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# **Media Versus Individual Frames and Horizontal Knowledge Gaps**

**A Study of the 2010 Health Care Reform Debate Online**

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## **Abstract**

This study explores the relationship between online news coverage, media use, and political knowledge in the contemporary media environment. Using the debate over health care reform legislation in 2010 as the backdrop, content analysis was performed on 1,268 stories from 10 online news outlets over a 1-month period to identify the media frames being perpetuated by more ideologically partisan versus nonpartisan media organizations. A survey was then conducted with 333 participants to investigate media audience news consumption patterns and their individual frames regarding the issue of health care reform. Results suggest that a person's individual frames held concerning health care reform often match up with the media frames offered by his or her preferred news outlets. Consequently, a "horizontal" knowledge gap may be observed as a function of the polarization of news coverage and news consumption. Theoretical contributions and implications for later work are discussed.

*Keywords: media frames, individual frames, polarization of news, horizontal knowledge gaps, online news*

## Introduction

Media audiences can now choose from an unprecedented array of content sources, including countless television channels, websites, instant text messages, Twitter tweets, and Facebook updates. Emerging online platforms, in particular, dramatically increase audience control over how, what, when, and why they interact with media content (Prior, 2007; Rittenberg, Tewksbury, & Casey, 2012). As the media environment moves from the mass-mediated model of the broadcast era to the increasingly personalized model of the digital age, scholars have also been asking questions about the consequences of this shift, particularly in the realm of politics. For example, commentators note that the decentralized nature of the new media environment is empowering more new voices and actors to participate in politics (e.g., Bakker & de Vreese, 2011; Earl & Kimport, 2011; Östman, 2012). On the other hand, a growing number of studies maintain that the media audience has become more fragmented and polarized; to wit, it is much easier for consumers to receive or take shelter from different information, according to their existing beliefs, and to communicate with like-minded others through various social networking tools (Bucy, Gantz, & Wang, 2007; Garrett, 2009; Jeffres, Atkin, & Fu, 2011; Mutz, 2006).

We begin with the assumption that individuals are more empowered in the current media environment to engage with vastly diverging information according to their different personal backgrounds, interests, and social identities to engage with vastly diverging information—particularly *the news* (Jeffres, Neuendorf, & Atkin, 2012). Since news has long been considered by scholars as one of the threads that create shared memories, experiences, and emotional attachments that connect people together in a community and culture (e.g., Anderson, 1993; Bucy et al., 2007; Carey, 1989), is it possible that individuals can still find common threads in the immense, unorganized, and unfiltered information environment? Or, to the contrary, would we see the empowered media audience starting to embrace different perceptions and realities based on the media content they receive? Or, as Graber (2001) asked, “If citizens do not drink from the same well of information, will they splinter into communication ghettos?” (p. 166).

These questions frame the broader theoretical foundation driving the present research, which has two primary purposes; namely, to explore whether (a) different online news outlets report a single public affairs issue differently and (b) media audience’s perception of the said public affairs issue is subsequently influenced by such coverage. Toward that end, a content analysis of online news coverage and an audience survey were conducted using the health care reform legislation in 2010 as the backdrop. The health care reform legislation was selected because it emerged as one of the major news topics in 2010<sup>1</sup> (Project for Excellence, 2011). Therefore, the issue was not only heavily covered in the news media but also well known among the public—thereby offering ample opportunities to examine the characteristics of news coverage and consumption in the contemporary media environment.

Taken together, these two studies provide insight into the world of online news as well as the relationship between media consumption and political knowledge in the information environment today.

## Literature Review

### The Contemporary Media Environment

Scholars and practitioners alike point to two important characteristics of the contemporary media environment that are driving the trends in media production and consumption. First, the media audience is faced with a dramatic increase in information and media choices (Prior, 2007). For instance, television viewers today enjoy many more choices than ever before, in terms of both content genre (e.g., news, comedy, drama, sports, reality shows, etc.) and the number of programs available within each content category. Combined with other entertainment options, such as video games or online activities, media audiences are consequently dispersed across different channels and media. Second, with the advent of new communication technologies—ranging from on-demand television bundles to Rich Site Summary (RSS) feeds to *TiVo* and *YouTube*—audiences today are also enjoying a greater level of control over their media diets. This reinforces a “daily me” dynamic (Bucy et al., 2007), one characterized by the consumption of personalized information (Hunt, Atkin, & Krishnan, 2012).<sup>2</sup>

