

Red News, Blue News: Political Consequences of News Bias

By

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Introduction

The expansion of media gives people today the ability to personalize their experiences like never before. There are an exploding number of outlets includes traditional broadcast media such as newspaper and magazines but also more “narrowcast” choices via cable television, blogs, radio, Internet news aggregators, and social media. Though the volume of content has increased dramatically, people’s cognitive processing abilities have not, making it unavoidable that people will have to be selective about their exposure to media. The effects of individuals’ consumption choices alter the media landscape by encouraging news providers to tailor themselves to narrow slices of the population. I investigate some of the political consequences arising from the rise and popularity of politically biased news media, drawing upon a theory of media as a cognitive subsidy. I show how cable television media choices affect political outcomes including, polarization, and participation. As with other communication technologies that have developed over time, biased news is a double-edged sword with obvious downsides for public competence but also surprising upsides.

Scholars examining the media environment have identified two patterns of media consumption with particular political significance: news avoidance and selective exposure. News avoiders are politically uninterested people who take advantage of the increased number of entertainment alternatives to limit their exposure to political news (Baum and Kernell 1999; Hamilton 2005; Prior 2005; 2007). For people who are highly interested in following news about politics (i.e. political junkies), increasing the availability of political information from diverse perspectives affords the opportunity to engage in selective exposure, maximizing consumption of

information supporting existing beliefs (Galston 2003; Morris 2007; Stroud 2007; 2008; Sunstein 2001).

Increased media choice means political junkies can consume more congenial news; news avoiders now have more entertainment options that they can turn to. Existing research on the consequences of media choice has treated each as distinct, however, upon closer inspection it is clear that the two are intimately related. As news avoiders turn away from traditional news media, news providers have an increased incentive to bias coverage as a means of product differentiation (Mullainathan and Shleifer 2005; Bernhardt et al. 2008; Hamilton 2004). The introduction of bias in the contemporary news environment represents an unexplored implication of increasing media choice in general, one whose real-world implications effect how scholars conceptualize media effects, and one with important political consequences.

Any study of news bias must grapple with the difficulty of defining what “bias” is. This is particularly challenging because bias is a large concept that manifests itself in a variety of ways (for example: word choice, selective omissions, the framing of stories, use of sources, and more). Out of analytical necessity each of the following chapters offers concrete, varied definitions of bias. The process of moving from the abstract to the measurable unavoidably involves transitioning to a narrow operationalization, yet it is my hope that by examining news bias from a number of perspectives we can arrive at a more holistic understanding of its consequences.

The remainder of this introduction is structured as follows. In Section One, I describe theories of news avoidance and selective exposure in more detail, situating this dissertation in relation to established academic literatures. Section Two reviews the political and economic

development of partisan news in the United States. Section Three previews the empirical chapters that follow. Section Four summarizes and concludes.

News Avoidance

In the pre-cable television era, the network news audience was much larger than it is today. The public then was not, however, necessarily more interested in following the news than the public now (Baum 2003). Instead, the steady decline in network news audience since the 1980s can be attributed, in part, to increased media choice. In the pre-cable era the network news audience included those intrinsically interested in following the news as well as some number of “switchers,” individuals who prefer watching the news to not watching television, but who would prefer to watch something other than news given the option (Prior 2007). The development of cable television thus increased the efficiency of the media environment in terms of satisfying the preferences of consumers, in that those who had been forced to watch the news or nothing were increasingly able to choose entertainment alternatives. In short, the expansion of choice offered politically uninterested individuals the opportunity to opt-out of the hard news audience entirely (Prior 2005; 2007).

From one perspective, more media choice contributes to an increasingly unequal distribution of political knowledge across society by facilitating news avoidance among those who prefer entertainment (Prior 2005; 2007; Bennett and Iyengar 2008). There is however, some debate about the extent to which individuals are able to truly avoid exposure to political news and information (Baum 2003; Baum and Jamison 2006; Childers and Popkin 2007).

One argument is that politically uninterested individuals nonetheless acquire information about politics when relevant information is “piggybacked” to content presented primarily for its entertainment value (Downs 1957; Baum 2003). For example, during the Gulf War, daytime talk

programs such as “The Oprah Winfrey Show” developed programming focused on the hardships faced by the families of soldiers deployed in the Gulf. Viewers of Oprah thus acquired information about the war as an incidental by-product of seeking entertainment. Scholars studying the effects of such entertainment-oriented programming have found that soft news consumption leads to learning about political candidates and facilitates correct voting among politically inattentive citizens (Baum 2003; Baum and Jamison 2006; Childers and Popkin 2007). Of potentially equal importance is support for a “gateway” role for soft news, where individuals introduced to a political topic via soft news coverage are more likely to attend to subsequent information about that topic from more traditional news sources (Baum 2003).

I do not take a position on how effectively news avoidance insulates individuals from political information in general. It is enough to point out that the debate to date has primarily focused on how media choice affects the *quantity* of political information people are exposed to. As biased news sources proliferate however, it becomes equally important to consider what *kind* of political information people receive.

A less emphasized, but no less consequential, result of increased media choice has been to concentrate the news audience with politically interested and increasingly partisan news junkies (Hamilton 2005; Prior 2007). The implications of a news audience dominated by partisans extend beyond the question of whether people are exposed to more or less political information.

Vallone, Ross, and Lepper (1985) coined the term “hostile media phenomena” to describe the tendency of people with strong views to perceive media coverage as biased against their positions. By showing pro-Arab, pro-Israeli and unaffiliated students identical, and ostensibly objective, television news clips of the 1982 Israeli incursion into Beirut, Vallone and colleagues

demonstrated that viewers' preexisting issue preferences drove perceptions of news bias. Pro-Arab students viewed the news coverage to be pro-Israeli, while pro-Israeli students saw the same coverage as anti-Israeli (Vallone et al. 1985).

The direction and intensity with which individuals perceive bias is in part a function of the direction and intensity of the viewer's attitudes on the subject (Gunther 1988). Higher involvement prompts increased scrutiny as well as increasingly biased scrutiny, thus more highly involved individuals are more likely to perceive bias against their position (Gunther 1992).

In sum, strong partisans have both a tendency to view objective news as biased against their position (Vallone et al. 1985; Giner-Sorolla and Chaiken 1994; Dalton, Beck and Huckfeldt 1998; Gunther 1988; 1992) and, perhaps as a result, are more likely to engage in motivated selective exposure (Brannon, Tagler, and Eagly 2007). Thus, as the composition of the news audience becomes increasingly concentrated with competing partisans, the market incentive for news with a definitive partisan bias increases as news producers are driven to carve out partisan niches (Bernhardt et al. 2008).

Political Selective Exposure

Driven by the expansion of choice within the media environment, selective exposure research is experiencing a renaissance (e.g. Sunstein 2001; Stroud 2007; 2008; Iyengar and Hahn 2007; Iyengar et al. 2008). The selective exposure hypothesis grows out of early cognitive consistency theories (e.g. Festinger 1957; Heider 1958; Osgood and Tannenbaum 1955), and suggests that individuals have a preference for information supporting their pre-existing beliefs. Applied to the political, selective exposure describes a desire for information with a partisan or ideological bias.

It is important to emphasize that the selective exposure hypothesis implies motivated or deliberate behavior. That is, it stipulates that individuals have an active preference for information consistent with their pre-existing beliefs, such that if offered a choice they would choose consonant information (Sears and Freedman 1967). Early research on selective exposure has been criticized for failing to distinguish unintentional, or *de facto*, selective exposure, which might occur as a result of social, economic, or residential context, from motivated selective exposure (Sears and Freedman 1967).

These early studies found evidence supporting the existence of significant *de facto* political selective exposure, primarily as a result of the tendency for the average individual's environment to make supportive information more available (Sears 1968; Sears and Whitney 1973). Evidence for motivated selectivity however, has been historically inconsistent and at times contradictory (Freedman and Sears 1964).

Despite its weak empirical foundation, assumptions about political selective exposure continued to be common. Partly because early research on communication flows during presidential campaigns demonstrated evidence of selective exposure to partisan messages (Lazarsfeld, Berelson, and Gaudet 1952), assumptions about the tendency for partisans to be exposed primarily to supporting information featured prominently in early acceptance of a "minimal effects" view of both election campaigns and persuasive media more generally (Klapper 1960; Katz and Lazarsfeld 1955). Summarizing the emerging consensus in two influential reviews of the selective exposure literature generally, Freedman and Sears found little evidence to support the claim that when presented with the option, individuals exhibited a preference for confirmatory information (Freedman and Sears 1964; Sears and Freedman 1967).

Changes in the media environment have led scholars to reconsider this conclusion, in particular with respect to political information. In addition to inflating the audience for the network news, lack of choice in the pre-cable television era meant that selectively exposing oneself only to politically supportive news and information was difficult, even for political junkies inclined to do so (McGuire 1968). The dominance of major news networks and journalistic norms of objectivity led to relatively homogenized news coverage, limiting opportunities for consistent selective exposure to partisan perspectives in the news (D'Alessio and Allen 2000). The expansion of media choice means that citizens today have far more opportunities to personalize their news consumption (Sunstein 2001; Prior 2007; Stroud 2008).

An emerging body of scholarly research has found that news coverage with consistent and distinct partisan biases is increasingly available (e.g. Groseclose and Milyo 2005; Gentzkow and Shapiro 2006; Groeling and Baum 2007). For example, scholars examining measurable bias in cable news coverage have found that Fox's news coverage is consistently to the right of other news outlets. This basic result was independently found using think-tank citations as a proxy for bias (Groseclose and Milyo 2005) as well as analyses of news content directly (Groeling and Baum 2007; Pew 2008).

In the context of the 2008 presidential campaign, a Pew study analyzing the tone of coverage towards candidates Obama and McCain found significant differences in the ratio of positive to negative stories across the three major cable news channels (Pew 2008). The same study compared each cable news channel's ratio of coverage to the ratio of media coverage over all; content on Fox included more positives about McCain and negatives about Obama, MSNBC featured considerably more favorable coverage of Obama, and CNN's ratio of coverage was indistinguishable from media coverage over all (Pew 2008). The implication of this and studies

illustrating partisan news bias in general is that for those inclined, opportunities exist within the mainstream media to attend exclusively to news coverage favorable to one's pre-existing political views.

Many people are taking advantage of their opportunity to do just this. A growing body of evidence documents partisan segmentation within news audiences (Stroud 2007; 2008; Iyengar and Hahn 2007; Iyengar et al. 2008), and highlights their increasing political homogeneity. While individuals' tendency towards selective exposure to political information is not a new discovery (e.g. Berelson et al. 1957; Klapper 1960; Lazarsfeld et al. 1944) the extent to which the modern media environment facilitates it is historically unprecedented. Figures 1 and 2 show how dramatically partisan and ideological segmentation within the cable news audience has increased in the past decade.

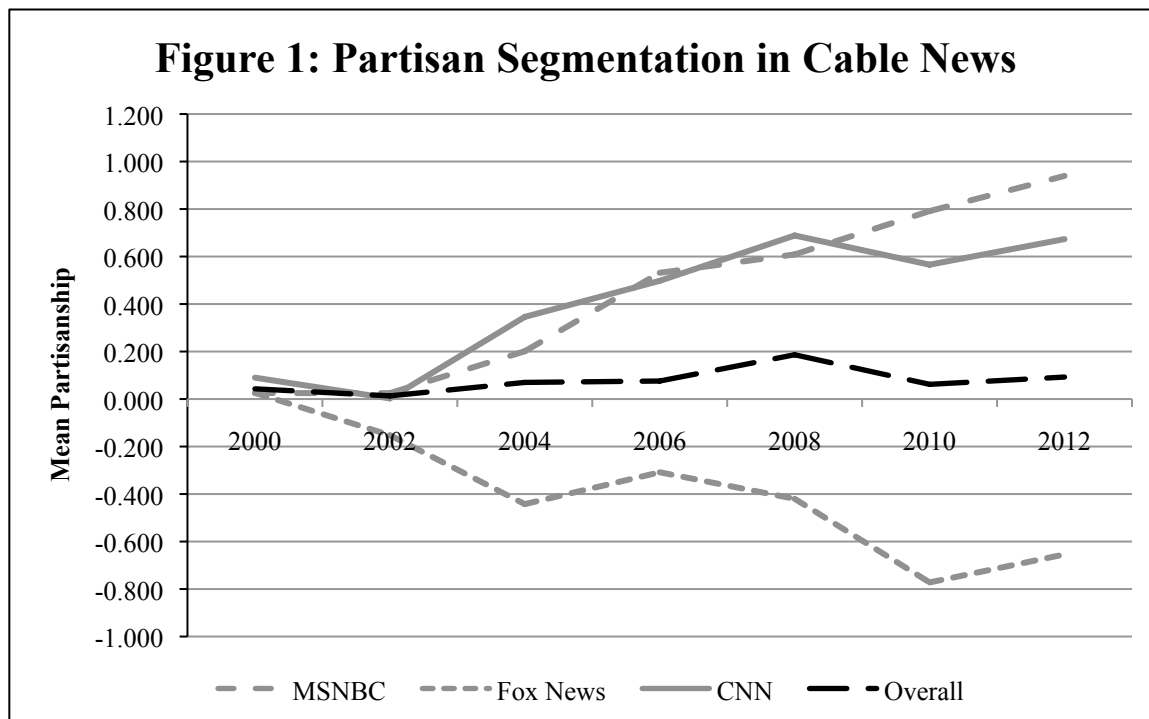
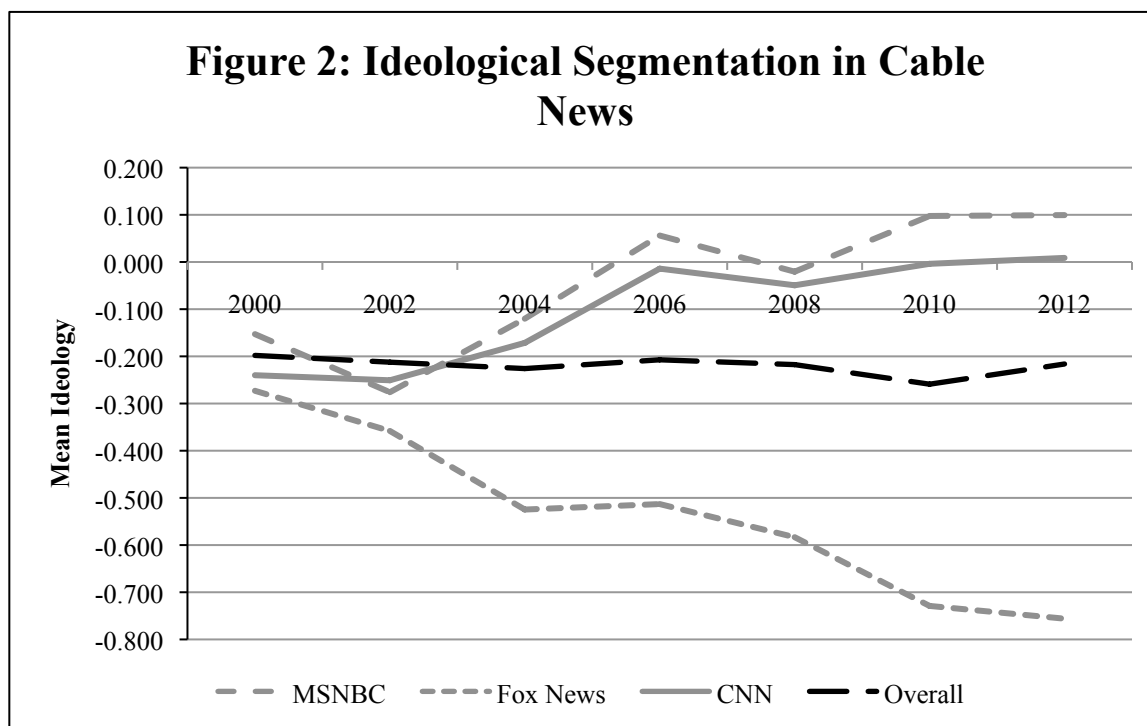


Figure 1 plots the mean party identity for the three major cable news audiences where higher values indicate that viewers are more Republican and lower values indicate that viewers

skew Democratic.¹ In 2000, the mean party identity of the CNN audience was 0.17 (s.e.=0.064), for Fox News it was -0.01 (s.e.=0.071), and for MSNBC it was 0.04 (s.e.=0.090). And while small statistical differences existed between the Fox News audience and CNN in 2000, it is clear that substantive differences increase markedly over time. An interesting side note is that no substantive (or statistically significant) differences appear between the MSNBC and CNN audiences until 2010. However, by 2012, the data show a cable news audience clearly divided by partisan identification. MSNBC has become clearly the preferred option for Democrats (mean pid=0.94, s.e.=0.112), while Fox News is clearly the most Republican (pid=-0.65, s.e.=0.083), and CNN is between the two, though still more Democratic than the population overall (pid=0.67, s.e.=0.099).



¹ Data drawn from Pew's Biennial Media Consumption Surveys. Party Identity measured using a five-point ordinal scale, where -2=Strong Republican, -1=Republican, 0=Independent, 1=Democrat, 2=Strong Democrat.

Figure 2 shows the same general trend holds looking at ideological instead of partisan identification.² Ideological segmentation within the cable news audience has increased dramatically over the last decade, while over the same time period the overall partisan and ideological character of the cable audience in general has remained stable.

It is interesting to note that in both figures there is little partisan or ideological distinction between CNN and MSNBC from 2000 to 2008, either substantively or statistically. However, after 2008, the audience of MSNBC became distinctly more Democratic and more liberal than CNN's. Perhaps unsurprisingly, 2008 also marked the decision by MSNBC to offer a more consistently liberal perspective in its coverage, promoting Air America radio host Rachel Maddow to a prime-time television spot in August (Stelter 2008). Indeed, following the 2008 presidential election, it became increasingly clear that the partisan content of each channel mirrored the partisan makeup of their audience (Pew 2008).

2 The Evolution of Partisan News

By itself, the growing availability of biased news via mainstream media outlets is somewhat puzzling. The introduction of the news-for-profit model currently dominant played a significant role in ending the era of an openly partisan press (Baldasty 1992; Cook 1998; Kaplan 2002; Smythe 2003; Petrova 2011). Assuming that the profit motive still motivates, why are mainstream news sources introducing explicit political biases now? To answer this question, it is useful to briefly traverse the press' evolution in the U.S. context.

2.1 The Original Party Press

² Ideology measured using a five-point ordinal scale, where -2=Very Conservative, -1=Conservative, 0=Independent, 1=Liberal, 2=Very Liberal.

A strong argument can be made that both the press and national political parties were born out of the bitterly fought presidential election of 1824 (Baldasty 1992). When no candidate garnered a majority of the votes in the Electoral College, the election was thrown to the House of Representatives where the popular vote runner-up, John Quincy Adams was ultimately selected. In the wake of this controversial decision, supporters of the popular vote winner, Andrew Jackson, set about building a national political organization to contest the next election, an organization that would become the Democratic Party. Jackson's opponents organized in response, leading to the establishment of the Whig Party in 1836 (Aldrich 1995).

A pivotal instrument in the successful development of a truly national party was a national network of party newspapers. Because the norms of the time frowned on candidate self-promotion, the bulk of organized campaigning was left to the parties. As both the voices and coordinating arms of the parties, party newspapers constituted the single most important link between the party and the electorate (Baldasty 1992). Without political newspapers to connect the parties to the electorate, "we might as well hang our harps on willows (Remini 1963, p49)" declared Martin Van Buren, the father of the Democratic Party; unsurprisingly, one of the primary tasks Van Buren undertook was the establishment and subsidizing of a nationwide network of newspapers (Aldrich 1995).

Because political parties provided crucial financial support to the press, the power relationship between the press and the parties was very much one-sided and in favor of the parties. Newspapers were funded either directly through the party or through various forms of patronage such as government printing contracts and postmasterships (Cook 1998). Disloyal editors were replaced and disloyal papers had their subsidies cut off. However, it was not simply

that the parties wielded power over the press; newspapers were a fundamental component of the party apparatus.

Newspaper editors were not just partisan supporters on pain of financial hardship; often editors were active as members or leaders of the parties. Many were themselves directly involved in the state central committees that determined the policies they would later advocate in their newspapers. A.W. Thayer, editor of the *Essex Gazette* in Haverhill, Massachusetts, summing up the dominant perspective, declaring that an editor was a “political preacher” (Baldasty 1992, p25). An objective editor in the context of the partisan press would be as unlikely as an objective campaign manager today. Were either to publicly acknowledge the legitimacy of the opposition viewpoint, they would quickly find themselves out of a job. Indeed, papers of this era trumpeted their allegiances in their names, with examples such as the (Little Rock) *Arkansas Democrat-Gazette* and the (Springfield, MA) *Republican*. The press during this time period was thus blatantly and unapologetically subjective, and partisanship was viewed as a crucial aspect defining journalism’s proper public mission in American democracy (Kaplan 2002).

In sum, the original party press developed because it served the needs of political parties. In the antebellum era political parties had a predicament. They needed to mobilize voters in statewide elections in an era lacking efficient transportation and a culture that generally frowned upon candidate’s self-promotion. Out of this need for statewide coordination, newspapers were established and editor’s roles as party activists developed. Political parties sponsored newspapers to communicate with party members and to attempt to bring new voters into the partisan fold.

2.2 The Commercial Press

Over the course of the nineteenth century, the press’ commitments to partisan advocacy declined. The transition to a commercial press was driven by a number of economic and political

factors. New technology and social changes created new incentives for news suppliers (Shaw 1967; Baldasty 1992; Gentzkow 2004; Petrova 2011). Rapid industrialization created opportunities for news as a profitable business and urbanization led to the need for multi-tasking newspapers, concerned with more than simply political advocacy.

A rapidly expanding electorate contributed to the decline of the partisan press. As newly naturalized citizens resulting from waves of immigration between 1830 and 1915 boosted the population of urban areas, the party activities necessary to win elections changed. During this time period, the urban population rose from approximately 6 million to over 30 million (Callow 1976).

The rise of party machines in cities rendered many of the services of the party press moot. For many immigrants, voting was a practical decision, seen largely as a means to barter for favors and services (Clifford 1975). Political bosses did not convince voters to support the party with sound logic and flowery rhetoric. Instead, they often used direct patronage, providing jobs and services in return for votes (Callow 1976). In this context, the existence of loyal partisan newspapers was no longer viewed as a critical component to the electoral success of the party.

At the same time, the rise of a more substantial middle class meant new opportunities for wealth. Independent, non-partisan newspapers began emerging in larger cities as publishers gradually abandoned the limited rewards of party patronage for the potentially much larger rewards offered by commercial advertisers (Baldasty 1992; Smythe 2003; Petrova 2011). As late as 1870, 89% of urban dailies proudly proclaimed their allegiance to a political party, by 1920 62% as proudly claimed to be independent (Gentzkow and Goldin 2004). News suppliers, who had valued readers as potential voters during the era of the party press, increasingly saw them as consumers.

This does not mean that partisanship in the press evaporated completely. It was merely limited to where it was profitable and useful. Strongly partisan newspapers still existed, though they were primarily in connection with local elections in more rural areas where patronage was still abundant (Gentzkow and Goldin 2004; Petrova 2011). Publishers of larger dailies feared that overt partisanship would alienate potential readers and limit advertisers. And while some editors still took political stands, they did so in a more delicate manner (Baldasty 1992).

While the political incentives of elites supported the rise of the early press, the transition of the press from the political to the commercial market meant the character of news content would be controlled ultimately by the same structure of incentives as any profit-maximizing business. In this context, the production of news is shaped by competition among news providers, a competition whose institutional structure is driven by the character of the news audience. As the composition of the news audience has shifted in response to increasing media choice, competition among news outlets creates incentives to selectively bias content as product differentiation and a means of capturing market share (Mullainathan and Shleifer 2005; Gentzkow and Shapiro 2006). That is, the profitability of biased news depends jointly on the degree of competition in the news market and the composition of partisans in the news audience (Bernhardt et al. 2008).

Changes in the newspaper industry pushing toward nonpartisan coverage and large audiences would have their fullest expression in the heydays of the three big national television networks nightly news broadcasts in the post World War II era. While this coverage earned large audiences that maximized ad revenue, the content was nearly indistinguishable across channels. That model would change as cable television spread across the country starting in the 1980s, with the pace of change accelerating in 1996 with the debut of The Fox News Channel and

MSNBC and the expansion of the Internet. While partisan newspapers of the Nineteenth Century arose out of a variety of political and economic factors, the return to partisan and ideological differentiation in coverage among cable news providers is driven primarily by increasing media choice.

Competition among news providers alone is not enough for systematic political biases to develop; rather, the market for bias arises as an aftereffect of increasing entertainment media choice and the increasingly partisan audience remaining for the news as a result. An empirical implication of this is that cable news providers will cultivate distinct political slants in their coverage, as Fox News did from the beginning and as MSNBC did in solidifying the liberal character of their prime-time lineup. A second implication is that cable news viewers will reward biased coverage.

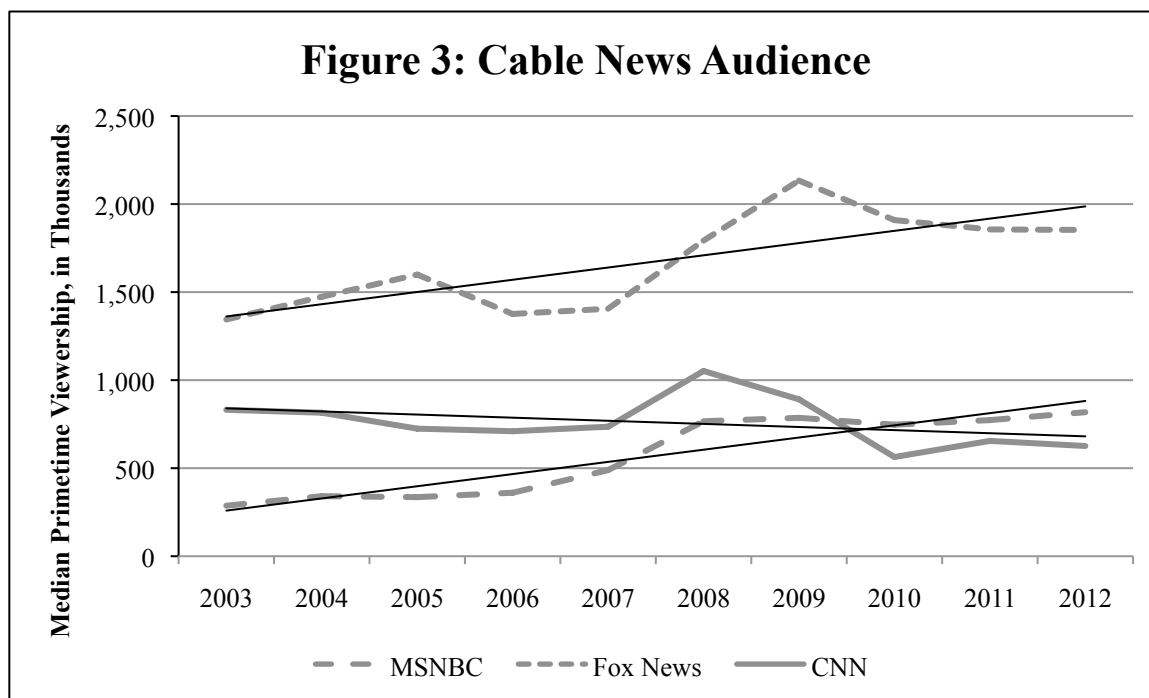


Figure 3 plots primetime viewership for the cable news channels since 2003, and trend lines over the same time period.³ While all cable channels received a significant bump in ratings around the 2008 Presidential election, both MSNBC and Fox News have seen their ratings increase over time. In 2003, Fox News averaged 1.3 million viewers in primetime; in 2012 viewership was up 37 percent to 1.8 million viewers. Over the same time period, MSNBC increased its viewership 185 percent, from 287 to 818 thousand. CNN on the other hand, saw its viewership drop 25 percent, from 832 to 626 thousand.

Observable trends in cable news over the past decade are in line with what market models of media competition would predict (e.g. Mullainathan and Shleifer 2005, Gentzkow and Shapiro 2006; Bernhardt et al. 2008). By offering a distinct conservative slant to its coverage Fox News established itself as the go-to news source for conservatives, enjoying massive ratings growth. MSNBC ultimately embraced its identity as the liberal alternative to Fox News, and also saw its ratings increase. CNN sought a middle ground, hoping to establish itself as the unbiased alternative, and saw its ratings tumble.

That citizens today must choose from a news menu featuring unabashed political perspectives in coverage represents a significant institutional shift in U.S. politics, one that unavoidably has important political consequences. The relative recency of this development however, means that much of the foundational research necessary to understand its implications is incomplete. This dissertation contributes to this void, and offers some of the first theoretical and empirical explorations of the political consequences of news bias.

3 Empirical Chapters

³ Data drawn from The Pew Research Center's Project for Excellence in Journalism's Annual Report on The State of the News Media 2013, online available at stateofthemedias.org.

The chapters of this dissertation are organized as related, though largely self-sufficient essays, each examining a facet of the political consequences of biased news. Using a variety of observational, quasi-experimental, and experimental methods, I demonstrate both why people are drawn to biased media and the effects that exposure to such media have on political attitudes and behavior.

3.1 Bias and Credibility in News Choice

As suggested above, an increasing body of evidence points to partisan segmentation in the contemporary news market. However, the mechanism causing consumers to sort along partisan and ideological lines is unclear. While existing theory (e.g. Festinger 1957) predicts that partisans will tend to avoid dissonant information, understanding the political consequences of selective exposure requires insight into the mechanism driving it. That is, to understand the consequences of media choice, we need to move beyond being able to predict where people will turn for news, and gain more insight into why people choose certain sources over others.

In Chapter Two, I develop a framework for news choice based on perceptions of bias and credibility. Understanding how people process biased news coverage is important because once formed, news outlets' reputations serve as heuristics about the political slant and the credibility of information from that source (e.g. Arceneaux et al. 2012; Baum and Gussin 2008; Turner 2007). I report results from a nationally representative survey experiment that uniquely identifies the effect of message content on perceptions of news bias and source credibility. I find support for a congenial media effect, where information consistent with existing beliefs is seen as more credible and less biased. I contend that political segregation of news audiences can be best understood as the product of individual's desire for credible information, distorted perceptions about news outlets' political biases, and the conflating of credibility with objectivity. The irony

is thus that selective exposure to reinforcing media messages is motivated by a desire for objectivity among viewers.

3.2 News Bias and Factual Misperceptions

In a fragmented media market, the availability of news with a partisan slant changes how the public learns new information and what information it learns. In general, scholars conceptualize the influence of mass media as proportional to the amount of communication received from the mass media. At a macro level, if the media carry competing messages, as is the case in election campaigns, the effectiveness of these competing flows of information will reflect their magnitude (Zaller 1996). At the individual level however, the persuasiveness of media messages differs with variations in exposure, reception and acceptance (McGuire 1985; Zaller 1996; McGraw and Hubbard 1996). The first, exposure, can involve simply physical proximity to a message and is a necessary but not sufficient condition for persuasion. The second, reception, requires some measure of attention be paid to the message, some form of recognition or processing whereby the recipient “gets” the message. Reception varies with both the complexity of the message and the cognitive ability of the recipient. In practice, exposure and reception are often operationalized together using a combination of factual political knowledge tests, self-reported levels of political interest, and levels of formal education (Neuman, Just and Crigler 1992, Zaller 1996, Graber 2001). Finally, persuasion cannot happen without the message being accepted as legitimate and credible (acceptance is also sometimes referred to as “yielding”).

Understanding media effects in the modern context requires understanding how media choice affects individual behavior within the exposure, reception, and acceptance framework. The expansion of choice allows individuals more choice over the information they are exposed to, and by extension the information they receive. At the same time, as demonstrated in the previous

chapter, selective exposure to political information is shaped by cognitive information processing biases that increase the perceived credibility of sources providing confirmatory information, while encouraging dissonant information, and the sources providing it, to be dismissed as the product of incompetence or malice.

In short, the presence of biased news sources diminishes the chances that people will either be exposed to or will accept as legitimate dissonant information. The modern media environment is thus likely to polarize attitudes and beliefs among regular news consumers, with polarization extending to factual perceptions of the political world.

In Chapter Three I investigate how partisan news coverage affects public perceptions of the political world. To do this, I examine partisan bias in cable news coverage of President Obama's 2009 health care reform legislation, exploring how news audiences' perceptions of the legislation reflected the biases of their primary news source, and how these perceptions shaped the public debate over reform.

