of which is subject to different capabilities and constraints. Scholars must be aware of these more mechanical aspects of SNS, as well as their informational structure online, in order to develop a comprehensive understanding of the field as a whole. Further, scholars should take this opportunity when identifying IVs of interest to choose a theoretical basis to guide their research as well.

SNS comprise the other major portion of this field. Understanding how and why SNS operate is essential to developing a comprehensive understanding of research, the discourse, and SNS as a whole. The term SNS refers to numerous platforms and technologies, each of which has its particular use and terms of operation. When studying the relationship between SNS and polarization, researchers must first understand how SNS operate, as well as choose a theory to guide their research. Though researchers are presented with a dizzying number of variables to control for in any kind of experiment or analysis they wish to conduct, it is indeed possible and necessary to distill those options into an easier-to-navigate framework. In order to better organize possible IVs and therefore choose appropriate controls, researchers must first choose a theory for

their research found in the literature and then must establish a grounding knowledge of SNS and individual habits.

Theory. Scholars must choose from a general set of three approaches to the discourse. One possible theoretical basis is found in the work of Cass R. Sunstein, whose views on the polarizing nature of deliberative bodies and isolated enclaves (Sunstein 2001; 2002), is now widely applied in the field and popular culture with the term echo chamber (Bail et al. 2018; Geschke et al. 2019; Wojcieszak and Mutz 2009). Choosing this theoretical basis to guide research indicates a research hypothesis that social media has a positive relationship on political polarization, in which the more time an individual spends on social media and the more specialized networks an individual has, the more likely that person is to have conflict with others based on political ideology. However, due to the iterative nature of the factors that may influence an individual's level of polarization, this approach may be too simplistic for some. Choosing Sunstein's work (Sunstein 2001; 2002) to guide research also presupposes that social media platforms act as isolated enclaves. While this conclusion may be supported by some research, others fail to support such a conclusion. However, this is not the only theoretical basis from which to choose.

Another possible approach to the discourse is rooted in the idea that the internet as a whole, SNSs included, function as the world's largest and most diverse public arena (Bail et al. 2018; Gentzkow and Shapiro 2011; Geschke et al. 2019; Lee et al. 2014; Sunstein 2001; 2002). This theory posits that because information and arguments that challenge and individual's existing beliefs are within such easy reach on the internet and over social media, the idea that such platforms foster echo chambers seems a moot point. This theory challenges Sunstein's ideas (Sunstein 2001; 2002) directly, allowing researchers to develop hypotheses that posit that social

media does not impact or even mitigates polarization. Therefore, a hypothesis for researchers that adopt this theory as a lens for their work may anticipate a negative relationship between social media use and polarization. Of course, there is much room for researchers to approach the question differently or to develop a separate research question from this theoretical dispute entirely. Nonetheless, the general categories for their independent and dependent variables would remain largely similar to the framework posited here.

A third theoretical lens currently exists for scholars in this field. This lens draws from the idea in psychology of confirmation bias, which refers to a predilection for selecting information that conforms to an individual's preconceived beliefs (Nickerson 1998). This theory is also in opposition to both other influential theories in that scholars who adopt this lens view the internet as a source of unlimited argument pools, which is commonly described as network heterogeneity (Bail et al. 2018; Gentzkow and Shapiro 2011; Gil de Zúñiga et al. 2012; Geschke et al. 2019; Sunstein 2001; 2002; Wojcieszak and Mutz 2009). However, this theory diverges from a "public arena" theory (Bail et al. 2018; Gentzkow and Shapiro 2011; Geschke et al. 2019; Lee et al. 2014; Sunstein 2001; 2002) when it comes to the effect exposure to these argument pools likely has on an individual. Rather than mitigating polarization by challenging beliefs, confirmation bias theory in social media and political polarization discourse instead posits that individuals are more likely to become more polarized after exposure to arguments that challenge their beliefs. This "backfire" theory also works in relation to the echo chamber theory (Bail et al. 2018; Gentzkow and Shapiro 2011; Gil de Zúñiga et al. 2012; Geschke et al. 2019; Sunstein 2001; 2002; Wojcieszak and Mutz 2009), because some scholars argue that individuals only follow content on SNS if it reflect values similar to theirs (Bail et al. 2018; Geschke et al. 2019; Wojcieszak and Mutz 2009). Researchers who adopt this lens would likely have a hypothesis

that posits a positive relationship between social media use and polarization, but their analysis of that relationship would be much different from that of a scholar who utilizes either of the other two current theories.

Obviously, choosing a theory from which to work presents obstacles to researchers. However, it comprises only a part of developing a research design. Another component of this conceptual framework is understanding media usage. This step should go in tandem with choosing a theoretical basis for research; however, the approach to understanding SNSs in a way that is conducive to conducting research demands a different approach than one so rooted in theory.