With today’s diverse, high-control media landscape and an increasingly unfiltered information environment, there is emerging evidence that media audiences, particularly those who hold strong partisan beliefs, are now receiving their news from different sources (e.g., Lin, 2009; Oeldorf-Hirsch & Sundar, 2012; Schmierbach & Oeldorf-Hirsch, 2012). The concept of selective exposure (e.g., Frey, 1986; Sears & Freedman, 1967) and the congruity theory of attitude change (e.g., Osgood & Tannenbaum, 1955; Stachowiak & Moss, 1965) have long comprised a major research agenda for communication scholars and social psychologists. Renewed concerns about this notion of partisan news exposure began to surface, however, as digital communication technologies become an indispensable part of the media and cultural fabrics of the past decade. Sunstein (2001), for instance, raised important questions about the danger of personalized information leading to an increasingly fragmented and polarized citizenry. Research studies in the years to follow have lent empirical support to the claim (Coe et al., 2008; Dilliplane, 2011; Garrett, 2009; Iyengar & Hahn, 2009; Nowak, Hamilton, Atkin, & Rauh, 2010; Stroud, 2008) that polarization in news consumption can influence partisan attitudes and level of participation over time. In fact, a recent Pew Research (2011) survey found that the public’s political attitudes have become more doctrinaire at both ends of the ideological spectrum.

In addition to the polarizing of media audiences, several popular books argue that major U.S. media outlets are reporting the news with a severe bias. Depending on the author’s ideological stance, the alleged media bias is either to the left (e.g., Goldberg, 2003; Groseclose, 2011) or to the right (e.g., Alterman, 2003), which exacerbates perceptions governing the lack of media credibility already held by many in the public. With the rise of citizen journalism (Goode, 2009; Kaufhold, Valenzuela, & Zuniga, 2010)—which plays an increasingly active role in the dissemination and analysis of information—the news environment has grown ever more unfiltered and chaotic. The confluence of these changes from the media industry—as well as the audience’s perspective—raises the important question of what the polarizing media audience and the shifting media consumption patterns might mean. One possibility is that with the media audience segregating themselves in seeking information from different news outlets, many of which are assumed to

present biased reporting that highlights certain aspects of an issue or news story over others, *people are exposed to and perhaps will subsequently believe in different “versions” of the same issue.*

Support for this proposition can be found in recent empirical work. An example of this divergent issue interpretation is illustrated by the prominence of conspiracy theories about the citizenship of Barack Obama, which question whether the President is a natural-born U.S. citizen. In a Harris Opinion Poll conducted in March 2010, 25% of the respondents said they believed that Obama was not born in the United States and was therefore not eligible to be President.<sup>3</sup> The section to follow outlines how these selective learning processes shape audience gaps in knowledge.

### **A “Horizontal” Knowledge Gap?**

The review of literature thus far has established that the contemporary media environment makes it easier for individuals to “tune in” to a specific media outlet that they particularly like or find easier to understand, or to “tune out” media outlets that present information that challenges their prior beliefs, or opinions that they do not necessarily agree with. Theoretically, it is then reasonable to argue that we may find people relegated to personalized information silos—constructed based on their own ideological leanings—with very little flow of information from outside. This trend of politicizing the news may continue, wherein media outlets report news events with an ideological spin compatible with the news organization’s particular political leaning. This process may foster a growing divide within the electorate governing the perception (and understanding) of a single public affairs issue—or current event—which could be characterized as a *horizontal knowledge gap*.

This idea of a horizontal knowledge gap can be traced back to the knowledge gap hypothesis articulated by Tichenor, Donohue, and Olien (1970, p. 159) who proposed that “as the infusion of mass media information into a social system increases, segments of the population with higher socioeconomic status (SES) tend to acquire this information at a faster rate than the lower status segments” due to their higher levels of education, better communications skills, and more relevant personal contexts. Over time, a gap in knowledge of various current events or public affairs issues may be found in the population. While the original knowledge gap hypothesis is still valid today, particularly as gaps in different socioeconomic status clusters continue to create differential knowledge gains, it takes little account of the high-choice and high-control characteristics of the contemporary media environment.

