Information Use in Online Civic Discourse: A Study of Health Care Reform Debate

LISA O’CONNOR AND MARCIA RAPCHAK

ABSTRACT
This article reports on a study of civic discourse in online political forums. On March 23, 2010, the Patient Protection and Affordable Care Act was signed into law in the United States after heated debate. Some of the debate took place online, often in political forums. This study describes and analyzes the information used to frame and support participants’ opinions within the online environment. Researchers collected 6,322 postings in 226 threads over thirteen months in three discussion boards (two moderated and one unmoderated). Using citation context analysis and citation content analysis, researchers identified the type of sources used by posters (i.e., those individuals who post information online), the quality of such sources, and the responses of other posters to source use. Sources were categorized based on type and coded based on neutrality and authority. The category of most-cited sources was newspapers and newswires. While the majority of postings did not use sources (over 97 percent did not cite any source), of those sources coded (n = 460), over a third were clearly biased and/or unauthoritative. The authors discuss some of the difficulties individuals face in finding and using political information. Recommendations are made for developing national information policy, improving the format of information channels, and designing user education and services to support civic discourse.

INTRODUCTION
We are in a stage where people can absolutely engineer false stories and inject them into the media blood system in a way that we just don’t know how to deal with very well. We’ve got to be clear that these kinds of attacks are not just attacks on individuals. They’re attacks on
the democratic system. We have the most free and democratic society in the history of the world. And it works because it relies upon a well-informed citizenry. So if you begin to do your politics in a way that creates a misinformed citizenry on purpose, that’s not just an attack on the individual, that’s an attack on the democratic process itself. (Van Jones, 2010, p. 1)

Web 2.0 has become a means to publicize the opinions, values, and lifestyles of the ordinary citizen. From blogs to Twitter to news story comment pages, voices of the public reach larger audiences than they ever have. The implications for democracy are clear since “[f]ull democracy . . . requires institutions by which ordinary citizens, as an extension of their intellectual lives, can rehearse and refine arguments about the matters that concern them” (Agre, 2001, p. 295). By engaging in their own discussions and evaluations of civic issues, those in the public can become active participants in democracy rather than being passive consumers of the information and policies that affect them.

Research suggests, however, that mass media has significant influence on public opinion, particularly in regards to politics. According to a Pew Research Center report (2003), Americans surveyed in March 2003 cited the media as the biggest influence on their thinking about the U.S. war with Iraq. A more recent Pew survey (September 30, 2009) found that media had the most influence on Americans’ beliefs about other political issues, such as environmental regulation, health care reform, and the war in Afghanistan. This point is particularly salient in a mass media environment too often characterized by sound bites, spin, and the misinformation described by Van Jones (2010) in the opening quote. Given the influence that the media can have on citizens, information literacy is increasingly necessary for individuals to evaluate the validity and quality of the information they encounter. Individuals who are highly literate recognize the contexts surrounding information sources and make better decisions about the usefulness of such sources for various purposes (Potter, 1998).

To understand information use in political discourse, the authors of this study believed it would be most useful to do so using a well-defined and bounded context: a single, but significant and complex issue. The debate over health care reform in the United States was lengthy, heated, and marked by partisan tensions within Congress and throughout the country. The bill appeared in a number of forms in the House and the Senate before the final version, H.R. 3590, the Patient Protection and Affordable Care Act, was passed by both the House and Senate without Republican support. Within Congress, Republican leaders accused Democrats of forcing the health care reform through the system without consideration of public opinion or compromise with Republicans (Clemmitt, 2010, p. 507; Health care reform, 2010). Republicans in Congress did not support the bill, claiming it would cost nearly a trillion dollars (though the Congres-
sional Budget Office projected a reduction in the federal deficit due to the bill) and increase taxes for those in higher income brackets. They also objected to the legal mandate that nearly everyone have health insurance (Clemmitt, pp. 505, 507). Democrats in Congress supported the bill because it presumably provides the means for low-income individuals to afford health insurance (through Medicaid or subsidies) and prohibits insurance companies from dropping individuals or denying individuals care (Clemmitt, p. 505). Outside of Congress, the reaction against the reform bill was very strong and part of the driving force for founding of the ultra-conservative Tea Party movement. The nation saw many protests and heated town hall meetings before the passage of the bill. These protests generated the derogatory term for the proposed health care reform “Obamacare,” which was still used by Republicans and Tea Partiers in several campaigns for the midterm elections in November 2010.

While this research centers on health care reform debate, it does so as a representative case of political discourse. Applications are made to the broader civic environment. Modeled after a study of online health information exchange and citation behavior by Wikgren (2003), the method used is citation content and context analysis. This research asks the following questions: what sources are used, what is the quality of sources used, how do discussion groups assess and discuss cited sources, and what are the specific challenges individuals face when selecting and evaluating information for civic debate.

**Literature Review**

Current conceptualizations of information literacy (IL) have been framed largely within academic environments through standards developed by the American Library Association (ALA) Association of College and Research Libraries (ALA, 2007) and the American Association of School Librarians (AASL, 1998). It is no surprise, then, that much of the research on information literacy is shaped by the demands of formal learning environments (O’Connor, 2009). While studies on information seeking increasingly center on everyday life contexts, such research is seldom connected directly to the literature of IL (Julien & Williamson, 2010). Thus, research on the demands of information evaluation and use in nonacademic contexts is necessary to balance existing IL theory. Specifically, by understanding the challenges individuals face in trying to select and evaluate information for civic conversation, LIS can further its understanding of what it means to be information literate in the context of everyday life. The literature of information literacy, information seeking in everyday life contexts, and online information sharing and use will inform this study and will be reviewed, in turn, here.
Information Literacy