I use an innovative and intuitive approach to measure partisan bias in cable news coverage by comparing the language of health care coverage with the language used by members of Congress as they debated health care reform in the House of Representatives. I then utilize propensity score matching techniques to create analytically comparable groups from within the news audience, followed by parametric estimation to determine the extent to which partisan coverage was reflected in audiences' adopting elite partisan frames as their own.

I find significant partisan variation in cable news coverage of the 2009 healthcare debate, more specifically I find that partisan language in the cable news landscape is more polarized than in Congress. In turn, this polarization is reflected in significant and partisan-consistent variation in perceptions about the content and consequences of reform across news audiences. News

consumers following the debate on Fox News received quite different information about the likely content and consequences of reform than did consumers tuning into MSNBC, who received very different information than did consumers opting to view CNN. These differences in turn had a marked effect on how accurately the public understood the healthcare reform debate. Fox News viewers were significantly more likely to hold factual misperceptions about the content and consequences of proposed healthcare reform legislation. In turn, MSNBC viewers had the most accurate understanding, while the accuracy of CNN viewers' understanding fell somewhere between the two.

3.3 The Media Environment and Political Participation

Information costs are an important factor affecting the decision to participate in the political process (Aldrich 1993; Downs 1957; Riker and Ordeshook 1968; Matsusaka 1995; Delli Carpini and Keeter 1996; Wolfinger and Rosenstone 1980; Verba, Schlozman, and Brady 1995; Henderson and Chatfield 2011). At the same time, the media environment is an important determinant in the cost of information (Prior 2007; Luskin 1990; Delli Carpini and Keeter 1996).

Technological advances in media offer unprecedented access to news and information, and a growing body of research examines the effects of media expansion on the quantity of information available to society (e.g. Tichenor et al. 1970; Gentzkow 2006; George and Waldfogel 2006; 2008; Prior 2005; 2007). The rise of explicitly partisan news and information in the mass media context represents a fundamental change in the information environment, one that goes beyond questions of “how much?” and instead invites the question of “what kind?”. What effect does biased information have on political participation?

In Chapter Two, I showed that individuals perceive biased information as more informative. In Chapter Four, I argue that this perception is correct. I articulate a theory of news

bias as a cognitive subsidy; one that lowers information costs, thereby catalyzing political participation.

The news production process involves gathering and sorting information; unavoidably, in this process some issues and perspectives will be prioritized over others. And where the dominant news paradigm of objectivity leaves to individual citizens the task of translating information about current events into politically relevant considerations, biased news coverage pre-processes information for easy comprehension. Decision-relevant information is highlighted and presented to make the implications of current events clear, and how viewers' should update their beliefs about the motivations and/or competence of political actors' in response. In this sense, compared to information from an objective source, the cost of forming or updating political beliefs using information from a biased source is subsidized because it comes pre-packaged for easy acceptance.

It is historically difficult to identify media effects under any circumstances. This task is made even more challenging by the high-choice nature of today's media environment and the selection problems arising as a result. The news audience today is self-selected, and news choice may be driven by a variety of potential factors. In addition, many of the factors driving news choice are themselves affected by news choice, making causal relationships difficult to untangle.

To circumvent problems of endogenous selection, in Chapters Four and Five I take advantage of the natural experiment created by the introduction of the Fox News Channel into U.S. media markets. Fox News' coverage is significantly to the right of its cable competitors, making its introduction into local media environments both a unique source of biased political information, and a unique source of leverage for identifying its causal effects on participation.

In Chapter Four I estimate the aggregate individual effect of introducing the Fox News Channel into U.S. media markets during the 2002 U.S. congressional elections, finding a positive effect of access to Fox News on political participation rates. Estimating the effect of access, rather than exposure, is analogous to intent to treat (ITT) analysis in controlled experiments.⁴ In the real world, the impact of news is not limited solely to its effect on those directly exposed, but includes various ripple effects as information is spread through social networks. Adopting an ITT approach thus provides a pragmatic estimate of the total effect of changing the media environment. Results are robust to multiple sensitivity analyses, including an approach developed by Altonji, Elder, and Taber (2005) for generating an estimate of potential bias in observational studies due to endogenous selection and propensity score matching techniques to pre-process the data followed by re-estimation using the subsample of matched observations (Hoxby et al. 2007).

While there is value in understanding the total effect of changing the media environment, understanding the effects of exposure is also important. In Chapter Five, I adopt an instrumental variable (IV) approach to estimate of the direct effect of exposure to the Fox News Channel on participation rates during the 2004 presidential election.

An IV approach bypasses problems of endogenous selection by using a two-stage process. In the first stage, the endogenous regressor is estimated as a linear function of some exogenous instrumental variable related to it, but which is unrelated to other preexisting causes of the dependent variable. Conceptually, predicted values from this first-stage regression are then substituted for the endogenous regressor in the second stage.⁵ In this case, the introduction of

⁴ In clinical trials, randomization between control and treatment groups can be undone if the decision of individuals to follow through with the study is systematic. ITT analyses mitigate this by relying on initial treatment intent, rather than on treatment administered (see Lachin 2000).

⁵ In practice, both stages are estimated simultaneously.

Fox News into local media markets was governed largely by institutional constraints related to the cable industry, and unrelated to other factors affecting either news choice or participation. So while the decision to watch may be endogenous, variation in cable availability creates exogenous variation in who is able to watch. Results indicate that exposure to Fox News had a significant positive effect on political participation.

4 Conclusion

Research examining how individuals process information from the news is unavoidably guided by the media context of the time. When people have limited choice in news, certain questions seem irrelevant. However the media environment has changed, and previously abandoned questions are more relevant than ever.

The expansion of choice in media gives people access to an expanding array of information sources. Crucially, content across them varies along a number of dimensions. This is important because the literature examining how people evaluate information from new sources is underdeveloped, as is our understanding of the question of how different content affects people's engagement with the political process.

This dissertation brings a new perspective to the literature on media effects, expanding the theoretical discussion to explicitly incorporate the rise and popularity of biased news providers. At the same time, the empirical analyses presented here introduce new or underutilized methodological approaches to the media effects literature, bringing new leverage to bear on identifying the causal effects of news bias and highlighting their surprisingly double-edged nature.

In the modern era, denunciations of media bias are a staple of the political discourse (e.g. Brock 2004; Goldberg 2001). Implicit in these accusations is the assumption that biased news is

somehow harmful, a perversion of the natural and correct role of the press in a democracy. However, as outlined above, beliefs about the press' democratic function have evolved considerably over time, and normative denunciations of the current partisan press may be overstated. They are certainly premature.

Scholars have historically decried the morsalizing approach many citizens take to politics (Lane 1962; Converse 1964), with some of the blame placed on news providers (Iyengar 1991). Biased news by definition involves putting events in context. That is, events may not be put into the same context across biased providers, but across all they are put into some context. This relieves the citizen of the cognitive task of connecting the dots between events and their decision-relevant political implications. As a result, bias combats political apathy by subsidizing the costs of attending to and participating in the political process; and participation is good.

Compounding this surprising benefit, evidence suggests that the participatory benefits of biased news do not vary with political sophistication. This is particularly important from a normative perspective because it runs is contrary to the established "knowledge-gap hypothesis", which states that increasing the flow of information into society widens rather than narrows political knowledge differences across socioeconomic strata (Tichenor et al. 1970). Because the introduction of a partisan news source increases participation across the spectrum of political sophistication, the availability of biased news sources has the potential to diminish existing inequities in who participates. However, as news avoiders continue to substitute entertainment for news media, the participatory benefits availability from the cognitive subsidy that biased news offers may become concentrated within the regular news audience.

At the same time, there are reasons to be concerned about the rise of biased news. Typically political participation is treated as an unequivocal normative good. But what about

participation motivated by misinformation or selective knowledge? This dissertation cannot answer this question; in some sense it further muddies the waters. The empirical results presented highlight both a positive effect of biased news, increased participation, but they also demonstrate that bias can create systematic misperceptions about the issues at stake.

What cannot be disputed is that bias matters. It matters for how citizens learn about politics. It matters for what citizens believe about politics. It matters for how citizens participate in politics.

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Chapter Two: Motivating Partisan News Choice

The recent rise of politically biased news providers on cable TV and the Internet represents a significant shift in the media environment, one with important unexplored consequences. Evidence points to partisan segmentation in the contemporary news market but, while assumptions abound, the mechanism causing consumers to sort along party lines is unclear. In this chapter, I develop a framework for news choice based on perceived credibility and report a test of its central mechanism using a nationally representative survey experiment that uniquely identifies the effect of message content on perceptions of news bias and source credibility. I find support for a congenial media effect, where information consistent with existing beliefs is seen as more credible and less biased. I contend that political segregation of news audiences can be best understood as the product of cognitive biases in how people process the news and individuals' desire for credible information.

Recognizing the vital mediating role of the news media in a functioning democracy, an innovative line of research has sought to understand how individuals process information presented in the news (e.g. Dalton et al. 1998; Graber 1984; 1988; Lazarsfeld et al. 1952; Zaller 1992). Research along this vein has shown how preexisting attitudes distort perceptions of bias (e.g. Vallone et al. 1985; Giner-Sorolla and Chaiken 1994; Gunther 1992; Gunther et al. 2001) and how news outlets' reputations precede them, providing cues about the political slant of coverage and the credibility of information reported (e.g. Turner 2007; Baum and Gussin 2008; Arceneaux et al. 2012). The main conclusion from this work is straightforward: changing either

the message recipient or source matters and can lead to very different conclusions about the bias and credibility of identical content.

In the context of understanding choice among biased news providers however, content across sources is not identical. And while news outlets have reputations that serve as heuristics in a fragmented marketplace, reputations do not spring fully formed into the public consciousness. At some point, individuals must be exposed to information from a new source and evaluate its content, forming at least tentative conclusions about the credibility of information presented and the likely political agenda of the source. Understanding this process is important because once formed, reputations act as interpretative filters for additional information from the source (e.g. Baum and Gussin 2008; Kuklinski and Hurley 1994; Turner 2007). Reputations are not fixed and may be updated over time, but ultimately they are born of an initial evaluation.

The study presented here inverts the dominant meme by exploring how message content affects perceptions of news bias and credibility. In doing so, I explore the interaction between message content, consumer attitudes, and the mediating effects of both for persuasive communications and political learning from the news.

The remainder of this chapter is organized as follows. First, I present the theoretical framework of news choice motivating the empirical analysis, outlining several testable hypotheses. I argue that perceptions of news bias and credibility depend upon: a) the extent to which the news content is slanted to favor a particular political party, b) whether the slant of coverage matches the individual's political orientation, and c) how politically invested and attentive the individual is. To investigate these variables I conducted an experiment in which participants were exposed to news coverage in the form of a transcript presented as being from "a national cable news program". News content was manipulated to create three conditions

mimicking the cable news landscape, with pro-Republican, pro-Democratic, and balanced versions. I subsequently investigate treatment effects on participants' perceptions of the information in the news story and impressions of the political agenda guiding coverage.

A Theoretical Framework of News Choice

Consider a simplified world in which multiple news sources offer competing political biases. An individual with strong political beliefs who enjoys regularly consuming political news must choose from among them some preferred source or combination of sources. In this simplified world, let us assume a single dimension along which both she and news providers position themselves (for example a Democratic-Republican spectrum of political partisanship). This presents three general choice combinations. She can choose a source whose bias 1) generally supports her own position, 2) generally opposes her own position, or 3) generally adopts some neutral position between the two.

This scenario is not so far-fetched in today's fragmented media environment; an emerging body of scholarly work details the availability and popularity of politically biased news coverage (Groseclose and Milyo 2005; Groeling and Baum 2007; Larcinese et al. 2011). Mounting evidence of partisan segmentation within news audiences (Stroud 2007; 2008; Iyengar and Hahn 2007; Iyengar et al. 2008) indicates people increasingly are adopting the first strategy, a phenomena dubbed 'political selective exposure'. While individuals' tendency towards selective exposure to political information is not a new discovery (e.g. Berelson et al. 1957; Klapper 1960; Lazarsfeld et al. 1944) the extent to which the modern media environment facilitates it is historically unprecedented. The rise and popularity of partisan news sources in an era of mass media fundamentally alters the connection between citizens and politics, with significant yet mostly unexplored consequences. However, to fully understand the consequences

of news choice we have to be able to do more than simply predict it. We must first examine the underlying mechanism that motivates it.

In spite of observable partisan sorting within the news audience, a sizable majority of Americans (76%) report a preference for news sources without a particular political point of view⁶. Among the most politically attentive both the expressed desire for unbiased news (82%) and the observed tendency to engage in political selective exposure are greater (Brannon et al. 2007; Knobloch-Westerwick and Meng 2009; Stroud 2008). Of course, it is likely expectations about civic responsibility and social desirability together bias survey reports about news preferences. Still, all things equal, people given the option should prefer news that is both credible and unbiased (Tsfati and Cappella 2003).

In a recent study using a series of open-ended questions to investigate the qualities people consider when evaluating news media, the most frequently mentioned considerations were “news accuracy”, mentioned by 41%, and “bias”, mentioned by 22% (Ladd 2012). As well, both popular and professional standards of journalism emphasize objectivity, the importance of distinguishing fact from opinion, and fairly representing opposing sides (Schudson 2001; Patterson and Donsbach 1996). In short, that overwhelming majorities of the public recognize unbiased news as somehow ‘right’ suggests beliefs about objectivity should play a role in news choice, leading people towards more neutral news sources, provided those sources are also viewed as credible.

This expectation is unmet in the cable news market however, where the most middle of the road network, CNN, continues to lose market share to its more explicitly partisan competitors MSNBC and The Fox News Channel (Groseclose and Milyo 2005; Pew Research 2012). This presents an interesting puzzle, that people may sincerely prefer objective news in the abstract, yet

⁶ Pew Research Center Biennial Media Consumption Survey 2008.

choose to consume biased news in practice. In the next section, I develop a mechanism of news choice to reconcile this seeming contradiction, based on the uncontroversial assumption that individuals prefer credible information. I argue that cognitive biases in information processing can perversely lead people with a sincere desire for objectivity to instead consume biased news coverage.

The Role of Perceived Bias and Credibility

While expanding media choice has dramatically increased the information available to the public, cognitive limits on information processing capacity necessitate some strategic selectivity (Smith et al. 2008). The strategy chosen depends on the motivation of the individual.

For those uninterested in politics, the increasing availability of entertainment alternatives to news offers the option of avoiding news about politics altogether (Baum and Kernell 1999; Prior 2005; 2007). On the other hand, for those motivated to do so, the deep reservoir and easy accessibility of political information from diverse perspectives affords the opportunity to expose oneself to as much political news from as many or as few perspectives as desired. Understanding news choice means focusing on the motivations of these political junkies, the dedicated news audience.

By definition, the dedicated news audience is made up of people who are interested in and attentive to politics. Nonetheless, the volume of political information publically available vastly outstrips the cognitive and temporal resources of even the most dedicated news savant, making some form of selective exposure unavoidable.

The assumption that partisans will view biased news coverage as more credible, provided the bias reflects rather than contradicts the viewers' beliefs, is central to theoretical models of media bias (e.g. Mullainathan and Shleifer 2002; Gentzkow and Shapiro 2006; Bernhardt et al.

2008); however, to my knowledge this assumption has not been tested empirically. In addition, this assumption rests on the corollary assumption that people accurately perceive bias in coverage, a claim that cannot withstand empirical scrutiny.

Individuals are biased information processors in general (see Eagly and Chaiken 1993 for an excellent review of this expansive literature). Perceived bias in news coverage is often a product of one's own attitudes (Vallone et al. 1985; Giner-Sorolla and Chaiken 1994; Gunther 1988).

The existence of a “hostile media effect”, the tendency for partisans to view objectively neutral news coverage as biased against their position, is well established (Vallone et al. 1985; Giner-Sorolla and Chaiken 1994; Gunther et al. 2001) with the phenomena more pronounced among intense partisans (Gunther 1988; Gunther 1992) and political conservatives (Eveland and Shah 2003).

The hostile media effect has its roots in social judgment theory, which suggests that individuals' use their own beliefs as reference points for processing new information (Giner-Sorolla and Chaiken 1994; Sherif and Hovland 1961). Issue statements closer to the message recipient's own position fall within the “latitude of acceptance” while those further away fall into the “latitude of rejection” (Sherif and Hovland 1961). The social judgment framework posits the existence of two cognitive processing biases: contrast and assimilation. Contrast effects occur when issue statements falling within the latitude of rejection are perceived as being further from one's own position than may be the case. Thus, hostile media perceptions can be framed in terms of contrast effects, where objective information is mistakenly viewed as being actively against the recipient position (Giner-sorolla and Chaiken 1994).

In most hostile media studies, effects are often implicitly assumed to be symmetrical. That is, the bulk of these studies consist of partisans on opposing sides of an issue viewing ostensibly objective reporting on that issue as biased against their position (but see Gunther et al. 2001). In Vallone and colleague's (1985) seminal study, both Israeli and Palestinian students viewed the same coverage as biased against their respective positions, a finding later replicated (Giner-sorolla and Chaiken 1994; Perloff 1989). Similarly, while social judgment theory offers a general framework applicable across issue domains, with both contrast and assimilation biases moderated by belief intensity (Hovland et al. 1957), it does not provide for specific instances where the direction of belief may be as or more important than intensity of belief.

When it comes to political beliefs, differences in information processing between ideological liberals and conservatives may trump those between weak and strong ideologues. Given the increasing correlation between ideology and partisanship in the modern U.S. context (Abramowitz and Saunders 1998), this raises the question of whether we should expect Republicans and Democrats to respond to biased news in the same manner.

There are two reasons to expect Republicans to respond more strongly to dissonant news coverage, the first having to do with elite opinion leadership, the second with cognitive style. Since the 1970's Republican elites have made a deliberate strategy out of criticizing the media for its supposed liberal biases (Domke et al. 1999; Watts et al. 1999). While evidence supporting this claim is mixed at best (see D'Alessio and Allen 2000; Gentzkow and Shapiro 2006) the unrelenting consistency with which this charge has been levied has led to increased media skepticism among rank-and-file Republicans (Eveland and Shah 2003).

In addition to heightened media cynicism engendered by party elites, there is a growing body of evidence suggesting that cognitive style and motivational needs precede and covary with

political orientation (e.g. Jost et al. 2003a; Jost et al. 2003b; Jost et al. 2007; Jost 2009). In the uncertainty-threat model of conservatism developed by Jost et al. (2003a; 2003b), political ideology is associated with psychological needs to manage uncertainty and threat. They argue political conservatism consists of two central components, opposition to equality and resistance to change, which together reduce uncertainty and threat. Consistent with expectations they found, “intolerance of ambiguity and stronger personal needs for order, structure, and closure were all positively associated with conservatism (or negatively associated with liberalism). Integrative complexity, openness to new experiences, and tolerance for uncertainty were all positively associated with liberalism (or negatively associated with conservatism)” (Jost 2009, pg 134). Complementing these behavioral studies, evidence from the emerging field of political neuroscience points to differences between liberals and conservatives at the level of neurological and physiological functioning (e.g. Amodio et al. 2007; Jost and Amodio 2012; Oxley et al. 2008).

In the US context, these results are consistent with empirical studies showing Republicans, given the choice, exhibit a stronger preference for politically congenial news coverage than Democrats (Iyengar et al. 2008; Knobloch-Westerwick and Meng 2009). Similarly, conservatives are more likely than liberals to maintain ideologically homogeneous discussion networks (Mutz and Martin 2001) and are more heavily influenced by conversations within them (Eveland and Shah 2003).

In short, decades of elite opinion leadership demonizing the ‘liberal news media’ should generate a stronger negative response among Republicans asked to evaluate news coverage, indicating greater news skepticism in general. Conversely, cognitive antecedents to partisanship

may induce Republicans to respond more intensely to both neutral and biased news, resulting from stronger need to avoid ambiguity and maintain attitude consistency.

Drawing together the above review, I propose a *congenial media effect* as a corollary to the established hostile media effect, where perceptions of bias are minimized and biased information supporting a message recipients' own position is mistakenly perceived as objective. I suggest this effect will be intensified among strong partisans and Republican Party identifiers. This perspective offers an answer to the puzzle of how the same public stating a theoretical preference for objective news reporting can, in practice, systematically sort itself into biased news audiences.

A recent study conducted by Arceneaux and colleagues' touches on this in an experiment varying both message and source (Arceneaux et al. 2012). Consistent with the framework presented here, they find pro-attitudinal shows are seen as "more fair, friendly, good, and cooperative" as well as "more balanced, even-handed and more American." However, as the authors acknowledge, because the media content they present consists of actual programming segments hosted by well-known cable news personalities (e.g. Bill O'Reilly and Chris Matthews) they cannot distinguish the effects of source cue from the effects of message content. By exploring how message content independently affects perceptions of bias, this study isolates the interaction between message content and consumer attitudes.

In sum, I argue news choices are driven by individual's desire for credible information, distorted perceptions of news bias, and the conflation of credibility with objectivity. From this, I test the following primary hypotheses:

(H1) Congenial Media Effect: News coverage presenting information supporting recipients' positions will be perceived as objective.

(H2) Credible Media Effect: News coverage presenting information supporting recipients' positions will be perceived as more credible than either more balanced or actively hostile coverage.

And the following ancillary hypotheses:

(H3) Party Identification: Both congenial and credible media responses will be greater for Republicans than for Democrats.

(H4) Party Strength: Both congenial and credible media responses will be greater among those heavily invested in politics than among those not heavily invested.

(H5) News Junkies: Both congenial and credible media responses will be greater among heavy news consumers than among less active news consumers.

Experimental Examination of Message Effects

I test my theory through an online survey experiment designed to explore cognitive responses to slanted news coverage. The survey was conducted by Knowledge Networks in 2011, on a sample of 731 randomly selected U.S. residents⁷. Knowledge Networks maintains a large panel, selected through Random Digit Dialing, with free Internet connections in exchange for completing surveys. Participants for this study constitute a randomly selected subset of the KN panel designed to be representative of the U.S. adult population⁸. This research is concerned with partisan responses to biased news, limiting the sample used in the following analyses to 701 individuals who aligned themselves clearly with either the Democratic or Republican Party.

The survey included a set of questions about political interest, attitudes towards the news media, and the frequency and preferred medium of news consumption. Additionally, the protocol asked respondents to read a news transcript presented as being from “a national cable news show.” Respondents were randomly presented with one of three transcripts compiled from actual news reports and interviews, each providing a competing political perspectives on the two-year

⁷ I am grateful to Time-sharing Experiments for the Social Sciences (TESS) for funding this study under National Science Foundation grant (SES-0818839).

⁸ Household completion rate for this study was 65.5%. For a comparison of the representativeness of KN data versus an RDD telephone survey see Chang and Krosnick (2009).

extension of the Bush tax-cuts recently voted on by Congress (pro-Democratic, pro-Republican and balanced). Participants were then asked a series of questions about perceived bias in coverage and the credibility of information presented. Demographic statistics for respondents across treatment conditions are provided in Table 1.

[Table 1 about here]

For this study, I define biased news coverage through selective omission of relevant information. In the context of partisan bias in news, a partisan news source presents information about events in a way designed to bolster the agenda of their preferred political party, while denigrating the opposition. To create competing bias across treatment conditions I compiled news transcripts from actual news reporting and edited them so that differing levels of scrutiny were applied to factual claims made by either a Democratic or Republican member of Congress. These claims were made in the wake of President Obama's December 6, 2010 announcement that a deal had been reached with Congressional Republicans to extend both unemployment benefits and the Bush tax-cuts.

The basic format of the transcript across all conditions was identical. Video clips were described for two members of Congress, Senators Dan Coats (R) of Indiana and Sherrod Brown (D) of Ohio respectively, responding to the announced compromise. In their response, both Senators make factual claims: Sen. Coats states that a majority of Americans supported the extension of all the Bush tax-cuts, Sen. Brown declares the cost of the agreed upon tax-cut extension to be \$700 billion. These claims were chosen because both had been evaluated by Politifact and found to be false.

In the pro-Republican condition the Republican Senator is introduced with a video clip of their statement and then interviewed gently by the host, allowing them to restate and bolster their

claim unchallenged. After the initial interview an additional video clip is presented, this one of the Democratic response. Following this, an analyst is introduced and identified as being from Politifact. Stating the press' responsibility to "keep them honest" the analyst proceeds to debunk the speaking Senator's statement. During the course of her analysis she refers to the Senator's claim as "highly misleading", "inaccurate and deceptive", and "simply not true", before closing with "Politifact.org rates Brown's (Coat's) statement as "completely false". The pro-Democratic condition reverses this pattern, while in the balanced condition the analyst is omitted and both Senators are interviewed following each video clip⁹.

Analysis

There are two key independent variables for all four hypotheses. The first, $\chi_i^{consist}$, is an indicator variable equaling one if message and partisanship align, and zero otherwise. The second, $\chi_i^{dissonant}$, is an indicator variable equaling one if message and partisanship conflict, and zero otherwise. An example of consistency would be a Republican identifier who was in the pro-Republican condition; dissonance would be the same Republican if they were in the pro-Democratic condition. Note that the focus of this analysis is on the cognitive response of political partisans to biased news; because of this, true independents (N=30) were excluded from the analysis. The result of this coding framework is to create a baseline category of partisan identifiers exposed to the balanced condition.

H1 states perceptions of bias will be minimized and biased information supporting recipients' own positions will be perceived as objective. Operationally this implies Democratic Party identifiers will see news coverage as more objective when it delivers a pro-Democratic message, with the inverse holding for Republicans. To test this I define, v_i^{bias} , a post-treatment

⁹ Full text of treatment conditions presented in the Appendix

ordinal scale (0-5) of the degree of bias the respondent perceived in the news program, where zero is unbiased and five is very biased. Note that this definition of bias is non-directional and measures the total extent to which the program deviated from individual i 's relative perception of unbiasedness.

H2 states the perceived credibility of coverage will be greater when the information presented is consistent with the recipient's existing political beliefs. I define credibility as, $v_i^{credibility}$, a post-treatment additive index¹⁰ created from three questions about the news coverage: how much individual i believes the information presented in the program, how much individual i believes information from Politifact.org, and how informative individual i found the program to be.

H3 and H4 suggest interactive effects between party identification and strength of political involvement for both congenial and credible media responses. I test these expectations in a series of interactions with $\chi_i^{consist}$ and $\chi_i^{dissonance}$. First between χ_i^{rep} , a dichotomous indicator for Republican Party identification, and second with χ_i^{strpid} , an indicator coded one if individual i self-reported as either a Strong Democrat or a Strong Republican and zero otherwise.

H5 posits an interactive effect between high levels of news consumption and both congenial and credible media responses. Heavy news consumers are defined as individuals scoring in the upper quartile of an additive index of news use¹¹ created from individuals' responses to a series of questions about the frequency with which they get political information from the following sources: radio, Internet news sources, paper newspapers, television, and

¹⁰ Cronbach's Alpha=0.87, Min=3, Max=30, Mean=15.25, Std. Dev.=5.66

¹¹ Cronbach's Alpha=0.71, Min=0, Max=25, Mean=11.91, Std. Dev.=5.92

magazines.¹² χ_i^{news} is coded as one for individuals in the upper quartile of news use and zero otherwise. Turning first to perceived bias in coverage, Table 2 reports results from the following series of linear regression models:

Baseline:

$$v_i^{bias} = \alpha + \beta_1 \chi_i^{consist} + \beta_2 \chi_i^{dissonant} + \varepsilon_i \quad (1)$$

Partisan Identification:

$$v_i^{bias} = \alpha + \beta_1 \chi_i^{consist} + \beta_2 \chi_i^{dissonant} + \beta_3 \chi_i^{rep} + \beta_4 \chi_i^{consist} \chi_i^{rep} + \beta_5 \chi_i^{dissonant} \chi_i^{rep} + \varepsilon_i \quad (2)$$

Partisan Strength:

$$v_i^{bias} = \alpha + \beta_1 \chi_i^{consist} + \beta_2 \chi_i^{dissonant} + \beta_3 \chi_i^{stpid} + \beta_4 \chi_i^{consist} \chi_i^{stpid} + \beta_5 \chi_i^{dissonant} \chi_i^{stpid} + \varepsilon_i \quad (3)$$

High News Consumption:

$$v_i^{bias} = \alpha + \beta_1 \chi_i^{consist} + \beta_2 \chi_i^{dissonant} + \beta_3 \chi_i^{news} + \beta_4 \chi_i^{consist} \chi_i^{news} + \beta_5 \chi_i^{dissonant} \chi_i^{news} + \varepsilon_i \quad (4)$$

In Table 3 the same models are used to explore perceptions of credibility by substituting $v_i^{credibility}$ as the dependent variable.

[Table 2 about here]

Results

At first glance, the results from the baseline model presented in the first column of Table 2 offer limited support for H1. However, while the coefficient for consistency is not statistically significant, recall that the baseline comparison group is partisans exposed to the balanced condition. Substantively then, the null coefficient indicates a lack of significant difference between the magnitude of perceived bias for partisan exposed to the balanced condition and those exposed to congenial bias. In other words, partisans who received supportive news

¹² News consumption from each source was measured from 0-5, where zero means the individual never gets political information from that source and five that they receive information daily.

coverage saw the same amount of bias as did those exposed to balanced coverage.¹³

In contrast, the coefficient for dissonance is significant and positive. Substantively this indicates that partisans saw coverage biased against their position as more biased than the balanced coverage. Taken together, these findings paint a picture consistent with H1, where perceptions of news bias are asymmetrical, with partisans minimizing the extent to which supportive news coverage is biased and exaggerating the bias of oppositional news coverage.

The second model examines the interactive effects of Republican Party identification. The coefficient for dissonance is positive and statistically insignificant, while the corollary interaction term is positive and significant. Substantively this indicates while Republican Party identifiers saw dissonant news coverage as significantly more biased than either balanced or consistent coverage, Democrats saw no significant differences in the magnitude of bias across conditions. While consistent with H2, the extremity of this finding was somewhat unexpected. Looking at the effects of consistency, as in model one, both unadorned and interactive coefficients were statistically insignificant. Substantively, this indicates respondents saw the same amount of bias in supportive as they did in balanced coverage, regardless of party identification.

Model three examines interactive effects between strong partisan attachments and response to news bias. The coefficient for strong partisanship by itself is positive and statistically significant. Consistent with hostile media research, this indicates that strong partisans in the balanced condition viewed it as more biased than weaker partisans (see Gunther 1992). At the same time, the coefficient for dissonance is positive and statistically significant, while its interaction with strong partisanship is not significant. Substantively, this indicates that weak and

¹³ This does not imply that partisans saw no bias in coverage. With the exception of Democrats in the Consistent condition, who saw it as almost exactly neutral, all partisans saw at least some hostile bias in both balanced and consistent conditions.

strong partisans responded similarly to exposure to hostile news bias.

Perhaps the most interesting results are those for both baseline and interactive coefficients for consistency. The base coefficient is positive and moderately significant ($p=0.06$), indicating that weaker partisans accurately recognize supportive news bias as more biased than balanced coverage. Conversely, the interaction with strong partisanship is negative and statistically significant. Substantively this indicates that strong partisans viewed congenial bias as *less* biased than unbiased coverage. Given that the regular news audience is disproportionately made up of more politically interested and involved individuals, this result is of particular importance for understanding news choice and its consequences.

Finally, model four interacts consistency and dissonance with high news consumption. By itself, the coefficient for high news consumption is both positive and statistically significant, indicating that people who follow politics regularly are more likely to view balanced coverage as more biased than those who consume less political news. This result is consistent with that of strong partisanship, and reinforces the conclusion that understanding news choice means recognizing that regular news consumers differ in important respects from the general public (cf. Prior 2007). While the coefficient for dissonance is positive and statistically significant, the interaction is not significant. Consistency likewise is not statistically significant, nor is its interaction.

The results from Table 2 paint a picture where perceptions of news bias are heavily impacted by the direction and strength of political attachments. Republican Party identifiers respond with greater intensity to dissonant bias, while Democratic Party identifiers may fail to recognize biased coverage at all. And while strong partisans may see bias in balanced coverage and balance in biased, individuals with weak partisan attachments are more likely to recognize

bias in coverage, even when the bias supports their political perspective.

[Table 3 about here]

The pattern of coefficients for the baseline credibility model mirrors that for perceived bias, however the substantive interpretation differs in important ways. The negative sign and statistical significance of the coefficient for dissonance indicates that news coverage unfavorable to viewers' beliefs was viewed as less credible than balanced coverage. While this will be discussed in greater detail below, it is important to point out that in this case both biased versions provided more 'accurate' information than did the balanced condition, in the sense that the political fact checking provided was correct at the time. At the same time, consistent information was viewed on average as no more credible than balanced information.

In the partisan identification model, the coefficient for Republican partisanship is negative and statistically significant, indicating a greater skepticism of news coverage in general. However, neither interaction term is significant. Substantively this indicates, that while Republicans viewed the balanced coverage as less credible than Democrats, responses to dissonant and consistent news coverage did not differ across party lines.