The idea of a horizontal knowledge gap therefore adds to the knowledge gap literature by focusing on the media audience’s *motivation* and *choice* of media outlet. A working definition for the horizontal knowledge gap would be explicated as variations in perception and interpretation of a *given* public affairs issue or current event between media audiences who embrace different political values and ideologies. In particular, this gap will develop along the dimensions of one’s political affiliation and ideologies, as these existing values and beliefs motivate individuals to choose media outlets that provide them with information about politics (e.g., Lin, 2009). Self-identified Democrats will prefer to receive information from liberal-leaning media outlets that are covering, for instance, news about the war in Afghanistan with more of a liberal spin. Likewise, self-identified Republicans will gravitate toward conservative-leaning media outlets that cover the

war in Afghanistan with more of a conservative flavor. Collectively, we may find two very different interpretations of the same event (the war in Afghanistan) among two (or more) groups of media audiences, which would have serious consequences for democratic discourse and governance.

Conceptually, this gap in political knowledge—resulting from an individual’s media outlet choice—stretches *along a horizontal line between the liberal (left) and the conservative (right) ideological spectrum*. To wit, this process encourages the formation of a horizontal knowledge gap. The section to follow outlines two different media framing dynamics that shape knowledge gap influences of this sort.

### **Framing: Media Frames Versus Individual Frames**

One of the underlying factors governing the formation of horizontal knowledge gaps involves the ways in which different media outlets cover the same public issue, or how certain aspects of an issue or event are being highlighted by journalists. To that end, the concept of framing can help explicate the process. Framing refers to the idea that “how an issue is characterized in news reports can have an influence on how it is interpreted and understood by audiences” (Scheufele & Tewksbury, 2007, p. 11). According to Gans (1979), framing becomes a valuable tool for journalists as they attempt to produce stories more efficiently under such organizational pressures as space constraints or airtime limits. Framing can also help reduce the complexity of an issue and make a news story more relatable, as journalists can “frame” their stories using existing schemas and contexts accessible to the audience. While the assumption that journalists spin every story according to their own beliefs and values or to deceive the audiences may not be accurate, the “statement bias” described previously can seep into news coverage, thus creating an effect on the ways in which people form impressions and attitudes about events in the news.

Two concepts of framing that deserve further attention are what Scheufele (1999) termed media frames and individual frames. A *media frame* is conceptually defined as “a central organizing idea or story line that provides meaning to an unfolding strip of events ... the frame suggests what the controversy is about, the essence of the issue” (Gamson & Modigliani, 1987, p. 143). In other words, it can be seen as the “schema” that mass media offer to the audience in order to help them interpret and understand various news events. Or, if one were to describe the media–audience relationship using the classic Sender-Message-Channel-Receiver model of communication (Berlo, 1960), a media frame can be characterized as the message that the news organizations (sender) are trying to send to the audience (receiver). Since media frames inevitably result from the news production process, media framing is not necessarily intentional (Gamson, 1989).

In contrast to the frames provided by the mass media, an *individual frame* is defined as the “mentally stored clusters of ideas that guide individuals’ processing of information” (Entman, 1993, p. 53). Similarly, Kinder and Sanders (1990) also suggest that individual frames can be thought of as the “internal structures of the mind” (p. 74). Individual frames are therefore the schema that people use to understand and interpret news events. These frames may derive from long-term political and ideological affiliations developed over time—as a result of socialization, personality differences, and other micro-level factors—but may also stem from short-term, issue-

related references (e.g., from mass media frames). In other words, if a media frame represents *messages* that media organizations send to the audience, individual frames tell us how these messages are *received* by audience members.

The literature reviewed previously underscores the importance of first identifying the media frames associated with a public affairs issue perpetuated through various media outlets. Since salient issues can help provide the most robust forum for exploring framing dynamics, the present study focuses on health care reform legislation as an example. The first research question is therefore:

**Research Question 1:** What are the media frames associated with health care reform legislation?

As a follow-up, given the discussion previously that different media outlets could politicize the news by emphasizing different aspects of an issue in their reporting, the second research question aims to examine this possibility by asking:

**Research Question 2:** Do the media frames identified in Research Question 1 differ for various media outlets?

Finally, if different media outlets perpetuate different media frames, is it possible that the empowered media audience would also selectively receive this information in their individual frames, thereby offering some initial evidence of a horizontal knowledge gap? Since the literature provides no clear direction on the nature and direction of such an influence, the third question inquires:

**Research Question 3:** Do the media audiences' individual frames correspond to the media frames perpetuated by their preferred media outlets?

