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Open media or echo chamber: the use of links in audience discussions on the Facebook Pages of partisan news organizations

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This study evaluates the use of hyperlinks in audience discussions on the Facebook Pages of two partisan cable news organizations: the liberal-leaning *Rachel Maddow Show* and the conservative *O'Reilly Factor*, to investigate to what extent linking might intensify partisan political discussion or infuse a variety of perspectives into online communication. The results suggest that these Facebook audiences show a preference for a small group of information resources; furthermore, the two audiences shared an even smaller number of information resources in common. The findings support previous research that suggests a relatively small number of information resources receive most of the news audience traffic, and provide some support for other studies that indicate that partisan political discussions on social media are segregated by political orientation.

Keywords: social media; Facebook; political communication; journalism; filter bubble; hypertext; selective exposure

Introduction

The American ideal of public discourse as a key component of democratic governance has been challenged since the founding of the nation. For example, Lippmann (1925) believed that most citizens were 'spectators of action' (p. 103) rather than engaged in the civic debates of the day. However, the development of the Internet rekindled optimism for democratic discourse, at least in online communities (Barlow, 1996; Gillmor, 2004; Negroponte, 1996). The Internet may enable an 'open media code' that lets citizens review news and information from multiple sources and multiple perspectives (Lee & So, 2001, p. 498). Hypertext, the underlying format of the Web, has been theorized as having the potential to democratize education and revolutionize journalism (Landow, 1997; Nelson, 1992; Steensen, 2011).

But even at the dawn of cyberspace, there were skeptics. In *Code*, a reference to both laws and algorithms, Lessig (2006) warned that the early liberties of the Internet would give way to the possibility of perfect control. More recent research suggests the Internet may be an echo chamber, controlled by mainstream media, commercial interests and powerful political forces (Morozov, 2011; Pariser, 2011; Shirk, 2010). Internet users tend to associate with people and institutions that reflect their own views, limiting opportunities to be exposed to competing ideas

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(Adamic & Glance, 2005; Shirky, 2003; Sunstein, 2001). Some scholars argue that when citizens do look for competing perspectives, search engine algorithms may bias what they find (Brossard & Scheufele, 2013; Bui, 2010; Hargittai, 2000; Inrona & Nissenbaum, 2000). Others have found that although the Internet is a repository of potentially endless amounts of data, information reveals itself according to a power-law distribution, where roughly 20% of the content accounts for 80% of the exposure (Himmelboim, 2010; Tremayne, Zheng, Lee, & Jeong, 2006). Bennett and Iyengar (2008) argue that technology has created a new era of minimal media effects where consumers self-select their exposure to information sources, based on partisan preferences.

This study is designed to further the investigation of political discourse on the Internet by evaluating the use of hyperlinks in audience discussions on the Facebook Pages of two partisan news organizations: the liberal-leaning *Rachel Maddow Show* (hereafter referred to as ‘Maddow’) and the conservative *O’Reilly Factor* (hereafter referred to as ‘O’Reilly’). The goal of this study is to determine to what extent, if any, the use of links reinforces the partisan political perspectives of these Facebook audiences, or whether hyperlinking might allow competing ideas to break through the ‘filter bubble’ (Pariser, 2011) of partisan media.

Review of the literature

Hypertext theory and linking in the context of journalism

The underlying technical format of the World Wide Web is hypertext, and linking is its central concept. The history of hypertext often begins with Bush (1945), who argued that traditional ways of representing knowledge – in the linear, hierarchical form of the book – were no longer adequate to meet the onslaught of a ‘mountain of research’, and a format was needed that facilitated knowledge by association. Building on Bush’s ideas, Nelson (1992) coined the term ‘hypertext’ in the 1960s, which he defined as ‘non-sequential writing’ (p. 1/14). Nelson proposed a hypertext system called ‘Xanadu’ that would let readers and authors create links between texts, annotate texts and create new works derived from linking, annotating and augmenting existing texts. In the 1990s, Landow (1997) connected hypertext to postmodern literary theory, finding that the linking qualities of hypertext enabled multi-vocality and multi-threaded narrative, facilitating a postmodernist turn towards reconfiguring our notions of text, writing, narrative and authorship.