Turning to model three and the interaction between partisan strength and bias response. The coefficient for dissonance is negative and statistically significant, however the related interaction term is statistically insignificant. Interestingly, while the main effect of consistency is not significant, the corollary interaction term is positive and statistically significant. The implication is that weaker partisans saw both balanced and congenial coverage as equally credible, while strong partisans saw congenial coverage as more credible. This result echoes the findings in the bias model, where strong partisans saw congenial coverage as the least biased; here they are shown to view it as the most credible as well.

Lastly, model four attempts to shed light on the behavior of the regular news consumers by interacting high news consumption with bias exposure. As in previous models, the coefficient for dissonance remains negative and statistically significant. Its attendant interaction term is not significant, indicating that both heavy and more casual news consumers respond similarly to dissonant coverage. However, while the coefficient for consistency is not statistically significant, its interaction term is both positive and significant. Substantively this indicates that heavy news users view congenial news coverage as more credible than balanced coverage.

In sum, people view coverage presenting information they disagree with as less credible, with Republicans responding more intensely than Democrats. Strong partisans view congenial coverage as most credible, as do the individuals most likely to consume political news.

Discussion

While existing evidence demonstrates the existence of significant political segmentation within the contemporary news market, until now the mechanism behind this fragmentation has been unclear. The findings presented here have important consequences for understanding news choice in an era of unprecedented media alternatives. At the same time, they highlight important normative considerations about the modern democratic function of the press.

In this chapter, I proposed and document empirical support for a mechanism of news choice based on the assumption that people desire unbiased and credible political coverage, but where cognitive biases in information processing cloud their perceptions. As a result, individuals see bias where none exists and objectivity in bias flattering to their worldview. At the same time, for those heavily invested in politics, the credibility of news coverage is determined in part by the extent to which it reflects their preferred political worldview. Perversely, the desire for unbiased and credible news contributes to audiences sorting into biased news sources.

It comes as no surprise that people do not view all news sources as equal. However, because the bulk of recent political selective exposure research has relied either on traditional survey data (e.g. Morris 2007; Stroud 2007; 2008) or used experimental manipulations with source cues (e.g. Iyengar and Hahn 2008; Turner 2007; Arceneaux et al. 2012), until now scholars have been unable say much about the selection process more definitive or empirical than Republicans prefer Fox News because it is conservative and Democrats avoid it for the same reason. By holding source constant and varying content, the experiment presented here solves the problem of endogenous selection, providing new insights into political selective exposure by focusing on the causal mechanisms driving it.

Much of the renewed interest in selective exposure is rooted in normative concerns for democratic theory should individuals choose to avail themselves of the increased opportunity to attend only to congenial news sources. If individuals seek out only news coverage that reinforces their political beliefs, some fear society may become increasingly polarized (Sunstein 2001) and intolerant (Mutz 2002). These fears are all the more justified if, as some evidence suggests, different patterns of news exposure lead people to develop systematically different perceptions of political realities in the world around them (e.g. Kull et al. 2003-4). Having a common understanding of current events and political issues facilitates the compromises necessary for democratic governance.

From this perspective, the results presented here are discouraging. While increasing the availability of information from diverse political viewpoints has the potential to increase citizens' knowledge of opposing viewpoints, this seems increasingly unlikely. Given the overwhelming amount of news content available, much of it unreliable, the savvy news consumer must employ some strategic selectivity. What these results suggest is that even people motivated to explore

alternative political viewpoints may be inexorably drawn towards sources offering biased coverage, if they also prioritize credible information.

The findings presented here are also important for understanding the incentive structure for news providers seeking to maximize market share. Recall that the political fact checking in both biased conditions represented accurate criticisms about claims made by political elites. That individuals view the journalistically vacuous he-said/she-said coverage format as more credible than coverage accurately highlighting political falsehoods creates a dangerous incentive for news providers to shy away from performing their democratic function as political watchdog. That the individuals who disproportionately comprise the bulk of a shrinking news audience view congenial coverage as the most credible further reinforces the incentive for news providers to adopt partisan biases in order to satisfy increasingly niche markets. Evidence for both of these trends is plentiful.¹⁴

Recent research has shown that in the absence of trusted information, partisan predispositions increasingly inform and potentially distort beliefs about political reality (Ladd 2012), the results presented here show the inverse also holds: partisan predispositions play a significant role in what information, and by extension, what information sources are trustworthy. Taken together, these findings paint a potentially troubling picture, where the most politically active are increasingly ensconced in distinct and self-reinforcing knowledge networks, convinced they are privy to the most credible and unbiased information available. In the next chapter, I explore how this situation contributes to systematic public misperceptions over the factual basis of on-going policy debates.

¹⁴ For example, the Pew Center's Project for Excellence in Journalism publishes an annual report on the State of the News Media. These reports document the decline of investigative journalism and the concomitant rise of a more overtly partisan journalistic style, particularly in the cable news market.

Table 1: Balance Across Treatment Conditions

	Condition			P-Value
	Dissonant	Balanced	Consistent	
Republican	0.459 (0.033)	0.455 (0.032)	0.475 (0.032)	0.896
Democrat	0.541 (0.033)	0.512 (0.032)	0.525 (0.032)	0.819
Age	51.60 (1.08)	49.16 (1.067)	49.03 (1.061)	0.166
Education	2.830 (0.066)	2.831 (0.063)	2.714 (0.063)	0.334
Gender	1.489 (0.033)	1.512 (0.032)	1.433 (0.032)	0.201
Income	12.09 (0.290)	12.27 (0.278)	11.82 (0.280)	0.517
N	229	242	238	

Note: Standard errors in parentheses. P-values from between groups differences ANOVA.

Table 2: Partisan Perceptions of News Bias

Models	(1)	(2)	(3)	(4)
	Baseline	Partisan Identification	Partisan Strength	High News Consumption
Dissonance	0.576*** (0.147)	0.289 (0.200)	0.528*** (0.179)	0.555*** (0.180)
Consistency	0.111 (0.146)	0.146 (0.200)	0.314* (0.172)	0.145 (0.177)
Republican	-	0.212 (0.206)	-	-
Strong Partisan	-	-	0.818*** (0.218)	-
High News Consumer	-	-	-	0.562*** (0.212)
Dissonance X Republican	-	0.630** (0.294)	-	-
Consistency X Republican	-	-0.087 (0.291)	-	-
Dissonance X Strong Partisan	-	-	-0.023 (0.305)	-
Consistency X Strong Partisan	-	-	-0.649** (0.311)	-
Dissonance X High News	-	-	-	0.074 (0.305)
Consistency X High News	-	-	-	-0.060 (0.305)
Constant	1.314*** (0.103)	1.220*** (0.141)	1.061*** (0.121)	1.116*** (0.126)
Observations	699	692	699	699
Pseudo R ²	0.024	0.048	0.063	0.052

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 3: Bias and Perceptions of News Credibility

	Baseline	Partisan Identification	Partisan Strength	High News Consumption
Dissonance	-2.419*** (0.518)	-2.146*** (0.705)	-2.319*** (0.638)	-2.547*** (0.637)
Consistency	0.555 (0.511)	-0.005 (0.705)	-0.142 (0.612)	-0.415 (0.625)
Republican	-	-1.410* (0.728)	-	-
Strong Partisan	-	-	-0.515 (0.780)	-
High News Consumer	-	-	-	-0.381 (0.749)
Dissonance X Republican	-	-0.829 (1.038)	-	-
Consistency X Republican	-	1.033 (1.023)	-	-
Dissonance X Strong Partisan	-	-	-0.173 (1.092)	-
Consistency X Strong Partisan	-	-	2.300** (1.108)	-
Dissonance X High News	-	-	-	0.362 (1.081)
Consistency X High News	-	-	-	2.963*** (1.074)
Constant	15.885*** (0.361)	16.625*** (0.500)	16.043*** (0.433)	16.020*** (0.446)
Observations	687	680	687	687
Pseudo R ²	0.051	0.071	0.060	0.067

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

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Appendix

TESS 096- Kelly
December 2011
- Questionnaire -

[CONDITION ONE (PRO-REPUBLICAN)]

December 6, 2010 Monday
7:00 PM EST

Tax Cut Deal

HOST: Good evening everyone. Tonight, dramatic breaking news, a deal brokered by President Obama and the newly empowered Republican congressional leaders -- the key points, a two-year extension of all the Bush tax cuts and an extension of unemployment benefits the White House says will benefit seven million Americans.

The deal is widely seen as a victory for Republicans, who had taken a firm stance in favor of extending the tax cuts for everyone, while President Barack Obama and many congressional Democrats wanted to extend them only for families earning less than \$250,000.

Here in the studio to discuss the compromise is Senior Political Analyst for the non-partisan watchdog organization Politifact.org, Jessica Nichols.

Welcome Jessica, tell us a little bit about this deal.

NICHOLS: This is an important deal for the White House. Extending unemployment benefits for the 1.9 million Americans about to lose them at the end of the year was a top priority for the President and this deal the president has brokered extends unemployment benefits for 13-months.

HOST: Some congressional Democrats may be upset, what about the American people? Where do they stand? Here's Senator Dan Coats, Republican of Indiana, speaking with reporters at a news conference earlier today.

(BEGIN VIDEO CLIP)

SEN. DAN COATS (R), INDIANA: "The American people spoke pretty loudly during the election and I think that my colleagues across the aisle finally decided to listen. The American people want to stop all the looming tax hikes and to cut spending."

(END VIDEO CLIP)

HOST: With more, Republican Senator Dan Coats joins us live. Good evening, sir.

SEN. DAN COATS (R), INDIANA: Good evening.

HOST: Based on the tentative agreement, is this something you could vote for?

COATS: We'll see. The details are still emerging and evolving. And I always like to read these things before I vote on them. But the important thing here, I think, from our standpoint is that people across this country are now going to have certainty. Families, small businesses that are making decisions are not going to be stuck with higher taxes come January 1. And that's the thing that we were trying to avoid and something that we desperately need to avoid if we want to get the economy growing again.

As I said, the American people spoke pretty loudly during the election, they want to stop all the looming tax hikes and to cut spending. It's good that my colleagues across the aisle finally decided to listen.

HOST: You know, I thought the president looked quite somber and maybe even angry when he made the announcement.

COATS: I think this is going to be a hard sell for him in his caucus. And he's going to have to go up and sell this to members of the House of Representatives, who really believe that these tax cuts should expire. But the votes aren't there, and I think he is acknowledging that.

But in the end, the important thing is you have certainty for families, small business owners. Even with regard to estates, I think there's a death tax provision there that for two years, lowers the top rate on estates to 35 percent and allows for a \$5 million exemption, which is something that we've been advocating for, for a long time.

HOST: Thank you senator.

Up next, Democrats aren't happy about this deal. Can the president sell the deal to his supporters? Here's Senator Sherrod Brown, Democrat of Ohio, up for reelection next cycle, at a news conference earlier today.

(BEGIN VIDEO CLIP)

SEN. SHERROD BROWN (D), OHIO: I'm very unhappy about it, you're right, in essence, it takes 700 billion -- borrows \$700 billion from China, puts it on our children and grandchildren's credit cards and gives it to the wealthiest 2 percent taxpayers. People say Washington doesn't listen enough.

(END VIDEO CLIP)

HOST: Pretty strong words, to say what the president of the United States just agreed to would blow a seven billion -- \$700 billion hole in the budget to give extra tax cuts to the wealthiest two percent. Jessica?

NICHOLS: Well, first of all we in the press have a responsibility to sort of -- as we say, keep them honest, and what the Senator from Ohio said is highly misleading.

The problem with using that \$700 billion figure now, which is the estimated cost of extending the tax cuts for an additional 10-years, is that the Obama-GOP deal, and the resulting tax package that Congress could approve this week, calls for extending the tax breaks for only two more years. A 10-year extension is not on the table.

Plus, that \$700 billion figure for ten years includes a whole lot of people who are neither millionaires nor billionaires. The figure, in fact, includes all single filers earning more than \$200,000 a year and joint filers earning more than \$250,000. To call a two-earner couple making \$251,000 "millionaires and billionaires" is inaccurate and deceptive.

HOST: Do we know the real cost of the tax cut deal yet?

NICHOLS: The best estimate of the cost of extending these tax cuts comes from Joint Committee projections released on Dec. 10, a day after Brown spoke on CNN. They show the cost of retaining both the 33 percent tax bracket and the 35 percent bracket for two more years would come to \$60.7 billion. Of course, this also covers a lot more people than millionaires and billionaires.

In short, Brown's claim that the cost of extending the Bush tax-cuts will cost \$700 billion is simply not true; Politifact.org rates Brown's statement as "completely false".

HOST: Thank you Jessica.
END

[CONDITION 2 (PRO-DEMOCRATIC)]

December 6, 2010 Monday
7:00 PM EST

Tax Cut Deal

HOST: Good evening everyone. Tonight, dramatic breaking news, a deal brokered by President Obama and the newly empowered Republican congressional leaders -- the key points, a two-year extension of all the Bush tax cuts and an extension of unemployment benefits the White House says will benefit seven million Americans.

The deal is widely seen as a victory for Republicans, who had taken a firm stance in favor of extending the tax cuts for everyone, while President Barack Obama and many congressional Democrats wanted to extend them only for families earning less than \$250,000.

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Welcome Jessica, tell us a little bit about this deal.

NICHOLS: This is an important deal for the White House. Extending unemployment benefits for the 1.9 million Americans about to lose them at the end of the year was a top priority for the President and this deal the president has brokered extends unemployment benefits for 13-months.

HOST: We'll look at some specifics about what this deal means in a moment, but first Democrats unhappy about this deal. Can the president sell the deal to his supporters? Here's Senator Sherrod Brown, Democrat of Ohio, up for reelection next cycle, at a news conference earlier today.

(BEGIN VIDEO CLIP)

SEN. SHERROD BROWN (D), OHIO: I'm very unhappy about it, you're right, in essence, it takes 700 billion -- borrows \$700 billion from China, puts it on our children and grandchildren's credit cards and gives it to the wealthiest 2 percent taxpayers. People say Washington doesn't listen enough.

(END VIDEO CLIP)

HOST: With more, Democrat senator Sherrod Brown joins us live. Good evening, sir.

SEN. SHERROD BROWN (D) OHIO: Good evening.

HOST: Senator, you said on Saturday when you were voting on a plan to just have the middle class tax cuts stay in play. This is what you said after Senate Republicans voted in lock step against tax cuts for all Americans. "They would prefer to blow a \$700 billion hole in the budget to give extra tax cuts to the wealthiest two percent. At a time of record deficits, they propose borrowing another \$700 billion from China and passing along the tab to our grandchildren."

Could I now fairly, in your view, read that statement back to you and say the concession that Republicans extracted from the president of the United States would blow a \$700 billion hole in the budget to give extra tax cuts to the wealthiest two percent, sir?

SEN. SHERROD BROWN (D), OHIO: You could.

HOST: Will you vote for it?

BROWN: I need to look at it. I'm very unhappy about it. You're right, in essence takes 700 billion -- borrows \$700 billion from China. Charges it -- puts it on our children and grandchildren's credit cards and gives it to the wealthiest two percent taxpayers. I mean you know people say Washington doesn't listen enough. It's clear what the public was saying is keep

the tax cuts going for the middle class, maintain unemployment benefits for families that lost their unemployment benefits last week. The Republicans continue to filibuster that.

I'm not at all happy with this. I want to see all the details before I make any kind of commitment. It's only been -- I watched the president on TV 20 minutes ago. I already had some briefing about it prior to that of course, but this is a real concern. It doesn't do the right thing long-term for our country.

HOST: Thank you senator.

Next, congressional Democrats may be upset, but what about the American people? Where do they stand? Here's Senator Dan Coats, Republican of Indiana, speaking with reporters at a news conference earlier today.

(BEGIN VIDEO CLIP)

SEN. DAN COATS (R), INDIANA: "The American people spoke pretty loudly during the election and I think that my colleagues across the aisle finally decided to listen. The American people want to stop all the looming tax hikes and to cut spending."

(END VIDEO CLIP)

HOST: Pretty clear where he stands, but is it really that cut and dry? How does the public feel about extending the Bush-era tax cuts? Jessica?

NICHOLS: Well first of all, we in the press have a responsibility to sort of -- as we say, keep them honest, and what the Senator from Indiana said with regards to the Bush-tax cuts is highly misleading.

The truth is that public opinion is considerably more mixed than Sen. Coats is presenting it. The percentage of people who favor extending the tax cuts for every income level -- which is how Mr. Coats framed his comment -- ranges from 23 percent to 40 percent. Quite a bit short of a majority.

Instead, the highest level of support for any specific course of action was actually the Obama position -- extending tax cuts for those below \$250,000 and not for those above that line. Across different polls between 40 percent and 50 percent of the public supported this position.

In short, Coats' claim that the American people support extending all of the Bush tax-cuts is simply not true; Politifact.org rates Coats' statement as "completely false".

HOST: Thank you Jessica.

END

[CONDITION 3 (BALANCED)]**December 6, 2010 Monday****7:00 PM EST****Tax Cut Deal**

HOST: Good evening everyone. Tonight, dramatic breaking news, a deal brokered by President Obama and the newly empowered Republican congressional leaders -- the key points, a two-year extension of all the Bush tax cuts and an extension of unemployment benefits the White House says will benefit seven million Americans.

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HOST: We'll look at some specifics about what this deal means in a moment, but first here to talk more about the compromise, Republican Senator Dan Coats joins us live. Good evening, sir.

SEN. DAN COATS (R), INDIANA: Good evening.

HOST: Based on the tentative agreement, is this something you could vote for?

COATS: We'll see. The details are still emerging and evolving. And I always like to read these things before I vote on them. But the important thing here, I think, from our standpoint is that people across this country are now going to have certainty. Families, small businesses that are making decisions are not going to be stuck with higher taxes come January 1. And that's the thing that we were trying to avoid and something that we desperately need to avoid if we want to get the economy growing again.

The American people spoke pretty loudly during the election and I think that my colleagues across the aisle finally decided to listen. The American people want to stop all the looming tax hikes and to cut spending.

HOST: You know, I thought the president looked quite somber and maybe even angry when he made the announcement.

COATS: I think this is going to be a hard sell for him in his caucus. And he's going to have to go up and sell this to members of the House of Representatives, who really believe that these tax cuts should expire. But the votes aren't there, and I think he is acknowledging that.

But in the end, the important thing is you have certainty for families, small business owners. Even with regard to estates, I think there's a death tax provision there that for two years, lowers the top rate on estates to 35 percent and allows for a \$5 million exemption, which is something that we've been advocating for, for a long time.

HOST: Thank you senator.

Up next, can the president sell the deal to his supporters? Some congressional Democrats are upset with the compromise. Here's Senator Sherrod Brown, Democrat of Ohio, up for reelection next cycle. Good evening, sir.

SEN. SHERROD BROWN (D) OHIO: Good evening.

HOST: Senator, you said on Saturday when you were voting on a plan to just have the middle class tax cuts stay in play. This is what you said after Senate Republicans voted in lock step against tax cuts for all Americans. "They would prefer to blow a \$700 billion hole in the budget to give extra tax cuts to the wealthiest two percent. At a time of record deficits, they propose borrowing another \$700 billion from China and passing along the tab to our grandchildren."

Could I now fairly, in your view, read that statement back to you and say the concession Republicans extracted from the president of the United States would blow a \$700 billion hole in the budget to give extra tax cuts to the wealthiest two percent, sir?

SEN. SHERROD BROWN (D), OHIO: You could.

HOST: Will you vote for it?

BROWN: I need to look at it. I'm very unhappy about it. You're right, in essence takes 700 billion -- borrows \$700 billion from China. Charges it -- puts it on our children and grandchildren's credit cards and gives it to the wealthiest two percent taxpayers. I mean you know people say Washington doesn't listen enough. It's clear what the public was saying is keep the tax cuts going for the middle class, maintain unemployment benefits for families that lost their unemployment benefits last week. The Republicans continue to filibuster that.

I'm not at all happy with this. I want to see all the details before I make any kind of commitment. It's only been -- I watched the president on TV 20 minutes ago. I already had some briefing about it prior to that of course, but this is a real concern. It doesn't do the right thing long-term for our country.

HOST: Thank you senator.

END

Chapter Three: News Choice and Misperceptions

In the modern high-choice media environment, the availability of news with a partisan slant is changing how and what the public learns about politics. Given a news menu featuring an array of political biases in coverage (Groseclose and Milyo 2005; Gentzkow and Shapiro 2006) partisans are increasingly opting for news with a partisan orientation matching their own, a phenomena dubbed political selective exposure (Stroud 2007; 2008; Iyengar and Hahn 2007; Iyengar et al. 2008).

Emerging evidence suggests that news choice, and particularly the decision to consume partisan news, can distort viewers' perceptions about the factual nature of political events (Kull et al. 2003; Morris 2007; Groeling and Baum 2009; Meyers and Hayes 2010). While intuitive, these claims are difficult to support empirically as a result of selection biases introduced by consumers' decisions to segregate into distinct, partisan, and ideological news audiences. The problem arises out of incomparability between news audiences. For example, a given news audience having distinct beliefs about the content of a proposed public policy could arise as (1) a result of shared exposure to unique coverage of the policy, or (2) as a reflection of common information-processing among likeminded ideologues (e.g. Berelson 1952; Berelson, Lazarsfeld, and McPhee 1954; Campbell et al. 1980; Bartels 2002; Redlawsk 2002; Lau and Redlawsk 2006; Taber and Lodge 2006; Achen and Bartels 2006). That is, divergent beliefs can result either through exposure to different information, or to selective interpretation of identical information.

A large literature has explored how existing attitudes affect the manner in which new information is processed. The most relevant of these cognitive studies have roots in

psychological theories of cognitive dissonance and balance (Festinger 1957; Heider 1958; Eagly and Chaiken 1993). The basic insight from this perspective is that people do not like changing their minds. Having made a decision, individuals develop affective attachments to their choice (Festinger 1957). The motivation to avoid cognitive dissonance leads people to apply a higher level of scrutiny to information disconfirming existing beliefs (Kunda 1990; Lodge and Taber 2000; Redlawsk 2002; Taber and Lodge 2006) and makes them more likely to remember supportive than disconfirmatory information (Lodge and Hamill 1986).

In short, a fully cognitive explanation for differences in beliefs across news audiences boils down to the argument that selective interpretation arising from the partisan composition of news audiences would lead to differences in beliefs about the state of the world even if they were formed on the basis of identical information (Lord et al. 1979). Thus, partisan bias in coverage is only tangentially responsible, in the sense that it acts to coalesce likeminded partisans into distinct news audiences.

For this explanation to completely account for differences in beliefs about the state of the political world across news audiences would require partisan biases in coverage to be either (1) inconsequential or (2) non-existent. I argue that the first of these is implausible. The role of information in evaluating proposed policies and making political decisions is well established (e.g. Gilens 2001; Lupia 1994; Lupia and McCubbins 1998).

The existence of partisan biases in news coverage is less clear. While popular opinion about the biases of cable news channels is fairly clear, empirical studies supporting them are still relatively rare. Those that do exist are typically structured in a way making it difficult to support claims about the effects of bias on specific beliefs (but see Goeling and Baum 2009 as an exception). For example, in an influential study Groseclose and Milyo (2005) compare think tank

citations of members of congress and news organizations. While a number of criticisms have been leveled against this study¹⁵, from the perspective of identifying potential effects on attitudes stemming from biases in coverage about a specific issue, it is limited by the fact that it combines news outlets' coverage and congressional citing of think tanks across *all issues*. The assumption underlying this approach is that bias is consistent within a given news source. However, it may be that a news source is only biased in their coverage of abortion, or with respect to the Iraq War. Given the partisan composition of news audiences, claims that biased news coverage distorts public perceptions of an issue must be supported by empirical evidence of bias in coverage of that issue.

To explore how issue specific partisan bias in news coverage affects political beliefs, I apply a novel approach to measuring partisan bias in cable news coverage of President Obama's 2009 health care reform legislation and explore how news audiences' political perceptions of the legislation reflect the biases of their primary news source. The remainder of this chapter proceeds as follows.

Section 1 estimates the extent of partisan bias in news coverage surrounding the health care reform debate across cable news providers by comparing the language of news coverage to that used in speeches made by congressional party leadership on the floor of the U.S. House of Representatives during the November 7, 2009 vote on the Affordable Health Care for America Act. Demonstrating partisan variation in coverage is a necessary condition for arguing that any observed differences across news audiences are attributable, at least in part, to informational effects rather than simply a reflection of biased information-processing by partisans clustered around congenial news sources.

¹⁵ For a summary see http://www.brendan-nyhan.com/blog/2005/12/the_problems_wi.html.

Section 2 presents the empirical strategy guiding the survey-based analyses that follow and outlines the data used. As in the proceeding chapter on political participation, I adopt a counterfactual approach that seeks to simulate as closely as possible an experimental framework using observational data.

Section 3 tests the hypothesis that partisan differences in coverage will be reflected in news audiences' beliefs about the content and consequences of proposed health care reform legislation. The effects of biased information, and partisan news outlets decision to provide it, depend crucially on the extent to which this information is politically relevant and verifiable. Politically relevant information is simply information that influences political decision-making, while verifiable information is that which can be credibly crosschecked for accuracy. On issues where information is unlikely to affect evaluations, news providers are likely to eschew gratuitous bias in favor of the cost-effective news production available through economies of scale and offering homogenous news coverage (Hamilton 2004). At the same time, when biased information is easily exposed as false or incomplete, news providers may face market punishment as consumers seek out more credible news providers.

Clearly information about the content of health care reform would be an important factor in the decision to support or oppose reform, creating an incentive for partisan coverage. However, in the context of the 2009 debate, this incentive should be tempered somewhat by the large amount of information about reform available publically from a variety of sources. Compared to distant affairs like foreign policy or highly technical issues such as energy policy, health care reform is a political issue where personal experiences, such as everyday interactions with the health care system would be expected to inform opinions. With respect to the 2009 debate, the public's ability to independently verify competing claims made by political elites was further

enhanced by extensive coverage across news mediums regarding the measurable effectiveness of the Romney plan in MA. In theory, access to multiple reference points should minimize the effects of relying on any one news source. Despite this, I find beliefs about reform vary systematically and predictably in ways echoing the partisan slant of individuals' primary information source.

Section 4 examines the potential sensitivity of results to selection bias using an approach developed by Altonji, Elder, and Taber (2005) for generating an estimate of potential bias in observational studies due to endogenous selection. Section 5 concludes.

1 Cable News Bias and the Health Care Reform Debate

Generating causal inferences of the impact of particular news sources on the attitudes and beliefs of the people who watch it is difficult outside an experimental framework. To do so using cross-sectional survey data it is necessary to demonstrate first that coverage across news sources varies, that it does so systematically, and in a way reflecting party divisions. I use an intuitive approach to estimate the bias of specific cable news providers, matching the language they use in their coverage of the health care debate against the language used in speeches on the floor of the U.S. House of Representatives during the November 7, 2009 vote on the Affordable Health Care for America Act.

The use of language to estimate bias treats words as data. Underlying this approach is a revealed preference assumption: that actors with political agendas use language strategically, deliberately choosing words and phrases designed to persuade listeners to support their agenda. This assumption seems well founded for several reasons. First, scholars have identified developing and coordinating the message of the party as it is presented through the media as an important function of modern political parties (Blumler and Kavanagh 1999). Second, it is clear

that political elites share this view and believe language plays an important role in message control (Luntz 2005; Lakoff 2004). And finally, they're both right; the language used by the media and their depictions of what is at stake in the political issues of the day can have a powerful influence on the language the public will use and public perceptions of what is at stake in a particular issue (Gamson 1996, Druckman 2004). In short, language matters.

As is often the case, this approach has limitations. In particular, reducing cable news programming to verbal transcripts ignores any bias introduced by variations in visual and audio production values. While it is cliché to say a picture is worth a thousand words, it is important to recognize that images and background music can powerfully influence information processing (Brader 2005; 2006). The substantive impact of ignoring visual and audio bias is less problematic from an analytical standpoint however, given that its most direct effect will be to systematically underestimate the magnitude of bias. That is, assuming that the bias introduced by production values is in the same direction as that inherent to the language used, any measure failing to account for production bias will still correctly estimate the direction of bias. As a silver lining, using a measure erring on the side of underestimation acts as a robustness check on any significant findings.

Increasingly, political scientists are recognizing the utility of treating text-as-data (see Monroe, Colaresi and Quinn 2009; Grimmer and Stewart 2013). Scholars have used this approach to estimate bias among newspapers (Gentzkow and Shapiro 2006), policy positions of party manifestos (Laver and Garry 2000; Laver, Benoit, and Garry 2003), and to predict the ideological positions of senators (Diermeier et al. 2007) and governors (Weinberg 2012). As a measure of media bias, because political parties compete to determine the language of political

debate and because this competition is played out via the mass media, the language used by television news providers provides a valid indicator of their partisan leanings.

I use the program Wordscores (Laver, Benoit, and Garry 2003) to estimate the bias of news providers. Wordscores uses an intuitive and straightforward method to generate a measure of the political orientation of language by estimating “rhetorical ideal points”, using words as data. Using Wordscores has a number of advantages: it is computationally simple, replicable, and particularly well-suited for analyzing texts where the underlying dimension is well represented by a “natural” set of reference texts with well-known positions (Benoit and Laver 2008).

Estimation in Wordscores proceeds in three basic steps: (1) word weighting, (2) word scoring, and (3) text scoring. Word weighting uses the relative frequencies of words in reference texts to calculate the probability of reading a particular reference text, given that one reads a particular word. These conditional probabilities constitute numerical “scores” for each word. Partisan scores for “virgin” texts, those whose partisan affiliation are unknown, are then calculated as the mean of all scored words contained in them (see Laver, Benoit, and Garry 2003; Lowe 2008).

Formally, given a set R of reference texts, each with an assumed *a priori* policy position on dimension d . Let F_{wr} be the relative frequency of word w , as a proportion of the total number of words in reference text r . Wordscores calculates the probability P that we are reading reference text r , given that we are reading word w as:

$$P_{wr} = \frac{F_{wr}}{\sum_r F_{wr}}. \quad (1)$$

Wordscores next generates score S_{wd} for each word w on dimension d as the average of all *a priori* reference text scores A_{rd} , weighted by the probabilities P_{wr} :

$$S_{wd} = \sum_r (P_{wr} \cdot A_{rd}). \quad (2)$$

Once all words in the reference texts have been scored, it is a straightforward calculation to score any virgin text V . Similar to the steps outlined above, this involves first computing F_{vw} , the relative frequency of each word in the virgin text, as a proportion of the total number of words in the virgin text. The score S_{vd} for any virgin text v on dimension d is simply the average score of all the scored words it contains, weighted by their frequencies:

$$S_{vd} = \sum_w (F_{vw} \cdot S_{wd}). \quad (3)$$

The final numerical score represents the expected position of the virgin text along the *a priori* dimension being investigated. The underlying assumption of this approach is that the relative frequencies of word usage in the virgin texts reflect political positioning in the same way as those in the reference texts. Here I use transcripts of speeches made by Democratic and Republican members of Congress as reference texts to estimate the partisan positioning of cable news programs, scoring news transcripts as virgin texts.

Specifically, I use transcripts of speeches made by House members on the floor of the U.S. House of Representatives during the November 7, 2009 vote on the Affordable Health Care for America Act as reference texts: 167 Democrats spoke in favor of passage while 139 Republicans and five Democrats spoke in opposition. Democratic and Republican speeches were joined into separate text files, and analyzed for partisan word usage. Based on the resulting algorithm, the partisanship of news coverage was estimated by treating news transcripts as speeches by members of congress of unknown partisanship. One of the advantages of using Wordscores is that, in addition to estimating the similarity of language between texts, because it treats words as data, it also provides standard errors for those estimates.

News transcripts for primetime programming on CNN, MSNBC, and the Fox News Channel (hereafter “Fox News”) were collected for the week of August 10-14th, 2009 from LexisNexis. All segments not mentioning “health care” or some derivative thereof were excluded from the analysis. This date range was chosen because it covers the week prior to a NBC News Poll on public perceptions of the healthcare reform debate; in the next section this survey forms the basis for analyzing news source effects. News coverage the week prior to the survey represents the most recent, and thus most accessible (Zaller 1996) information respondents’ will have received about the ongoing health care reform debate.