## Method

### Content Analysis

To address the first two research questions, content analysis was performed on stories produced by online news media outlets. Online media outlets were used because the web is a microcosm of the high-choice, high-control, and unfiltered contemporary media environment (e.g., Godek & Yates, 2005). Using news website ranking information from *Alexa* and *Technorati*, 10 online media outlets ranging from newspaper, cable news network, news wire services, and blogs were selected as the sample. A news outlet's ideological leaning was determined using Hargittai, Gallo, and Kane's (2008) method of identification by looking at political party affiliation cues, such as banners, buttons, links, and outright announcements of support or allegiance, throughout the website. For data collection, news stories that focus on the health care debate were tracked for roughly 30 days (from February 22 to March 24, 2010). Stories from specific news sections (e.g., U.S. news, politics, and front page) of each website were collected daily via RSS feeds using *Google Reader* and screened for the topic. A story was determined to be appropriate for inclusion if it met one of the two criteria: (1) it provides information about the political process revolving around the health care legislation and (2) it covers the potential impact of the proposed legislation,

such as government oversight, quality of care, or implications for small businesses. These two criteria allowed us to capture important facts about the key political actors surrounding the legislation. This also provided us with a more holistic view of the larger discourse by identifying possible points of contention between supporters and opponents of the legislation. Once a particular story was selected, the entire content of the story was stored in a spreadsheet for analysis. Overall, a total number of 1,268 stories were collected (see Table 1).

**Table 1.** Media Outlets and Number of Articles Sampled for Content Analysis.

Media Type	Name	Ideological Leaning	Number of Articles Included
Newspaper—national	<i>New York Times</i>	Neutral	56
Newspaper—local	<i>Star Tribune</i>	Neutral	65
Wire service	<i>Associated Press</i>	Neutral	65
Wire service	<i>Reuters</i>	Neutral	83
Cable news	<i>CNN</i>	Neutral	73
Cable news	<i>Fox News</i>	Right leaning	132
Cable news	<i>MSNBC</i>	Left leaning	68
Political blogs	<i>Huffington Post</i>	Left leaning	401
Political blogs	<i>Hot Air</i>	Right leaning	145
Political blogs	<i>The Corner</i>	Right leaning	180
Total	1,268		

### Media Audience Survey

To address the third research question, media audience data were collected as part of a larger survey project on media consumption and political knowledge. Subjects ( $N = 333$ ) for the survey were selected from a national online panel provided by Zoomerang using a stratified random sampling method controlling for age and gender. Both variables are known to influence patterns of Internet use (e.g., Helsper, 2010; Ono & Zavodny, 2003). Table 2 illustrates the demographic distribution of the sample. Subjects were asked to complete a 100-item questionnaire in exchange for Zoomerang reward points.

**Table 2.** Age and Gender Distribution in Sample.

Gender	Age	Frequency
Female	18–24	30
	25–34	35
	35–44	46
	45–54	35
	55+	30
	Total	176
Male	18–24	32
	25–34	35
	35–44	29
	45–54	38
	55+	23
	Total	157

## Measures

An individual's specific choice of news outlet, or media choice, was measured by an open-ended question asking respondents to list their primary online destination for American news. Respondents were asked to name as many online news and media outlets as they could under four categories: (a) News Aggregator—aggregator sites or services such as *Google News*; (b) News Media website—web platform for traditional news media organization such as *CNN.com*; (c) Blogs—news-oriented blogs such as *The Huffington Post*; and (d) Other—other online news and information outlets that do not fall under any of the three categories; this could include social networking sites such as Facebook, or social media sites such as Twitter or *Wikipedia*. Finally, an individual's knowledge of the health care reform legislation (e.g., individual frame) was measured by a thought-listing technique in which subjects were prompted to come up with as many key words associated with the health care reform as they could in an open-ended response.