But the initial implementation of hypertext on the Web did not quite meet the goals of the theorists. Baehr and Lang (2012) found that Web 1.0 technology, in part because it was concerned with maintaining the distinct roles of author and reader, did not live up to the visions of Bush, Nelson and Landow. The situation changed with Web 2.0 but with a twist, as ‘both authors and readers are now users’ (p. 47). They singled out Facebook and other social media sites as providing users with opportunities to become ‘collaborative authors in more structured authoring environments’ (Baehr & Lang, p. 47).

In the context of journalism’s shift to the Web, scholars have begun to evaluate the impact of hypertext on the news. In a review of some of these studies, Steensen (2011) found a great deal of technological optimism ‘related to how hypertext, multimedia and interactivity would foster innovative approaches that would revolutionize journalism’ (p. 311), but noted that the ‘research lacks commonly accepted definitions of hypertext, interactivity and multimedia’ (p. 313). Several journalism studies examined how news organizations use links within the news product, and concluded that news websites do not take full advantage of hypertext and other aspects of Internet communication (Dimitrova, 2003; Neuberger, Tonnermacher, Biebel, & Duck, 1998; Quandt, 2008; Rosenberry, 2005; Schultz, 1999). Chang, Himmelboim, and Dong (2009) note that there are no technical barriers to adding links in news websites, and instead suggest that news

organizations limit outside linking in order to keep users within their own organization's site. Himelboim (2010) found that external links in foreign news stories on news websites in 73 countries were more likely to link to established information sources in 'core' countries such as the USA and the UK, concluding that 'news media use new technology to replicate old practices' (p. 373). Hoffman (2006) examined print and online editions of major US newspapers and found that the amount of mobilizing information – 'information that can help people act on pre-existing attitudes' (p. 58) – did not increase online, despite the presence of hyperlinks.

Several studies have explored the use of hyperlinks on blogs. Adamic and Glance (2005) found that political blogs tended to link to publications that shared their political perspective. Tremayne et al. (2006) noted that 'the blogosphere is heavily interlinked with journalism websites' (p. 291), and that blogs may influence both the mainstream media and the public agenda. In their study of blogs on the Iraq War, they found that conservative blogs were more likely to link to other conservative sources, while liberal blogs were more likely to link to mainstream media sources. In a later study, Leccese (2009) found that political blogs mostly linked to mainstream media outlets. While the use of links on blogs may be evolving, other scholars found that the primary goal of bloggers is 'to persuade and inform their audiences' (Wallsten, 2008, p. 32), rather than to encourage 'interaction and exchange' (Davis, 2005, p. 123).

Tremayne (2004) found that the number of links in Web news stories followed a power-law distribution. Also called a Pareto distribution, a power-law distribution occurs when a few nodes in a network of relationships have a relatively large number of connections and a large number of nodes have few. In a typical Pareto distribution, the most popular 20% of nodes accumulate 80% or more of the total number of links. Although there are many mechanisms by which a power-law distribution may emerge, one of the most popular is preferential attachment where older, more established, nodes continue to get new connections because they are already prominent.

Himelboim (2010) found a power-law distribution of links from international stories published on a multinational group of news websites, where most links led to established information sources in the USA and the UK. The power-law distribution of links may lend support to scholars concerned with the Internet's potential to become an echo chamber. Sunstein (2006) writes: 'What we now know about both links and individual behavior supports the general view that many people are mostly hearing more and louder echoes of their own voices' (p. 55).

Selective exposure and the echo chamber

Selective exposure is the idea that people are more likely to 'select media outlets sharing their political predispositions' (Stroud, 2010, p. 556). Some scholars share Sunstein's (2001, 2006) pessimistic view that the Internet intensifies selective exposure, creating an 'echo chamber' where citizens hear the same narrow band of opinions (Morozov, 2011; Pariser, 2011; Shirky, 2003). Some scholars take a more nuanced view. Prior (2005) noted that the Internet makes it possible for information-seekers to be exposed to a broader range of political knowledge and involvement; however, other individuals may choose to 'take advantage of greater choice and tune out of politics completely' (p. 587). Garrett (2009) found that people who have more control over the media they consume 'do experience an increase in opinion-reinforcing information, but that their exposure to opinion-challenging information does not drop' (p. 677).