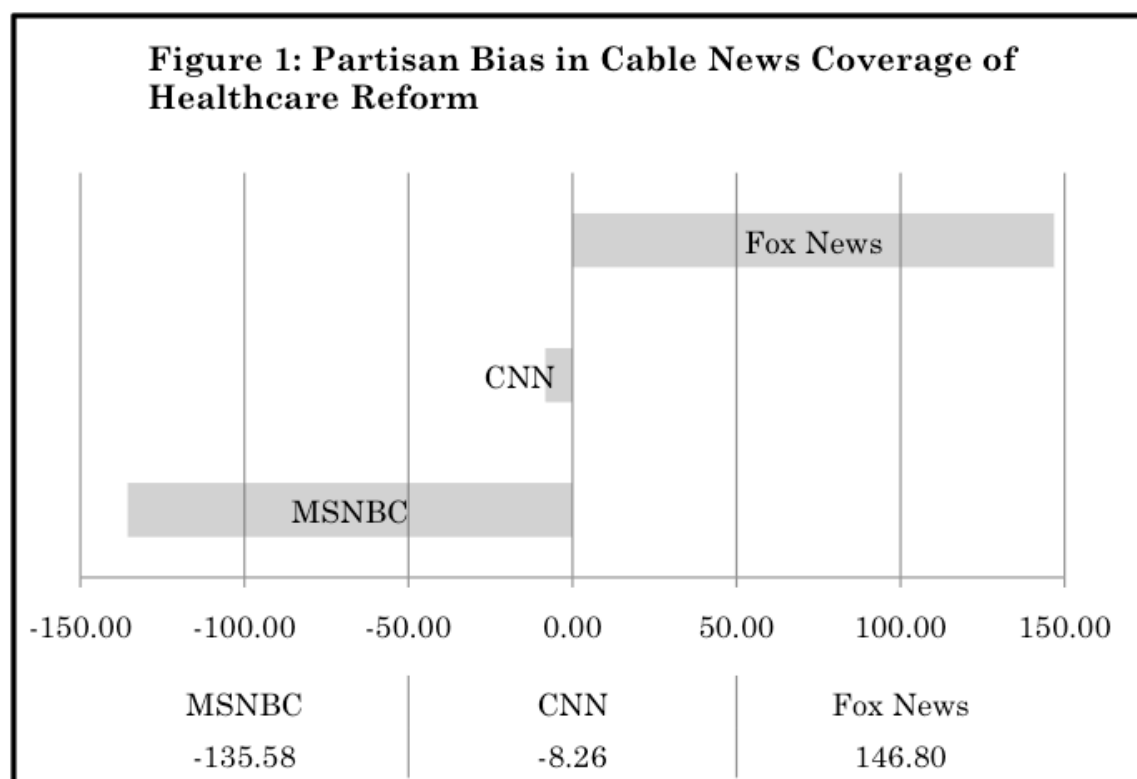
To estimate the partisan bias of coverage across cable outlets, partisan scores must be assigned to the reference texts to orient the words in a political space. I code Democrats’ speech as -100, with Republicans’ coded 100; these numbers serve as arbitrary reference points that Wordscores uses to place news content.¹⁶ In estimating the partisan score for each news outlet then, higher scores indicate the source is using language more similar to congressional Republicans, lower numbers indicate similarity to congressional Democrats.

Figure 1 provides the placements, both absolute and relative, of cable news outlets. Fox News received a partisan score of 146.80 (standard error = 19.63), placing it significantly to the right of its cable competitors. Substantively, this indicates that the language used across Fox News’ primetime coverage of healthcare reform was highly reflective, and indeed more extreme than the language used by the average Republican on the House floor in speeches urging colleagues to vote against reform¹⁷. Note that Wordscores estimation allows for a document to be scored as more extreme than any reference document, provided it is similarly constructed but

¹⁶ This is not unlike the use of extreme legislators to anchor the scale in NOMINATE scores (Poole and Rosenthal 1985).

¹⁷ Rep. Anh Cao of Louisiana was the only Republican House member to vote in favor of the Affordable Health Care for America Act.

contains a higher proportion of extremely scored words than any of the reference documents (see Lowe 2008). Here we see that Fox News is placed to the right of the typical House Republican.



MSNBC received a partisan score of -135.58 (standard error = 13.98), indicating that the language used across its primetime healthcare coverage was to the left of the average House Democrat, nearly all of who supported the bills passage¹⁸. CNN's partisan score of -8.26 (standard error=17.40) places it squarely between the two parties, consistent with both conventional wisdom and existing empirical evidence (see Pew 2009). That Fox News and MSNBC were scored as more extreme than congressional Republicans and Democrats respectively, indicates that these news texts had more purely Republican/Democratic words than Republican/Democratic texts themselves. Put another way, legislators' relatively minimal use of words that could bridge the partisan divide largely get purged by Fox News and MSNBC,

¹⁸ 219 House Democrats voted in favor, 39 voted against.

making their coverage more extreme than the House debate. Polarization of cable news channels is even more severe than on the floor of Congress.

The larger aim of this project is to examine how relying on a news source presenting a partisan perspective affects people's beliefs about political reality. Having provided evidence for the popular wisdom about the political leanings of three prominent cable news outlets, I am now in a position to investigate their effects. In the next section I examine the connection between reliance on partisan news sources and specific perceptions about the healthcare reform debate.

2 Empirical Strategy and Data

The empirical strategy guiding the analysis presented here is rooted in a counter-factual framework, and adopts both the language and logic of randomized experimental research.

In its essence a counterfactual approach to causal inference is about comparing alternate realities. In one reality, x happens to y , in another reality x does not happen. The difference in y between the two is the causal effect of x . The “fundamental problem of causal inference” (Holland 1986) is that, for each individual, we can observe only one of these potential outcomes, because each individual at a particular point in time can receive either treatment or control, not both. The key assumption of the counterfactual framework is that, while we observe only one outcome, individuals have potential outcomes in both observed and hypothetical states. Causal estimates thus rely on group comparisons.

In randomized controlled experiments researchers control treatment assignment. The process of randomization ensures that, in expectation, treatment and control groups are comparable with respect to all variables save treatment assignment. With observational data, researchers do not control the assignment process; instead, individuals determine their “treatment” status themselves. Given this, making assumptions about the comparability of conceptually

‘treated’ and ‘control’ groups is problematic in general. In the specific context of consumer choice among news alternatives, assumptions about the comparability of news audiences are particularly tenuous.

The incomparability of treatment and control groups raises both statistical and substantive problems. Statistically, absent sufficient overlap among between covariate distributions, regression estimates rely heavily on extrapolation, with predictably poor results (see Dehejia and Wahba 1999; 2002). Substantively, the utility of estimating treatment effects for a group unlikely to experience treatment in the real world is limited¹⁹.

To minimize the degree to which selection biases distort estimates I first model the news selection process, and use these results to inform a statistical matching procedure creating nested subsets of individuals’ with comparable likelihoods of exposure; I then utilize parametric regression modeling to estimate the effects of news source.

Data for the analyses that follow come from a NBC News Poll conducted in August of 2009, three months before the House would pass the “Affordable Health Care for America Act”. The NBC poll is one of the few surveys in which respondents were asked about specific perceptions relating to the content of President Obama’s proposed healthcare reform, whether they supported this reform, and their primary source of news about the healthcare debate.

2.1 News Selection

News choice is not random. This research is concerned with the informational effects of news source and the effects of reliance on a biased news source. Within the counterfactual framework, biased news choice represents the treatment of causal interest. However, hypothesizing informational effects of bias depends crucially on the direction of bias. In the

¹⁹ There are, of course, exceptions to this. For examples, researchers may investigate the potential effects of proposed policy reforms, which may be specifically designed to target particular groups.

Wordscores analysis presented above I show that, compared to CNN's relatively balanced coverage of the healthcare reform debate, Fox News and MSNBC presented opposing partisan biases. To maximize analytical leverage, I treat each as an independent opportunity to examine the relationship between partisan news and political perspectives. That is, rather than comparing beliefs about healthcare reform by comparing the audiences of Fox News and MSNBC directly, I separately test each against comparable groups drawn from CNN's audience, who received more balanced coverage.

To inform the matching process, I first estimate news choice. As in regression models, the effectiveness of matching lies in the identification and inclusion of relevant variables potentially related to both treatment status and the outcome of interest.

Recent research in political selective exposure shows that news choice is increasingly driven by political attitudes, and particularly by party identification (Stroud 2007; 2008; Iyengar and Hahn 2007; Iyengar et al. 2008). Because of this, both partisan identification and political ideology are important potential confounding variables. However, given that the antecedents of these attitudes may be rooted in factors such as socioeconomic status, gender, age, or race, these potential demographic confounds are included as well. Because the political information in this analysis concerns the debate over health care reform, I include several measures specific to this issue: whether the respondent has health insurance, and respondents' subjective perception of the need for reform²⁰. These are strong controls for prior attitudes that might lead to self-selection and thus provide for a conservative test of media effect.

I define news choice as C_i , a categorical variable reflecting individual i 's primary television source of news and information about health care reform, where outcome choices

²⁰ "Do you think the American health care system needs: 1=a complete overhaul, 2=major reform, 3=minor reform, 4=no need for change?"

include Fox News, MSNBC, CNN²¹. The vector of political attitude variables, P_i , is comprised of: partisan identification and political ideology; I_i is the vector of issue specific variables: respondent's health insurance status and perceived need for reform; and D_i , a vector of demographic variables: education, income, age, sex, and race. Table 1 presents results from the following multinomial regression model:

$$C_i = \alpha + P_i + I_i + D_i + \varepsilon_i. \quad (4)$$

Because the baseline outcome is reliance on CNN, coefficients represent comparisons between either the Fox News or MSNBC news audiences respectively and the CNN news audience; significant differences across news audiences are indicated by different subscripts ($p < 0.05$).

Looking first at the political variables, results confirm previous research related to political selective exposure. Examining differences between news providers, the Fox News audience is significantly more Republican and conservative than all other news audiences. In contrast, MSNBC is more liberal than both Fox News and CNN, though not more Democratic than CNN, where the difference is statistically insignificant.

Turning to the issue specific variables: having health insurance is significant and positive for Fox News, and insignificant for MSNBC. Substantively, the Fox News audience is more likely to have health insurance than CNN, but is not different from MSNBC. The Fox News audience is least likely to believe that major reform of health care is necessary, while the MSNBC audience is the most likely to believe major reform is needed.

Demographically, the audience for MSNBC is more educated than all other news providers'; the difference in education between CNN and Fox News is statistically insignificant.

²¹ This research focuses on the television news audience; respondents who reported "none of the above" were excluded from the analysis.

Perhaps surprisingly, with political variables controlled there are no significant differences between audiences in terms of income, age, race, or gender.

[Table 1 about here]

To get a more holistic idea of the comparability of news audiences, Figure 1 plots normalized distributions of the predicted probability of Fox News and MSNBC viewers choosing to watch an alternative news program. That is, for respondents who actually watch Fox News, Figure 1 asks, what is the predicted probability of them instead watching CNN or MSNBC; for respondents who actually watch MSNBC, what is the predicted probability of them instead choosing CNN or Fox News?

[Figure 2 about here]

The first thing to notice from Figure 2 is that the Fox News and MSNBC audiences cannot be meaningfully compared directly to each other. The mean predicted probability of a Fox News viewer choosing MSNBC as their primary news source is effectively zero (mean=0.08, std dev=0.08). For MSNBC viewers, the mean probability of choosing Fox News is also low (mean=0.24, std dev=0.23). The degree to which political orientations are related to news choice is largest reason for this lack of overlap; only 12% of the Fox News audience is even moderately liberal (compared to 29% and 57% of the CNN and MSNBC audiences, respectively), while less than 17% of the MSNBC audience is even moderately conservative (compared to 30% and 70% of the CNN and Fox News audiences, respectively). The impact of partisan identification on news choice follows a similar pattern.

The degree of incomparability across the Fox News and MSNBC audiences violates a key assumption underlying non-experimental studies relying on regression models, that of ignorability, which states first that treatment assignment is conditionally independent of potential

outcomes and, more important in this instance, that across all covariate values there is a positive probability of receiving treatment (Rosenbaum and Rubin 1983; King, Kohane, and Verba 1997).

That Fox News and MSNBC are not comparable is unsurprising in light of existing research in political selective exposure (Morris 2007; Stroud 2008). Indeed, it was this expectation that prompted the decision to conceptualize the audiences of Fox News and MSNBC as separate treatment groups receiving biased information. While the combined political and demographic profiles of the Fox News and MSNBC audiences have little to no overlap, both substantially overlap the CNN audience, making it a viable pool from which to draw parallel control groups for both Fox News and MSNBC.

2.1.i Matching

I define two treatment groups made up of respondents who reported Fox News and MSNBC as their primary television source of information about the health care reform debate as T_{Fox} and T_{MSNBC} respectively. I then draw comparable control groups, C_{Fox} and C_{MSNBC} , from the news audience of CNN using propensity score matching techniques. The goal of matching in this instance is to insure treatment and control groups are as similar as possible in all respects save treatment status. In addition, matching has the added benefit of reducing the sensitivity of results to changes in model specification (Ho et al. 2007).

Ideally, each treated case would be matched to a control case identical across all covariates, a technique known as exact matching, however the data does not support this. Instead, I utilize an alternative approach that matches on a single variable, the propensity score (Rosenbaum and Rubin 1983). The propensity score is defined as the probability that an individual receives treatment, in this case, the probability that an individual chooses Fox News or MSNBC instead of CNN as their primary television new source. I match on propensity scores

generated from binary logit regression models using the same independent variables used to estimate news choice²², with the exception of the coding of partisan identification and ideology.²³ I use nearest-neighbor matching without replacement using PSMATCH2 in Stata 10 (Leuven and Sianesi 2003).

The primary goal of matching is to create treatment and control groups with comparable likelihoods of selecting into treatment. To assess the extent to which the matching process was successful in this, Figure 3 plots the distribution of propensity scores both before and after matching for all treatment/control pairs.

[Figure 3 about here]

The circles in Figure 3 represent estimated propensity scores for unmatched pairwise comparisons between treatment, T_{Fox} and T_{MSNBC} and control groups, C_{Fox} and C_{MSNBC} ; the same data used to create Figure 2²⁴. What we would like to see is propensity scores distributions across treatment and control groups that mirror each other, indicating groups with similar probabilities of selecting treatment.

Looking first at Fox News and CNN. In the unmatched data, while considerable variation exists across both groups, the distributions are skewed at different ends. There are many more CNN than Fox News viewers whose predicted probability of selecting Fox News is below 0.40;

²² Propensity scores generated through pair-wise logistic regressions, as opposed to the multinomial logistic specification used to generate Table 3.

²³ The matching process uses indicator variables for Democratic-Republican partisanship and Liberal-Conservative ideology, rather than ordinal scales. This decision was made for two reasons. First, there is some debate about whether the 7-point partisan scale should be considered ordinal (Weisberg 1980). Second, both strength of partisanship and ideology are themselves potentially affected by exposure to treatment. Including them thus risks masking the effects of treatment (Rosenbaum 1984). However, because strength of political attitudes is also a potentially confounding factor with respect to information processing, ordinal scales for both partisanship and ideology are used in the analysis model using matched data (see Stuart 2010).

²⁴ Note that for the Fox News/CNN pair, the x-axis represents the predicted probability of selecting Fox News; for the MSNBC/CNN pair, the x-axis represents the predicted probability of selecting MSNBC.

conversely, many Fox News viewers are very likely to select Fox News over CNN. This is of course not surprising, and simply provides more empirical evidence to the fact that news audiences are increasingly distinct. The success of the matching procedure can be seen, in part, by the balanced distributions of T_{Fox} and C_{Fox} .

It is also important to point out that balance for both groups was achieved by dropping observations ($N = 166$ and $N = 97$ for Fox News/CNN and MSNBC/CNN respectively), particularly from the extreme ends of the propensity spectrum²⁵. Because of this, care must be made to specify the population group that analytic inferences can be plausibly generalized to. By dropping many of the individuals with highly predictable news choices, treatment and control groups do not represent the cable news audience in its entirety. Instead they represent subsets within the cable news audience comprised of individuals wedded to neither CNN nor either of its more partisan competitors.

Recall also that the CNN audience is diverse enough to accommodate comparable groups for two distinct and opposing partisan audiences to be drawn from it, groups that cannot be meaningfully compared directly. Thus, a control group drawn from CNN for Fox News will necessarily drop many of the individuals who would more naturally be selected as a control group for MSNBC.

3 News Source and Perceptions of Health Care Reform

All political information is not equal. As previewed above, political information is distinguishable along two important dimensions, *relevance* and *verifiability*, both of which condition the opportunity and incentive for partisan news outlets' to produce biased coverage, as well as people's response to biased coverage.

²⁵ While alternative forms of matching, e.g. matching with replacement, would yield larger N s, they would also increase the very statistical extrapolation that matching was implemented to minimize.

I define politically relevant information as information that influences political decision-making. Note that this definition of relevance makes no normative claim about what information *should* influence political decisions. Instead it encompasses all information that *does* influence political decisions. For example, whether the unemployment rate has gone up or down in the past year is only tangentially an indicator of presidential performance, but this knowledge is highly likely to influence presidential evaluations. On the other hand, knowing the name of Great Britain's Prime Minister is likely irrelevant for most decision making. In politics, most political facts are not neutral, and relevant information often advantages one faction over another. This dynamic creates an incentive for news sources promoting a partisan agenda to defend and call attention to certain information, while disputing and ignoring other information.

Information is verifiable if it can credibly be crosschecked for accuracy. Much of what happens in politics is conceptually abstract and geographically distant from the majority of citizens. This suggests, whether because the issue is of a highly technical nature requiring expertise beyond that possessed by the average citizen (e.g. the impact of a "cap and trade" energy policy) or because public access to information is limited (e.g. military progress in Iraq), some claims are easier to publically dispute than others. Thus, a news source with a partisan agenda and concern for its credibility is constrained in their ability to dispute and distort relevant information by the external verifiability of their claims. These two dimensions create the incentive and opportunity structure guiding the following analysis.

3.1 Perceptions of Healthcare Reform

The NBC survey asked respondents for their assessment of the truth surrounding four partisan claims about the result of the proposed reform: (1) that it will give health insurance coverage to illegal immigrants, (2) that it will lead to a government takeover of the health care

system, (3) that it will use taxpayer dollars to pay for women to have abortions, and (4) that it will allow the government to make decisions about when to stop providing medical care to the elderly.

NBC chose to ask about these claims because they all, at one time or another, were the subject of dispute among party elites. Leaders in the Republican and Democratic parties disagreed on the truth of all four of these claims. Although they are not monolithic, the Republican Party frequently argued that (1) reform would give health insurance to illegal immigrants²⁶, (2) reform amounted to government takeover of the health care system²⁷, (3) reform will use taxpayer money to pay for abortions²⁸, and (4) reform legislation would allow the government to make decisions about when to stop providing medical care²⁹. Table 2 presents the public's evaluation of the likelihood of each of these claims being part of the healthcare reform legislation.

Despite widespread public confusion about their veracity, each of these claims was demonstrably false at the time they were made, and each was the subject of repeated refutations by non-partisan political and media fact-check organizations, including Factcheck.org and

²⁶ For example, on July 22, 2009 Republican Representative Steve King of Iowa, issued a press release headlined: "CBO: 5,600,000 Illegal Aliens May Be Covered Under Obamacare." In it King claimed that illegal aliens would be covered "in large part because the liberal proposal does not include any requirements to verify the citizenship or immigration status of those receiving taxpayer-funded health benefits."

²⁷ House Republican Whip Eric Cantor (R-VA) made this claim repeatedly on Fox News, declaring, "This is a gargantuan expansion of government takeover of our health care²⁷ and "will lead us to a single payer health care [and] nationalize our system. "Fox & Friends" November 4, 2009

²⁸ House Minority Leader John Boehner (R-OH) claimed on his blog that "a monthly abortion premium will be charged of all enrollees in the government-run health plan (Boehner 2009)."

²⁹ Republican U.S. Sen. Chuck Grassley responded, "In the House bill, there is counseling for end of life. We should not have a government program which decides when to pull the plug on grandma (Montopoli 2009)." Responding to Democratic claims to the contrary, Sarah Palin wrote in an op-ed for the Wall Street Journal, "The fact remains that the Democrats' proposals would still empower unelected bureaucrats to make decisions affecting life or death health-care matters (Palin 2009)"

Politifact.com.³⁰

Though the numbers in Table are purely descriptive, they are nonetheless informative. Several patterns in particular are note-worthy. First, the Fox News audience is the most likely group to believe each false claim; and while the difference is at times negligible, they are also more likely to hold these false beliefs than Republican identifiers in general³¹.

Secondly, in each instance the MSNBC audience is the most likely to be correct³². It is important to note that this is not evidence that MSNBC provides more informative or more factually correct news coverage than Fox News in general. I assume, and Figure 1 demonstrates empirically, that both Fox News and MSNBC provided news coverage favoring the Republican and Democratic Party positions, respectively. In this instance the claims of the Democratic Party align more closely with observable reality, making partisan and factually accurate news reporting effectively the same. Meanwhile, the CNN audience is for the most part equally likely to hold both correct and incorrect beliefs about the veracity of each claim³³.

Because disputes over these four claims collectively reflect partisan disagreement over the consequences of healthcare reform, I view each claim as a single facet in a larger battle to frame public perceptions of reform. That is, I argue they collectively reflect partisan disagreement over what healthcare reform is and its consequences if enacted, as played out

³⁰ On July 23, 2009, Factcheck.org released a post titled, “Misleading GOP Health Care Claims,” showing conclusive evidence refuting claim (1) (<http://www.factcheck.org/2009/07/misleading-gop-health-care-claims/>). Claim (2) was refuted repeatedly, to the extent that it was given the dubious distinction of being named Politifact’s “Lie of the Year” (<http://www.politifact.com/truth-o-meter/article/2010/dec/16/lie-year-government-takeover-health-care/>). Factcheck.org refuted claims (3) and (4) together in a July 31, 2009 post titled “Surgery for Seniors vs. Abortions?” (<http://factcheck.org/2009/07/surgery-for-seniors-vs-abortions/>).

³¹ The partisan distribution of the Fox News audience is 55.2% Republican, 27.6% Independent, and 17.2% Democratic.

³² The partisan distribution of the MSNBC audience is 13.1% Republican, 16.4% Independent, and 70.5% Democratic.

³³ The partisan distribution of the CNN audience is 13.7% Republican, 26.8% Independent, and 59.4% Democratic.

publically via the mass media.

To measure public perceptions of reform, I create an index, Γ_i , by summing respondents' beliefs about the likelihood individual i placed on each of the four disputed outcomes of reform. For each claim, belief it is highly likely is coded as two, uncertainty is coded one, and highly unlikely is coded zero. The final index runs from zero to eight (Cronbach's Alpha=0.74, mean 4.35, std dev=2.82), where larger numbers indicate agreement with Republican arguments, and smaller numbers agreement with Democratic beliefs (for Republicans mean=5.71, std dev=2.59; Independents mean=4.93, std dev=2.89, and Democrats mean=3.17, std dev=2.42). By capturing collective perceptions, this measure also has the benefit of being consistent with the measure of partisan bias in the media used above, which captured collective partisan language, rather than individual partisan arguments.

Recall that the competing partisan slant in news coverage across Fox News and MSNBC produces competing directional hypotheses. Namely, all other things equal, perceptions of healthcare reform will more closely reflect Republican Party arguments for people relying on Fox News, and more closely reflect Democratic Party arguments for people relying on MSNBC.

To identify individuals relying on partisan news outlets, I define Δ_i^{Fox} and Δ_i^{Msnbc} , as indicator variables equaling one if respondent i watch Fox News or MSNBC respectively, and zero if they watch CNN. Defining Φ_i as the index of political and demographic controls — P_i , I_i and D_i — utilized to model news selection, Table 3 presents results from the following regression models:

$$\Gamma_i = \alpha + \beta_1 \Delta_i^{fox} + \beta_j \Phi_i + \varepsilon_i.. \quad (5)$$

$$\Gamma_i = \alpha + \beta_1 \Delta_i^{msnbc} + \beta_j \Phi_i + \varepsilon_i.. \quad (6)$$

The results from Table 3 support both directional hypotheses. Column one in Table 3 presents results comparing the matched Fox News/CNN treatment/control groups. The coefficient for Fox News is positive and statistically significant. Substantively this is consistent with expectations, indicating that Fox News viewers were more likely than comparable CNN viewers to see healthcare in a manner reflecting claims made by Republican Party elites. The predicted score along index I_i for an insured, ideologically moderate, Republican-leaning, middle-aged white woman of average education and income, seeing a major need for healthcare reform and relying on Fox News for her information is 5.36 (out of eight). An equivalent respondent who watched CNN would have a score of 3.96, a difference of about a question and a half.

[Table 3 about here]

Column two presents results for the matched MSNBC-to-CNN groups. Here the effect size is smaller, but the coefficient is in the correct direction and statistically significant using a one-tailed test (appropriate given the directional nature of the hypothesis), while nearing statistical significance with a two-tailed test ($p=0.14$). Also consistent with expectations, this indicates that MSNBC viewers were more likely than comparable CNN viewers to see healthcare in a way consistent with Democratic framing. The average score for an insured, moderate, Democratic-leaning, middle-aged white woman of average education and income, seeing a major need for healthcare reform and watching MSNBC is 3.73, compared to 3.03 for the same person watching CNN.

Another way of conceptualizing the effect of choosing a biased news source is to consider the number of incorrect beliefs for CNN viewers who could watch either Fox News or MSNBC. The CNN viewer most demographically similar to the typical Fox News viewer held

2.12 incorrect beliefs on average, compared to 2.81 incorrect beliefs for their Fox News counterpart. The CNN viewer most similar to a typical MSNBC viewer held an average of 1.87 incorrect beliefs, compared to 1.34 for their MSNBC doppelganger. Put another way, holding demographic characteristics consistent, Fox News viewership increased the number of incorrect beliefs by 32 percent, while MSNBC viewership decreased the number of incorrect beliefs by 28 percent.

Taken together with the language-based measure of bias in coverage across news channels, the results from Table 3 paint a picture of a fractured and disparate news audience, whose beliefs about the content and consequences of healthcare reform are heavily influenced by the news they consume.

4 Sensitivity Analysis

Despite the success of matching Fox News and MSNBC audiences to comparable control groups drawn from the CNN audience, it is possible that a small amount of unmeasured selection bias is responsible for the source effects presented here. That is, it is possible that unobserved factors related to selecting either Fox News or MSNBC as primary news sources are creating a spurious relationship between news source and healthcare perceptions. To assess the potential sensitivity of results to selection I implement an approach developed by Altonji, Elder, and Tabor (2005) to gauge the potential role of selection bias.

Altonji, Elder, and Tabor's (2005) method enables the calculation of a point estimate and standard error of the bias resulting from selection on unobservables. The intuition behind this approach is to ask how strong the relationship between news choice and unobserved factors related to healthcare perceptions would have to be, relative to the strength of the relationship

between news choice and observable factors related to healthcare perceptions, in order to attribute the entire effect of news choice to selection bias.³⁴

The condition under which their approach is valid is that selection on the observables equal selection on unobservables. More specifically, this implies that the covariance of the treatment and the mean of the distribution of the index of observables are the same as the covariance of the treatment and the mean of the distribution of the index of unobservables.³⁵ Formally, this condition can be written for the Fox News audience as:

$$\frac{\text{cov}(\Lambda_i^{Fox}, \Phi_i)}{\text{var}(\Phi_i)} = \frac{\text{cov}(\Lambda_i^{Fox}, \epsilon_i)}{\text{var}(\epsilon_i)}. \quad (7)$$

Where i indexes individuals, Λ_i^{Fox} represents choosing Fox News over CNN in (5), Φ_i is the index of observable variables — P_i, I_i and D_i — in (5), and ϵ_i is the error term. Apart from $\text{cov}(\Lambda_i^{Fox}, \epsilon_i)$, all of the terms in (7) can be estimated from (5), under the null hypothesis of no Fox News effect (i.e. $\beta_1 = 0$). The final term, $\text{cov}(\Lambda_i^{Fox}, \epsilon_i)$, can thus be identified by combining them together (Elder and Jepsen 2011). Obtaining an estimate of the covariance between Fox News and the index of unobservables permits calculation of an estimate of the bias in the OLS estimate of healthcare perceptions in (5). This estimated bias can then be compared to the OLS estimate to calculate the ratio of selection on unobservables to selection on observables that would be necessary to account for the entire observed effect of exposure to Fox News on

³⁴ This approach is similar to that taken in Rosenbaum and Rubin (1983) and Rosenbaum and Rubin (1985).

³⁵ This condition requires a set of assumptions, namely 1) that the set of observable variables is chosen at random from the full set of variables that determine news choice and healthcare perceptions, and 2) that the number of observed and unobserved variables is large and that none of the elements dominates the distribution of news choice or healthcare perceptions. In this application I estimate separate models using equations (5) and (6), both of which contain a large number of observable characteristics, none of which is determinative of either news choice or healthcare perceptions.

healthcare perceptions. Doing the same for MSNBC requires only substituting (6) for (5). Sensitivity analysis results are presented in Table 4.

Implementing this method gives bias estimates of 0.002 (s.e.=0.251) and -0.606 (s.e.=0.506) for Fox News and MSNBC respectively. That both estimates are statistically insignificant indicates that it is unlikely OLS estimates are appreciably biased, though the opposite signs of the biases – positive for Fox News, negative for MSNBC – indicates that should bias exist in either estimation it would be in the direction of overestimating effects. Note also that in the matched analyses, the ratio of selection on unobservables to selection on observables that would be necessary to eliminate either the entire Fox News or MSNBC effect is at least 1.16, meaning there would need to be some unobservable factors that were at least as strongly related to both news choice and healthcare perceptions as the observable factors in (4). To put that in perspective, two of the most powerful factors related both to biased political information processing and political selective exposure, party identification and political ideology, collectively explain 18.7 percent of the variation in (4).

To give an idea of the danger selection biases pose to studies investigating media effects in a high-choice media environment, I conduct a second sensitivity analysis using unmatched data. The basis of this analysis relies on combining (5) and (6) into a single model using dummy variables for Fox News and MSNBC viewership, leaving CNN as the omitted category.³⁶ In this model both Fox News and MSNBC have strong and statistically significant coefficients, each in the predicted direction. Notice however, that incomparability across audiences results in considerably larger, albeit still insignificant, bias estimates as well, 5.52 (s.e.=0.957) and -3.76 (s.e.=0.691) for Fox News and MSNBC respectively.

³⁶ Full estimation results from this analysis are presented in Table C in the Appendix.

Using unmatched data and dummy variables for news choice, the ratio of selection on unobservables to selection on observables that would be necessary to eliminate either the entire Fox News or MSNBC effect falls to 0.19 and 0.22 respectively. Given the relative paucity of explanatory power in (4), the possibility for seemingly innocuous selection biases to significantly skew results cannot be easily discounted. Results using matched data are considerably less sensitive to unmeasured selection biases than results using unmatched data.

[Table 4 about here]

While no observable study can be entirely free from suspicion of bias due to selection or omitted variables, the sensitivity analysis presented here provides reassurance that the observed news source effects, particularly with respect to Fox News, are not simply spurious correlations. In addition, the comparison of matched and unmatched analyses highlights the dangers of naively estimating media source effects using dummy variables.

5 Conclusion

The primary question this project sought to address is straightforward: does partisan news coverage affect the public's beliefs about politics? I argue that it does. The analyses presented here show significant partisan variation in cable news coverage of the 2009 healthcare debate, reflected in significant and partisan variation in perceptions about the content and consequences of reform across news audiences.

News consumers following the debate on Fox News received different information about the likely content and consequences of reform than did consumers tuning into MSNBC, who in turn received distinct information than did consumers opting for CNN as their primary source. In turn, people's beliefs about the content and consequences of healthcare reflected the partisan slant of coverage from their chosen news source.

In addition to these substantive empirical results, this chapter makes a number of additional contributions as well, including a new measure of partisan bias in the news and one of the first applied sensitivity analyses in media effects studies.

The use of Wordscores represents a new way of measuring media bias, one with a number of practical and conceptual advantages. Namely, it is computationally simple, conceptually intuitive, accurate, highly replicable, and flexible enough to measure bias in coverage of single issues or events, while at the same time general enough to gauge the overall bias of a news source or even the news media overall. Demonstrating empirically the extensive and competing partisan biases in news coverage, in this case cable coverage of the 2009 healthcare reform debate, strengthens the argument that observed statistical correlations between news source and healthcare perceptions have a causal interpretation.

In addition to measuring bias, results from the sensitivity analysis presented here should serve as both a reminder and a warning to media researchers about the potentially biasing selection effects inherent to the modern high-choice media environment. While awareness of the methodological difficulties in media effects studies is not new to media effects research, the “selection on observables” analysis presented here shows empirically just how sensitive results are to selection bias. The results presented here also demonstrate how the thoughtful use of matching techniques to create meaningfully comparable groups within disparate news audiences can be used to mitigate these selection effects.