Information literacy is typically defined as the collection of skills necessary “to recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information” (ALA, 1989, p. 1). Traditionally information literacy is connected to the demands of democracy through the assumption that “an important part of civic participation involves widespread public deliberation. The lack of this form of citizen engagement is assumed to result in democratic deficit; decrease in political engagement, disconnection between citizens and their elected representatives, and a consequent decline in the legitimacy of political institutions (Rose & Saebo, 2010, p. 228). (For additional examples, see ALA, 1989; ALA, 2007; Bundy, 2002). These traditional conceptualizations have been much criticized for tying IL to democracy in an oversimplified and uncritical manner (see, e.g., Anderson, 2006; Doherty & Ketchner, 2005; Elmborg, 2006; Lilburn, 2007/2008; O’Connor, 2009; Swanson, 2004). These critiques suggest that the standards reinforce the notion that authority is a key element of evaluation, and thus ensure an uncritical stance toward mainstream ideologies. Lilburn explores the theoretical connections between information literacy, mass media, and deliberative democracy and concludes that ACRL standards place “greater emphasis on compliance with economic, legal and social issues, rather than critical understanding of these issues” (p. 3). These critiques urge LIS scholars to reconceptualize IL as a transformative competency; as a sociopolitical skill that empowers citizens to question not only the information they view, but also the forces behind its production.

Current conceptualization of information literacy has also been criticized for taking an overly instrumental approach, or, as Lilburn describes it, for “constructing an information literacy framework based on standards and acquisition of skills rather than on a theoretically informed understanding of the ambiguities involved in learning and research” (2007/2008, 3). (See also, e.g., O’Connor, 2006; Simmons, 2005; Swanson, 2004). At heart, the point is that conceptualizing IL a-theoretically, as a set of behavioral outcomes, reduces it to a set of technical skills that are insufficient for and ill-matched to the complexity of current information environment. The literature has been particularly clear on this point regarding the evaluation of information. Fornaciari and Roca (1999) bewail that “the most commonly proposed solutions for helping individuals evaluate the validity of internet-based information tend toward generic, static, shallow evaluation mechanisms rather than individual, dynamic, thoughtful meaning-making systems” (p. 735). [At the end of this quote they cite a long list of library publications on Web evaluation as evidence of what they describe]. Meola (2004), Metzger (2007), and Bowles-Terry, Davis, and Holliday (2010) all critique the evaluation “checklist” so widely used in IL instruction, as an overly instrumental approach to teaching
individuals how to weigh the quality of information sources and the arguments within them. Existing information literacy scholarship proposes alternative conceptualizations that help make greater connections to the actual realities of both the information environment and to the information seeking behaviors of individuals. Most notably, Kuhlthau (2004) defines information literacy as the ability to navigate through an intellectual and emotional process of interaction with information sources. Bruce (1997) defines IL as a set of conceptual stances toward information seeking that are inherent to the individual seeker. O’Connor (2009) suggests Langer’s concept of “mindfulness” toward information seeking and sources as a more holistic approach, and Agre (2001) offers the concept of “intellectual life” as a counterpoint “to more instrumental concepts such as training in that one follows questions wherever they go” (p. 4). Information literacy could be understood, within this framework, as the ability to move beyond being “primarily a consumer choosing among arguments on offer” to true intellectual engagement in the sphere of public debate.

Information Seeking in Everyday Life Contexts
As mentioned previously, Julien and Williamson (2010) note how infrequently the literature of IL is informed by studies on information seeking. The need to use what we know about how people seek information in real-life contexts to inform our understanding about what constitutes information competence seems self-evident. The literature of information seeking in everyday life contexts is too mature for a thorough review here, but a broad overview will be provided to give context to how this study intends to apply its findings to information literacy theory development.

Information seeking behavior involves the complex and multifaceted intersection of three phenomena: (1) personal beliefs and attitudes toward information and technology; (2) the material, social, cultural, and cognitive capital individuals bring to managing information seeking; and (3) a general orientation toward problem solving and mastery of life activities (Savolainen, 1995). This study is informed by the theoretical aspects of the “everyday life information seeking” (ELIS) body of research. As defined by Savolainen, ELIS “refers to the acquisition of various informational (both cognitive and expressive) elements which people employ to orient themselves in daily life or to solve problems not directly connected with the performance of occupational tasks” (p. 267). The ELIS model is concerned both with the set of dispositions individuals bring to information seeking and with the context in which it occurs. While existing ELIS studies “offer counterpoints to information seeking studies of academic or professional contexts. . . . They altogether suggest the futility of a generic model of information seeking for leisure and self care. . . . Rather, an appropriate approach is to focus on the central activity and its information phenomena” (Hartel, 2006, p. 2). Thus, case studies that emphasize
the nature and context of information needs are important, and this study of citizen information use and sharing will contribute unique knowledge to this growing body of literature.

This study concerns itself primarily with how the unique demands of the information context shape individuals’ information seeking activities. The information field, which “represents the typical arrangement of information stimuli to which an individual is daily exposed,” is an important focus of ELIS research (Johnson, 1997, p. 24). An information field is a physical world that constrains every individual’s information seeking activities. It encompasses both passive information (what an individual would normally be exposed to) and sought information (sources consulted for problem solving), through both interpersonal communication networks and mediated communication channels (Johnson). This study will focus on the constraints placed on individual information seeking behaviors by the information environment itself. That is, it will examine the challenges mediated communication channels present individuals who are engaged in the act of evaluating and weighing political argument. It will also analyze the act of information sharing and use through virtual interpersonal communication networks and describe how that sharing shapes information behavior.