Stroud (2010) found that selective exposure increases the likelihood of polarization: 'Liberal Democrats consuming more liberal media outlets held more polarized attitudes relative to other liberal Democrats', and the same held true for conservative Republicans (p. 566). However, individuals who consume what Stroud (p. 570) calls 'uncongenial' media or interact with non-like-minded others may be less polarized in their views (Huckfeldt, Mendez, & Osborn, 2004). Jamieson and Cappella (2010) found that conservative media 'create a self-protective enclave

hospitable to conservative beliefs' that 'protects [the audience] from counterpersuasion' (p. x). However, conservative audiences do not boycott or ignore nonconservative media; rather, they take from the mainstream media those stories that reinforce their own beliefs. Jamieson and Cappella found the same was true for liberal audiences.

Both Stroud and Jamieson and Cappella ask whether polarization creates selective exposure or whether selective exposure creates polarization. Jamieson and Cappella found a 'reciprocal influence' (p. 239), while Stroud suggested a spiral effect. Both studies also see increased political engagement as a potential benefit of the polarization created by selective exposure.

Political discussion on social networks

Social networks are a relatively recent phenomenon that has experienced explosive growth. Rainie and Smith (2012) found that, by 2012, 66% of US adults used social networking sites, and just over a third of them said social networking sites were important to help them keep up with political views, while about 25% said social networking sites were important to help them discuss political ideas with others and to find people with similar views. Just 16% said they had changed their mind about a political issue after discussing it or reading about it on a social networking site.

With more than 1.3 billion users worldwide, Facebook has expanded well beyond its origins in 2004 as a platform for sharing news and gossip among classmates. Facebook's functionality is driven by personal profiles, which may include a user's real name, employer and other identifying information. Several scholars have found that users connected to 'real name' social networks may feel compelled to be honest in their online self-representation (Toma, Hancock, & Ellison, 2008; Walther & Parks, 2002). However, being more honest in online self-representation does not mean that Facebook users will always write what they think. Spiral of silence theory, first developed by Noelle-Neumann (1974), suggests that some individuals self-censor out of fear of being perceived negatively by others who perhaps support a different point of view. Research also shows that people vary in their willingness to self-censor, and some embrace the role of a contrarian (Hayes, Glynn, & Shanahan, 2005; Noelle-Neumann, 1974).

Research into political communication on Facebook is just emerging. Gustafsson (2012) found that Swedish Facebook users who are politically active outside of social media were more politically engaged on Facebook than Swedish Facebook users who were not politically active. Furthermore, less politically engaged Swedes preferred not to get involved in the political content they saw on Facebook. Thorson (2014) found that recent college graduates varied the strategies they used when posting political content on their personal news feeds, as they could neither control the context the post would appear in on friends' feeds, nor could they always gauge their friends' reactions to political posts.

Himmelboim, McCreery, and Smith (2013) found that Twitter users were more likely to be connected with politically like-minded Twitter users, and therefore to see political messages that reflected their own views in their Twitter feeds. Smith, Rainie, Shneiderman, and Himmelboim (2014) found that political discussions on Twitter tended to create two distinct groups, usually divided into liberal and conservative factions. When they included links in their messages, the liberal groups mostly linked to mainstream news organizations, while the conservative groups mostly linked to conservative websites. Although they were discussing the same topic, the two groups did not interact: 'They [ignore] one another while pointing to different web resources and using different hashtags' (Smith et al., 2014, online).

A few studies have reviewed online discussion in the context of news websites. Rosenberry (2005) found that while 'the power and promise of online journalism is interactivity, tapping into an audience that is already actively engaged in construction of meaning in the messages and doing

some of the gatekeeping for itself' (p. 64), most online news organizations in his study did not provide such opportunities. Hermida and Thurman (2008) found that the overall number of readers posting to UK news websites was low, but one of the editors told them that the small number of participants was not such a limiting factor because it was those individuals that most created a sense of a vibrant community. In a multinational study of 16 online news organizations, Domingo et al. (2008) found that users had few opportunities to contribute to online news sites. Goode (2009) suggests that the model of citizen contributions to the news is more like meta-journalism, where the act of sharing and rating news stories gives the audience the power to influence the news agenda.