While the substantive results presented here may be interesting in their own right, the larger framework of news bias presented here can also inform our thinking about what these results mean for political learning from partisan media in general. To explore this, it is important to recall again that all information is not equivalent.

The availability and effectiveness of biased information in the news depends crucially on its relevance and verifiability. Conceptually both relevance and verifiability are appropriately viewed as existing in varying degrees; however, for the sake of exploration and simplicity, Table 5 presents them in a dichotomous high/low framework to illustrate opportunities and incentives for news bias, and its effectiveness in shaping public opinion.

[Table 5 about here]

Consider the top row. In situations where information is irrelevant to political decision-making, news providers have little incentive to bias coverage. Instead they have an incentive to take advantage of economies of scale by offering homogenous news coverage (Hamilton 2004). For example, they may rely more heavily on unedited news wire service reports. In this case, because even news providers with opposing partisan affiliations are presenting identical information, there is little reason to expect differences in political perceptions across news audiences.

In situations where the relevance of information is high on the other hand, a partisan news provider has an incentive to distort coverage of the debate to their party's advantage. However, this incentive can be offset when information is easily verifiable and false information and distortions are likely to be discredited and punished. From the providers' perspective then, the potential benefits of biasing coverage must be balanced against the loss of credibility resulting from news coverage exposed as demonstrably incorrect. In situations where verifiability is low however, biased coverage should be both plentiful and persuasive, resulting in systematically different perceptions of political reality across news audiences. For example, partisan opinions on the Iraq War were extremely polarized across news audiences (Kull et al. 2003), indicating the potential for even greater bias effects in the arena of foreign policy.

In sum, we should not expect biased news sources to be effective or even interested in altering the attitudes of their audience in every instance, even after accounting for differences in viewership. However, this admission is not meant to minimize the influence of partisan news; one of the primary findings of this chapter is just how influential partisan bias can be. Indeed there is reason to believe that the bias effects presented here, with respect to the healthcare debate, are on the lower end of the scale with respect to issues in the political sphere. Given that much of what is significant in politics falls into the category of High Relevance/Low Verifiability, in particular debates over both foreign and national security policy and regarding proposed legislation targeting important social problems. Indeed, elite rhetoric about a proposed policy's consequences can have a substantial influence on public support or opposition, and attitude changes occur largely as a result of altering people's beliefs about the policy's impact (Jerit 2009). In other words, the framework and results presented here suggest the effects of partisan media are strongest where it matters most.

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Table 1: News Selection Pre-Matching

Outcomes	<u>MSNBC</u>	<u>Fox News</u>
Party ID	-0.004 (0.105)	-0.464*** (0.094)
Ideology	0.290* (0.175)	-0.432*** (0.153)
Insured	0.563 (0.498)	1.443*** (0.455)
Reform Needed	-0.443* (0.257)	0.231 (0.198)
Education	0.223** (0.104)	-0.032 (0.087)
Income	-0.083 (0.089)	-0.050 (0.080)
Age	-0.050 (0.051)	-0.019 (0.044)
Black	-0.598 (0.509)	0.232 (0.490)
Sex	-0.112 (0.336)	-0.064 (0.284)
Constant	-0.585 (0.999)	-1.032 (0.912)
Pseudo R ²	0.23	
N	373	373

Entries are multinomial regression coefficients, where CNN represents the baseline outcome. Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 2: Belief claim that healthcare reform will result in the following outcomes:

	All	TV-News Audiences				Party Identification		
		Fox News	CNN	MSNBC	Non-TV news	Reps	Inds	Dems
Illegal Immigrant Coverage								
<i>Likely</i>	55.4%	73.6%	44.9%	32.8%	54.4%	72.4%	59.1%	42.7%
<i>Uncertain</i>	10.7%	6.9%	9.4%	16.4%	12.2%	7.4%	9.7%	13.4%
<i>Unlikely</i>	33.9%	19.5%	45.7%	50.8%	33.3%	20.2%	31.3%	43.9%
Government Takeover of Healthcare								
<i>Likely</i>	52.9%	78.2%	41.3%	31.1%	48.3%	72.4%	60.8%	36.1%
<i>Uncertain</i>	6.9%	3.4%	10.1%	4.9%	7.6%	3.9%	6.3%	9.0%
<i>Unlikely</i>	40.3%	18.4%	48.6%	63.9%	44.0%	23.6%	33.0%	54.8%
Taxpayer funded abortions								
<i>Likely</i>	49.1%	70.1%	42.0%	32.8%	44.0%	60.1%	60.2%	36.1%
<i>Uncertain</i>	11.9%	9.2%	13.0%	14.8%	12.2%	11.8%	9.7%	13.1%
<i>Unlikely</i>	39.0%	20.7%	44.9%	52.5%	43.7%	28.1%	30.1%	50.8%
Healthcare rationing								
<i>Likely</i>	43.1%	74.1%	36.2%	11.5%	35.5%	68.0%	51.7%	22.7%
<i>Uncertain</i>	4.4%	2.9%	5.8%	4.9%	4.6%	2.5%	4.0%	5.9%
<i>Unlikely</i>	52.4%	23.0%	58.0%	83.6%	59.9%	29.6%	44.3%	71.3%
<i>N</i>	700	174	138	61	327	203	176	321

Table 3: Partisan Perceptions of Healthcare Reform

Covariates	<u>Fox News</u>	<u>MSNBC</u>
Fox News	1.393*** (0.441)	- -
MSNBC	- -	-0.701 (0.474)
Party ID	-0.186 (0.144)	0.311 (0.192)
Ideology	-0.320 (0.236)	-0.674** (0.262)
Insured	-0.762 (0.710)	0.080 (0.835)
Reform Needed	0.591** (0.296)	0.217 (0.347)
Education	0.105 (0.150)	-0.110 (0.153)
Income	0.097 (0.122)	0.053 (0.133)
Age	-0.062 (0.068)	-0.170* (0.087)
Black	-0.471 (0.692)	-1.092 (0.666)
Sex	0.520 (0.467)	-0.530 (0.486)
Constant	2.044 (1.288)	5.188*** (1.517)
Pseudo R ²	146	102
N	0.175	0.204

Entries are regression coefficients. Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.10.

Table 4: Summary Table of Results from Analyses of Relationship Between News Choice and Healthcare Perceptions

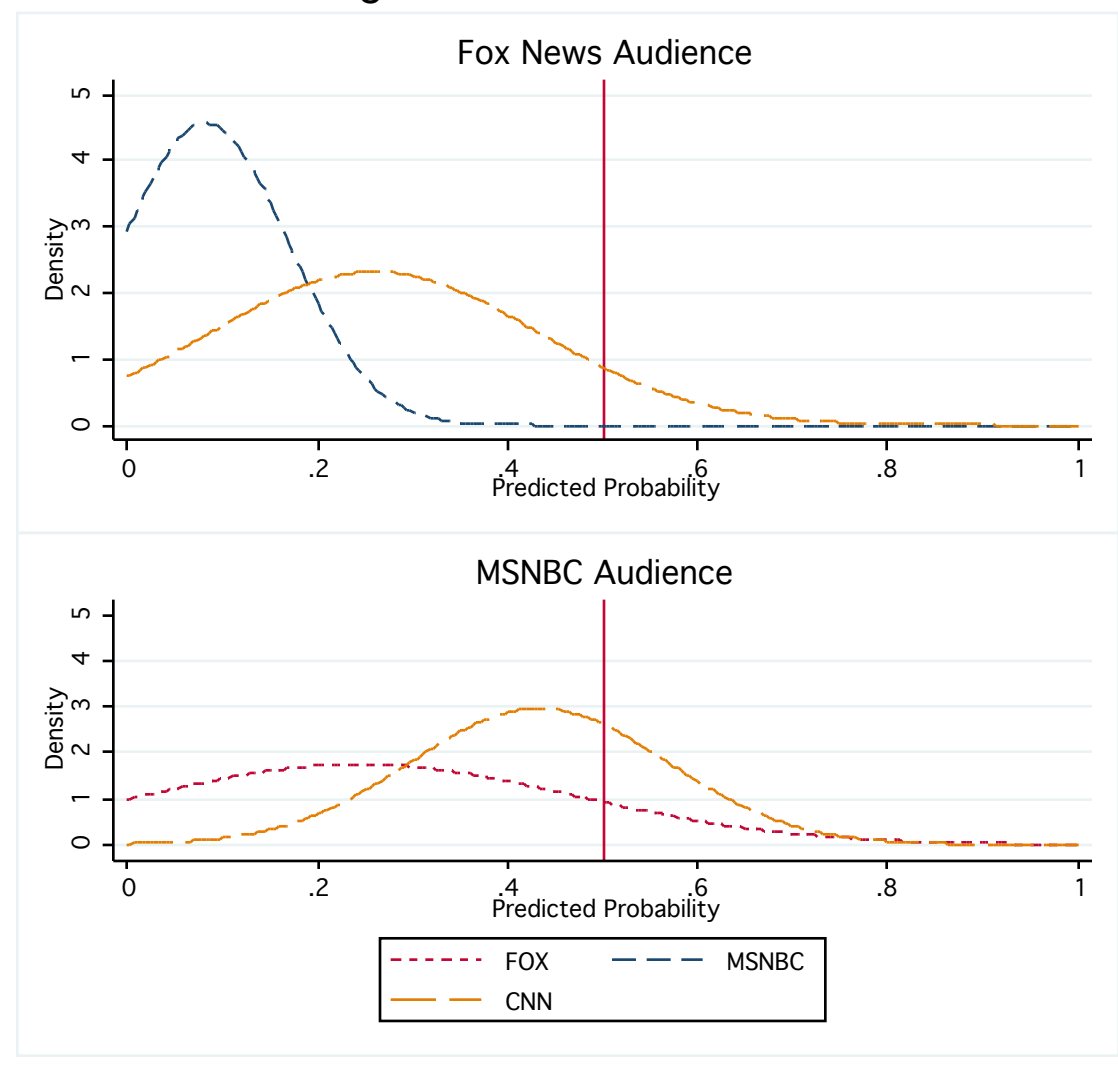
Variable	Coefficient (S.E.)	Coefficient (S.E.)
<i>Matched Samples - CNN Control Group</i>		
Fox News	1.285*** (0.459)	-
MSNBC	-	-0.703 (0.496)
<i>Selection on Observables/Unobservables Analysis - Matched Sample</i>		
Bias Estimate	0.002 (0.449)	-0.606 (0.506)
Ratio of selection on unobservables to selection on observables necessary to eliminate entire effect	642.50 N.A.	1.16 N.A.
<i>Full Sample - Dummies for News Choice</i>		
Fox News	1.464*** (0.354)	-
MSNBC	-	-0.772*** (0.373)
<i>Selection on Observables/Unobservables Analysis - Full Sample</i>		
Bias Estimate	5.52 (0.957)	-3.76 (0.691)
Ratio of selection on unobservables to selection on observables necessary to eliminate entire effect	0.19 N.A.	0.22 N.A.

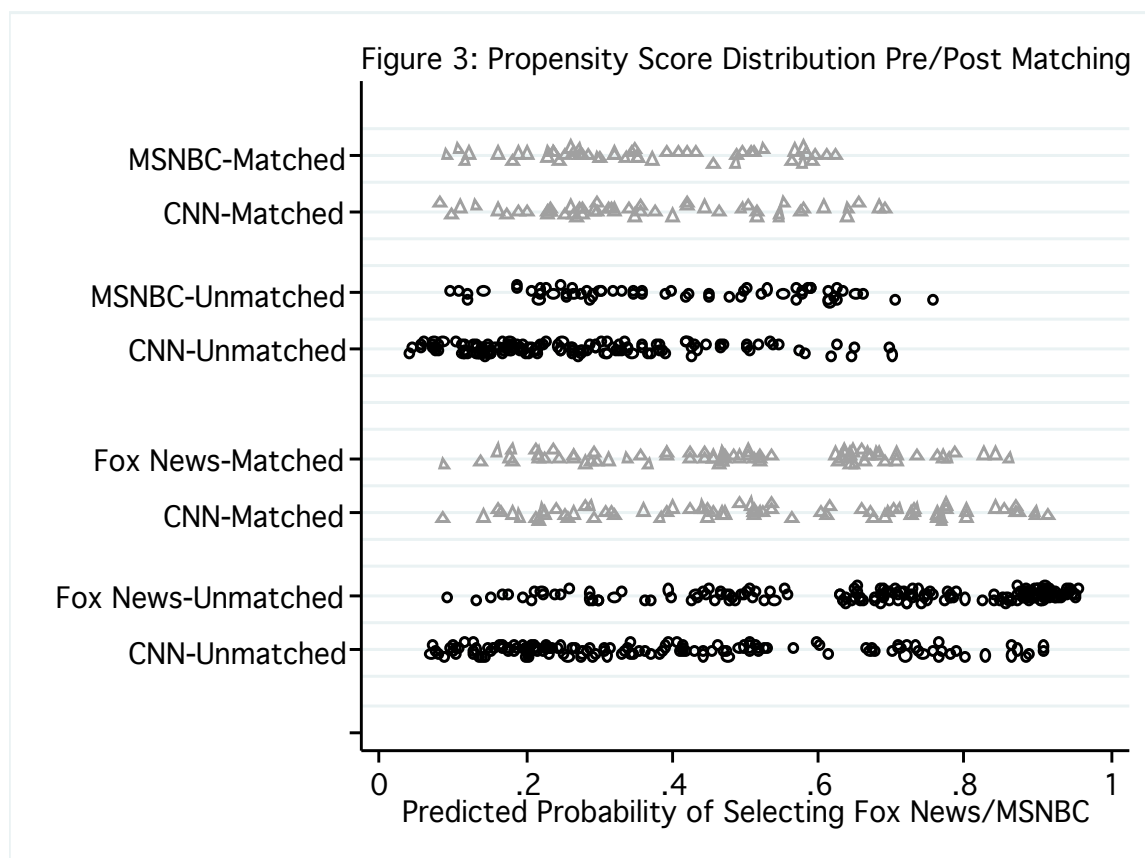
Note: * p<.10; **p<.05; ***p<.01. Full results from analyses using dummy variables of news choice can be found in the Appendix.

Table 5: News Bias - Opportunity and Incentive

		<u>Verifiability</u>	
		Low	High
<u>Relevance</u>	Low	No Bias	No Bias
	High	Persuasive Bias	Ineffective Bias

Figure 2: News Selection





Appendix

Table A: Fox News and CNN Balance After Matching

Variable	Sample	Mean		Std Bias [*]
		Treatment	Control	
Democratic	Unmatched	0.17	0.59	-96
	Matched	0.40	0.42	-6.2
Republican	Unmatched	0.55	0.14	96.5
	Matched	0.19	0.26	-16.0
Liberal	Unmatched	0.07	0.28	-58.3
	Matched	0.15	0.11	11.2
Conservative	Unmatched	0.71	0.30	87.7
	Matched	0.41	0.49	-17.9
Insured	Unmatched	0.92	0.78	40.8
	Matched	0.85	0.86	-3.9
Perceived need for healthcare reform	Unmatched	2.65	2.12	66.3
	Matched	2.19	2.26	-8.5
Age	Unmatched	7.14	6.72	12.2
	Matched	6.67	6.77	-2.9
Education	Unmatched	4.84	4.82	0.8
	Matched	4.62	4.39	12.2
Income	Unmatched	5.38	5.27	5.2
	Matched	5.25	5.06	8.6
Black	Unmatched	0.07	0.20	-39.7
	Matched	0.15	0.16	-4.1
Male	Unmatched	1.51	1.47	8.1
	Matched	1.52	1.48	8.2
N	Unmatched	174	138	
	Matched	73	73	

* Standardized bias is a common measure of assessing covariate balance, calculated as the average difference between treatment and control groups divided by the mean standard deviation of both groups (see Rosenbaum and Rubin 1985; Stuart 2010).

Table B: MSNBC and CNN Balance After Matching

Variable	Sample	Mean		Std Bias*
		Treatment	Control	
Democratic	Unmatched	0.70	0.59	23.2
	Matched	0.67	0.75	-16.5
Republican	Unmatched	0.13	0.14	-1.9
	Matched	0.16	0.10	17.1
Liberal	Unmatched	0.57	0.28	61.2
	Matched	0.49	0.51	-4.1
Conservative	Unmatched	0.18	0.30	-29.1
	Matched	0.22	0.22	0
Insured	Unmatched	0.89	0.78	29.4
	Matched	0.86	0.82	10.5
Perceived need for healthcare reform	Unmatched	1.80	2.12	-41.4
	Matched	1.92	1.84	10.4
Age	Unmatched	6.65	6.72	-2.1
	Matched	6.71	6.22	14.7
Education	Unmatched	5.66	4.82	43.8
	Matched	5.38	5.53	-8
Income	Unmatched	5.54	5.27	12.7
	Matched	5.58	5.45	6.4
Black	Unmatched	0.13	0.20	-19.2
	Matched	0.16	0.18	-5.3
Male	Unmatched	1.49	1.47	4.1
	Matched	1.47	1.49	-3.9
N	Unmatched	61	138	
	Matched	51	51	

* Standardized bias is a common measure of assessing covariate balance, calculated as the average difference between treatment and control groups divided by the mean standard deviation of both groups (see Rosenbaum and Rubin 1985; Stuart 2010).

Table C: Dummy Variable Analysis of Partisan Perceptions of Healthcare Reform

Fox News	1.464***
	(0.354)
MSNBC	-0.772**
	(0.373)
Party ID	-0.128
	(0.088)
Ideology	-0.407***
	(0.145)
Insured	-0.369
	(0.410)
Reform Needed	0.445**
	(0.184)
Education	0.027
	(0.078)
Income	0.125*
	(0.068)
Age	-0.006
	(0.041)
Black	-0.403
	(0.391)
Sex	0.021
	(0.270)
Constant	2.517***
	(0.807)
N	373
R ²	0.329

Entries are regression coefficients. Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Chapter Four: Biased News and Political Participation

Recent technological advances in media offer unprecedented access to news and information. The bulk of research focusing on media expansion has considered its effects with regards to the quantity of information available to society. Optimistically, increasing the availability of political information should enhance democratic representation, lessening socio-economic inequalities in knowledge and participation. Yet empirical studies of media expansion consistently offer little support for this perspective (e.g. Tichenor et al. 1970; Gentzkow 2006; George and Waldfogel 2006; 2008; Prior 2005; 2007).

How can more plentiful information not provide participatory benefits? One reason is that nonpolitical entertainment alternatives have increased along with new information sources. With regards to politics, increasing media choice means that individuals so inclined can learn more, and politically uninterested others can take advantage of the opportunity to learn less (Prior 2007). This helps to explain why studies examining the expansion of news media generally have so far failed to find increased levels of political knowledge or participation (e.g. Gentzkow 2006).

An important distinction exists however, between increasing the availability of political information and increasing its accessibility. Whereas the former is primarily a function of the quantity of information publicly available, the latter concerns its qualitative character. In this chapter I focus on the nature of information available, highlighting the political biases that frequently define new media. What effect does access to biased information have on political participation? To answer this question, I examine how the introduction of the Fox News Channel into American media markets shaped voter participation in the 2002 U.S. congressional elections.

In contrast with previous null findings, I find that access to Fox News increased political participation rates. I argue that this result is driven by news bias functioning as a cognitive subsidy, reducing uncertainty, and thereby lowering the information costs constraining the decision to participate.

This chapter proceeds as follows. Section 2 describes how information affects political participation, the pivotal role of the media environment, and the special case of biased information. Section 3 discusses empirical strategy, explains the focus on Fox News and describes the data used in the empirical work. Section 4 estimates the effect of access to Fox News on political participation and the potential sensitivity of results to selection bias. Section 5 concludes.

1 INFORMATION AND POLITICAL PARTICIPATION

Political participation requires information; at a minimum, information is needed to identify choices and their consequences. *Uncertainty* is defined generally as a lack of surety about present or future events. In politics uncertainty can manifest as ambiguity surrounding candidates' policy stances (e.g. Alvarez 1998; Franklin 1991), personal traits (Glasgow and Alvarez 2000), competence, or more generally with regards to predictions about the likely impact of competing policy proposals (Jerit 2009). In this paper, I focus on a particular type of uncertainty, political choice uncertainty, which surrounds decision-making in the face of political alternatives. In this context, uncertainty can result either from political ignorance and indifference as well as from informed ambivalence. Following Burden (2003), I conceptualize uncertainty as “an amount or a degree rather than as a quality that is merely present or absent (p6).” In most cases, acquiring information can reduce uncertainty, but cannot eliminate it entirely. Few decisions in politics involve complete certainty. Political *information* is data about

current political developments and actors. Crucially, to reduce uncertainty, information need not be correct; as Kuklinski et al. (2000) note, some people have both strong and incorrect beliefs about the political world. Indeed, from the perspective of a citizen observing politics, incorrect and correct information are often indistinguishable.

Political *knowledge* is defined as the range of factual information about politics stored in long-term memory (Delli Carpini and Keeter 1997). More generally, knowledge reflects an understanding of the basic relationships and actors operating in a given context (Downs 1957). Thus political knowledge might include cognizance of the organizational features of government, details about a proposed policy, or awareness of current political actors. Note the important distinction between uncertainty and knowledge. Uncertainty reflects how a person feels; knowledge is something a person has. While knowledge can be measured by the possession of verifiably correct information, measures of uncertainty would include the amount of information individuals believe they have and their level of confidence in decision-making.

From these definitions it is clear that information can reduce uncertainty without increasing knowledge, for example if the information is incorrect. Conversely, information can increase knowledge while failing to reduce uncertainty, for example information in the form of equally salient pros and cons surrounding an issue. Finally, information can increase knowledge and reduce uncertainty, for example one-sided information focused on the negatives effect of a proposed policy. In short, uncertainty is subjective, knowledge is not, and information can affect either or both.³⁷

³⁷ Some may find it useful to think of the relationship between information and knowledge in terms of minimizing mean square error, whereas information is related to uncertainty in terms of minimizing variance. In the former, the correct answer is known, and information is useful because it reduces error, i.e. people with more information are more likely to know the correct answer. In the later, it is irrelevant what is objectively correct. Instead, what is important is whether people think they are correct;

In rational theories of political behavior, the cost of information is an important factor affecting the decision to participate (e.g. Aldrich 1993; Downs 1957; Riker and Ordeshook 1968; Matsusaka 1995). In behavioral political science, information occupies a central, though less explicit, role in political participation research. For example, education is positively associated with participation, a result largely mediated through education's positive effect on individuals' ability to process politically relevant information they encounter (e.g. Delli Carpini and Keeter 1996; Wolfinger and Rosenstone 1980; Verba, Scholzman, and Brady 1995; Henderson and Chatfield 2011).

Political actors desire information to reduce uncertainty. Rational choice theories of behavior depict information as valuable only insofar as it affects outcomes; thus, citizens continue to "invest" in information until marginal cost equals marginal return (Downs 1957). Voters tasked with deciding among candidates often rely on such low-cost heuristics as party identification in lieu of the more costly process of learning and evaluating candidates' issue positions (Campbell et al. 1960; Lupia 1994; Lupia and McCubbins 1998). The increased information costs required for voters to reach a decision are important factors explaining lower turnout rates in nonpartisan elections (Schaffner et al. 2001) and in elections below the presidential level that provide less free information about candidates and issues (Campbell 1960). In short, the cost of information is an important determinant in whether people participate in politics.

This intuition is formally stated in the "calculus of voting", originally developed by Downs (1957) and extended by Riker and Ordeshook (1968) summarizes the "rewards," or R , for voting as: $R = PB - C$. Where P is the probability that one's vote is decisive, B is the difference

information is thus useful because it reduces uncertainty, i.e. people can be wrong, so long as they think they are right. This is certainty.

in utility between candidates, and C is the cost of voting³⁸ (Riker and Ordeshook 1968).

Interpreting the calculus is straightforward; if R is positive, vote; if not, abstain. Holding all else constant, increasing the cost of information increases the cost of political decision-making.

Empirically, the positive relationship between information and participation is well documented (e.g. Lassen 2005; Palfrey and Poole 1987; Delli Carpini and Keeter 1996; Wolfinger and Rosenstone 1980).

The calculus described above applies equally well to participation more generally. Adopting Aldrich's (1993) framing of the scenario, there are costs to participation, and presumably citizens who decide to abstain do not have to pay these costs. These costs include obtaining and processing information. For the voting decision, there are additional direct costs associated with registering and going to the polls (Wolfinger and Rosenstone 1980).

The decision to participate beyond voting entails additional direct costs, and more substantial information costs. Presumably a greater level of certainty about expected benefits is required to decide to incur the higher costs involved with donating money or volunteering one's time than is required for the voting decision, which is a relatively low-cost, low-benefit decision problem. Whether the above calculus applies to voting, attending a rally, displaying a campaign button, or any other means of actively taking part in the political process, information costs play an important role in the decision to participate or abstain.

While rational theories of participation are explicit about the role of information in political participation, observational studies in political science acknowledge its importance as well (e.g. Delli Carpini and Keeter 1996; Verba et al. 1995; Wolfinger and Rosenstone 1980). Normative concerns over the unequal distribution of political knowledge in America are often rooted in its contribution to systematic inequities in who participates in the political system and

³⁸ The D term is omitted for simplicity (c.f. Aldrich 1993).

how effectively (Delli Carpini and Keeter 1996; Eveland and Scheufele 2000; Prior 2007). In socioeconomic status (SES) models of participation, the effects of education are mediated both through the provision of information directly and through the development of skills and motivations leading to effective acquisition of new information (Verba et al. 1995; Wolfinger and Rosenstone 1980). Indeed, the importance of public information, and the role of campaign advertising in providing it, is cited in a rare defense of that frequent campaign villain: the negative ad (Freedman et al. 2004).

In sum, information matters for political participation. In addition to reducing uncertainty and clarifying choices, it demystifies the workings of the political world, increases feelings of efficacy and political interest, and fosters a sense of connectedness to the political process.

2.1 *The Media Environment*

The citizen is an information processor, but information is environmentally supplied, and individual choices are embedded within informational settings that systematically vary in time and space. (Huckfeldt and Sprague 1995, p292).

While existing research points towards a generally positive effect of political knowledge on participation, whether or not people become informed depends crucially on their information environment. In the influential opportunity-motivation-ability (OMA) learning framework, ability and motivation are individual qualities that can affect political knowledge levels, but their impact is conditional on the opportunities people have to access politically relevant information (Luskin 1990; Delli Carpini and Keeter 1996). Even the most motivated and able will remain ignorant of political affairs if no relevant information is available.

More recently, political knowledge research has focused on how technological changes have affected the constellation of media sources people routinely have access to. Altering the media environment alters the sources people turn to for political information, the frequency with

which they consume media, and what they learn about politics from those sources. As the number of entertainment alternatives increases, substitution away from news programming exacerbates social inequities in the distribution of political knowledge (Prior 2005). While an early study found no discernible relationship between the presence or absence of television and voter turnout in Iowa during the 1952 Presidential election (Simon and Stern 1955) a more comprehensive longitudinal study found that expanding access to television between 1940 and 1972 contributed to decreasing voter turnout, a result attributed to people substituting away from more politically informative media (Gentzkow 2006). Today, people with cable television programming are less likely to view prime-time presidential TV appearances (Baum and Kernell 1999), watch televised presidential debates (Baum and Kernell 1999; Hamilton 2005), or news programming in general (Prior 2007).

In focusing on the amount of information available and the costs of obtaining it these studies take an implicitly quantitative view of information. Studies adopting this perspective are often disappointed that increasing the amount of information available to people either fails to increase political knowledge and participation or increases both only among already knowledgeable participants (Prior 2007; Tichenor et al. 1970).

While perhaps disappointing from a normative perspective, this result is not surprising. Though increasing the demand for information creates incentives to increase its supply, increasing the supply of information independent of demand does not imply demand will automatically increase. Simply put, there are a finite number of politically attentive people in society and news media face competition with other interests for people's attention. In addition, a narrow focus on the quantity of media coverage ignores content. Both the volume and character of information are important for understanding how media influence participation.

In sum, expanding the media environment increases the quantity of politically relevant information while simultaneously reducing its consumption among those less motivated to care about politics. When citizens opt out of politically relevant information sources in favor of other forms of entertainment, their incentives for participating are diminished because the loss of information results in increased costs. This study shifts focus away from the sheer quantity of information available and instead highlights qualitative distinctions in the type of information available.

Conceptually distinguishing between the quantity and the quality of information in a media environment depends on the research question. For example, George and Waldfogel (2006) found expanding availability of the *New York Times* decreases local newspaper readership. Consistent with a distraction effect of national media on local affairs, they found that as *Times* penetration increased, turnout in local elections among college-educated individuals decreased (George and Waldfogel 2008).

Qualitatively the *New York Times* differs from local newspapers in terms of its commitment to local versus national political coverage. However, a quantitative distinction could be made as well, either in terms of overall political coverage or in the amount of presidential news coverage specifically. A research program focused on either of these distinctions might well hypothesize a positive effect of *Times* penetration on turnout in general or during presidential elections specifically. Predictions surrounding a given media expansion depend largely on how the researcher conceptualizes its contribution to existing media environments.

2.2 *The Special Case of Biased News*

There is an important distinction between adding entertainment alternatives to a news dominated media environment, and adding biased news to an already crowded media

environment. The first allows people who prefer entertainment to substitute away from news, with a net effect of shrinking the news consuming public (Prior 2007). The second allows people to choose from a menu of political perspectives on the news, and entails primarily a reshuffling of the existing news audience (Morris 2007).

The production of news entails gathering and sorting information; by necessity this process prioritizes certain issues and perspectives at the expense of others. The dominant news paradigm elevates objectivity as the standard (Schudson 2001; Patterson and Donsbach 1996), leaving it up to individual citizens to translate information about current events into politically relevant considerations. Providing biased news coverage involves processing information about the political world in a particular manner, highlighting the decision-relevant aspects of an issue in a way that predisposes consumers to come to certain conclusions about the implications of current events and political actors' motivations or competence. In this sense, compared to information from an objective source, the cost of forming or updating political beliefs using information from a biased source is subsidized. Subsidizing the cost of information lowers the cost of being politically informed.

As a cognitive subsidy, the value of biased information varies across individuals according to their existing political predispositions and cognitive processing abilities. For a variety of reasons, people are more likely to accept biased information if they agree with the perspective it is slanted towards. Information consistent with existing worldviews is easier to process and store (Axelrod 1973; Conover and Feldman 1984; Lodge and Hamill 1986; Zaller 1992). People tend to accept supportive information at face value, while subjecting dissonant information to a more critical evaluation (Lord et al. 1979; Taber and Lodge 2006). Because biased information is easier for some to process, the mobilizing effects of access may be stronger

among partisans whose political beliefs are consistent with the direction of the bias.

Substantively, this effect is likely to be compounded by partisans' tendency to be disproportionately exposed to supportive information, whether unintentionally due to social, economic, or residential context (Lazarsfeld, Berelson, and Gaudet 1952; Sears and Freedman 1967), unconsciously via politically homogenous social networks (Huckfeldt and Sprague 1987), or through direct exposure resulting from motivated search (Stroud 2007; 2008; Iyengar and Hahn 2007; Iyengar et al. 2008). In short, congenial partisans are both more likely to accept the cognitive subsidy biased news sources represent and to be exposed to biased news sources in general.

In addition to partisan affiliation, the value of subsidized information is likely to vary with cognitive ability. For political sophisticates, the participatory benefits of biased news are likely to be negligible. Among individuals having already decided to become politically informed, decreasing the cost of information is unlikely to significantly increase levels of either information or participation. Instead, the benefits of lowering information costs should be greater among individuals whose ability to process new information effectively is limited either by low levels of education (Delli Carpini and Keeter 1997) or the lack of an existing store of political knowledge (Tichenor et al. 1970; Gilens 2001). Importantly, while congenial partisans seem most likely to benefit in general, among less knowledgeable individuals there are reasons to expect biased news to have positive participatory effects regardless of existing beliefs.

Less politically sophisticated people tend to have weaker political attachments, making them more susceptible to persuasion by the one-sided information flow that biased news represents, either directly through exposure (Zaller 1992) or indirectly through social networks (Katz and Lazarsfeld 1955; Katz 1957). Persuasion can motivate participation if it is successful

enough to reduce uncertainty. Conversely, biased media may increase participation among the opposition concerned about its potential persuasive effect on others (Davison 1983; Perloff 1999). These expectations should be moderated somewhat in the context of a biased news source as the individuals with the most to gain from subsidized information are also among the least likely to be exposed to political information in general (Zaller 1992; 1996).