## Data Analysis

NVivo (Version 9.0) software was used for data analysis. In response to Research Question 1, the frequency of all words appearing in 1,268 news stories was calculated, thereby allowing the major themes and concepts to freely emerge. In the past, this technique has been used by researchers to examine different frames in media texts (e.g., Miller & Riechert, 2001). To address Research Question 2, cluster analysis was performed in NVivo using a list of coding nodes<sup>4</sup> compiled from the content analysis in Research Question 1 (see Appendix). Cluster analysis is a data analysis approach that organizes group entities into subsets, so that entities within a subset are relatively similar to each other (Wasserman & Faust, 1994). This technique allowed us to see how similar the media outlets were in their utilization of the coding nodes in the news stories that they produced.

Finally, survey respondents were asked to come up with key words or phrases associated with the health care reform legislation in Research Question 3. The text-based response was also analyzed using NVivo. To begin the analysis, responses were first sorted based on the respondents' preferred media outlet choice into one of the four groups: (1) those who relied on diverse or ideological neutral news sources, (2) those who did not clearly indicate their preferred news sources, (3) those who preferred liberal-leaning news sources, and (4) those who preferred conservative-leaning news sources. After the responses were categorized, they were submitted to NVivo for analysis. The same coding nodes used to analyze news stories were applied to code the responses, group by group, in order to find out (a) whether the coding nodes appear in the responses and (b) if they do, which coding nodes appear most often.

## Findings

### Health Care Reform Legislation—The Media Frames

To answer Research Question 1, NVivo calculated the top 40 words that appeared most frequently in the news stories analyzed. As shown in Table 3, this included the major political leaders involved (e.g., President Obama, House Speaker Nancy Pelosi), the two major political parties (i.e., Democrats and Republicans), the two houses of Congress (i.e., Senate and House), the subject

of debate (e.g., health care bill, insurance, and legislation), as well as several contentious issues about which both parties did not agree (e.g., abortion, reconciliation, Medicare, and public option). The list of top 40 words represents the possible media frames about the health care reform legislation that were being perpetuated by the news outlets under examination.

**Table 3.** Top 40 Words.

Word	Frequency	Word	Frequency
Health	7,651	Abortion	1,289
Bill	6,298	Votes	1,269
Care	5,862	Congress	1,171
House	5,211	Government	1,113
Obama	3,977	Passed	1,030
Senate	3,946	Federal	1,028
Democrats	3,726	Americans	982
Insurance	2,688	Pelosi	957
President	2,541	Support	931
Vote	2,503	Many	893
Reform	2,423	Medicare	851
Republicans	1,905	Party	842
Legislation	1,892	Percent	842
Democratic	1,593	Law	828
Coverage	1,439	Cost	799
Republican	1,398	Majority	795
Public	1,397	Option	789
Pass	1,379	Against	785
Plan	1,366	Stupak	780
Reconciliation	1,338		

### **Ideological Clusters**

While the list of terms mentioned previously captures the media frames in the data set, it is not clear whether the terms align with certain media outlets based on the news organization’s ideological leaning, as queried by Research Question 2. To address this question, a cluster analysis was then performed in NVivo using a list of nodes compiled from the top 40 word list. To illustrate the cluster analysis results, NVivo produced a visual representation known as the dendrogram (see Figure 1) which featured multiple branches, where similar media outlets were clustered together on the same branch and different items are further apart. The dendrogram also depicted different levels of hierarchies, each of which could be thought as comprising equivalent entities that share similarities.



other hand, those who turned to more liberal-leaning media outlets mentioned 5 of the 18 nodes in their responses. Not surprisingly, the “public option” plan that was supported by the Democrats received the highest number of mentions. Interestingly, however, this was followed by “Obamacare,” a term commonly used by conservatives when referring to the legislation.

These frequency comparisons were useful because they showed how the different coding nodes, representing the media frames provided by various media outlets about the health care reform legislation, were actually *received* by the media audience. Moreover, media audiences who relied on different media outlets as their primary sources of news and information came up with different media frames (in terms of both number and content) when asked to freely list the terms and concepts associated with the health care reform issue. This suggests that audiences may have differently interpreted and perceived the same issue.