This study builds on the research to date by analysing links in audience comments and Wall posts on the Facebook Pages of *O'Reilly* and *Maddow* from 23 May to 4 June 2011. As of 3 June 2011, 355,447 Facebook users registered as 'fans' of the *O'Reilly* Page, and 365,574 Facebook users registered as fans of the *Maddow* Page. The analysis evaluated qualities that would help answer the following research questions:

RQ1. Which information sources do Facebook audience members of partisan news organizations link to in their online discussions?

Previous research has found that news organizations tend to link to a limited number of websites (Himmelboim, 2010; Tremayne, 2004), which contributes to Sunstein's (2001, 2006) claim that the Internet is an 'echo chamber' where average Internet users are exposed to a narrow range of voices. Therefore, we can hypothesize a similar result:

H1. The information sources that the Facebook audience members link to are likely to follow a power-law distribution, or at least provide evidence that the audience has a strong preference for a small number of sources.

RQ2. What categories of information resources (mainstream media, blogs, personal Web sites) do the linked sources belong to?

RQ3. What are the political characteristics of the links? Does the use of links further partisan attitudes or diminish them? Are there overlaps in the information resources between the *Maddow* and *O'Reilly* Facebook audiences?

Previous research suggests that partisan news audiences prefer partisan news sources (Himmelboim et al., 2013; Smith et al., 2014; Stroud, 2010). We can hypothesize similar results:

H2. The *Maddow* audience is more likely to link to liberal information resources, and the *O'Reilly* audience is more likely to link to conservative information resources.

Method

The researchers reviewed audience discussions on the Facebook Pages of *O'Reilly* and *Maddow* from 23 May to 4 June 2011, selecting for inclusion in this study all audience comments that included a link to an outside information source. The researchers coded for base URL, type of information resource, political bent of the information resource and the context in which the Facebook audience member used the link. The researchers also conducted a network analysis to determine the relationship between sources linked to by audience members of the *O'Reilly* and *Maddow* Facebook Pages.

Television remains the most popular platform where Americans get political news (Pew Research Center for the People and the Press, 2011). The cable news audience is a fraction of the network news audience, but the Internet audience for cable news sites is more than twice

that of network news (Pew Research Center's Project for Excellence in Journalism, 2011). Whereas network TV news promotes neutrality, the top cable news shows (by network) are defined by political point of view: *O'Reilly*, the highest-rated news show on the Fox News network, is conservative, and *Maddow*, the top show on MSNBC, is liberal.

Unit of analysis

The unit of analysis was any Wall post or audience comment made on the *Maddow* or *O'Reilly* Facebook Pages from 23 May to 4 June 2011 that contained a hypertextual link. During this period, the *Maddow* audience made 17,260 total Wall posts and comments on the *Maddow* Page, of which 2220 (12.86%) contained links, and the *O'Reilly* audience made 13,545 total Wall posts and comments on the *O'Reilly* Page, of which 1222 (9.02%) contained links. In total, 3442 links were analysed for this study. Although a much larger number of audience comments and posts did not contain links, it is important to understand that much of the discussion on the *O'Reilly* and *Maddow* Facebook Pages has goals other than to share links. In a previous study that analysed audience discussion topics on a cable news Facebook Page, Jacobson (2013) found that 41.98% of the audience Facebook comments and posts were not concerned with news topics, but rather with a host of other issues, such as comments and posts that expressed an appreciation for or criticism of the show or the topic at hand; nonsensical comments and posts; comments that reflected a conversation between two fans; and duplicate comments and posts made by the same fan on the same date (i.e. spam). Although this study did not analyse posts without links, half of the data from the current study draws on data from the previous study, and it is likely that the ratios are similar throughout the sample.

Characteristics of the linked resources

Four characteristics of the linked resources were coded: base URL, link category, political orientation of the linked site and context of link.

Base URL

The base URL consists of the root website of the link. For example, one user linked to a *New York Times* story about the perils of nuclear energy after the Fukushima disaster at <http://www.nytimes.com/2011/05/25/business/energy-environment/25nuke.html>. The base URL was shortened to nytimes.com.