In short, because decisions about whether to participate politically are sensitive to information costs, increasing the availability of biased news coverage may increase rates of political participation in general. In particular, participation rates may be higher among partisans congenial to the bias presented and the less educated, since for both the bias represents a more significant cognitive subsidy.

This prediction complements Verba, Scholzman, and Brady's (1995) resource model of political activism. Those authors focus on the resources that can be used to reduce the costs of participation, which they categorize as time, money, and civic skills. In this case, access to a biased news source lowers the level of resources necessary to process the news and participate in politics by subsidizing information costs. From this perspective, biased news mobilizes, convincing people to participate, clearly identifying the sides of the debate, and letting viewers know where they should stand across political issues.

3 EMPIRICAL STRATEGY AND DATA

The empirical strategy of this paper relies on a counter-factual framework. The counter-factual framework borrows its logic and language from randomized experimental research. This approach is based on the belief that the most credible causal research designs rely on random

assignment to overcome selection bias.³⁹ Identifying media effects under any circumstances is a historically difficult proposition; in the modern high-choice media environment it is more daunting still. Nonetheless, this research is concerned with identifying the causal effect of a biased news source; a lofty goal confounded by the fact that individuals select themselves into distinct news audiences for a variety of potential reasons.

In multivariate regression, the accuracy of estimation rests on the assumption that all relevant potential confounding variables are accounted for (Morgan and Winship 2007). However, in the context of a high choice media environment, this assumption is likely unrealistic. Consider for example, the reported relationship between holding misperceptions surrounding the rationale for the Iraq war and reliance on the Fox News Channel (Kull et al. 2003). In this study the researchers found that, controlling for a variety of demographic and political characteristics, regular viewers of the Fox News Channel were more likely to hold one or more misperceptions surrounding the decision to go to war.⁴⁰ However, from this alone it is impossible to determine if viewing Fox News *causes* misperceptions because we cannot definitively rule out the possibility that some unmeasured characteristic simultaneously affects both Fox News viewership and propensity to hold these misperceptions. That is, unless we fully understand why some people choose Fox News over other news sources, we cannot rule out that the same factors driving them towards Fox News are also predisposing them to hold certain attitudes. This fundamental problem bedevils research seeking causal inference, and is the primary reason that the controlled experiment has been exalted as the gold standard for making causal claims.

³⁹ In the language of regression analysis, selection bias amounts to correlation between the regressor and the error term. For more technical expositions of both the counter-factual model and selection bias see Morgan and Winship (2007), or Angrist and Pishke (2008).

⁴⁰ Misperceptions included were that clear evidence of Iraq-al Qaeda links have been found, WMD have been found, and world public opinion favored the Iraq war.

The ideal scenario for demonstrating the causal effect of a particular news source would be to randomly assign individuals into specific news audiences. Random assignment in this case would solve the selection problem because it would make news choice independent of news preference. In this ideal scenario, a difference of means test between the attitudes of individuals in each news audience would give the average causal effect.

In this paper I attempt to approximate this experimental ideal by taking advantage of the natural experiment provided by the introduction of The Fox News Channel (hereafter “Fox News”) into US media markets. Results are robust to multiple sensitivity analyses, including an approach developed by Altonji, Elder, and Taber (2005) for generating an estimate of potential bias in observational studies due to endogenous selection and propensity score matching techniques to pre-process the data followed by re-estimation using the subsample of matched observations (c.f. Ho et al. 2007)

3.1 Why Fox News?

There are several reasons for focusing on Fox News. First, Fox News provides news coverage with a uniquely conservative perspective compared to other mainstream news providers. Research measuring the bias of various news programs using think tank citations found that Fox News is substantially to the right of both its cable competitors and the average U.S. Congressperson (Groseclose and Milyo 2005). Importantly, the data used in the present study overlaps Groseclose and Milyo’s analysis; in their study, they track Fox News coverage from 1998-2003, data for the analysis presented here comes from 2002. Further bolstering this claim, a more recent study by the Pew Research Center’s Project for Excellence in Journalism of news coverage surrounding the 2008 presidential campaign found that Fox News offered substantially more favorable coverage to Republican candidate John McCain than to his Democratic rival

Barack Obama (Pew 2008).

Second, of the three primary cable news channels, Fox News dominates primetime, with nearly double the viewership of CNN and MSNBC combined (Calderone 2009). The substantive significance of a Fox News effect is magnified by its popularity. Third, the natural experiment created by the timing of its introduction in local media markets provides a unique source of leverage for identifying and estimating causal effects.

Fox News debuted October 7, 1996 on a limited number of cable carriers. Advertising rates for cable channels depend on audience size, making the number of cable carriers offering a given channel an important factor in its profitability. Fox News had an especially aggressive strategy of expansion, offering cable companies \$10 or more per subscriber to carry Fox News (Carter 1996). As a result, the number of people with cable access to Fox News increased rapidly. By 2000, Fox News was available to approximately 35 percent of the U.S. population (DellaVigna and Kaplan 2007); in 2002 this number was close to 50 percent.⁴¹

I focus on cable access because the fixed costs of laying cable gives local cable companies' natural monopolies. Local cable companies independently determine which channels to carry, creating substantial geographic variation in terms of access to particular channels. Decisions about whether to distribute a new channel are constrained in part by the number of channels available. Often, the decision to offer a new channel means eliminating an existing channel. For example, to make room for Fox News, Tele-Communications Inc. stopped carrying the Lifetime Channel, facing a public backlash among women's groups as a result (Carter 1996).

⁴¹ Though this project focuses exclusively on Fox News availability via cable, it should be noted that Fox News was also available via satellite. There are no controls available for access to Fox News via satellite; however, the substantive effect is respondents in the data mistakenly coded as not having access to Fox News who actually do. This type of measurement error introduces a bias against finding significant differences between groups (c.f. King et al. 1994).

In sum, the rapid expansion of Fox News in the decade following its 1996 debut provides a natural experiment for the effects of media expansion. Because Fox News' coverage is to the right of its cable competitors (Groseclose and Milyo 2005), the introduction of Fox News into local media environments provides a unique source of biased political information. Della Vigna and Kaplan (2007) take advantage of this to estimate aggregate effects on Republican vote share in the 2000 U.S. presidential elections, finding a positive effect. Building on this design I estimate the effect of Fox News availability using individual level data on political participation.

3.2 Data

Data for this study are drawn from several sources: the 2002 American National Election Studies (NES), *The Television and Cable Factbook* (Factbook), and the 2000 U.S. Census Bureau.

The 2002 NES is a natural starting point because it contains a large, nationally representative survey and includes many demographic and political measures as well as respondents' detailed geographic location. The Factbook contains comprehensive information on TV, cable, and related industries. The relevant information for this project concerns the availability via cable of Fox News within specific geographic boundaries serviced by a single cable provider, data laboriously hand-coded from hard copies of the Factbook. Data on Fox News availability was merged onto the NES data by matching on census place identifiers. Data from the U.S. Census include 2000 turnout information, racial makeup, income, and education levels at the county level.

It is important to be clear about what the following analysis is, and is not. It is not an analysis of the direct effect of exposure to a biased news source. Nor is it an analysis of the indirect effect of people in one's social network being exposed. Because the data do not include

individual measures of exposure, these effects cannot be separated. Rather, what is estimated is the aggregate individual effect of introducing Fox News into a media environment. Keeping with the language of controlled experiments, this is analogous to intent to treat (ITT) analysis. In clinical trials, randomization between control and treatment groups can be undone if the decision of individuals to follow through with the study is systematic. ITT analyses mitigate this by relying on initial treatment intent, rather than on treatment administered (see Lachin 2000).

While driven in part by necessity, the analysis presented here may be of more substantive interest in terms of understanding the real-world impact of biased news than one isolating either direct or indirect effects. That is, in the real world, the impact of news is not limited solely to its effect on those directly exposed, but includes various ripple effects as information is spread through social networks. By capturing the potential effect of treatment policy rather than any specific avenue of potential treatment effects, the ITT approach provides a pragmatic estimate of the total effect of changing the media environment.

4 ANALYSIS AND RESULTS

Fox News availability represents the treatment of causal interest; respondents with access to Fox News comprise the treatment group, while those without make up the control group. Given a random population sample, if Fox News availability were randomly assigned, a difference of means test would produce an unbiased average causal effect. However, while the NES is a random sample of the U.S. population, the availability of Fox News may not be randomly assigned.

4.1 Selection

That Fox News availability may not be randomly assigned is by itself not necessarily a problem. A problem would only arise in the event that variables affecting the likelihood of an

individual receiving treatment also affect their propensity to participate in politics. In this case, failure to account for these factors violates the assumption of ignorability, confounding causal estimation.⁴²

Fox News may well have focused their initial expansion efforts in areas based on expectations about viewership. If this was the case and Fox News was more available in areas with populations more naturally interested in political news, especially news with a conservative perspective, this could induce a spurious relationship between higher participation rates and Fox News availability. Being in an environment surrounded by people who are disproportionately interested in political coverage of this type may lead one to conclude mistakenly that it increased participation rates on average, even after controlling for individual characteristics. A similar effect could occur if Fox News was more available in areas with higher income and education levels, two other aggregate predictors of political participation (Huckfeldt and Sprague 1990).

Party identification is another possible confounder as well. The 2002 elections were the first to take place after the September 11th, 2001 attacks on the World Trade Center. National security is generally thought of as an issue owned by the Republican Party (Petrocik et al. 2003). Because Republicans may be more sensitive to elite appeals based on national security, people in densely Republican areas may have participated at higher rates by virtue of having been exposed to more intense or more effective mobilization efforts. If this were the case, and Fox News was more likely to expand in heavily Republican areas based on expectations of greater demand for conservative news, this would also create a spurious association between political participation and Fox News availability.

Because the assignment of individuals into Fox News availability may not be purely random, I first investigate the nature of the selection process and estimate the availability of Fox

⁴² This is often referred to as omitted variable bias, see King et al. 1994.

News, focusing in particular on the contextual characteristics relating to political participation described above. While it is not plausible that Fox News availability is driven by individual level sample characteristics, some models include individual data as predictors as a means of assessing random imbalance in the survey sample.

I define Fox News availability as $v_{i,k,2002}^{fox}$, which equals one if individual i in county k lives in an area where all cable systems in 2002 offer Fox News in either a basic or expanded cable package, and zero if no cable system offers Fox News. The few individuals (< 20) in areas with multiple cable providers were dropped if one provider offered Fox News and the other did not. Using political and demographic variables drawn from the above discussion of potential confounders, I estimate the logit regression model:

$$v_{i,k,2002}^{fox} = \alpha + \beta_1 \chi_{k,2000}^{turnout} + \beta_2 \chi_{k,2000}^{Bush} + \beta_3 \chi_{k,2000}^{income} + \beta_4 \chi_{k,2000}^{college} + \beta_5 \chi_{i,2002}^{open} + \beta_6 \chi_{i,2002}^{contact} + \beta_j \Gamma_{i,2002}^{demo} + \varepsilon_k \quad (1)$$

The political variables of interest for individual i in county k are: county level turnout in the 2000 presidential election, $\chi_{k,2000}^{turnout}$, measured as votes cast over total population, and $\chi_{k,2000}^{Bush}$, the proportion of votes received by George W. Bush in 2000. County level data from the 2000 Census for median income and percent of the population with at least a bachelor's degree are $\chi_{k,2000}^{income}$ and $\chi_{k,2000}^{college}$ respectively. To control for the mobilizing effect of increased electoral competition, $\chi_{i,2002}^{open}$ and $\chi_{i,2002}^{contact}$ are dichotomous indicators for whether individual i lives in a district with an open seat in the 2002 congressional elections and whether individual i was contacted by any political organization about the elections.

To assess random imbalance in the sample $\Gamma_{i,2002}^{demo}$ is a vector of individual level variables related to political participation: political partisanship⁴³, gender, age, and education. All models

⁴³ Partisanship is measured by an ordinal scale from negative three (strong Republicans) to three (strong Democrats).

utilize NES provided weights to correct for individual sampling probabilities and bias due to unit non-response. Because some individuals i live in the same county k , standard errors are clustered at the county level.⁴⁴ Table 1 presents results.

[TABLE 1 ABOUT HERE]

Column one presents results from a model using only county level predictors. While Fox News availability is significantly related to turnout in 2000, the association is negative. Holding all other variables at their mean, moving from the lowest level of turnout in the data (0.16) to the highest (0.59) reduces the predicted probability of Fox News availability from 0.68 to 0.26.

Median income is also significantly related to Fox News availability, but is similarly negative.

Moving upwards through the full range of median income reduces the predicted probability of Fox News availability from 0.74 to 0.12, holding all other variables at their mean.⁴⁵

Substantively these together suggest that Fox News availability was not more likely in areas where people were more highly participatory in general or more financially well off on average.

There is, however, a significant positive association between Fox News availability and the percent of the population with at least a college degree. In the least educated county the predicted probability of Fox News availability is 0.24 compared to the most educated, 0.82.⁴⁶

The coefficient for Bush vote share in 2000, while positive, is statistically insignificant.

Column two of Table 1 estimates Fox News availability using only individual level variables. As stated above, this model is primarily useful only for assessing balance in the

⁴⁴ Clustering in the data is minimal and results do not change using unclustered standard errors.

⁴⁵ The negative relationship between income and Fox News may be due to the nature of cable expansion. In general, advertisers pay more for audiences with disposable income. In more wealthy areas, the payoff in terms of higher advertising rates should increase competition among content providers, making it comparatively easier to expand into less wealthy markets.

⁴⁶ Aggregate education levels are thankfully highly correlated with income levels. In unreported model specifications withholding each in turn the statistical significance of the remaining variable is eliminated altogether.

sample between individuals with Fox News and those without. That is, are people in the data with access to Fox News comparable to those without? While the coefficient for income is significant, its negative sign indicates people in areas with access to Fox News had lower incomes than people in areas without. Political identification and other important predictors of political participation: age, education, electoral competitiveness and mobilization, are insignificant.

It is not the case that Fox News is disproportionately available to older, more educated individuals in the sample, nor are they more likely to be in electorally competitive districts or to be mobilized by political elites. Income, as in the county-level model, is significant but negative. Note also that using only individual data explains very little of the variation in Fox News availability, indeed the model as a whole fails to achieve statistical significance.

The combined model in column three of Table 1 includes all individual and county level predictors. The results are largely unchanged when both sets of variables are included. The overall picture that emerges from Table 1 is encouraging. Among sample respondents, it does not appear that Fox News availability is positively related to factors encouraging political participation. If anything, Fox News availability is greater among those less likely to participate in politics in general.

4.2 *Political Participation*

The variables for political participation are $d_{i,k,2002}^{vote}$, which equals one if individual i in county k reported voting in the 2002 congressional elections, and $d_{i,k,2002}^{participate}$, which equals one if

individual i in county k engages in at least one of five self-reported forms of political participation⁴⁷, and zero if they engage in none of them. I estimate linear probability models⁴⁸:

$$d_{i,k,2002}^{vote} = \alpha + \beta_1 v_{i,k,2002}^{fox} + \beta_f \Gamma_{i,2002}^{individual} + \beta_j \Gamma_{i,2000}^{county} + \varepsilon_k \quad (2)$$

$$d_{i,k,2002}^{participate} = \alpha + \beta_1 v_{i,k,2002}^{fox} + \beta_f \Gamma_{i,2002}^{individual} + \beta_j \Gamma_{i,2000}^{county} + \varepsilon_k \quad (3)$$

The independent variable of interest is Fox News availability, $v_{i,k,2002}^{fox}$, coded as before.

The vector of individual level controls: partisanship, gender, age, education, income, electoral mobilization and competitiveness is $\Gamma_{i,2002}^{individual}$, while the vector of county level controls: turnout in 2000, Bush vote share in 2000, median income in 2000, and percentage with at least a bachelor's degree is $\Gamma_{i,2000}^{county}$. As before all estimations utilize NES sampling weights to correct for non-response biases, standard errors are clustered at the county level.⁴⁹ Table 2 presents results.⁵⁰

[TABLE 2 ABOUT HERE]

Looking first at the voting models, the results are fairly clear. Column one reports full model estimates of the effect of Fox News availability on reported turnout; the coefficient is effectively zero. On average, individuals in areas with access to Fox News reported voting at the same levels as those in areas without access. Furthermore, the insignificance of interaction terms in columns two and three show that Fox News availability had no heterogeneous effects based on respondents' level of education or partisan identity.

The models for participation tell a different story however. In the full model, Fox News availability has a positive and statistically significant effect on respondents' reported political

⁴⁷ The various forms of participation include: attempts to influence others votes, displaying a campaign button, attending a campaign event, volunteering for a campaign, and donating money.

⁴⁸ Results do not change using either a logit of probit specification. An alternative approach would be to create an ordinal index and estimate using either ordinal logit or probit. Results are consistent using either of these specifications as well.

⁴⁹ Significance does not change if standard errors are unclustered.

⁵⁰ Coefficient estimates for control variables are presented in Table 2a in the Appendix.

participation beyond voting. Access to Fox News increases the probability an individual will engage in at least one participatory act other than voting by 0.094. For perspective, consider that moving through the full range of education in the data increases the probability of participation by 0.178; moving income through its full range of income increases the probability of participation by 0.198.

To explore how the effects of access to Fox News varies for people with differing cognitive processing abilities, the education model presents results of a model including an interaction term between Fox News availability and respondent's level of education. Education in this case represents a proxy for cognitive ability. The interaction is statistically insignificant. Substantively, this indicates that the participatory benefits of access to Fox News are not stronger among respondents with less education. This result is inconsistent with expectations and is discussed in the conclusion.

The final model examines the varying effect of access to Fox News across respondents' political attitudes. To do this, I include an interaction between Fox News availability and an ordinal scale of partisan identification.⁵¹ The interaction is not significant. Substantively this implies that the effect on participation of having access to Fox News did not differ across partisan identifiers. Contrary to theoretical expectations, this would seem to indicate that bias motivates congenial and opposing partisans equally. I explore this unexpected result further in the conclusion.

The results in Table 2 show clearly that access to Fox News *did* have a significant effect on individual's participation surrounding 2002 congressional elections. While it did not increase turnout, it did increase levels of what are generally thought of as more costly forms of political participation. Furthermore, this positive effect did not vary with individual's level of education

⁵¹ Results do not change using an indicator variables for Republican partisan identification

or partisan identification. This important result has significant normative implications I examine further in the conclusion. But first, I check the validity of these findings by performing an additional analysis, described below

4.3 *Sensitivity Analyses*

Despite the results in Table 1, showing only a small amount of access to Fox News can be explained by observables, it is possible that only a small amount of selection on unobservables could explain the entire Fox News effect on political participation. That is, it is possible that unobserved factors related to Fox News availability could be creating a spurious relationship between access and political participation. I assess the potential sensitivity of the participation results to selection in two ways. First, I implement an approach developed by Altonji, Elder, and Tabor (2005) to gauge the potential role of selection bias. Second, I utilize propensity score matching techniques to pre-process the data, followed by re-estimation using the subsample of matched observations (c.f. Ho et al. 2007).

Altonji, Elder, and Tabor's (2005) method enables the calculation of a point estimate and standard error of the bias resulting from selection on unobservables.⁵² This approach is based on identifying how strong the relationship between access to Fox News and unobserved factors related to political participation would have to be, relative to the strength of the relationship

⁵² Their method is valid under the condition that selection on the observables equals selection on unobservables. This implies that the covariance of the treatment and the mean of the distribution of the index of observables are the same as the covariance of the treatment and the mean of the distribution of the index of unobservables. This condition requires a set of assumptions, namely 1) that the set of observable variables is chosen at random from the full set of variables that determine Fox News availability and political participation, and 2) that the number of observed and unobserved variables is large and that none of the elements dominates the distribution of Fox News availability or political participation. In this application I estimate the model in equation (3), which contains a large number of observable characteristics, none of which is determinative of either Fox News or political participation. While the paucity of statistically significant variables in the selection model supports the idiosyncratic availability of Fox News, it also makes it unlikely that assumptions needed for the necessary condition will be perfectly met. However, the resulting estimates can still be informative.

between access to Fox News and observable factors related to political participation, in order to attribute the entire positive effect of access to Fox News to selection bias.⁵³

The assumption that selection on observables equals selection on unobservables can be written formally as:

$$\frac{\text{cov}(v_i^{\text{fox}}, \delta\Gamma_i)}{\text{var}(\delta\Gamma_i)} = \frac{\text{cov}(v_i^{\text{fox}}, \varepsilon_i)}{\text{var}(\varepsilon_i)} \quad (4)$$

In this equation i indexes individuals, v_i^{fox} represents the availability of Fox News in (3), $\delta\Gamma_i$ is the index of observable variables⁵⁴ — $\Gamma_{i,2002}^{\text{individual}}$ and $\Gamma_{k,2000}^{\text{county}}$ — in (3), and ε_i is the error term from (3). Apart from $\text{cov}(v_i^{\text{fox}}, \varepsilon_i)$, all of the terms in (4) can be estimated from (3), under the null hypothesis of no Fox News effect (i.e. $\beta_1 = 0$). The final term, $\text{cov}(v_i^{\text{fox}}, \varepsilon_i)$, can thus be identified by combining them together (Elder and Jepsen 2011). Obtaining an estimate of the covariance between Fox News availability and the index of unobservables permits calculation of an estimate of the bias in the OLS estimate of political participation in (3). This estimated bias can then be compared to the OLS estimate to calculate the ratio of selection on unobservables to selection on observables necessary to account for the entire observed effect of access to Fox News on political participation.

Using this method gives a bias estimate of -0.040 with a standard error of 0.106. The statistical insignificance of the bias estimate indicates that it is unlikely OLS estimates are appreciably biased, while the negative sign indicates that the most likely effect of bias due to unobservables is the underestimation of the true Fox News effect on political participation. In

⁵³ This approach is similar to that taken in Rosenbaum and Rubin (1983) and Rosenbaum and Rubin (1985).

⁵⁴ As noted earlier, clustering is minimal in the data and does not affect results; for simplicity sensitivity analysis performed on model using non-clustered standard errors.

other words, the weak (and in some cases negative) correlation between Fox News availability and observable variables (represented by the index $\delta\Gamma_i$) implies that Fox News availability is also weakly (and in this case negatively) related to ε_i , resulting in a weak and negative bias in OLS estimates of β_1 . Again, while it is unlikely that the “selection on observables equals selection on unobservables” condition will hold exactly, it is unlikely that selection on observables and unobservables will be of different signs (Elder and Jepsen 2011).

In a sense this result is both reassuring and expected. The assumption that selection on observables equals selection on unobservables constrains the magnitude of bias; in the event that selection into treatment was truly random, both would equal zero. I have argued that, due to a variety of factors, the availability of Fox News via cable in 2002 was effectively idiosyncratic; from this perspective, the null estimate of bias supports and validates this argument.

In addition to the sensitivity analysis presented above, I implement a second analysis of the potential sensitivity of the participation results using propensity score matching techniques. This approach breaks the connection between the treatment variable and the background covariates, reducing the sensitivity of results to changes in model specification (Ho et al. 2007). By lowering covariate imbalances across treatment and control groups, matching also reduces the sensitivity of estimates to imbalances in any observed or excluded covariates after matching (Henderson and Chatfield 2011). Ideally, after matching, the only difference in the data between people with and without access to Fox News is whether they have access to Fox News.

While matching each treated case to an identical control case on all covariates would be ideal, a technique known as exact matching, the data cannot support this. Instead, I utilize an alternative approach that matches on a single variable, the propensity score. The propensity score is defined as the probability that an individual receives treatment—in this case, the probability

that an individual has access to Fox News via cable. Matching treatment and control cases on their propensity scores, in expectation, balances the groups on all observed and unobserved covariates (Rosenbaum and Rubin 1983). As in all observational studies individuals' true propensity scores are unobserved; I estimate propensity scores for respondents using (1). I use the software Psmatch2 to implement nearest-neighbor matching, with replacement, and a 1% caliper⁵⁵ (Leuven and Sianesi 2003).

[FIGURE 1 ABOUT HERE]

The goal of matching is to balance treatment and control groups to ensure comparability. The unmatched data contained 484 control cases (respondents without access to Fox News), and 451 treated cases (respondents with access). The matched data consist of 300 control cases to 366 treated cases.⁵⁶ Figure 1 presents a rough assessment of balance by plotting the distribution of estimated propensity scores for treatment and control groups. While this is not a formal balance test, the distributions appear reasonably comparable with substantial overlap.

[TABLE 3 ABOUT HERE]

Table 3 presents a more formal balance test, comparing mean differences and standardized biases for treatment and control groups after matching. The standardized bias is a common measure of assessing covariate balance⁵⁷ (c.f. Rosenbaum and Rubin 1985).

Looking at the percent bias reduction in column three, the matched data appear to be better balanced along all observable variables. Remaining standardized biases range from 0.1 to 11.5, with most either close to or below 5. Having established the similarity of the people in the

⁵⁵ The use of a caliper constrains matches between treatment and control cases to those within a specified difference in treatment probabilities, in this case a difference of less than a one-percentage point.

⁵⁶ Matching with replacement allows multiple treatment cases to be matched to a single control cases, no control case was matched to more than 3 treated cases

⁵⁷
$$B = \frac{|\bar{X}_T - \bar{X}_C|}{\sqrt{(S_T^2 - S_C^2)^2}}$$

matched subsample with access to Fox News compared to those without, I re-estimate the effects of Fox News availability on political participation using (3). The resulting coefficient for Fox News availability is 0.086 (standard error 0.043), statistically indistinguishable from the unmatched estimate of 0.092 (standard error 0.041).

In concert with the selection on observables and unobservables sensitivity analysis reported above, results from propensity score matching analysis provide further support that the observed positive effect of Fox News availability on political participation is not a spurious correlation due either to unobserved factors or errors in model specification. Table 4 presents a summary of sensitivity analyses.

[TABLE 4 ABOUT HERE]

5 Conclusions

Does biased information change political behavior? I find that it does. People with access to Fox News were statistically significantly more likely to actively participate during the 2002 U.S. Congressional elections than people without access. A significant corollary finding is that the positive participatory effects of access did not vary for less educated individuals or for those whose political attitudes were assumed to be more consistent with the direction of bias.

Overall, the findings presented here are consistent with the larger theoretical perspective outlined in this chapter. Namely, that biased news sources represent cognitive subsidies for processing political information. Because political participation depends crucially on information about the actors and events involved, the cognitive subsidy provided by bias has a positive effect on the decision to participate.

How then to explain the null findings with respect to voting? As with all media effects, the effects of biased news are mediated by the amount received (Zaller 1996). The catalyzing

effects of news bias are likely to be concentrated at the margins, among people of middling political awareness; individuals aware enough to notice it, but not so politically involved that an already high level of participation can be assumed. In a high choice media environment, the audience for a 24-hour cable news channel is disproportionately interested in politics and likely to vote at a high rate (Prior 2003). And while not identified in this project, it is likely that the most probable vehicle for effects is direct exposure. Thus, the null result for voting could be simply a ceiling effect, where the individuals most likely to be exposed to Fox News are also those likely to vote regardless of whether they are exposed. In short, it may be that the introduction of Fox News had no effect on turnout because turnout was already maximized among the population most likely to attend to a new source of political information. This is consistent with the positive effects found for participation more broadly; Fox News motivated likely voters to participate in additional ways. The implication is that the introduction of Fox News stimulated not a larger electorate, but a more active one.

It is important to highlight again that this chapter does not show that *exposure* to bias increased participation levels. Instead, I address that question in the next chapter. What is captured in the analyses presented in this chapter is the total effect of introducing an easily accessible source of biased information into an individual's media environment, what I termed an aggregate individual effect. This implicitly includes exposure, but also the indirect effects resulting from biased information transmitted via social networks.

While 'media bias' has historically been the villain of the right, the rise of Fox News has turned frequent denunciations of media bias into one of few truly bipartisan pastimes (e.g. Brock 2004; Goldberg 2001). Implicit in these accusations is the assumption that biased news is

harmful, a perversion of the natural and correct role of the press in a democracy. The belief that the appropriate role of the press is to provide objective reporting enjoys considerable support.

As detailed in the Introduction however, the norm of journalistic objectivity is a historically recent phenomena, arising more due to the system of economic incentives created by the industrial revolution than to changing public perceptions about the normatively appropriate role of the press in society (Baldasty 1992). During the 19th century, newspapers attempting to be politically neutral were roundly condemned from all sides as being either servile or lacking in principle. Explicit partisanship was viewed as a crucial aspect defining journalism's proper public mission in American democracy, with partisan newspapers seen as both platforms from which to entice voter support for the party and as a vehicle to mobilize party supporters to vote in elections (Kaplan 2002).

The newfound rise and popularity of biased news providers has caused some considerable consternation; leading some to predict dire consequences as a result of citizens' ability to sequester themselves in reinforcing and isolated "knowledge enclaves" (Jamison and Capella 2008), exposed only to information of their choosing (i.e. the "Daily Me" in Sunstein 2002). While claims about the influence of biased news sources have mostly relied on untested theoretical predictions, emerging research points to a few normatively conflicting results. On the one hand, biased information may inspire political discussion (Stroud 2007), helping combat pervasive political apathy. On the other hand there is evidence that reliance on biased news sources can result in systematic misperceptions about the nature of the political world (Kull et al. 2003).

At the same time, bias makes it easy to connect the dots between events and understand how they tie into the broader political debate. As a result, bias combats political apathy by

subsidizing the costs of attending to and participating in the political process; and participation is good.

In particular, the results presented here show that biased news increases participation rates even among the less educated. Consider that an entire sub-field has developed around the “knowledge-gap hypothesis,” which states that increasing the flow of information into society widens rather than narrows political knowledge differences across socioeconomic strata (Tichenor et al. 1970). If the political character of the information mitigates this tendency, and the results presented here suggest that it does, the introduction of biased news sources has the potential to diminish existing inequities in who participates. Certainly this is a large claim that cannot be made based on this study alone, but given both the normative stakes and the results presented here this question is one that deserves further investigation.

Perhaps the most curious result is between partisanship and Fox News. The theory of biased news as cognitive subsidy rests on the supported assumption that information consistent with existing beliefs is easier to process (Axelrod 1973; Conover and Feldman 1984; Lodge and Hamill 1986; Zaller 1992). A systematic study of news bias looking at Fox News from 1998-2003, found Fox News to be far to the right of the political spectrum (Groseclose and Milyo 2005). Why then wouldn’t Fox News have a greater effect on Republicans?

A possible explanation is that Fox News had a mobilizing effect across party lines, via alternative mechanisms. If Fox News were initially perceived as unbiased, or rather had a reputation for unbiasedness, there is no reason to expect that Democrats would avoid it or that Republicans would seek it out. Indeed, in 2002 self-identified democrats made up approximately 40 percent of the Fox News Channel’s audience.⁵⁸

⁵⁸ Data from 2002 Pew Biennial Media Consumption Survey.

The theory of bias as cognitive subsidy outlined above does not offer an explanation for why conservative news would stimulate participation among more liberal individuals. However, the well-supported “third person effect” in communication holds that individuals exposed to persuasive messages in the mass media believe they will have a greater effect on others than on themselves (Davison 1983). Additionally, perceptions of media bias are heightened when the medium is seen as having the potential to reach a mass audience (Gunther and Liebhart 2006). Thus, Democrats exposed to Fox News may recognize its bias, reject it, but nonetheless be motivated to participate as a means of counteracting the perceived persuasive effect of bias on others. This is highly speculative of course, and further research to understand the mechanisms behind the mobilizing effect of biased news should be a priority.

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Table 1: The Fox News Channel Availability

Dep Var: Availability of The Fox News Channel Via Cable in 2002

	Predictor Level		
	County	Individual	Combined
Party Identification		0.003 (0.046)	0.003 (0.044)
Male		0.025 (0.185)	0.055 (0.183)
Age		0.000 (0.006)	0.004 (0.005)
Education		0.034 (0.068)	0.031 (0.070)
Income		-0.102* (0.054)	-0.088 (0.054)
Contact		0.034 (0.203)	0.044 (0.197)
Open		0.263 (0.505)	0.313 (0.514)
2000 Turnout	-4.079** (1.953)		-4.041** (1.995)
2000 Bush	0.785 (1.048)		0.551 (1.086)
Median Income	-0.045** (0.023)		-0.044* (0.023)
Percent College	8.027* (4.424)		8.501* (4.603)
Constant	1.688* (0.978)	0.084 (0.493)	1.653 (1.070)
Observations	830	773	772
Wald χ^2	8.68*	8.46	12.45
Pseudo R ²	0.039	0.007	0.043

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 2: Political Participation

Dependent Variable	Vote			Participation		
	Full	Education	Partisan	Full	Education	Partisan
Fox News Availability	-0.002 (0.040)	-0.012 (0.117)	0.002 (0.040)	0.092** (0.041)	0.191* (0.117)	0.088** (0.040)
Fox* Education	-	0.002 (0.023)	-	-	-0.024 (0.024)	-
Fox * Partisan ID	-		-0.025 (0.018)	-	-	0.020 (0.018)
Constant	- 0.335* (0.187)	-0.330* (0.195)	-0.327* (0.188)	-0.261 (0.184)	-0.317* (0.189)	-0.268 (0.182)
Observations	772	772	772	772	772	772
R ²	0.204	0.204	0.207	0.095	0.097	0.097

Note: *** p<0.01, ** p<0.05, * p<0.1. Robust standard errors in parentheses. All models include both individual and county level controls; full results from all analyses are presented in Table 2a in the Appendix.