### Media Audience Reception—Cluster Analysis

To further analyze the responses, a cluster analysis was performed to see if a particular pattern would emerge. As Figure 2 illustrates, the dendrogram showed multiple branches, in which similar response categories were clustered together on the same branch and different categories were situated further apart. The dendrogram displayed three levels, with the lowest level consisting of the responses from participants who reported using ideologically neutral or multiple media outlets for news, and from participants who did not clearly indicate their media outlet choice. Moving up one level, these two categories were considered as the same entity in comparison to the responses from participants who reported using more conservative-leaning media outlets. Finally, at the highest level, responses from conservative sources, multiple/neutral sources, and no sources were seen as one entity in comparison to responses from participants who used mostly liberal-leaning media outlets for news. All in all, these findings indicate that media audiences’ individual frames correspond to the media frames perpetuated by their preferred media outlets.



Figure 2. Dendrogram of source cluster (survey responses). This figure illustrates the results of the cluster analysis.

## Discussion

### Media Frames and the Construction of Reality

Given the polarization of news audiences, it is certainly possible that media professionals will present media frames that are consistent with the political/ideological leaning of the news organization itself *and* the preferences of their audience to satisfy audience demand (e.g., Bucy et

al., 2007). As the content analysis indicated, this was clearly the case, and the results could be interpreted at two levels—in terms of the structure and the actual content of the coverage.

At the broader *structural level*, the cluster analysis revealed that different online media outlets cling together consistently according to the news organization's audience base and ideological leaning, as well as to off-line characteristics, such as the technological platform (e.g., print, broadcast, online) of the media organization. At the *content level*, results suggested that online news outlets projected different perceptions and interpretations of the health care legislation to their audiences. The media frames offered by liberal-leaning media emphasized the benefits of the health care legislation and portrayed the Obama administration more favorably, while their conservative counterparts did the opposite. Taken together, these findings not only reflected the partisan political reality that played out across party lines but also offer support for the polarization of news audience and content noted in previous studies.

One explanation for this pattern of polarization may be the principle of homophily, which refers to the tendency of individual actors in a network to gravitate toward clustering based on shared characteristics (Cartwright & Harary, 1956). With the decentralized nature of the web offering unlimited possibilities and affordances for individuals and organizations to connect with like-minded others, increasing evidence (e.g., Adamic & Glance, 2005) suggests this notion that “birds of the same feather flock together” has become a norm in the contemporary digital media environment.

### **Formation of Horizontal Knowledge Gaps?**

Turning to the media audience's consumption of this information, findings from the survey suggest that some of the media frames offered by various media outlets about the health care reform legislation were mentioned by survey respondents. This finding was remarkable in two ways. First, since the response was solicited using open-ended questions, it was not possible for the researcher to provide prompts that could guide the respondents in their answers. The fact that their responses coincided with the media frames coded in the news stories thus offers evidence for the argument that the information sources upon which media audiences rely will help shape an individual's views and interpretations of an issue. Second, since the survey was deployed roughly 6 months *after* the health care reform legislation was passed, many individual frames expressed by the survey respondents still matched up with media frames offered by news media outlets. This was particularly remarkable in light of the wide range of factors—encompassing memory, news salience, and the like—that could contribute to the erosion of a person's ability to recall or effectively express the ideas and phrases that they associate with the health care debate.

Finally, the fact that respondents who indicated that they relied on different media outlets for news and information also associated different concepts and ideas that they had about the health care reform legislation not only supported the idea of the horizontal knowledge gap discussed previously, they may also underscore a number of issues. For example, respondents who relied on nonpartisan news sources expressed a greater number of individual frames that matched with the media frames, compared to respondents who embraced more partisan media outlets for news and information. In addition, respondents who relied on partisan media outlets tended to use more emotionally charged phrases in their responses. This was especially true for those who were

opposed to the legislation, as they would use phrases such as “suck” or “lame”—if not other, more emotionally charged/inappropriate terms—when asked about the concepts they associate with the issue. On the other hand, those who used multiple or nonpartisan media sources were more likely to respond in a more objective manner, doing so when asked the same question.