The removal of YouTube links

An initial analysis showed that *YouTube* was the most-linked-to resource, comprising a full 20.8% of the 3442 links. The second-most-linked-to resource was Facebook, with 6.1% of the links. *YouTube* is a difficult source to analyse and categorize because although it is a neutral site, it hosts a wide spectrum of content, including videos with pointed liberal or conservative views, and videos that have little to do with political discussion, such as humorous pieces and music videos. For these reasons, *YouTube* links were excluded from this study because they seemed to introduce a significant amount of 'noise' into the analysis. The removal of *YouTube* links shifted the results of the analysis both in degree and in kind. For example, initial results showed that the information resources linked to by both the *Maddow* and the *O'Reilly* audience followed something close to a power-law distribution, where 72.45% of the links were generated by 18.19% of the sources. After removing *YouTube* from the analysis, 66.9% of the links were generated by 20% of the sources, which is not quite a power-law distribution, but still shows a preference for a relatively small group of sources. The removal of *YouTube* links also made it

very clear that, although the ratio of links to information resources shared by both Facebook audiences compared with links to information resources from only one of the two groups was about even (49.5–50.5%), the commonly shared resources were very small in number (12.2% sources were shared compared to 87.8% that were linked to by either *Maddow* or *O'Reilly* but not both), which changed the characterization of the relationship between the groups and made it clear that they were more factional.

Link category

Each link was coded as belonging in one of the following categories:

- *Mainstream media* – For the most part, the researchers used a definition of mainstream media developed by Leccese (2009) in a study measuring links on political blogs: ‘Any Web site run by a newspaper, TV network, radio network, wire service, or magazine that employs salaried staff reporters and whose Web site is a supplement to its print editions, broadcasts or news service’ (p. 583). An exception was made for websites belonging to print publications that have traditionally been categorized as independent or alternative, such as *Mother Jones* magazine. These websites were coded as independent/alternative.
- *Independent/alternative* – websites of media organizations that are not part of the mainstream media. This included many Web-only news organizations that were more sophisticated than blogs.
- *Blog* – Sites primarily organized in the blog format of reverse chronological order with comments. Some news organizations that originated as blogs but later evolved to more sophisticated formats, such as *The Huffington Post* and *Talking Points Memo*, were counted as ‘independent/alternative’.
- *Portal* – Sites that are primarily a collection of user-generated content, such as Flickr.
- *NGO* – Sites of nongovernmental organizations, including political organizations, service-oriented organizations and nonprofit organizations.
- *Commercial* – Sites that sell products or services.
- *Forum/social network* – Community-oriented sites, such as social networks and discussion fora.
- *Government organization* – Sites published by a government organization.
- *Humor* – Parody or fake news sites.
- *Reference* – Encyclopedic sites such as *Wikipedia*.
- *Public figure/celebrity* – Sites that promote political candidates, celebrities or other public figures.
- *Other* – Any other kind of site.
- *Broken* – The link is broken, or the site no longer exists. In some cases, the researchers still assigned a purpose to these entries, based on context.

Political orientation

Political orientation was coded as liberal or conservative if the website explicitly stated a political point of view in the title, subtitle or ‘about’ section, or if political orientation could be readily discerned from the site’s content. Otherwise, the site was coded as neutral.

Context of link

The overall content of a random sample of 43% of the total Wall posts and comments (54.53% of *O'Reilly*, 38% of *Maddow*) was analysed to determine the manner in which the Facebook user

invoked the link. It is important to note that Facebook audience members commented in three contexts: in response to an *open call* for news story ideas, a technique used only on the *Maddow* Facebook Page ($n=448$ total, 20.18% of *Maddow*); *story posts*, used on both the *Maddow* and *O'Reilly* Facebook Pages, where the audience was invited to comment on specific stories ($n=254$ total, 8.37% of *Maddow* and 5.56% of *O'Reilly*); and direct *Wall posts* on the Wall of the news organization's Facebook Page ($n=2740$ total, 71.44% of *Maddow* and 94.43% of *O'Reilly*).