Table 3: Propensity Score Balance for Matched Data

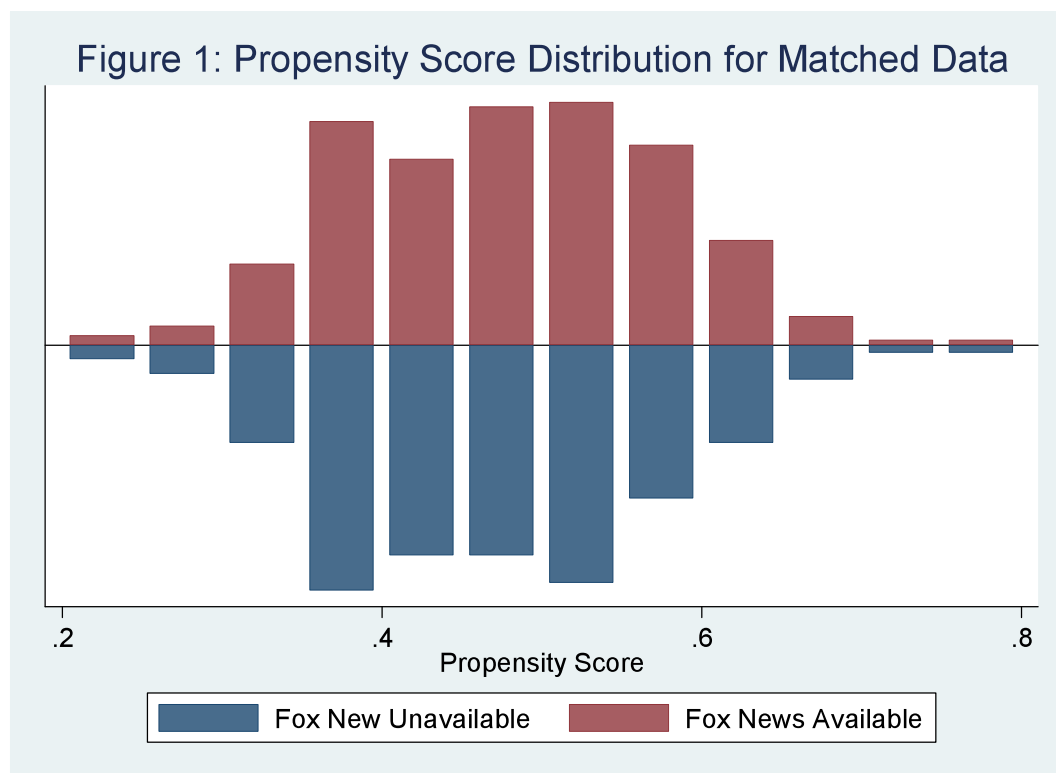
		Mean		% Bias	% Bias Reduced
		Fox	No Fox		
Party Identification	Unmatched	0.15	0.20	-2.1	
	Matched	0.15	0.12	1.7	17.4
Male	Unmatched	0.46	0.48	-3.1	
	Matched	0.46	0.45	2.2	31.1
Age	Unmatched	51.11	50.15	5.9	
	Matched	51.11	51.55	-2.8	53.5
Education	Unmatched	4.50	4.68	-11.0	
	Matched	4.50	4.44	3.6	67.4
Income	Unmatched	3.99	4.44	-21.7	
	Matched	3.99	3.95	1.9	91.4
Contact	Unmatched	0.50	0.51	-2.5	
	Matched	0.50	0.49	3.0	-21.3
Open	Unmatched	0.12	0.09	7.2	
	Matched	0.12	0.15	-11.5	-58.4
2000 Turnout	Unmatched	0.37	0.39	-28.4	
	Matched	0.37	0.37	0.1	99.8
2000 Bush	Unmatched	0.50	0.48	16.5	
	Matched	0.50	0.50	3.5	78.9
Median Income	Unmatched	41.76	44.37	-23.0	
	Matched	41.76	42.42	-5.8	74.8
Percent College	Unmatched	0.16	0.16	-8.3	
	Matched	0.16	0.16	-3.1	63.3

Standardized bias is the difference between sample means as a percentage of the square root of the average of the sample variances for treated and control groups (c.f. Rosenbaum and Rubin 1985)

Table 4: Sensitivity Analysis

Variable	Coefficient (S.E.)
<i>Full Sample</i>	
Fox News Availability	0.092** (0.041)
<i>Selection on Observables/Unobservables Analysis</i>	
Bias Estimate	-0.040 (0.106)
Ratio of selection on unobservables to selection on observables necessary to eliminate entire effect	-2.30 N.A.
<i>Matched Sample</i>	
Fox News Availability	0.086** (0.043)

Note: * $p < .10$; ** $p < .05$; *** $p < .01$. Full results for matched analysis can be found in Appendix A



Appendix

Table 2a: Political Participation - Full Results

Dependent Variable	Vote			Participation		
	Full	Education	Partisan	Full	Education	Partisan
Fox News Availability	-0.002 (0.040)	-0.012 (0.117)	0.002 (0.040)	0.092** (0.041)	0.191* (0.117)	0.088** (0.040)
Fox* Education	-	0.002 (0.023)	-	-	-0.024 (0.024)	-
Fox * Partisan ID	-		-0.025 (0.018)	-	-	0.020 (0.018)
Partisan Identification	-0.000 (0.009)	-0.000 (0.009)	0.012 (0.013)	0.013 (0.009)	0.013 (0.009)	0.003 (0.013)
Male	0.079** (0.039)	0.079** (0.039)	0.078** (0.039)	0.065* (0.039)	0.067* (0.039)	0.067* (0.039)
Age	0.009*** (0.001)	0.009*** (0.001)	0.009*** (0.001)	0.004*** (0.001)	0.004*** (0.001)	0.004*** (0.001)
Education	0.063*** (0.015)	0.062*** (0.019)	0.063*** (0.015)	0.030* (0.015)	0.041** (0.018)	0.029* (0.015)
Income	0.031*** (0.011)	0.031*** (0.011)	0.030*** (0.011)	0.033*** (0.011)	0.034*** (0.012)	0.033*** (0.011)
Contact	0.054 (0.042)	0.054 (0.042)	0.055 (0.042)	0.133*** (0.039)	0.132*** (0.039)	0.133*** (0.039)
Open	-0.019 (0.069)	-0.019 (0.069)	-0.015 (0.068)	0.093 (0.063)	0.094 (0.062)	0.090 (0.063)
Population Total	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)
2000 Turnout	0.907*** (0.312)	0.907*** (0.312)	0.883*** (0.312)	0.414 (0.308)	0.412 (0.306)	0.433 (0.305)
2000 Bush	0.014 (0.183)	0.013 (0.183)	0.015 (0.183)	0.015 (0.176)	0.027 (0.176)	0.015 (0.176)
Median Income	-0.003 (0.003)	-0.003 (0.003)	-0.003 (0.003)	0.001 (0.003)	0.001 (0.003)	0.001 (0.003)
Percent College	-0.483 (0.585)	-0.479 (0.586)	-0.449 (0.586)	-0.871 (0.618)	-0.921 (0.627)	-0.899 (0.615)
Constant	-0.335* (0.187)	-0.330* (0.195)	-0.327* (0.188)	-0.261 (0.184)	-0.317* (0.189)	-0.268 (0.182)
Observations	772	772	772	772	772	772
R ²	0.204	0.204	0.207	0.095	0.097	0.097

*** p<0.01, ** p<0.05, * p<0.1. Robust standard errors in parentheses.

Table 4a: Political Participation-Matched Data

Variable	Coefficient (S.E.)
Fox News Availability	0.086** (0.043)
Partisan Identification	0.012 (0.010)
Male	0.068 (0.044)
Age	0.003*** (0.001)
Education	0.027 (0.017)
Income	0.026** (0.013)
Contact	0.124*** (0.043)
Open	0.131* (0.069)
Population Total	-0.000* (0.000)
2000 Turnout	0.195 (0.319)
2000 Bush	-0.010 (0.185)
Median Income	0.000 (0.000)
Percent College	-0.787 (0.671)
Constant	-0.168 (0.190)
Observations	666
R ²	0.081

*** p<0.01, ** p<0.05, * p<0.1. Robust standard errors in parentheses.

Chapter Five: Exposure to Bias and Political Participation

The analysis in the previous chapter demonstrates that the introduction of the Fox News Channel into local media markets had a significant positive effect on political participation rates. Recall that this effect, while robust, was not a direct estimation of the effects of *exposure*, estimating instead what I termed the aggregate individual effect of introducing Fox News into a media environment. This effect, which I analogized to an intent-to-treat (ITT) analysis, no doubt included exposure effects, but also likely included such secondary effects as information distributed via social networks. This approach was adopted because it represents the total real world influence of biased media but also because of the lack of individual measures of exposure available in the data available.

While the previous analysis shows a robust positive effect on participation from the introduction of Fox News, the added value of this additional analysis is its ability to isolate and estimate directly the effect of exposure. To do this, I utilize an additional data set with explicit exposure measures to implement an instrumental variable (IV) estimate of the effects of exposure to Fox News on participation rates during the 2004 presidential election. My primary finding is that exposure to Fox News has a significant positive effect on both voting and political participation in ways beyond voting, importantly I find that these effects are stronger for among less educated individuals. This finding is consistent with the larger theoretical argument that biased news acts as a cognitive subsidy to political learning, lowering the information costs constraining political participation.

Data for this analysis are drawn from the 2004 National Annenberg Election Survey (NAES), *The Television and Cable Factbook* (Factbook), and the 2000 U.S. Census Bureau.

The 2004 NAES survey is an exceptionally large national survey of over 85,000 individuals. Data were collected through a rolling cross-sectional telephone survey beginning in October 2003 and conducted continuously through November 2004. On average, between 150 and 300 telephone interviews were completed daily. Not all respondents were asked about their participation, thus limiting the number of observations used in this analysis to approximately 29,000. As in the previous chapter, data from the NAES was merged with data from *The Television and Cable Factbook* (Factbook) and the 2000 U.S. Census Bureau.

Like the 2000 American National Election Study (NES) data used in the previous analysis, the NAES contains a large number of demographic and political measures, as well as detailed geographic identifiers. Crucially, the NAES also includes measures of exposure to specific media outlets, including Fox News. In 2004, approximately 79 percent of the U.S. population had access to Fox News on either basic or expanded cable. This variation, in concert with the large number of respondents in the NAES survey and the presence of explicit measures of Fox News exposure, makes it possible to estimate the causal effect of exposure to Fox News.

As before, the Factbook reports the availability of Fox News within specific geographic boundaries serviced by a single cable provider. Data utilized from the 2000 U.S. Census includes county-level voter turnout information, racial makeup, income, and education levels.

The remainder of this chapter is organized as follows. Section 2 briefly reviews how selection biases confound the straightforward estimation of media effects and discusses the empirical strategy and the logic behind IV regression. Section 3 estimates the effects of Fox News exposure on political participation. Section 4 concludes.

2 Estimating Media Effects

The fundamental problem in estimating causal media effects is choice. Individuals decide whether to watch a TV program, but researchers do not fully understand the calculus behind this decision. Uncertainty regarding the decision process raises the possibility that there may be important unmeasured differences between viewers and non-viewers, and that these differences may be related to both the decision to view and the outcome of interest. Failure to include these factors in regression analysis creates correlation between the regressor and the error term, biasing both statistical estimates and their substantive causal interpretations.

In theory, if these factors were known, could be measured, and held constant in regression analysis, omitted variable bias would be eliminated and estimates would have a causal interpretation. In practice, existing theory does not clearly specify all relevant variables, and it is often difficult to accurately measure those relevant variables that are specified. In addition to the omitted variable problem, the causal relationship between news choice and political participation is endogenous, in the sense that it is likely reciprocal. Both of can be thought of more generally as problems of endogenous selection.

One solution to the selection problem is random assignment. In the context of media effects, randomly assigning people to watch a specific program or to a control group assures that the decision to watch is uncorrelated with any personal or social factors. This assurance is the primary reason the randomized experimental design has been recognized as the cleanest approach to identify causal relationships. For many of the questions that concern social scientists however, randomized experiments are not always possible. In particular, it is practically

infeasible to force a randomly chosen group of people to only watch a specific news program in a noisy real world setting (but see Albertson and Lawrence 2009 for a novel approach).⁵⁹

On the other hand, because it is sometimes possible to find exogenous variation in who attends to particular media, an instrumental variable approach can offer a potential solution to these situations. Kern and Hainmueller (2009) use whether an individual lives near Dresden as an instrument to estimate the effect of West German television on political attitudes in East Germany. George and Waldfogel (2006; 2008) use the availability of the *New York Times* to measure the effect of national media on local affairs. Mondak (1995) took advantage of a newspaper strike in Pittsburgh during the 1992 elections to measure the effect of the availability of local newspapers on information gathering and voting behavior. Prior (2005; 2007) uses the expanding availability of cable to measure the effects of increasing media choice on knowledge and participation.

This chapter is particularly indebted to the work of Della Vigna and Kaplan (2007), who took advantage of idiosyncratic rollout of the Fox News Channel to estimate its aggregate effect on Republican vote share in the 2000 U.S. presidential elections. In the previous chapter I introduced this natural experiment in more detail, and used it to motivate an intent-to-treat (ITT) analysis of the causal effect of access to Fox News on political participation, finding a significant and positive effect on all kinds of participation with the exception of voting. In this chapter I take advantage of the same natural experiment to estimate the causal effect of *exposure* to Fox News on political participation during the 2004 U.S. presidential election.

⁵⁹ There are many examples of laboratory experiments that manipulate the media coverage to which subjects are exposed (e.g. Iyengar and Kinder 1987; Arceneaux et al. 2012; Ansolabehere et al. 1994; Turner 2007). These studies are excellent for identifying causal relationships, but also suffer from several shortcomings. The most important of which, given the degree to which selective exposure characterizes the modern news environment, is the limited substantive utility of estimating average causal effects of exposure that include effects for people unlikely to encounter the media of interest in the real-world.

2.1 Instrumental Variable Approach

Consider a model positing a linear relationship between a dependent variable (Y_i), an endogenous regressor (X_i), a set of exogenous covariates, ($W_{1i}, W_{2i}, \dots, W_{ki}$), and an unobserved error term (ε_i), where i indexes observations 1 through N .

$$Y_i = \beta_0 + \beta_1 X_i + \beta_2 W_{1i} + \beta_3 W_{2i} + \dots + \beta_k W_{ki} + \varepsilon_i \quad (1)$$

In this model, the variable of interest is β_1 , the causal effect of X_i on Y_i . Under the condition that the covariance between X_i and ε_i approaches zero as the sample size approaches infinity, this model can be consistently estimated using ordinary least squares (OLS). However, this requirement is violated if X_i is related systematically to some unobserved factors causing Y_i , or if Y_i and X_i are endogenous.

An instrumental variables approach bypasses this problem using a two-equation model, where the endogenous regressor is written as a linear function of some exogenous instrumental variable, Z_i , and the covariates.⁶⁰

$$X_i = \lambda_0 + \lambda_1 Z_i + \lambda_2 W_{1i} + \lambda_3 W_{2i} + \dots + \lambda_k W_{ki} + u_i \quad (2)$$

In most applications, instrumental variables estimates can be obtained using two-stage least squares (2SLS), which regresses X_i on Z_i and the covariates, and then uses these coefficients to generate predicted values of X_i ; in the second-stage, Y_i is regressed on these predicted values and the covariates.

For Z_i to be a valid instrument, three conditions must be met. First, it must affect Y_i only through its effect on X_i , and second, the covariance between Z_i and ε_i must go to zero as N approaches infinity. That is, it must be related to X_i but independent of both other preexisting causes of Y_i and the error term, ε_i . Intuitively, instrumental variables solve the omitted variables

⁶⁰ In observational studies, including covariates increases the plausibility that the instrumental variable is unrelated to the error term (Sovey and Green 2011).

problem by using only part of the variability in X_i – specifically, the part that is uncorrelated with omitted variables – to estimate β_1 .⁶¹ Third, and less exacting, is the requirement that the instrument be a good proxy for the endogenous variable, meaning a strong enough relationship to distinguish the relationship from statistical noise.

We suspect that the decision to watch Fox News may be endogenous to other factors affecting participation. That people's media choices are affected by the constellation of media options available to them is both an obvious intuitive insight and an empirical finding supported by numerous academic studies (e.g. Baum and Kernell 1999; Gentzkow 2006; George and Waldfogel 2006; 2008; Hamilton 2005; Mondak 1995; Morris 2007; Prior 2005; 2007). In practice, this means that in order for an IV approach to be effective, having cable access to Fox News must be correlated with exposure to Fox News, conditional on relevant covariates. Fortunately, as I discussed in the previous chapter, the introduction of Fox News into local media markets was governed largely by institutional constraints related to the cable industry, and appeared to be unrelated to factors commonly related to participation. So while the decision to watch may be endogenous, variation in cable availability creates exogenous variation in who is able to watch. Table 1 displays the frequency of Fox News exposure in my sample.

[Table 1 about here]

The sample correlation between living in an area with cable access to Fox News and consumption of Fox News is a modest 0.02. However, the fully specified models in Table 2 tell a different story. When I regress consumption on availability while controlling for an extensive set of covariates, the t -statistic for Fox News availability alone is 3.12; while all exogenous instruments together—Fox News availability and fixed effects for cable carrier—are jointly

⁶¹ For a more technical discussion see Angrist and Krueger (2001) or Sovey and Green (2011).

significant with an F -statistic of 92.43 ($p < 0.001$). This is clear evidence that the instruments are correlated with the endogenous variable, which is a necessary condition for IV estimation.

[Table 2 about here]

2.2 Selection

In 2002, Fox News was available via cable to approximately 35 percent of the US population; by 2004, this number had grown to 77 percent. Previously, I argued that Fox News availability in 2002 represents a near-random instrument. However, it is possible that the effectively idiosyncratic nature of Fox News availability circa 2002 was undone by the rapid expansion in the following two years. If Fox News was more available in 2004 in areas where participation was likely to be higher for reasons beyond Fox News, this could induce a spurious relationship between Fox News and participation.

To assess this, I investigate the selection process and estimate the availability of Fox News in 2004, paying particular attention to the potential contextual confounds identified in the previous chapter: political interest, income, education, and party identification.

As in the previous chapter, I define Fox News availability as $v_{i,k,2004}^{HasFox}$, which equals one if individual i lives in an area where all cable systems in 2004 offer Fox News on either basic or expanded cable, and zero if no cable system offers Fox News. Using the same political and demographic variables from the previous chapter, I estimate sequentially the linear probability model.⁶²

$$v_{i,k,2004}^{HasFox} = \beta_0 + \beta_1 x_{k,2000}^{turnout} + \beta_2 x_{k,2000}^{Bush} + \beta_3 x_{k,2000}^{income} + \beta_4 x_{k,2000}^{college} + \beta_j \Gamma_{i,2004}^{demographics} + \beta_l X_{i,2004}^{region} + \varepsilon_i \quad (3)$$

As before, the political variables of interest for individual i in county k are: county level turnout in the 2000 presidential election, $x_{k,2000}^{turnout}$, measured as votes cast over total population,

⁶² Results do not change using either logit or probit specifications.

and $x_{k,2000}^{Bush}$, the proportion of votes received by George W. Bush in 2000. County level data from the 2000 Census for median income and percent of the population with at least a bachelor's degree are $x_{k,2000}^{income}$ and $x_{k,2000}^{college}$ respectively, while regional fixed effects are $X_{i,2004}^{region}$. To assess random sample imbalance, $\Gamma_{i,2004}^{demographics}$ is a vector of individual level variables related to political participation: political attention, dummies for Republican and Democratic Party identification, income, gender, age, education, a dummy for black racial identification, religiosity, and whether the respondent lives in a union household. Because some individuals i live in the same county k , standard errors are clustered at the county level. Table 3 presents results.⁶³

[Table 3 about here]

The first two columns in Table 3 present results from a model using only county-level variables and regional fixed effects. The results are encouraging. Most of the county-level variables, which are more likely to reflect systematic bias in Fox News availability, are insignificant. The two significant variables, population and percent college educated, indicate substantively that Fox News is more likely to have been available in larger population centers, with larger concentrations of college graduates. Looking at the rest of the contextual variables, Fox News is not more likely to have been available in either predominantly Republican areas or wealthier areas, nor does it appear to have regional biases.

Now examine the model using only individual variables. While it is not plausible that individual characteristics, independent of contextual variation, could drive the cable availability of Fox News, this model is still useful to indicate random imbalance in the sample. There are some significant differences in the sample between respondents with and without Fox News

⁶³ An alternative, though less holistic, way of assessing comparability would be to calculate bivariate difference-of-means and standardized bias tests between survey respondents with and without cable access to Fox News. This information is presented as Table 3a in the Appendix.

cable access. The coefficient for income is significant and positive, indicating substantively that individuals living in areas with cable access to Fox News are wealthier. The coefficient for education is significant and positive as well, while the coefficient for religiosity is significant and negative, indicating these individuals are more educated and less likely to regularly attend church.

Finally, the full model includes both individual and contextual variables. Happily, some of the individual-level differences apparent in the previous model disappear, and coefficients for those that remain are significantly smaller. Controlling for county-level variation and regional fixed effects, there do not appear to be significant partisan differences between individuals with and without Fox News, nor are there differences in some of the major known predictors of political participation: political attention and income. Coefficients for education and religiosity however, remain significant, though the coefficients for both are significantly smaller. Looking at remaining differences, respondents with Fox News are slightly older and more likely to be black.

At the contextual level, individuals with access to Fox News are more likely to live in more populated and educated areas. For each of these however, the substantive impact is modest; moving from one standard deviation below to one standard deviation above the mean increases the predicted probability of having access to Fox News by 0.09 and 0.12, respectively. In sum, while some significant differences exist between individuals with and without cable access to Fox News, these differences appear to be substantively small and should not be considered a serious threat to the validity of this analysis. Their modest effects will be diluted in the final analysis by including them as covariates to wash out any preexisting differences between respondents with and without access to Fox News.

3 Political Participation

I define political participation in three ways. The first is a dichotomous indicator for voting $d_{i,k,2004}^{Vote}$, which equals one if individual i in county k reported voting in the 2004 general election, and zero if they report not voting. The second variable is a dichotomous indicator for political participation beyond voting $d_{i,k,2004}^{Participate}$, which equals one if individual i in county k engaged in at least one of five self-reported forms of political participation, and zero if they engaged in none of them.⁶⁴ Finally, I define $f_{i,k,2004}^{Participate}$, which equals one if individual i in county k engaged in one of the five self-reported forms of political participation, two if they engaged in two, and three if they engaged in three or more during the election.⁶⁵

The main quantity of interest is the effect of Fox News exposure on political participation. I define an ordinal variable $o_{i,k,2004}^{Fox}$, coded zero to seven to correspond with the number of days last week respondent i in county k reported watching Fox News.⁶⁶ Because I suspect this measure of exposure to be endogenous, I generate IV estimates using both 2SLS and limited information maximum likelihood (LIML) model specifications.⁶⁷ Conceptually, in the first-stage $o_{i,k,2004}^{Fox}$ is estimated, coefficients from this model are used to generate predicted values $\hat{o}_{i,k,2004}^{Fox}$, which are then used in the second-stage to estimate political participation. I estimate the following models for each dependent variable:

First Stage:

⁶⁴ The various forms of participation include: attempts to influence others votes, displaying a campaign button, attending a campaign event, volunteering for a campaign, and donating money. Descriptive statistics are presented in Table A in the appendix.

⁶⁵ Results do not change using either an additive index for political participation.

⁶⁶ In all analyses this variable is treated as continuous.

⁶⁷ The LIML estimator is more efficient and consistent than 2SLS for smaller samples sizes and weaker instruments (Stock and Watson 2011). While the voting model has over 25,000 observations, participation models have less than 5,000 observations.

$$o_{i,k,2004}^{Fox} = \beta_0 + \beta_1 v_{i,k,2004}^{HasFox} + \beta_m X_{p,2004}^{Cable} + \beta_n \Gamma_{k,2000}^{County} + \beta_j \Gamma_{i,2004}^{Demographics} + \beta_l X_{i,2004}^{region} + \varepsilon_i \quad (4)$$

Second Stage:

$$d_{i,k,2004}^{var} = \lambda_0 + \lambda_1 \hat{o}_{i,k,2004}^{Fox} + \lambda_2 X_{i,2004}^{Cable} + \lambda_n \Gamma_{k,2000}^{County} + \lambda_j \Gamma_{i,2004}^{Demographics} + \lambda_l X_{i,2004}^{region} + u_i \quad (5)$$

The independent variable of interest is Fox News exposure, $\hat{o}_{i,k,2004}^{Fox}$, coded as before. To increase the precision of the IV, I include $X_{i,2004}^{Cable}$, fixed effects for individual i 's cable carrier. I include a very strong collection of controls at both the individual and contextual levels. The vector of individual level controls: political attention, dummies for partisanship, income, gender, age, education, black, religiosity, and union household is $\Gamma_{i,2004}^{Demographics}$, while the vector of county level controls: turnout in 2000, Bush vote share in 2000, median income in 2000, and percentage with at least a bachelor's degree is $\Gamma_{k,2000}^{County}$, and regional fixed effects are $X_{i,2004}^{region}$. As before, robust standard errors are clustered at the county level. Table 4 presents results.⁶⁸

[Table 4 about here]

Looking first at Model 1, presenting results for voting. The coefficient for Fox News exposure is insignificant in the OLS specification. Recall however, that concerns about endogeneity in exposure to Fox News are what prompted an IV approach. I test this concern using a regression-based test of endogeneity,⁶⁹ which relies on 2SLS results from Model 2. Results indicate these concerns were well placed, and we can reject the null hypothesis that Fox News exposure is exogenous (p=0.036). In the 2SLS specification, the coefficient for Fox News

⁶⁸ Coefficient estimates for control variables are presented in Table 4a, Table 4b and Table 4c in the Appendix.

⁶⁹ This test consists of two steps. In the first step, the "first-stage" regressions are performed, and the residuals are obtained. In the second step, the model is fitted via OLS, with the first-stage residuals are included as additional regressors. If the coefficients on the residual terms are jointly significant in this augmented regression, then the suspected endogenous regressors of the original model are deemed truly endogenous. Here I specify a robust covariance matrix in the augmented regression, making this test robust to clustered standard errors (Cameron and Trivedi 2005, p273).

exposure is positive and significant, suggesting the OLS estimate is biased downward. Substantively, exposure to Fox News increases the probability of voting by approximately 4 percent. Note that the more conservative LIML estimate, though positive, is statistically insignificant. While not definitive, taken together these findings suggest that exposure to Fox News has a positive effect on turnout.

Turning now to Model 2, which presents results using binary specifications of participation beyond voting. The OLS coefficient for Fox News is positive and significant, indicating a positive effect of exposure on participation. The 2SLS coefficient for exposure in Model 2 is also significant, positive, and substantially larger than the previous OLS estimate. This finding supports both findings from Model 1 as well as existing research suggesting that OLS estimates of media effects are biased downward. In their work looking at the effects of elite communications in the European context, Gabel and Scheve (2007) found that OLS estimates that ignored both endogeneity and omitted variables problems were significantly biased, underestimating the magnitude of effects by as much as 50%.

Substantively, using the 2SLS estimates, exposure to Fox News increased the predicted probability of engaging in at least one participatory act beyond voting by approximately 0.04. This result is tempered somewhat however, in light of the final specification; the LIML coefficient for exposure, though positive, is statistically insignificant.

Model 3 presents results using the ordinal specification of participation. Across all specifications, the coefficient for exposure is positive and statistically significant. As before, the OLS coefficient for Fox News appears to be biased downwards. Unlike the previous model however, estimates using LIML remain both statistically significant and positive.

Overall these results, and those from the previous chapter, show a consistent and positive effect of exposure to biased news—in this case Fox News—on participation. In addition, the IV results presented here find a positive effect on voting.

3.1 *How Education Affects Bias Effects*

One of the more intriguing results from the last chapter concerned the interaction between access to biased news and level of education. Specifically, I found that the positive participatory effect of access to Fox News was constant across people with varying education levels. This is significant in light of the existing consensus surrounding the “knowledge-gap hypothesis”, which states that increasing information flows into society exacerbates existing inequalities in political knowledge across socioeconomic strata (Tichenor et al. 1970). This also has potentially normative implications, in that knowledge disparities are significantly related to disparities in participation. Both the theory of bias as cognitive subsidy and the empirical results from Chapter Three suggest that biased news may be an exception to this pattern however, and may disproportionately benefit individuals at lower education levels.

To explore this issue further, I reanalyze all models for lesser and more highly educated respondents. Based on both theory and the empirical evidence presented above that Fox News consumption is endogenous to participation, I estimate all models with 2SLS using equations (4) and (5). Because sample size is crucial in IV estimation, I define low and high education as broadly as possible; I define low education as having less than a four-year college degree and high education as having at least a four-year college degree. Table 5 presents results.⁷⁰

[Table 5 about here]

⁷⁰ Full results for all models are presented in the Appendix as Table 5a, Table 5b, and Table 5c.

Looking first at Model 1, examining turnout. In short, the results are striking. While the coefficient for Fox News consumption is both significant and positive in the Low Education model in the High Education Model it is not only insignificant, but also negative. In addition, there is a statically significant difference between the coefficients in the Low and High Education models ($p=0.041$). Substantively this indicates, not only that exposure to Fox News increases turnout, but that the participatory benefits are concentrated entirely among less educated individuals.

For Models 2 and 3, examining participation beyond voting the results are less clear. In Model 2, the coefficient for Fox News consumption is insignificant in both the Low and High Education models. As noted in Table 4 however, it is positive and marginally significant in the full model. Note however, that this model is primarily included for comparison with the results from Chapter Three, which dichotomized participation. In a 2SLS specification, Model 3 offers the most theoretically grounded and statistically sound specification.

In Model 3 the results follow the same pattern as in the voting models. The coefficient for Fox News consumption is positive and statistically significant for Low Education viewers, and while positive, statistically insignificant for High Education viewers. However, while the coefficient for Low Education viewers is larger, there is no statistical difference between the coefficients across models. Given that the coefficients are similar in magnitude and sign, the difference in standard errors could simply be a reflection of increased precision in the Low Education model as a result of a larger sample size ($N=2924$ compared to $N=1758$). Regardless, the results are still suggestive of a disproportionate participatory effect for less educated viewers.

Conclusion

The results presented show a consistent, positive effect of exposure to Fox News on political participation, including both turnout and more costly forms of participation beyond voting. Estimating media effects is a formidable challenge. However, the IV approach used here, made available by the natural experiment induced by the introduction of Fox News into local markets, makes a strong argument that these results have a causal interpretation. People who watched Fox News as their primary source of news during the 2004 presidential election were more likely to vote as a result, and more likely to engage in the process in ways going beyond voting. Importantly, this positive effect was stronger among less educated individuals; exposure to Fox News increased voting only among individuals without a college degree. These are important findings, highlighting further the double-edged nature of increasing bias in news.

These results raise some normative questions worth thinking about. By presenting news in a partisan context, biased news lowers the cost of political decisions, encouraging people to engage more in politics. At the same time, biased news is by definition incomplete or distorted. As shown in Chapter Two, it can cause viewers to hold systematic misperceptions about the state of the political world. What is the value of participation and do motivations matter? This is a question I discuss more in the Conclusion.

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Table 1: Fox News exposure and cable availability

How many days in the past week did you watch [Fox News]?	Fox News Available		Fox News Unavailable	
	Count	%	Count	%
Every day	3,190	9.38	778	8.66
Six days	260	0.76	63	0.70
Five days	919	2.70	204	2.27
Four days	536	1.58	112	1.25
Three days	736	2.17	230	2.56
Two days	893	2.63	216	2.41
One day	685	2.02	165	1.84
Never	26,774	78.76	7,213	80.31
Total	33,993	100	8,981	100

Table 2: Fox News Consumption

How many days in the past week did you watch Fox News?