SNS Variable(s). When it comes to identifying other possible independent variables and isolating them for controls, researchers face much difficulty. Though other variables will be discussed later, there are two major categories of factors related entirely to the mechanics of SNSs that demand some attention from any scholar attempting to enter the field. These include the policies and regulations of SNSs and an individual's SNS usage. Each of these will be treated separately, if somewhat generally.

Understanding what policies and regulations govern a particular SNS is integral to comprehending how an individual's use of that SNS relates to their particular level of political polarization. Policies and regulations from the government are still developing in response to the breakneck pace at which companies develop their platforms. SNS owners also develop their own policies in accordance with pressure from governments, users, and the general public, leading to a vast array of policies that manage political presences and ads on SNSs. For instance, Twitter no longer allows many political ads but allows political figures to tweet (Feiner and Graham 2019). Facebook recently came under heavy scrutiny from Congress regarding its role in proliferating

fake news and foreign propaganda over its platform that threatened election security and does not plan any robust revisions of its ad policy (Isaac and Kang 2020; Select Committee on Intelligence 2019). Platforms also develop their own user policies and algorithms that govern how, when, where, and why users come across information and ads, including political information (Select Committee on Intelligence 2019). Obviously, researchers must be aware of these mechanics regarding SNSs in order to develop a research methodology that can accurately measure the relationship between SNS use and political polarization.

Considering an individual's habits and intentions regarding SNSs is also a critical component of developing a research methodology in this field and was therefore included in this framework. These considerations can and should range from the habits of users—whether SNSs are used for business, entertainment, news monitoring, etc.—to simple questions of how much a user is on a certain platform and how large their network is. Each of these considerations impact levels of use, kinds of use, and reasons for use that may ultimately influence what data researchers collect. Therefore, researchers should consider both policies and regulations as well as individual SNS habits when engaging in research or approaching the literature. This serves to contextualize research, as company policies change rapidly, as well as prepare researchers for the reality of developing a methodology that can return reliable data.

Contextual Variables. This framework also includes a recognition of possible contextual variables. Due to the iterative process of polarization and this framework in particular, comprehending the discourse and developing a reliable methodology demands scholars are attentive to contextual variables as well as ones related almost exclusively to social media. Francis Lee (Lee 2016) does a particularly good job of pointing out the importance of considering larger political contexts when approaching the field in his study of the Umbrella

Movement in Hong Kong. In his article, Lee (Lee 2016) calls for researchers to consider how polarization may occur off social media and instead manifest there as a result of that off-line polarization. Lee proposes that external political contexts may influence individuals more in regard to their levels of polarization than social media does and takes this argument further by positing that social media only reflects polarization that was already manifest in the public (Lee 2016). Though this idea requires further research to support or refute such an analysis, scholars should pay close attention to the underlying argument. Particularly when the United States has been experiencing such a prolonged period of polarization (Abramowitz and Saunders 2008; Bowersox 2005; Buylova et al. 2018; Clucas 2018; Clucas and Henkels 2005; Jones 2019; Pew Research Center 2014), understanding how that external political context may impact existing levels of polarization is integral to establishing a relationship between social media and political polarization.

The final puzzle piece in this framework regards an individual's context. This could refer to a plethora of possible alternative independent variables and controls: access to technology, data plan, income, education, geographic location, age, and so on. Such demographic information, of course, is central to most research. As such, it deserves a place in this framework. Understanding how other researchers in the field controlled for this information helps guide researchers in understanding the current state of the field as well as in developing their own methodologies. Demographics are not the only factor at play, however; it could also refer to how large a person's social network is offline, how homogenous that network is, and so on. It could refer to that person's level of political awareness and civic engagement as well. The list could go on.

Once again, researchers are at once constrained and given freedom in choosing appropriate controls and possible independent variables from such a broad category. However, in its most general terms, understanding in detail how scholars have approached this issue in the literature would help scholars and researchers alike in their approach to the field. Including this general category in this conceptual framework may seem an obvious and somewhat unnecessary step. However, because foundation voices in the field of political polarization such as the Pew Research Center (Pew Research Center 2014) do not apply their research to social media use, and because others focus more on social media use than detailing demographics and individual contexts, organizing the literature and developing a way to contribute to the resource demands close attention to these factors.

Discussion and Conclusion

Though the field of study surrounding the relationship between social media and political polarization has been forming for close to two decades now, the body of literature available has lacked cohesion, timeliness, and an overall united approach that would serve to better define the field. Through a careful study of foundational theory to more current field work done regarding the subject, an organization of the field emerged which lends itself to a conceptual or theoretical framework for scholars entering the field. This framework (Figure 1) proposes an organizing work in the field according to its broader methodological design. Such a framework makes broad generalizations about the independent variables of many studies done in the field, which tend to be a variation on levels of political polarization. However, this is not to discount important work that has been done almost tangentially on social networks and echo chambers, which is why the incorporation of other possible independent variables and controls as another subset of this framework seems necessary.