Examining the context of the links is potentially useful to aid in understanding how these Facebook audiences used links in their discussion, and this part of the analysis was conducted with that goal in mind. However, it is problematic to assign intent to people without interviewing them individually, a task that is beyond the scope of this study. Bearing this in mind, the authors coded each of the links into very general contextual categories:

- *Story idea/sharing information* – Links to news stories made in response to open calls for story ideas or in Wall posts, where the links lead to information or analysis intended to enlighten the *Maddow* or *O'Reilly* audience about a particular story, or further the audience's understanding of current events. For example, one audience member linked to a blog story about a returning marine shot to death by a Special Weapons and Tactics (SWAT) team in Arizona. Another audience member linked to an analysis titled 'Why the Democrat Party Has Abandoned the Middle Class in Favor of the Rich'.
- *Supportive* – Links that are supportive of the content of a story post. For example, audience members posted phone numbers for the Red Cross in response to a *Maddow* story post on the devastation wrought by tornadoes upon the town of Joplin, MO.
- *Political statement* – Links that lead to an information resource with a point of view that could be supported by the liberal or conservative news organization, but is not related to a story post. For example, several individuals posted links to stories about the unfolding problems at the Fukushima nuclear plants in Japan, and its connection to energy policy, in response to story posts on unrelated topics.
- *Opposition or refutation* – Links that support a point of view that is contrary to the liberal or conservative views of the news organization, or used to refute the content of a story post. Audience communication may also be coded as oppositional when a post or comment is worded in such a way so as to insult or goad the audience. For example, an *O'Reilly* audience member linked to a *Huffington Post* report that found Fox News to be an untrustworthy source for news.
- *Promotion* – Links that promote products or services, such as books or movies.
- *Call to action* – Links to information resources that urge the Facebook audience to sign a petition, join a Facebook group or vote a certain way.
- *Conspiracy theories* – Links to information resources related to conspiracy theories (e.g. September 11 was an inside job, President Obama is a Muslim, etc.).
- *Unrelated* – Links that are completely unrelated to story post or topics of interest to the audience.
- *Image/humor/music* – Links that go directly to images, fake news stories or joke pages, or links to music videos.

Network analysis

To determine the relationship between links from the two Facebook Pages, the NodeXL software was used to aid in the network analysis. Network analysis is an emerging area of online communication analysis. It is different from content analysis in that network analysis evaluates the

relationships between and among units of content rather than the nature of the content itself (Guo, 2012). Using the show name as one vertex and the links generated by the audience as the second vertex, the software helped visualize the number of unique links from each Facebook Page as well as where the links overlapped.

Reliability

Two researchers identified the base URL and coded the link categories, political orientation of the website and the purpose of the link. An independent coder was brought in to test the reliability of the categories, as recommended by Kaid and Wadsworth (1989). The independent coder did not identify the base URL, as this was straightforward. The independent coder recoded 15% of the links for link category and political orientation ($n = 145$ of total 962 sites) and 15% of the links for context ($n = 284$ of total 1888 posts and comments analysed for context, a subset of the 3442 total). Cohen's κ for the link category was 0.925, political orientation was 0.876 and audience purpose was 0.884.

Results

Links used by the Facebook audience

In total, the *Maddow* and *O'Reilly* Facebook audiences linked to 961 information sources. *Maddow* linked to 722 and *O'Reilly* linked to 356. There were 117 sources that both groups linked to: 46.78% ($n = 872$) of *Maddow* posts and 54.8% ($n = 478$) of *O'Reilly* posts linked to the overlapping sources.

Facebook was the most-frequently-linked-to base URL for both *Maddow* and *O'Reilly* audiences, with 209 or 7.7% of the total links. *The Huffington Post* was second, with 2.7% ($n = 74$) of the total links. Table 1 shows the top base URLs linked to by each show's audience.

H1, which predicted that the ratio of sources to number of links would reflect a power-law distribution, was partially supported, as 66.9% of the links were generated by 20% of the

Table 1. Most-frequently-linked-to information sources, percentage based on each show's total links.