	Coefficient	S.E.
Fox Availability	0.106**	(0.034)
Political Attention	0.342***	(0.015)
Republican	0.857***	(0.047)
Democrat	-0.230***	(0.041)
Income	0.041***	(0.007)
Age	0.006***	(0.001)
Education	-0.054***	(0.006)
Male	0.101***	(0.026)
Black	0.154***	(0.042)
Religiosity	0.006	(0.010)
Union Household	-0.012	(0.031)
2000 Bush Vote Share	0.131	(0.138)
Population	0.001	(0.001)
Income Per Household	0.000	(0.001)
Black Population	-0.003	(0.003)
Percent College	-1.001***	(0.301)
Regional Fixed Effects	Yes	-
Cable Carrier Fixed Effects	Yes	-
Constant	-0.461***	(0.126)
F-statistic for test of excluded instruments	90.91	-
F p-value	0.000	-
N	32635	-
R-sq	0.098	-

Table 3: Fox News Cable Availability

	County		Individual		Full	
	Coefficient	S.E.	Coefficient	S.E.	Coefficient	S.E.
County Level Variables						
2000 Bush Vote Share	1.214	(1.118)			1.378	(1.111)
Population	0.018***	(0.004)			0.018***	(0.004)
Income Per Household	0.004	(0.004)			0.004	(0.004)
Black Population	-0.004	(0.018)			-0.006	(0.018)
Percent College	7.374**	(2.412)			7.116**	(2.393)
Midwest	0.064	(0.252)			0.061	(0.248)
Northeast	0.160	(0.335)			0.150	(0.331)
West	-0.065	(0.318)			-0.064	(0.313)
Individual Variables						
Political Attention			0.027	(0.019)	0.024	(0.017)
Republican			0.045	(0.056)	0.034	(0.060)
Democrat			0.088	(0.065)	0.055	(0.060)
Income			0.036**	(0.012)	0.005	(0.009)
Age			0.002*	(0.001)	0.003**	(0.001)
Education			0.069***	(0.012)	0.034***	(0.009)
Male			-0.039	(0.029)	-0.026	(0.029)
Black			0.221	(0.234)	0.178*	(0.074)
Religiosity			-0.073***	(0.015)	-0.053***	(0.014)
Union Household			-0.094	(0.059)	-0.044	(0.043)
Constant	-0.982	(0.759)	0.717***	(0.116)	-1.353*	(0.750)
N	42669		33082		32746	
Pseudo R-sq	0.044		0.009		0.049	

Note: Entries are logistic regression coefficients. Dependent variable is whether R has cable access to Fox News. Clustered standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Table 4: Political Participation and Fox News Exposure

Dep Var	<u>Model 1</u>			<u>Model 2</u>			<u>Model 3</u>		
	Vote			Participation (binary)			Participation (ordinal)		
	OLS	2SLS	LIML	OLS	2SLS	LIML	OLS	2SLS	LIML
Fox News	0.005 (0.003)	0.043* (0.021)	0.276 (0.356)	0.015*** (0.003)	0.043+ (0.026)	0.152 (0.141)	0.038*** (0.006)	0.115* (0.055)	0.266+ (0.154)
Constant	- 0.267*** (0.056)	- 0.256*** (0.056)	-0.194 (0.132)	-0.051 (0.054)	-0.049 (0.054)	-0.043 (0.063)	-0.281** (0.108)	- 0.276* (0.109)	- 0.267* (0.121)
N	4516	4516	4516	4682	4682	4682	4682	4682	4682
R-sq	0.157	0.131	.	0.114	0.100	.	0.118	0.088	.

Note: Clustered Standard errors in parentheses

*** p<0.001, ** p<0.01, * p<0.05, + p<.10

Table 5: Political Participation and Fox News Exposure by Level of Education

Dep Var	<u>Model 1</u>			<u>Model 2</u>			<u>Model 3</u>		
	Vote			Participation (binary)			Participation (ordinal)		
Education	Low	High	All	Low	High	All	Low	High	All
Fox News	0.046* (0.022)	-0.042 (0.037)	0.043* (0.021)	0.021 (0.028)	0.045 (0.033)	0.044+ (0.026)	0.097* (0.049)	0.083 (0.068)	0.115* (0.055)
Constant	-0.281*** (0.075)	-0.014 (0.142)	-0.256*** (0.056)	-0.010 (0.071)	0.002 (0.143)	-0.049 (0.054)	-0.047 (0.132)	-0.545+ (0.317)	-0.276* (0.109)
N	2731	1785	4516	2924	1758	4682	2924	1758	4682
R-sq	0.152	0.074	0.131	0.105	0.115	0.099	0.088	0.124	0.088

Note: Entries are 2SLS coefficients. Low education is defined as less than a 4-yr degree; high education is defined as at least a four-year degree. Clustered Standard errors in parentheses. *** p<0.001, ** p<0.01, * p<0.05, + p<.10

Appendix

Table 3a: Means Tests for Respondents With and Without Cable Access to Fox News

	Mean				
	Fox News Available	Fox News Unavailable	Std Bias	t	p
Individual Variables					
Political Attention	2.12	2.05	7.4	5.48	0.000
Percent Republican	0.39	0.30	18.3	17.35	0.000
Percent Democratic	0.53	0.64	-20	-19.09	0.000
Income	5.42	5.23	10.5	10.00	0.000
Age	48.44	48.22	1.3	1.28	0.202
Education	5.50	5.18	14.2	13.62	0.000
Male	0.44	0.44	0.1	0.09	0.925
Black	0.07	0.05	9.5	8.75	0.000
Religiosity	1.85	1.93	-6.2	-5.99	0.000
Union Household	0.17	0.17	0.4	0.41	0.681
County Variables					
Bush Vote Share 2000	0.49	0.49	-0.7	-0.58	0.561
Population	26,244	20,537	34.2	28.73	0.000
Household Income	47,093	42,321	27.5	22.26	0.000
Black Population	2,796	2,341	7.7	6.57	0.000
Percent College	0.16	0.14	41.6	35.51	0.000
Midwest	0.32	0.35	-5.6	-4.75	0.000
Northeast	0.28	0.25	6.3	5.25	0.000
South	0.22	0.24	-5	-4.28	0.000
West	0.18	0.16	5.3	4.41	0.000
N	35,731	10,319			

Note: The standardized bias is a common measure of assessing covariate balance, calculated by dividing the difference in means of the covariate between groups by the average standard deviation (Rosenbaum and Rubin 1985; Stuart 2010).

Table A: Descriptive Statistics for Participatory Acts

Statistics	Min	Max	Mean	Std Dev
Influence Others	0	1	0.40	0.49
Wear Button	0	1	0.15	0.36
Attend Rally	0	1	0.08	0.27
Campaign Volunteer	0	1	0.04	0.20
Donate	0	1	0.13	0.33

Table 4a: Voting and Fox News Exposure

Models	OLS	2SLS	LIML
Fox News	0.005 (0.003)	0.043* (0.021)	0.276 (0.356)
Attention to Politics	0.085*** (0.008)	0.071*** (0.012)	-0.015 (0.134)
Republican	0.110*** (0.028)	0.062 (0.038)	-0.232 (0.449)
Democrat	0.138*** (0.027)	0.143*** (0.027)	0.172** (0.061)
Income	0.020*** (0.004)	0.018*** (0.004)	0.010 (0.014)
Age	0.007*** (0.000)	0.007*** (0.001)	0.005* (0.003)
Education	0.014*** (0.004)	0.016*** (0.004)	0.026 (0.017)
Male	-0.049*** (0.014)	-0.050*** (0.015)	-0.055* (0.025)
Black	0.133*** (0.031)	0.125*** (0.031)	0.075 (0.082)
Religiosity	0.028*** (0.006)	0.028*** (0.006)	0.026** (0.009)
Union	0.015 (0.017)	0.013 (0.017)	0.002 (0.031)
Bush Vote 2000	-0.053 (0.062)	-0.051 (0.061)	-0.037 (0.090)
Population (thousands)	-0.000 (0.000)	-0.000 (0.000)	-0.001 (0.001)
Household Income (thousands)	-0.001+ (0.000)	-0.001+ (0.000)	-0.001 (0.001)
Black Population (thousands)	0.001 (0.002)	0.001 (0.002)	0.002 (0.002)
Percent College	-0.201 (0.190)	-0.171 (0.191)	0.014 (0.361)
Midwest	0.044* (0.020)	0.054** (0.021)	0.118 (0.106)
Northeast	-0.064** (0.023)	-0.057* (0.023)	-0.013 (0.077)
West	0.156*** (0.021)	0.165*** (0.021)	0.216* (0.089)
Constant	-0.267*** (0.056)	-0.256*** (0.056)	-0.194 (0.132)
N	4516	4516	4516
R-sq	0.157	0.131	.

Robust Standard errors in parentheses

*** p<0.001, ** p<0.01, * p<0.05, + p<.10

Table 4b: Binary Participation and Fox News Exposure

Models	OLS	2SLS	LIML
Fox News	0.015*** (0.003)	0.043+ (0.026)	0.152 (0.141)
Attention to Politics	0.156*** (0.008)	0.146*** (0.012)	0.108* (0.050)
Republican	0.121*** (0.027)	0.093* (0.037)	-0.017 (0.141)
Democrat	0.170*** (0.026)	0.176*** (0.027)	0.201*** (0.046)
Income	0.011** (0.004)	0.010** (0.004)	0.008+ (0.005)
Age	-0.001** (0.000)	-0.002** (0.001)	-0.002+ (0.001)
Education	0.007* (0.003)	0.008* (0.004)	0.013+ (0.008)
Male	-0.003 (0.014)	-0.006 (0.015)	-0.020 (0.024)
Black	0.012 (0.035)	0.005 (0.036)	-0.020 (0.051)
Religiosity	0.014* (0.006)	0.014* (0.006)	0.014* (0.007)
Union	0.029 (0.019)	0.028 (0.019)	0.022 (0.023)
Bush Vote 2000	-0.026 (0.053)	-0.026 (0.054)	-0.028 (0.064)
Population (thousands)	-0.000 (0.000)	-0.000 (0.001)	-0.001 (0.001)
Household Income (thousands)	0.000 (0.000)	0.000 (0.000)	0.000 (0.001)
Black Population (thousands)	-0.001 (0.001)	-0.000 (0.001)	0.001 (0.002)
Percent College	0.061 (0.163)	0.080 (0.164)	0.159 (0.205)
Midwest	-0.022 (0.019)	-0.015 (0.020)	0.013 (0.044)
Northeast	-0.029 (0.020)	-0.022 (0.022)	0.005 (0.044)
West	-0.036 (0.023)	-0.027 (0.025)	0.007 (0.053)
Constant	-0.051 (0.054)	-0.049 (0.054)	-0.043 (0.063)
N	4682	4682	4682
R-sq	0.114	0.100	.

Clustered Standard errors in parentheses

*** p<0.001, ** p<0.01, * p<0.05, + p<.10

Table 4c: Ordinal Participation and Fox News Exposure

Models	OLS	2SLS	LIML
Fox News	0.038*** (0.006)	0.115* (0.055)	0.266+ (0.154)
Attention to Politics	0.284*** (0.014)	0.257*** (0.023)	0.204*** (0.056)
Republican	0.231*** (0.044)	0.153* (0.070)	0.002 (0.157)
Democrat	0.337*** (0.042)	0.354*** (0.045)	0.389*** (0.063)
Income	0.017* (0.007)	0.015* (0.007)	0.013 (0.008)
Age	-0.002* (0.001)	-0.003* (0.001)	-0.004* (0.002)
Education	0.028*** (0.007)	0.032*** (0.007)	0.039*** (0.010)
Male	-0.032 (0.026)	-0.041 (0.028)	-0.060+ (0.036)
Black	-0.039 (0.056)	-0.057 (0.057)	-0.092 (0.069)
Religiosity	0.026* (0.010)	0.025* (0.011)	0.025* (0.012)
Union	0.071+ (0.037)	0.067+ (0.038)	0.059 (0.043)
Bush Vote 2000	-0.058 (0.099)	-0.059 (0.101)	-0.061 (0.115)
Population (thousands)	-0.000 (0.001)	-0.000 (0.001)	-0.001 (0.001)
Household Income (thousands)	-0.000 (0.001)	-0.000 (0.001)	-0.000 (0.001)
Black Population (thousands)	-0.001 (0.002)	-0.000 (0.003)	0.001 (0.003)
Percent College	0.116 (0.290)	0.171 (0.300)	0.279 (0.350)
Midwest	-0.035 (0.038)	-0.015 (0.041)	0.024 (0.060)
Northeast	-0.076* (0.037)	-0.056 (0.041)	-0.019 (0.061)
West	-0.064 (0.046)	-0.040 (0.054)	0.007 (0.077)
Constant	-0.281** (0.108)	-0.276* (0.109)	-0.267* (0.121)
N	4682	4682	4682
R-sq	0.118	0.088	.

Clustered Standard errors in parentheses

*** p<0.001, ** p<0.01, * p<0.05, + p<.10

Table 5a: Voting and Fox News Exposure by Education

Models	Low Education	High Education	All
Fox News	0.046* (0.022)	-0.042 (0.037)	0.043* (0.021)
Attention to Politics	0.070*** (0.013)	0.097*** (0.021)	0.071*** (0.012)
Republican	0.068+ (0.039)	0.156* (0.070)	0.062+ (0.038)
Democrat	0.143*** (0.030)	0.109* (0.054)	0.143*** (0.027)
Income	0.020*** (0.005)	0.019** (0.007)	0.018*** (0.004)
Age	0.008*** (0.001)	0.006*** (0.001)	0.007*** (0.001)
Education	0.017* (0.007)	-0.007 (0.014)	0.016*** (0.004)
Male	-0.042* (0.019)	-0.043+ (0.024)	-0.050*** (0.015)
Black	0.155*** (0.035)	0.069 (0.054)	0.125*** (0.031)
Religiosity	0.032*** (0.007)	0.022* (0.009)	0.028*** (0.006)
Union	-0.001 (0.022)	0.025 (0.030)	0.013 (0.017)
Bush Vote 2000	-0.076 (0.077)	-0.071 (0.093)	-0.051 (0.061)
Population (thousands)	-0.002** (0.001)	0.001 (0.001)	-0.000 (0.000)
Household Income (thousands)	-0.001 (0.001)	-0.001 (0.001)	-0.001+ (0.000)
Black Population (thousands)	0.002 (0.002)	0.001 (0.003)	0.001 (0.002)
Percent College	-0.062 (0.226)	-0.481+ (0.291)	-0.171 (0.191)
Midwest	0.038 (0.026)	0.067* (0.034)	0.054** (0.021)
Northeast	-0.047 (0.029)	-0.080* (0.036)	-0.057* (0.023)
West	0.149*** (0.027)	0.183*** (0.035)	0.165*** (0.021)
Constant	-0.281*** (0.075)	-0.014 (0.142)	-0.256*** (0.056)
N	2731	1785	4516
R-sq	0.152	0.074	0.131

Note: Entries are 2SLS coefficients. Low education is defined as less than a 4-yr degree; high education is defined as at least a four-year degree. Clustered Standard errors in parentheses.

*** p<0.001, ** p<0.01, * p<0.05, + p<.10

Table 5b: Binary Participation and Fox News Exposure by Education

Models	Low Education	High Education	All
Fox News	0.021 (0.028)	0.045 (0.033)	0.044+ (0.026)
Attention to Politics	0.134*** (0.014)	0.187*** (0.017)	0.146*** (0.012)
Republican	0.161*** (0.042)	-0.002 (0.059)	0.092* (0.038)
Democrat	0.151*** (0.031)	0.201*** (0.047)	0.177*** (0.027)
Income	0.009+ (0.005)	0.012+ (0.007)	0.010** (0.004)
Age	-0.001+ (0.001)	-0.001 (0.001)	-0.002** (0.001)
Education	0.012+ (0.007)	-0.022 (0.015)	0.008* (0.004)
Male	0.009 (0.019)	-0.028 (0.023)	-0.006 (0.015)
Black	0.047 (0.041)	-0.098 (0.069)	0.005 (0.036)
Religiosity	0.010 (0.007)	0.028** (0.009)	0.014* (0.006)
Union	0.028 (0.024)	0.039 (0.032)	0.028 (0.019)
Bush Vote 2000	-0.040 (0.064)	-0.001 (0.079)	-0.026 (0.054)
Population (thousands)	-0.001 (0.001)	0.001 (0.001)	-0.000 (0.001)
Household Income (thousands)	0.000 (0.001)	-0.000 (0.001)	0.000 (0.000)
Black Population (thousands)	0.001 (0.002)	-0.003 (0.003)	-0.000 (0.001)
Percent College	-0.106 (0.192)	0.283 (0.251)	0.081 (0.164)
Midwest	-0.026 (0.024)	0.009 (0.034)	-0.015 (0.020)
Northeast	-0.048+ (0.026)	0.021 (0.033)	-0.022 (0.022)
West	-0.056+ (0.030)	0.010 (0.038)	-0.027 (0.025)
Constant	-0.010 (0.071)	0.002 (0.143)	-0.049 (0.054)
N	2924	1758	4682
R-sq	0.105	0.115	0.099

Note: Entries are 2SLS coefficients. Low education is defined as less than a 4-yr degree; high education is defined as at least a four-year degree. Clustered Standard errors in parentheses.

*** p<0.001, ** p<0.01, * p<0.05, + p<.10

Table 5c: Ordinal Participation and Fox News Exposure by Education

Models	Low Education	High Education	All
Fox News	0.097* (0.049)	0.083 (0.068)	0.115* (0.055)
Attention to Politics	0.213*** (0.026)	0.381*** (0.036)	0.257*** (0.023)
Republican	0.254*** (0.069)	0.064 (0.110)	0.153* (0.070)
Democrat	0.285*** (0.049)	0.454*** (0.089)	0.354*** (0.045)
Income	0.007 (0.009)	0.032* (0.013)	0.015* (0.007)
Age	-0.003** (0.001)	0.000 (0.002)	-0.003* (0.001)
Education	0.033** (0.013)	-0.017 (0.031)	0.032*** (0.007)
Male	-0.016 (0.032)	-0.069 (0.048)	-0.041 (0.028)
Black	0.020 (0.065)	-0.238* (0.120)	-0.057 (0.057)
Religiosity	0.036** (0.013)	0.026 (0.019)	0.025* (0.011)
Union	0.032 (0.045)	0.147* (0.068)	0.067+ (0.038)
Bush Vote 2000	-0.215+ (0.122)	0.150 (0.171)	-0.059 (0.101)
Population (thousands)	-0.002 (0.001)	0.002 (0.002)	-0.000 (0.001)
Household Income (thousands)	0.001 (0.001)	-0.002 (0.001)	-0.000 (0.001)
Black Population (thousands)	0.002 (0.004)	-0.003 (0.006)	-0.000 (0.003)
Percent College	-0.091 (0.357)	0.398 (0.483)	0.171 (0.300)
Midwest	-0.026 (0.045)	0.012 (0.076)	-0.015 (0.041)
Northeast	-0.085+ (0.045)	-0.031 (0.069)	-0.057 (0.041)
West	-0.067 (0.056)	-0.028 (0.083)	-0.040 (0.054)
Constant	-0.047 (0.132)	-0.545+ (0.317)	-0.276* (0.109)
N	2924	1758	4682
R-sq	0.088	0.124	0.088

Note: Entries are 2SLS coefficients. Low education is defined as less than a 4-yr degree; high education is defined as at least a four-year degree. Clustered Standard errors in parentheses.

*** p<0.001, ** p<0.01, * p<0.05, + p<.10

Chapter Six: Conclusion

The role of the news media in democracy is fundamental, and changes in the media environment unavoidably have political repercussions. Born out of strategic partisan considerations, the news media has evolved with the changing political and economic climate. The introduction of television, the expansion of cable, the advent of the Internet, all have fundamentally altered the connection between the people and their government. Recently, the political relevance of the media environment has received increased attention in political science literatures. Despite this, empirical studies examining the consequences of the rise and popularity of partisan bias in news remain scarce.

This dissertation fills this void, and contributes to ongoing debates about the political impact of increased media choice, moving beyond the question of whether politically inattentive citizens are exposed to enough information and focusing instead on the hitherto underappreciated question of the impact of exposure to information with explicit political viewpoints. The preceding chapters have demonstrated how the rise of biased news changes patterns of news exposure, alters political beliefs, and increases political participation. In this Conclusion, I briefly summarize some of the key theoretical and empirical findings, findings that contradict existing studies of media expansion and introduce new insight into the process of partisan selective exposure to news media. I then discuss their normative implications and highlight some potentially important areas for future research.

This project began by demonstrating how selective exposure can result unintentionally out of biases in information processing and people's desire for credible information. And while

consumption of biased news contributes to mass polarization by encouraging systematic misperceptions about the factual basis for policy debates, the provision of biased news combats political apathy by subsidizing the cost of political decision-making, leading to a more active and engaged electorate. Taken together, these findings show that knee-jerk condemnations of bias in media must be balanced with recognition that it has some surprising upsides.

Congenial Media Effect

The modern news audience is fragmented. While assumptions abound, understanding the consequences of news choice means unpacking the mechanism behind it. Using a nationally representative survey experiment, I have shown how distorted perceptions of news bias and credibility drive evaluations of news value, through what I termed a congenial media effect. A congenial media effect occurs when individuals are exposed to news coverage slanted in favor of their beliefs; the effect minimizes perceptions of bias while enhancing perceptions of credibility and informativeness. The strength of this effect interacts with intensity of belief, to the extent that the only news seen by strong partisans as objective is biased news reinforcing their worldview. As these individuals increasingly comprise the bulk of the news audience, the market for objective news shrinks.

In short, even if we could assume news choice is driven by the commendable desire for unbiased and credible information, news consumers will unavoidably sort themselves into partisan audiences for partisan news if they are given the option. As media choice siphons casual news viewers away from the regular news audience, partisan news providers will unavoidably dominate a for-profit news market. The extent to which selective exposure characterizes individual's news consumption today is a testament to the expansion of media choice and the recognition among news providers that biased news sells.

Understanding this process is an important step towards understanding its consequences. In theory, the rise of partisan news does not preclude the media as an institution from performing its democratic function, since the full range of information is still publically available. However, rather than enhancing democracy by forcing all political perspectives to battle for the public's favor in a true marketplace of ideas, increasing choice has simply facilitated peoples' natural inclination to avoid dissonant information as possible (Festinger 1957). From this perspective, cognitive biases in processing the news allow patterns of political selective exposure to be rationalized by encouraging the perception that congenial news sources offer the most unbiased and credible coverage.

This process creates a potentially troubling pattern. In the absence of trusted information, the influences of partisan predispositions increasingly drive beliefs about political reality (Ladd 2011). What the congenial media effect documented here shows is that the inverse is true as well. The most trusted information is that which confirms people's predispositions and news sources providing congenial information receive lasting reputations for credibility. Taken together, these findings describe a world where the most politically active members of society are increasingly ensconced in distinct and self-reinforcing knowledge networks, convinced they are privy to the most credible and unbiased information available. Political polarization is a natural consequence.

This is not to suggest that partisan media is completely to blame for the current polarized political climate (see Abramowitz and Saunders 1998; Hetherington 2002; Nivola and Brady 2007; Fiorina and Abrams 2008). Indeed, a certain degree of partisan polarization is a necessary precondition for the provision of partisan news (Bernhardt et al. 2008). However, the introduction of partisan news into an already polarized climate should be expected to have a

solidifying effect, entrenching existing polarization by providing a veneer of credibility to arguments and information rationalizing partisan viewpoints.

An important normative consequence of this is the extension of polarization beyond disagreement over policy options such as abortion or defense spending, to disagreements over the factual nature of existing or proposed policy, particularly for policy issues dealing with abstract concepts only measurable at a conceptual-level beyond individual experience. In a fractured news environment, competing political incentives drive coverage across news providers, which may produce competing misperceptions about the political realities underlying policy preferences.

The segregation of news audiences into partisan niches means that scholars need to rethink the substantive impact of some well-known media effects: agenda setting, framing, and priming (see Scheufele and Tewksbury 2007 for a review of this expansive literature). By providing a direct and exclusive line of communication between party elites and partisan segments of the public, selective exposure to biased news narrows the scope of elite discourse to which mass partisans are exposed to. By increasing consonance between the attitudes of elite and mass partisans, this process should be expected to extend existing elite polarization about what is important and what is at stake to the mass level (Zaller 1992; 1996).

Misperceptions

As decisions about what issues to cover and how to cover them are increasingly driven by partisan strategies, public disagreements over what is important, indeed what is real, will increasingly reflect the distortions of biased news sources. This can have significant consequences for democratic outcomes.

For example, consider that public opposition to welfare is driven in part by systematic public misperceptions about the proportion of African Americans among the poor, misperceptions in turn resulting from their over-portrayal in news coverage of the poor (Gilens 1996; 1999). In this instance, the public mistakenly believes many more African Americans are on welfare than is actually the case. What is crucial is that this incorrect belief is widely shared and results from a common pattern of over-coverage across all or most news providers. That is, almost *everybody* overestimates the proportion of welfare recipients that are African American because nearly *every* news organization made it seem that way. In the era of partisan news, decisions about how to cover issues are driven by partisan loyalties, which differ across news providers. In this environment, many of the broadly shared public beliefs about the nature of the world, be they true or false, will be replaced by partisan disagreements over what is fact and fiction.

In looking at news coverage of healthcare reform debate this is exactly what happened. By emphasizing the partisan arguments of House Republicans, Fox News encouraged its viewers to form very specific beliefs about the likely outcome of reform. In turn, MSNBC's coverage shaped viewers' beliefs in a manner reflecting the partisan arguments of House Democrats. And while CNN provided relatively unbiased coverage, its substantive impact on public perceptions was limited by the popularity of its partisan rivals.

Support and opposition to policy proposals is derived largely from perceptions about their likely outcome (Jerit 2009). By altering public perceptions about what reform entailed, Fox News helped galvanize opposition to reform. And while reform legislation ultimately passed, among House Republicans and party activists opposition remains fierce to this day. That public opposition is partly a product of misunderstandings about what reform actually does indicates a

troubling cycle may be unfolding. By cultivating political disagreements based on factual misperceptions rather than values, biased news undermines opportunities for legislative consensus in the future.

Following the passage of healthcare reform into law, conservative journalist David Frum echoed this line of thought, lamenting the role of Fox News and talk radio as having, “whipped the Republican voting base into such a frenzy that deal-making was rendered impossible. How do you negotiate with somebody who wants to murder your grandmother? Or – more exactly – with somebody whom your voters have been persuaded to believe wants to murder their grandmother?”⁷¹

There are important normative implications should these kinds of hyperbolic disagreements increasingly characterize the electorate; having a common understanding, a common agreement about political reality is necessary for successful self-governance. Without some common ground, there is no place for compromise. In a federal system designed to operate effectively only on the basis of broad consensus, the absence of a middle ground is a problem.

Bias as Cognitive Subsidy

And yet, all is not doom and gloom; there are some surprising benefits to biased news. While overstated (see McDonald and Popkin 2001) the low level of voter turnout in the U.S. is often treated as cause for concern, raising questions of legitimacy, representation, and the overall health of our democracy (e.g. Teixeira 1992; Piven 2000; Wattenberg 2003). Technological advances and increased media choice have exacerbated these concerns, increasing political apathy by allowing people to largely disengage from the political process (Prior 2005; 2007). The introduction of partisan news providers is an exception to this rule however. By presenting

⁷¹ <http://www.frumforum.com/waterloo/>

news in a partisan context, biased news reduces uncertainty, lowers the cost of political decision-making, thereby encouraging people to engage more in politics.

This dynamic played out during both the 2002 congressional elections and the 2004 presidential election, where people who watched Fox News as their primary source of news were more likely to participate as a result, and in 2004 were more likely to vote as well. While estimating media effects is difficult, by taking advantage of the natural experiment induced by the introduction of Fox News into local markets I am able to marshal strong evidence that this relationship is causal in nature.

It is equally important to note that the positive participatory effects of news bias appear concentrated among less educated individuals. That is, exposure to Fox News increased voting only among individuals without a college degree. This is particularly important from a normative perspective given widespread concerns about systematic inequities in who participates in the political system and how effectively. In this, biased news proves to be an exception to research showing that increasing the flow of information into society generally worsens existing socio-economic inequities in participation (e.g. Tichenor et al. 1970; Eveland and Scheufele 2000; Prior 2005). Viewed solely from these perspectives, the rise of partisan news providers would appear to have a positive effect on democratic governance.

At the same time, as outlined above, reliance on biased news sources can lead to factual misperceptions when the truth is inconvenient to the party line. There is a certain patronizing odor to even posing the question, but is all participation equally good and does the motivation behind it matter? One way of thinking about how to evaluate the democratic worth of biased news is, does biased news facilitate “correct” voting? That is, does it lead people to more-or-less the same decision they would make if they were fully (and correctly) informed? This question

has been addressed empirically in the context of the debate over the use of voting heuristics more generally (e.g. Lupia 1994; Lupia and McCubbins 1998). Addressing the potential for biased news to facilitate or handicap “correct” voting should be a priority for future research.

At some point it must be pointed out that in the analyses detailed above, I refer to the effects of biased news, but the empirical work only look at Fox News. This naturally raises the questions, “Is this a bias effect or is this a Fox News effect?” Unfortunately the empirical evidence available at present cannot answer this question definitively. There is reason to believe that the positive participatory effects shown here are more than simply a “Fox effect” however, and instead reflect a broader causal relationship between biased news and political participation. For example, in Chapters Two I show that, while Republicans are more suspicious of the news media in general, Democrats are equally susceptible to congenial media effects when presented with supportive news coverage. In addition, in Chapter Three the polarization effects of biased coverage are symmetrical for MSNBC and Fox News viewers. Conducting additional empirical analyses of whether the participatory effects of bias go beyond Fox News is a logical future research project.

Concluding Remarks

Partisan news isn’t new. Partisan news in a mass mediated context is new. Unlike its predecessor, today’s partisan press is controlled by market forces rather than partisan elites. It is important to realize that as such, partisan news providers have no investment in political outcomes per se. Cable news is a profit-driven enterprise, oriented around the goal of maximizing viewership for advertisers, not informing the public, and not helping either political party win elections or govern effectively. While cable news providers may derive some benefits

from “their” side winning, in the sense that winning leads to viewership increases⁷², in some ways the incentives of biased news providers run counter to those of the political parties to which they are ostensibly aligned.

Consider that there were over 120 million votes cast in the 2012 presidential election. On a good night, total primetime viewership for ratings and profit behemoth Fox News is less than 3 million viewers. Viewership for its nearest competitor, MSNBC, is routinely below 1 million. Thus, while cable news can be (very) profitable by catering to 3 percent of the electorate, a political party concerned with winning national elections must cater to a much larger group in order to form a national majority coalition, and a political party concerned with governing effectively requires a larger majority still. This dynamic raises the question of who is leading whom? Are Fox News and MSNBC really subsidiaries of the Republican and Democratic Parties as it is often portrayed, or is the relationship between them more dynamic? Examining more closely the power dynamic between partisan press and parties in government is an exciting prospect for future research.

Examined systematically, the introduction of biased news forces us to confront yet another tradeoff between competing democratic values. Equality is often the antithesis of liberty. Security must be balanced against privacy. And political engagement may come at the expense of common understanding. Biased news agitates, increasing public engagement with the political process; at the same time, biased news distorts facts and omits relevant information. It undermines disagreements arising from different value systems, instead emphasizing those based

⁷² For example, in the week following revelations that the IRS targeted conservative groups and the Justice Department had improperly obtained emails from prominent news organizations, Fox News ratings went up 17 percent while MSNBC’s ratings fell 22 percent (<http://tvbythenumbers.zap2it.com>). Similarly, in the weeks following President Obama’s 2012 election, MSNBC posted record ratings gains (http://www.mediabistro.com/tvnewser/october-2012-ratings-msnbc-has-strongest-month-in-years_b152807).

on misperceptions and distorted facts, disagreements inherently less open to compromise. Biased news thus not only contributes to mass polarization directly, but because these effects are concentrated among party activists, biased news also has likely a spillover effect on Congress as well. The question of how biased news alters congressional incentives by encouraging party activists to view politics as a zero-sum game is another fertile avenue for additional research.

In summary, my hope is that the results presented in this dissertation help move the literature forward, illustrating the double-edged nature of news bias, and highlighting important avenues for future research. In a bygone era it was said, “Everyone is entitled to their own opinion, but not their own facts.” In the modern era, biased news providers have—if not the right—the ability to create their own facts. From pseudo-debates over the science of climate change to fictional depictions of Christians as a persecuted minority, the proliferation of biased, yet superficially credible news sources means that what is real is more open to debate than ever. As a result, individuals today may be increasingly active in politics as a result of unwittingly sorting themselves into closed-circuit media environments where facts, non-facts, and pretend information are indistinguishable.

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