**Online Information Sharing and Use**

While several studies have examined the exchange of health information in online groups (see, e.g., Burnett & Buerkle, 2004; Donnelle & Hoffman-Goetz, 2009; Wikgren, 2003), little is known about information use for online political discourse. In many respects, the information landscape is more complex in the political arena than it is in health care because information is drawn from diverse areas of knowledge. For example, on the issue of health care reform, economic, political, social science, legal, and health care information are relevant pieces of a vast digital information puzzle. In order to better assist users in this complex environment, library and information science (LIS) professionals must first understand it.

While the Internet provides opportunities for civic discourse and political engagement, such uses are not guaranteed. A study of Finnish political forums found that most discussions were considered “non-deliberative,” with little outside validation and only reaching a small audience (Strandberg, 2008, p. 84). No board of editors or peer review system controls discussion boards, which means that discussion board participants must rely on the responses of peers and their own intellectual abilities to generate civic discourse. Too often discussion boards include negative comments, superficial topics, and unsubstantiated claims rather than true conversations (Strandberg, p. 83). To engage in reflective and meaningful political discussions that can create participatory democracy, members of discussion boards need the critical thinking skills identified in information literacy. This research will assess the quality of information sources used in
the specific case of health care reform as a means for understanding how effectively information is shared, evaluated, and used in online political deliberation.

**Methods**

This study utilizes the same methods employed by Wikgren (2003) to examine health information exchange and citation behavior in Internet discussion groups. She sampled thirty discussion threads from English-language Internet groups. Threads were selected based on two criteria; the threads contained at least one type of citation and the discussion revolved around their topic, nutrition. Citations were studied in their context and cited documents were categorized into types of sources. The same methods are employed by this study, except, of course, that the content was related to the health care reform debate in political forums.

A study such as this is fraught with methodological challenges, the first of which was selecting data sources from an overwhelming array of existing political discussion forums. Big Boards (search.big-boards.com) was used to identify top discussion groups by subject. U.S. Politics Online and Political Crossfire were the most active boards that were (1) exclusively political and (2) U.S. oriented, which was necessary given the national nature of health care reform debate. Researchers felt it was important to balance these specialized discussion groups with a forum created for more general audiences. Big Boards was searched to identify discussion board sub-forums, and Yahoo! Government and Politics Message Board was selected as a third data source because of its general appeal and popularity. The organization of each of the boards also offered reasonable options for data collection. Because each discussion forum was structured differently, data gathering methods varied by necessity. Methods will be discussed for each.

The organization of U.S. Politics Online was the most amenable to data collection because it had a forum dedicated to health care reform. It was, however, the largest forum by far, so sampling procedures had to be used to select a reasonable data set. Four hundred and forty-nine threads were identified as being both on topic and occurring within the study time frame, which, for all three forums was defined as April 1, 2009 to May 22, 2010, the last day before H.R. 3590, the Patient Protection and Affordable Care Act was enacted. Each of the relevant U.S. Politics Online threads was assigned a number from 1 to 449. A random number generator was used to select 25 percent of the relevant threads, which yielded a total of 112 threads. Three of the threads had no postings, so a total of 109 threads containing 4,780 posts were analyzed.

Political Crossfire was organized into categories too broad to easily isolate health care reform threads, and there was no effective search mechanism available. However, fortunately, the posts tended to be concentrated
into fewer, longer threads rather than dispersed across many. Threads with original postings during the study time frame were identified by titles likely to refer to health care reform. While this was easily accomplished for some of the threads with self-evident titles, many other relevant threads were identified manually by looking at the internal content of threads with ambiguous titles. Because this was a smaller forum, all relevant threads were included in data analysis. Eleven threads, which contained 940 posts, were collected and analyzed.

The Yahoo! Government and Politics Message Board was also organized into very broad topical threads. Unlike Political Crossfire, posts on health care reform were dispersed widely across many threads, so the search feature had to be relied on to gather data. “Health care reform” was searched in the “United States” category and limited to the “subject” field, matching both topics and messages and restricted to the same study dates (April 1, 2009–May 22, 2010). Searches for other potentially relevant terms, such as “Obamacare,” were tried, but when data were spot tested for relevance, the initial search seemed to produce the most consistently relevant hits. Researchers acknowledge that they did not retrieve every post with this method, but believe they made the best choice in balancing precision and recall. This method produced 602 posts grouped into 106 threads.

A resulting 6,322 postings from 226 threads were identified and initially categorized into posts that contained at least one instance of formal information source citation and those that did not. Sources cited in posts were further categorized by type, for example newspapers, blogs, and videos. There were several challenges involved in this level of coding. The first was the complex nature of information in the digital environment. For example, one citation might link to a blog that is published within a newspaper. Another is related to the posting and reposting of information. For example, a broadcast news report might be excerpted and reposted on an association website or on YouTube. In an effort to collect the maximum amount of information about the types of sources people use, the researchers coded as many of the information types in one citation as seemed reasonable. This strategy yielded more descriptive information about source use than coding only one source per citation. So, in the examples above, all the categories of sources would have been counted, resulting in multiple sources per citation. Finally, some citations also referenced multiple sources. Thus, the number of sources coded exceeds the total number of citation incidents, which will be further discussed in the findings section.

In the next phase, information sources were coded for quality. The quality of information sources is a complex question and could be defined by many criteria, such as accuracy, currency and degree of bias, so it is important here to state as clearly as possible how quality was assessed. First of all, researchers felt assessing the actual quality of the information
content was too subjective and extensive a task to be reasonably achieved within the scope of this study. Such a task would have involved verifying all information content through other sources. Given that a single source might include dozens of assertions and that the large data set included hundreds of sources, this would have been a daunting task. More importantly, however, given the complex and contested nature of political information, this would have been nearly an impossible one. The accuracy of information used in political discussions is hotly debated by experts, and the authors of this study were certain they did not have the expertise to arbitrate the quality of the economic, political, and sociological content included in these sources.