Top <i>O'Reilly</i> links	% <i>O'Reilly</i>	Top <i>Maddow</i> links	% <i>Maddow</i>
facebook.com	7.88	facebook.com	7.56
examiner.com	4.63	huffingtonpost.com	2.84
unconfirmedbreakingnews.com	4.17	examiner.com	1.71
foxnews.com	2.90	thinkprogress.org	1.61
huffingtonpost.com	2.43	buzzflash.com	1.45
yahoo.com	2.20	alternet.org	1.34
talkingpointsmemo.com	1.74	nytimes.com	1.29
teapartycheer.com	1.51	talkingpointsmemo.com	1.29
cnn.com	1.27	politicususa.com	1.23
dailymail.co.uk	1.27	dailykos.com	1.18
shutking.blogspot.com	1.27	yahoo.com	1.13
msnbc.com	1.16	msnbc.com	1.10
palwatch.org	1.16	cbsnews.com	1.02
thegopnet.com	1.04	thepetitionsite.com	1.02
wikipedia.org	1.04	addictinginfo.org	0.86
infowars.com	0.93	canaryinthecoalmine.typepad.com	0.80
abcnews.com	0.81	cnn.com	0.80
americanborder.blogspot.com	0.81	commondreams.org	0.80
thinkprogress.org	0.81	politico.com	0.80
washingtontimes.com	0.81	thedenverchannel.com	0.80

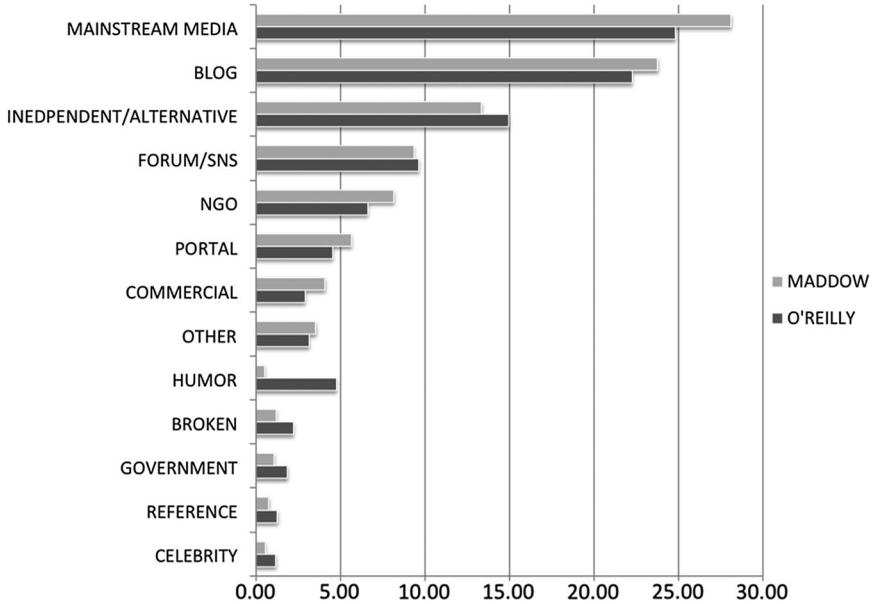


Figure 1. Category of the linked sources, listed in percentage by Facebook audience.

sources, while the other 80% of the sources referenced 33.1% of the total links. These numbers are a little low for a true power-law distribution, but still indicate that the majority of links came from a rather small pool of sources.

Most links fell into the mainstream media category, followed by blogs and independent/alternative media. Both audiences linked to each category at about the same rate; however, *O'Reilly* audience members were more likely to link to humor sites (4.75–0.48%) and *Maddow* audience members were slightly more likely to link to mainstream media sources (28.11–24.79%). See Figure 1 for the total number of links by category.

Link context

A random sample of 43% of the Wall posts and comments was analysed for context. Nearly two-thirds of the links were used to share information or story ideas with other fans and the news organization itself (65.12% *O'Reilly* and 64.44% *Maddow*). Audience members of the two news organizations were about evenly likely to use links to promote their own product or website (10.21% *O'Reilly* and 9.39% *Maddow*), or to make political statements (1.49% *O'Reilly* and 1.42% *Maddow*). The *O'Reilly* audience was more likely to use links to post oppositional messages (9.79% *O'Reilly* and 4.55% *Maddow*) and conspiracy theories (5.74% *O'Reilly* and 2.56% *Maddow*). The *Maddow* audience was more likely to use links in conjunction with a call to action (4.47% *O'Reilly* and 10.24% *Maddow*) or to support the contents of a story post (2.34% *O'Reilly* and 6.26% *Maddow*).