Taken together, these patterns may suggest that partisan media consumption could make media audiences become more narrow-minded, and yet more susceptible to mobilization efforts or persuasive messages, since they are emotionally aroused. This may only be a speculative claim at this point. But looking at anecdotal evidence from listeners of political talk radio that are known to share these partisan tendencies, it is not difficult to see why the same kind of partisan polarization may also happen to audiences of online media as well (see Lin, 2009). In fact, this trend toward polarization in news consumption has been observed by scholars in recent years (e.g., Garrett, Carnahan, & Lynch, 2013). Therefore, the differences between partisan and nonpartisan media use—including their subsequent impact on a range of individual-level outcomes (e.g., political attitudes, behaviors, etc.)—represent an interesting and important area of inquiry that deserves further scholarly attention. To that end, the present research offers some initial empirical evidence that could serve as the foundation for future studies.

## **Limitations and Recommendations for Future Research**

Several limitations about this study must be acknowledged. First, the content analysis only focused on *one* public affairs issue in the news. As such, one should be mindful of interpreting study findings within the confines of the health care reform debate. Second, the use of computer-assisted data analysis software offers the advantage of processing a large amount of data. However, one potential drawback was that the context in which the media frames appeared within the news stories might be lost. Similar to scholars who pursued a wide variety of news topics and categories to test the existence and effect of the knowledge gap hypothesis proposed by Tichenor et al. (1970), future research could investigate additional public affairs issues or news topics that are different in nature, thus expanding the number of cases from which the observation can be made.

In addition, a more in-depth textual analysis could be conducted on selected news stories in order to complement the computer-assisted coding technique and provide a fuller view of the construction and perpetuation of media frames. Finally, the audience survey was not deployed when the issue of health care reform was receiving the greatest amount of media attention. Given this time lapse, respondents may have possibly forgotten about some of the concepts or ideas flowing from the debate over health care reform, one that was once fresh in their minds. Their responses may have been influenced by the subsequent media coverage of issues that were more current after the time period covered in the content analysis.<sup>5</sup> Therefore, time and memory factors represent methodological limitations worth noting in conjunction with the individual frames discovered in the survey and the media frames identified in the content analysis.

This issue, however, represents another possible direction for future research. Since political knowledge is known to decline overtime, either as a function of memory or when exposure to such information is stopped (Prior, 2007), future studies could explore whether such a gap in the content and structure of knowledge is a short-term effect or is a much more enduring phenomenon that has a stronger influence over longer periods of time. The significance of the horizontal knowledge gap

would be greatly increased if it can be shown that it not only exists but can also have a lasting impact on a variety of political behaviors.

## Appendix

### Coding Nodes<sup>a</sup>

Concept/Frame	Number of Sources	Number of References
Public option	9	623
Insurance companies	10	389
Reform	10	2,423
Pro-choice	8	63
Health care summit	10	478
Premium	10	152
Sarah Palin	9	45
Medicare Medicaid	10	1,311
Abortion	10	1,289
Bart Stupak	10	780
Tea party	10	136
Pro-life	8	136
Deficit	10	289
ObamaCare	9	359
Reconciliation	10	1,338
Nancy Pelosi	10	957
Economy	8	162
Max Baucus	10	57

<sup>a</sup>Number of sources: Of the 10 media outlets analyzed by this study, how many mentioned this concept/frame. Number of references: the frequency with which this concept/frame appeared in all news stories analyzed.

### Notes

1. Coverage of the health care bill comprised 14.1% of the news stories in all forms and sectors of media during the first quarter of 2010 and 4.7% for the entire year.
2. For instance, *Storify* is a new portal that aggregates different tweets and opinions sent by users/consumers.
3. Similarly, a CNN poll conducted in July 2010 found that “27% of Republicans surveyed said [Obama] was probably not born here, and another 14% of Republicans say he was definitely not born in the U.S.” ([Travis, 2010](#)). Even after the White House release of the original birth certificate, a Gallup Poll conducted in May 2011 reported a 47% of survey respondents believed the president was “definitely” born in the United States, while a third remained unsure ([Morales, 2011](#)).
4. A node, as defined in the social network literature, refers to the individual actors who are connected by different ties or relationships in order to form a network ([Wasserman & Faust, 1994](#)). In this case, the nodes represent the “frames” that can be used by media or individuals to portray and define the issue of health care reform legislation.
5. In particular, a content analysis does not show the effect of interaction among the news consumers in the online media environment because (1) Tweeting represents a snowball effect of how people express their opinions and (2) online news stories have a comment section which encourages readers to express their opinions or forward the news stories/commentaries (share function) with friends.

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