What was assessed, then, is the quality of the information provider, which was defined very narrowly as the degree of apparent authority and neutrality such a provider exhibited. So, to put it plainly, researchers asked: was it reasonable to expect that the information provider possessed the proper expertise to deliver the information content, and was that information provider free of any evident interest or investment in promoting one viewpoint over another. Clearly, even this simple definition is complex in its application. Researchers acknowledge that the issue of authority is contestable and that absolute neutrality is impossible. Thus, both the concepts were considered to be points on a continuum rather than dichotomous measures. Furthermore, it is more difficult to assess authority and neutrality than it is to demonstrate a lack of both. Thus, the word “quality” as it is used in this article should be understood as shorthand for sources that do not demonstrate a clear lack of authority and neutrality.

On the issue of authority, for example, an individual blogger who listed few or no qualifications relevant to his content demonstrated less authority than a well-respected news organization with a stated commitment to accuracy. Lack of neutrality was assessed through three elements: organizations’ own self-statements, the content of their websites (whether or not a clear bias was evident in the questions asked or the information generated in such sites), and, for more obscure groups, research on the organization to arrive at some consensus of opinion. Many organizations provided statements of their commitment to neutrality or to their commitment to a particular ideology. These statements were generally taken at their word unless evidence from their own sites or the consensus of opinion refuted that statement. Tools such as SourceWatch (www.sourcewatch.org), sponsored by the Center for Media and Democracy, Project Vote Smart (www.votesmart.org), OpenSecrets (www.opensecrets.org), sponsored by Center for Responsive Politics, and research such as that by Groseclose and Milyo (2004) were consulted to assist in this task. However, regardless of how carefully researchers gathered data, lack of neutrality was only coded as such when it fell on the far end of the “lacking neutrality” spectrum.
That is, only when an organization was almost uncontestably driven by an agenda that would affect their ability to provide balanced information on health care reform were they coded as biased. For example, somewhere on the neutrality spectrum lie “mainstream” news providers MSNBC and Fox. Although these outlets are often considered to have blatant liberal and conservative biases, respectively, researchers felt making such distinctions would compromise their credibility and, thus, such organizations were not coded as biased. That is not to say they are unbiased; they simply did not fall within the definition employed. On the other hand, when commentators who identify clearly with a political perspective, such as Keith Olbermann (a self-identified liberal commentator) and Bill O’Reilly (a self-identified conservative commentator), were cited, they were coded as biased sources.

Thus, the findings of this study should not be construed as painting a full portrait of the quality of information cited, but rather as providing some measure of how often clearly biased and/or unauthoritative sources are sought and used to defend political positions. Thus, the word “quality” as it is used in this article should be understood as shorthand for sources that do not demonstrate a clear lack of authority and neutrality. Although this is a double-negative statement, it is the most accurate definition.

Finally, the context of citations was also noted, and, although it was determined that full, qualitative discourse analysis was beyond the scope of this study, posters’ comments on source provision (i.e., whether a source was provided to support a claim or not) and/or source credibility were recorded for analysis. Data analysis was conducted by each researcher independently to ensure inter-coder reliability. Coding was iterative, and where inconsistencies across coders were discovered, additional discussion and research were undertaken to ensure consistent application of definitions of source types, authority, and neutrality.

**Findings**

Unfortunately, for the vast majority of the data collected, discussions of quality are irrelevant. Of the 6,322 postings analyzed, only 400 (6.3 percent) cited at least one formal information source (see table 1).

These 400 postings cited 549 total sources. As discussed previously, the number of sources cited exceeds the number of postings both because some postings cited multiple sources and because some sources were characterized by multiple source-types (as with a newspaper blog, for example). By forum, formal information sources were cited in 14.1 percent of Yahoo! Government and Politics Message Board postings, 7.4 percent of Political Crossfire postings, 5.1 percent of U.S. Politics Online postings. However, the percentage for Yahoo! is misleading because one poster (i.e., individual who posts information online), hangtough6, was responsible for 63 (74 percent) of the 85 total posts citing formal information sources.
situations. If the citations of that single poster are removed, the remaining 22 posts constitute only 3.7 percent of total postings, which makes it the least information intensive sharing forum.

Tables 2 and 3 further describe the basic posting patterns of each forum. Note that when formal information is cited, threads are longer. Within the U.S. Politics forum, threads that contained at least one post that cited a formal information source contained more than double the number of postings than threads in which no formal information sources were cited. In Political Crossfire, threads with at least one citation of a formal information source included nearly three times the number of posts. In Yahoo! the correlation between posting and thread length is not strong, to a great extent because many of Hangtough6’s 63 postings occurred in single posting threads. Once those 63 posts are removed, the remaining data are too slim to draw any conclusions about the relationship between formal information citations and thread length.