However, these too could be broken into broader concepts and generalizations. Given the interdisciplinary nature of the field in which researchers study the confluence of technology, behavior, and political belief, other variables, concepts, and theories demand consideration. As scholars approach the discourse and develop their own methodologies, they must be prepared to engage in myriad kinds of research, theories, and methodologies. Understanding the three basic theories of the discourse guides scholars in a fundamental way through the discourse. However, a basic understanding of how the social media platforms in question operate is essential to establishing any kind of relationship between social media and political polarization and is a component of research often overlooked by current studies.

Establishing a basic understanding of what governs SNS would aid scholars in achieving a more concrete analysis of how SNS may impact an individual's level of political polarization. As discussed previously, the policies, regulations, and algorithms specific to SNS may change how political information is transmitted on those platforms. On some platforms, fake news may be flagged, but the decision about what information to identify as fake is left to companies. On other sites, political advertisements have been banned but public figures remain uncensored and apparently immune to the same policies other users are (Feiner and Graham 2019; Isaac and Kang 2020; Select Committee on Intelligence 2019). Scholars should establish a basic knowledge of this when setting out to study any particular platform. However, the conceptual framework developed thus far has one last significant component.

Contextual variables, too, demand consideration by scholars. Lee pointed out in his article (Lee 2016) the need to understand the political context of an area while engaging in research regarding social media and political polarization. Lee (Lee 2016) juxtaposes activism and polarization outside of SNS with polarization on SNS and posits that political polarization

was reflected on SNS after it was manifest in the population as a whole. Work such as this (Lee 2016) points out the importance of research like that published by Pew Research Center on political polarization (Pew Research Center 2014) that does not attempt to measure its relationship with social media. Though this polarization may happen in a time when the use of SNS is on the rise, that pattern is not directly measured. Instead, other researchers should use such studies as a basic contextualization of their research. If, indeed, social media only tends to reflect pre-existing levels of polarization, studies that measure that division offer crucial insights for scholars in establishing a basis for their research. However, this step is often missed. As such it is important to include such contextualization in a conceptual methodology that attempts to both organize the discourse and allow researchers to develop a research methodology that can fully engage with the literature, as well as be relevant to current contexts.

As mentioned before, a truer graphic than Figure 1 would indicate that this is more likely an iterative process. Both in practice and in theory, it is much more likely that an individual's level of political polarization is impacted by more than is described in this framework. Further, it is possible that data may show an individual's level of political polarization impacts how much they use and how they engage with SNS. Though current research suggests that SNS, when used for media surveillance, increases civic engagement and political awareness (Gil de Zúñiga et al. 2012), further study could fail to reach a similar conclusion. This is simply one example: the theory scholars use to guide their research similarly shapes their analysis and conclusions regarding how one variable may impact another. Nonetheless, as the discourse exists now, this framework would assist scholars approaching the field by offering a clear organization from which to understand the literature and develop their own research.

This conceptual framework as it exists now would be most helpful when applied as a kind of pyramid or building blocks. Those concepts on the most lower level—those that are most distant from the Independent Variable category—should serve as a strong basis of knowledge for scholars when approaching the research. Starting with an understanding of policies and regulations, individual usage, the three major theories in the discourse, and the political and individual contexts of research provides scholars with a solid footing in the literature. Students and researchers alike should use this framework by organizing the literature using these components first: what SNS does this research engage with? Some of the most influential research in the literature was done studying MySpace (Gil de Zúñiga et al. 2012), a platform which does not functionally exist anymore. Others engage in platforms like blogs (Bail et al. 2018; Gentzkow and Shapiro 2011) and Facebook (Select Committee on Intelligence 2019). Policies, regulations, and technologies vary from platform to platform, as do the kinds of users and kinds of use. Scholars should also ask what theory is supported or in operation in a certain study and which is challenged. Finally, scholars need to ask what exogenous factors may be at play in the current political and individual contexts that could influence the conclusions of a certain study or article.

In asking such fundamental questions, scholars engage in this conceptual framework and build their understanding of the field by addressing the most basic level of the framework: the broken-down, most general forms of what other possible independent variables may be at play. In organizing the literature, scholars will find this framework helps place research in the discourse according to the theory it supports or challenges, how relevant the research or theory is, and how well it engages with the discourse as a whole. When scholars want to develop their own research relevant to the field, addressing these most basic components of the field first

would help them develop their own conceptual framework from which to work. This framework incorporates the three major theories of the field, as well as guides researchers to explore a plethora of possible variables and factors to consider in their research. Similarly, researchers must build their work off the previous work of their colleagues. If scholars organize the literature and develop their methodologies according to the framework developed here, research would be more likely to engage in the discourse in a relevant way, compared to the more scattered and less unified fashion in which researchers now tend to contribute to the discourse.

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