Citation context analysis also supports Strandberg’s (2008) suggestion that many claims are made but unsubstantiated in online political discourse. Although it is difficult to quantify such statements because they vary from subtle implied knowledge to explicit statements of fact, more than 280 incidents of unsupported statements were documented across all three forums. The following excerpts are representative of the types of undocumented statements that are made. They are cited by the forum in which they occur and poster’s handle name:

Seventy-five percent of Americans forced into bankruptcy by medical expenses, have insurance, it’s just that the insurance they have doesn’t cover everything. (U.S. Politics Online, Goober)

Doctor’s offices and hospitals can save up to 40%–60% on administrative costs by dealing with one insurer, instead of the gazillion. Now

<table>
<thead>
<tr>
<th>Source</th>
<th>Number of Threads</th>
<th>Number of Posts</th>
<th>Average number of posts per thread</th>
<th>Number of posts citing formal information sources</th>
<th>Percent of posts citing formal information sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S. Politics Online</td>
<td>109</td>
<td>4780</td>
<td>43.9</td>
<td>245</td>
<td>5.1</td>
</tr>
<tr>
<td>Political Crossfire</td>
<td>11</td>
<td>940</td>
<td>85.45</td>
<td>70</td>
<td>7.4</td>
</tr>
<tr>
<td>Yahoo! Government and Politics Message Boards</td>
<td>106</td>
<td>602</td>
<td>5.68</td>
<td>85</td>
<td>14.1</td>
</tr>
<tr>
<td>Total</td>
<td>226</td>
<td>6322</td>
<td>28</td>
<td>400</td>
<td>6.3</td>
</tr>
</tbody>
</table>
they have to hire dedicated staff to deal with all of the paperwork and bureaucracy. (U.S. Politics Online, Rude Boy)

Do you know the figures on how many people die each year because they don’t have health care, or have health care that refuses to treat their illnesses? 18,000 people a year, on average. (U.S. Politics Online, MrTia)

Most people’s health care issues are self induced, I don’t want to pay for it, let them die if they don’t change their ways. (Political Crossfire, Avorysuds)

We also know for a fact that teaching young preteens about condoms and birth control only entices them to try sex before they are capable of handling it . . . so much for condoms or pills when a sex driven boy is in a hurry. It works for the affluent, but not for the ones who need

### Table 2. Threads with a Citation to Formal Information Sources

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<thead>
<tr>
<th></th>
<th>Number of Threads</th>
<th>Number of threads citing formal information sources</th>
<th>Number of posts in threads containing at least one citation of a formal source</th>
<th>Average number of posts in threads containing at least one citation of a formal source</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S. Politics Online</td>
<td>109</td>
<td>86</td>
<td>4285</td>
<td>49.83</td>
</tr>
<tr>
<td>Political Crossfire</td>
<td>11</td>
<td>8</td>
<td>849</td>
<td>106.13</td>
</tr>
<tr>
<td>Yahoo! Government and Politics Message Boards</td>
<td>106</td>
<td>79</td>
<td>475</td>
<td>6.01</td>
</tr>
</tbody>
</table>

### Table 3. Threads without a Citation to Formal Information Sources

<table>
<thead>
<tr>
<th></th>
<th>Number of Threads</th>
<th>Number of threads not citing formal information sources</th>
<th>Number of posts in threads not containing at least one citation of a formal source</th>
<th>Average number of posts in threads not containing at least one citation of a formal source</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S. Politics Online</td>
<td>109</td>
<td>23</td>
<td>495</td>
<td>21.52</td>
</tr>
<tr>
<td>Political Crossfire</td>
<td>11</td>
<td>3</td>
<td>91</td>
<td>30.33</td>
</tr>
<tr>
<td>Yahoo! Government and Politics Message Boards</td>
<td>106</td>
<td>27</td>
<td>127</td>
<td>4.70</td>
</tr>
</tbody>
</table>
it most...mostly poor blacks. So much for birth control pills when they have to buy them...when many poor kids, the ones who begin sex way too soon, can hardly even buy a coke. (Yahoo! Government and Politics Message Board, Eagleputt20)

When formal sources of information were used to support postings, the quality of such information varied widely. Of the 549 sources cited, there were several types that were not coded for quality. Forty-three (8 percent) sources were explicitly self-described commentary and were coded as opinion pieces. Sixteen sources were from Wikipedia, 14 were from entertaining, rather than informative, media, 13 were opinion polls, and 3 were unknown. Of the remaining 460 sources, 167 (36 percent) were coded as clearly biased or not authoritative. Data were also analyzed separately for each forum, but no significant differences were discovered.

Figure 1 describes the 549 types of sources cited in the 400 postings that contain at least one citation of formal information sources. Though they may have changed their format, clearly, newspapers remain the staple of American information gathering, followed by blogs, government documents, organization websites, and broadcast news and streaming video. The following is a discussion of source categories: how they were defined and the types of sources they contain.

Newspapers
All of the sources categorized as newspapers were digital, rather than print sources. Newspapers included newswires and traditional, well-recognized publications, such as the New York Times and Washington Post. Some specialized political newspapers, such as Politico and The Hill, were considered
not obviously biased, while others, such as *Talking Points Memo* and the *Huffington Post*, were coded as biased. Salacious news publications such as the *New York Post* or humorous papers, such as the *Grist*, were coded as entertainment. Participatory news sites such as the * Examiner* were also included, but presented a special problem for coding. Typically they were coded as nonauthoritative, unless explicit credentials were provided to suggest otherwise. It was also common for a newspaper to be cited, but for the citation to link to a sponsored blog or commentary. Where this was the case, the newspaper was coded, as was the piece itself.

**Blogs**

Blogs required a fair amount of research for coding quality. Blogs run the gamut from reasonably balanced news reporting, to pundit commentary, to the blogs for organizations, such as the White House or the AFL-CIO, to the musings of your ordinary citizen. Blogs were coded by the authority and neutrality of their authors, although very few blogs made the unbiased category.

**Government Sources**

Most government sources were coded as neutral and unbiased, although certainly some of the participants in these discussion forums would not agree with this assessment. One example that proved particularly troublesome for coding was the White House’s Reality Check site (n.d.), which was created specifically to dispel common myths about health care reform. Because this site included the testimony of seemingly unbiased experts (a nurses’ association, for example) it was coded as unbiased. This is the only category other than books that had a significant number of print sources included, such as excerpts from the U.S. Constitution and previous acts of Congress.

**Organization Websites**

Organization websites included sites for professional associations, political action committees, and think tanks, among others. Organization websites are coded as neutral and nonneutral sources, depending on their orientation. The study included organizations such as the Consumer’s Union, which publishes *Consumer Reports*, and the American Medical Association. This category also provided some of the least neutral information, including the sites of organizations such as Physicians for a National Health Program, Let Freedom Ring, Moveon.org, and Biggovhealth.com.

**Broadcast News and Streaming Video**

Broadcast news sources can be national or local news broadcast on television or radio. NPR, FOX, and the BBC were all sources cited by the individuals in this study. No broadcast news source was considered non-
neutral. Though, as mentioned before, some individuals may dispute the objectivity of FOX or MSNBC, the researchers in this study determined that sources would be considered neutral if they proclaimed to be so unless a preponderance of evidence proved otherwise.

The overwhelming majority of the streaming media found in the study appeared in YouTube videos. YouTube itself does not have any particular bias, but users may upload very biased videos and videos lacking authority, and several nonneutral organizations have their own YouTube pages. One example found was a video posted on YouTube from MoveOn.org emphasizing the superiority of public health care over private health insurance. In this case, researchers categorized this source as both a neutral organization (YouTube) and a nonneutral organization (MoveOn.org). Streaming media also appeared in a few other sources. Many broadcast news websites, like CNN and CBS, allow users to view streaming videos of a story, and posters on the discussion boards could link directly to these stories.

**Journals and Magazines**

All sources in this category were digital. They included neutral sources such as *Newsweek, Discover, Weekly Standard*, and the *Northwestern Law Review*. Some publications, such as the *Pensito Review* and *Mother Jones*, were coded as biased publications.

**Web Aggregators**

Web aggregators seem, on first pass, that they would be neutral sources. Sites such as Google News and AOL News are indeed coded as such. On the other hand, CNS News (cnsnews.com) also appears to be an impartial news aggregator. However, clicking on its “About Us” link shows that the Media Research Center is its parent. The Media Research Center is a conservative group who believes that most mainstream media has a liberal bias (2010).

**Fact-checkers/Watchdogs**

Like Web aggregators, most fact-checkers fall into the unbiased category. They are created, indeed, to help filter though fact and fiction in media coverage and political dialogue. RH Reality Check (rhrealitycheck.org) and FactCheck.org are examples of this type. However, a few of them, such as Media Matters for America (mediamatters.org) and Political Correction (politicalcorrection.org), are specifically geared to exposing what they see as the liberal or conservative bias of the media. These were considered too agenda driven to be included with the neutral sites.

**Opinion Polls**

Opinion poll sites can be neutral or nonneutral. Most of the polls referenced in this study were Rasmussen Polls, but some of the discussion
board participants did not believe that this was a neutral source while others did. One poster with the handle Mick Jagger said:

Rasmussen doesn’t even use live operators or ask for voice responses. They robo-call their phone list sample, which is weighted more heavily to Republican households than the general demographic.

Another poster with the handle Dr Who responded:

You claim all this and more but you offer no proof that you are right. You might be right, you might be wrong but in a debate you actually have to offer up proof of what you say in order for anyone to take you seriously. Others have countered what you say with data. You have not. You lose. I personally would like to see the data back up what you claim. Polls are improtant [sic] even though they can be fickle. It would be nice to really know who is accurate and who is not.

Rasmussen itself claims to be neutral and has no clear agenda, so the researchers categorized it as such.

OTHER
Sources in the other category include health information sites, online discussion boards, books, and unknown sources. In this study, posters citing a discussion board generally referred to another political discussion board, like the Yahoo! Message Boards on Government and Politics. The poster could cite a single post or an entire thread dedicated to a certain topic.

Health information websites provide users with factual information about health-related issues, such as world health rankings and cancer survival rates. These can be public companies (like WebMD) or websites supported by private organizations (like the Henry J. Kaiser Foundation).

Citation context analysis does suggest that discussion forum participants question other types of information as well. When one poster cites statistics from a blog, two other participants immediately challenged him or her:

Here, instead of blogs/news media why don’t you go right to the CBO horse and ask him. (Yahoo! Government and Politics Message Board, Crabstand)

Right wing and other blogs over statistics, RROFLMAO. (Yahoo! Government and Politics Message Board, Carlsonwc1)

Participants also objected to sources for other reasons such as bias and lack of currency, as demonstrated by these posts:

Cato? How about something with more objectivity. Cato is not an objective source. (Political Crossfire, Stateless)

That World Health Organization study is a very poor indicator of healthcare quality. It is inaccurate and deceptive. (Political Crossfire, Lakryte)

MEDIA MATTERS DOGGIE. . . . WHAT DO YOU KNOW ABOUT COMPARING AND ENDORSING? CUZ A DOG ONLY LISTEN TO
IT’S MASTER AND DID NOT KNOW THE WHOLE STOPY . . . WAG YOU TALE TO YOUR MEDIA MATTERS. (Yahoo! Government and Politics Message Board, Yr2012dec21)

From a 10 year old study that places value on universal access? (Political Crossfire, Invisiblehand)

As well as to postings with no supporting sources at all:

You “know” that? Please provide proof to back up your claim, including the names and professional credentials of your sources. I’d like to see how they compare to the CBO’s professionals. (Yahoo! Government and Politics Message Board, Yogi61bear)

I’d love to see evidence that this isn’t just your opinion. (Yahoo! Government and Politics Message Board, Evilconservative)

A lot of unsubstantiated “opinions.” Got any links backing-up your claims? (Political Crossfire, Kyzr)

Can you be more specific? Or are you just pulling random numbers out of whatever orifice happens to be nearest your hand? (Yahoo! Government and Politics Message Board, Yogi61bear)

Back up your lies or shut up! (Yahoo! Government and Politics Message Board, Hangtough)

Although such contests were not rare, they seldom seemed to lead to improved discussion. However this conclusion is based on anecdotal context analysis. Further research in this area, recommendations for which are outlined in the recommendations and conclusion section, is needed.

DISCUSSION

The findings of this research reveal a less information intensive environment than Wikgren (2003) suggests. She found 160 posts (28 percent) out of 578 contained a reference to a source, including an outside expert (p. 229) compared to 400 (6.3 percent) of the 6,322 postings analyzed for this study. The data from this study are clearly more consistent with Strandberg’s (2008) conclusion that political discussion boards too often include “unsubstantiated claims rather than true conversations” (p. 83).

The landscape for political information presents many challenges, even for advanced information seekers. One of these challenges is the multiple layers in which content is posted. Posting and reposting of information makes it difficult to determine where the piece originally appeared, especially if an appropriate citation is not provided. The task becomes even more complicated when a source includes a second or third hand use of a source; this can cause one source to misattribute content (purposefully or accidentally) to a source that mentions or references that content, rather than the source of the content itself.
For example, one of the postings stated “ObamaCare: 46% of Primary Care Physicians Will Quit According to New England Journal of Medicine.” However the link that was provided actually led to the blog of the owner of a company called Lexington Luxury Builders. The blog reported the following:

The New England Journal of Medicine reports in its March-April 2010 issue that 46.3% of Primary Care Physicians will likely leave the practice of medicine if ObamaCare passes. What a raging endorsement for Obama’s health care reform plan from the liberal leaning NEJM.

The Dear Leader and leading socialists—I’m sorry, Democrats—should be so proud. They should also be so proud for finding every parliamentary trick available to back door into passing this legislation. Back door being a key phrase, because that’s where they are sticking it to Americans. The Democrats clearly don’t have the courage of their convictions, which is no surprise, because they have no convictions.

Before you Democrats out there cast your final vote on ObamaCare this week, consider the results of the New England Journal of Medicine study; just another of the unintended consequences of the worst legislation ever in America. Also, consider the rest of the results of the survey: (http://lexingtonblog.wordpress.com/2010/03/17/obamacare-46-of-primary-care-physicians-will-quit-according-to-new-england-journal-of-medicine).

However, another forum poster, who continued to refer to the study as the NEJM study, quickly posted a link directly to the NEJM citation, which connected to the “Career Center” portion of its website where the following paid advertisement was posted:

Recruiting Physicians Today is a free advertiser newsletter published by the Worldwide Advertising Sales and Marketing Department in the publishing division of the Massachusetts Medical Society. Each issue of the newsletter features research and content produced by physician recruiting firms and other independent groups involved in physician employment.

On December 17, 2009 The Medicus Firm, a national physician search firm based in Dallas and Atlanta, published the results of a survey they conducted with 1,000 physicians regarding their attitudes toward health reform. To read their survey results at The Medicus Firm website, click here.

The opinions expressed in the article linked to above represent those of The Medicus Firm only. That article does not represent the opinions of the New England Journal of Medicine or the Massachusetts Medical Society. (Bachman, 2010)

In order to truly assess the quality of this information, an individual would have to trace this link back at least four clicks from its initial link. This example demonstrates how biased pieces or pieces lacking authority can easily be misattributed to a reputable source in online discussions.

Another challenge in the information landscape is caused by a lack of cues about an information source. It is often difficult to tell visually wheth-
er a website is a newspaper, blog, Web aggregator, or some other type of source. This is consistent with the findings of Wikgren (2003), who found that within websites, “it is sometimes difficult to distinguish between Web sites created to disseminate ‘popularized’ health information, official sites providing, for example, pharmaceutical information and the Web sites of pharmaceutical companies or the providers of natural health products” (p. 231). Knowing the authority and motivations of a source assists users in evaluating the potential of the resource to be relevant and reliable in making decisions and solving problems, but the online environment often blurs the lines among authoritative and unreliable and/or commercial sources. In this study, particularly with newspapers, the main page may be clearly marked, but determining whether an internal page is a news story, an opinion piece, or a sponsored blog is a daunting task. Many newspapers provide URLs that indicate that the piece is, in fact, from a blog or an opinion page; however, when material is posted into discussion forums, the URL is not always visible. Once an individual has linked directly to an internal page, some page designs make identifying information more visible than others. Figure 2, a screen capture from the Washington Post, provides an example of how closely some internal pages must be examined to determine what type of content they contain. The only cue on this page is the relatively small breadcrumb notation: Opinions. Having the “Opinion” tab at the top of the page highlighted or in some other way distinguished from the other tabs would provide an additional, more visible
cue. Other pages found in this study were even less clearly demarcated. Traditional news media outlets should attend carefully to the headings on all their internal pages to clearly clarify what type of content is delivered within them.

In some circumstances, cues to the nature of the content are nonexistent. For example, a piece in the *Washington Independent* titled “Behold, Mark Levin’s Anti-Health Care Reform Lawsuit” includes the entire draft of the Landmark Legal Foundation’s lawsuit (see figure 3). The draft is framed, however, with some commentary by contributor David Weigel that says that “as [he] understands it, Levin might lack standing” without any further explanation.

Although the article title ridicules the case, this piece has the same format and appearance as news stories on the site. Clicking the hyperlink for David Weigel’s name returns other pieces written by him, all of which are clearly commentary on the Republican Party, but the site provides no indication of whether he is a staff member or a blogger. Searching his name in the site leads to a news story about his being hired as a blogger with the mission “to cover the Republican Party and the remaking of the right” (McGann, 2009).
In these forums, misattribution was a common problem. Individuals can and do cite information as being from a formal information carrier, but actually reference content from opinion pieces, blogs, or even readers’ comments on the page of the cited source (as exemplified by the misattribution of a blogger’s statement to NEJM in the findings section). Whether this is due to carelessness or willful misleading on the part of the poster or to the difficulty the poster may have experienced identifying the type of sources being cited is difficult to tell.

What is clear, however, is that traditional news media will have to become much more explicit about who they are and what claims they make to journalistic standards and ethics. In the print world, a banner with a trusted name provided adequate cues to the nature of the information source. It was understood that editorial comment was confined to the pages with a prominent “Opinion” banner. The digital environment does not provide such cues, particularly to generations of users who are growing increasingly unfamiliar with newspaper brands. For example, from analysis of its content, the newspaper Politico appears to be a neutral, traditional news provider. However, a statement of such a commitment could not be easily located on its website.

Blogs themselves also create an interesting problem for information seekers, because they have such varied ranges of purpose, levels of objectivity, and standards of reporting. Some blogs appear to contain traditional reporting, while others are essentially personal journals. Those bloggers who make efforts to collect information, interview experts, and present all sides of an issue should indicate to their readers their dedication to objectivity and ethical journalism. This statement must be clear and prominently displayed.

Information seekers must be able to understand the biases of their information sources so that they can use such sources in a careful, ethical, and informed manner. While several of the resources used in these forums initially did not appear biased, tracing them back to “About Us” statements or links to sponsors made it quite clear that they possessed an explicit agenda, like the CNS News (cnsnews.com) example mentioned above. Information seekers and users need to understand the intentions of organizations before making decisions about how to use information provided by such sources.

Finally, content analysis data demonstrated that individuals’ information choices were occasionally challenged by discussion participants. Challenges were based on information type (for example blogs versus news stories), bias, and currency, among other aspects. These data are consistent with Wikgren (2003), who found that some health sources were also criticized or rejected by discussion participants on the basis of authority or credibility. Questions for further exploration are (1) what triggers these challenges (i.e., are there types of sources that are more offensive than
(2) what is the impact of contested information on the overall quality of the discourse; and (3) what types of evaluation skills do posters have to help them defend their information choices? The authors will explore these questions in a future article.

RECOMMENDATIONS AND CONCLUSION
Information providers should make several changes in their current practices in order to help citizens determine the credibility of the information they disseminate. Traditional news media will have to make their claims to journalistic standards and ethics much more explicit. Some must also attend more carefully to the headings on internal pages to clarify what type of content is delivered within them. Information sources that attempt to be reliable and objective should consider coding within their Web pages, like that from Tynt (http://www.tynt.com/), that includes a specific attribution line whenever someone copies and pastes from information in their site indicating whether the information is directly from them, or from their comments or opinion section. Obviously, this will not stop individuals from paraphrasing or summarizing information and misattributing it, but it is one defense against the flood of misinformation on the Web.

Libraries of all types can provide an invaluable service to citizens by providing a range of services and user education programs. Creating online gateways to collections of neutral and well-balanced sources, and making these websites visible and user-friendly is a means for empowering citizens to gather data and construct their own informed points of view. Information literacy courses at public libraries should train individuals to seek information on the author and/or organization background so that the agendas of the creators of a piece can be uncovered. Fact-checkers and media watchdog sites are helpful resources for libraries to recommend to users who may not be aware of these tools. If libraries choose to point to the better right and left leaning sites, then it is also helpful to categorize them as such. Library and information professionals should also seek out cooperative relationships with nonpartisan voter education groups, such as League of Women Voters, SmartVote, and the Kettering Foundation’s National Issues Forum Institute.

Something must also be done at the national level to make high quality, balanced information more accessible to citizens. Because the United States has a decentralized system of statistical reporting, finding reliable data on a specific issue when it is needed can be an overwhelming task for an ordinary person. Some research suggests that the Centers for Disease Control and Prevention (CDC) is the most trusted source of medical information in the United States (Fies, 2007). National information policy should be developed and guide the creation of an analogous nonpartisan, centralized clearinghouse of political, economic, and social information. Such an organization should collect and evaluate information relevant to
current public issues. If such a national information center were established, information on national problems could be packaged and disseminated to citizens via the Web.

Finally, given the complexity of the political information landscape, LIS professionals and information providers should spend substantial time and energy thinking about how to address the obstacles an ordinary citizen faces when seeking information to support his or her political beliefs and civic decisions. As Julien and Williamson (2010) suggest, knowledge about information seeking is critical to understanding what constitutes information competence. This study demonstrates why information literacy should not be conceptualized apart from the everyday life contexts in which individual information seekers must operate. Only when the gap between information seeking and information literacy is closed will IL provide the theoretically rich and transformative framework necessary for LIS professionals to articulate their instructional mission in the current information environment.

NOTE
1. For an overview of everyday life seeking in context (ELIS) theory, see Case (2007). For an excellent review of ELIS research, see Agosto and Hughes-Hassell (2006).

REFERENCES


Lisa O’Connor received her MLIS from the University of South Carolina. After working for a decade as a business and instructional librarian in academic libraries, she completed her PhD in the cultural foundations of education at Kent State University in 2006. She is an assistant professor in the School of Library and Information Science at the University of Kentucky where she teaches in the areas of reference, information literacy instruction, foundations, and business information. Her research interests lie in information literacy and information seeking. She is the editor of the *Journal of Business and Finance Librarianship*.

Marcia Rapchak is the instruction librarian at Duquesne University, where she teaches a course on information literacy and coordinates instruction efforts at Gumberg Library. Previously, she was lecturer for the Department of Communications at the University of Kentucky. She completed her MA in English at The Ohio State University in 2007 and received her MSLS in library science at the University of Kentucky in 2010.