Political orientation

Facebook fans of both groups linked to neutral media sources just over half of the time (54.7% overall, 52.83% for *O'Reilly* and 55.58% for *Maddow*). *H2* was partially supported, as the

conservative *O'Reilly* audience was more likely to link to conservative sources than the liberal *Maddow* audience, and the *Maddow* audience was more likely to link to liberal sources than the *O'Reilly* audience. However, both audiences linked most frequently to neutral media sources. See Figure 2 for a breakdown of links by political orientation.

Looking at the political orientation of links by source category, the news audience overall was more likely to link to blogs that were either conservative (7.77%) or liberal (10.6%) rather than neutral (4.91%); links to independent/alternative sites were much more likely to be liberal (7.7%) rather than conservative (2.13%) or neutral sources (4.03%); links to NGOs were more likely to be liberal (4.47%) rather than conservative (1.32%) or neutral organizations (1.87%). The other categories were all more likely to be neutral information sources rather than conservative or liberal.

Network analysis

In total, *Maddow* and *O'Reilly* linked to 961 information sources. *Maddow* linked to 722 and *O'Reilly* linked to 356. There were 117 sources that both groups linked to: 46.78% ($n = 872$) of *Maddow* links were to sources also linked to by the *O'Reilly* audience, and 55.38% ($n = 478$) of *O'Reilly* links were to sources also linked to by the *Maddow* audience. The 117 sources that both groups linked to made up only 12.2% of the total number of sources. See Figure 3 for a network diagram of sources.

More than half of the 117 sources that both groups linked to (53.85%) were politically neutral information resources, while 26.5% of the sources that both *O'Reilly* and *Maddow* audience members linked to were coded as politically conservative, and 18.8% as politically liberal. Links to information resources that only the *Maddow* audience used skewed more liberal (58% neutral, 35.7% liberal and 4.3% conservative), and links to information resources that only the *O'Reilly* audience used skewed more conservative (49.3% neutral, 7% liberal and 40% conservative).

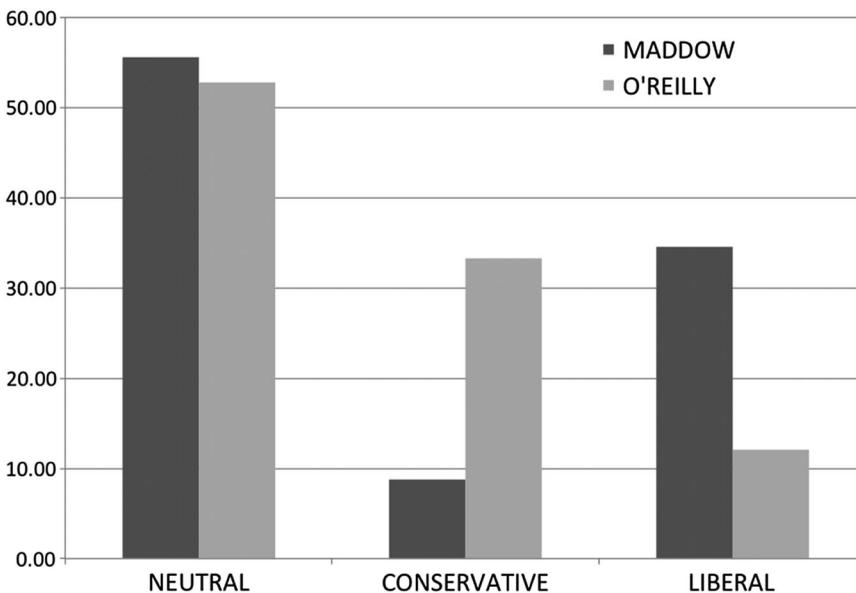


Figure 2. Political orientation of the linked sources, listed in percentage by Facebook audience.

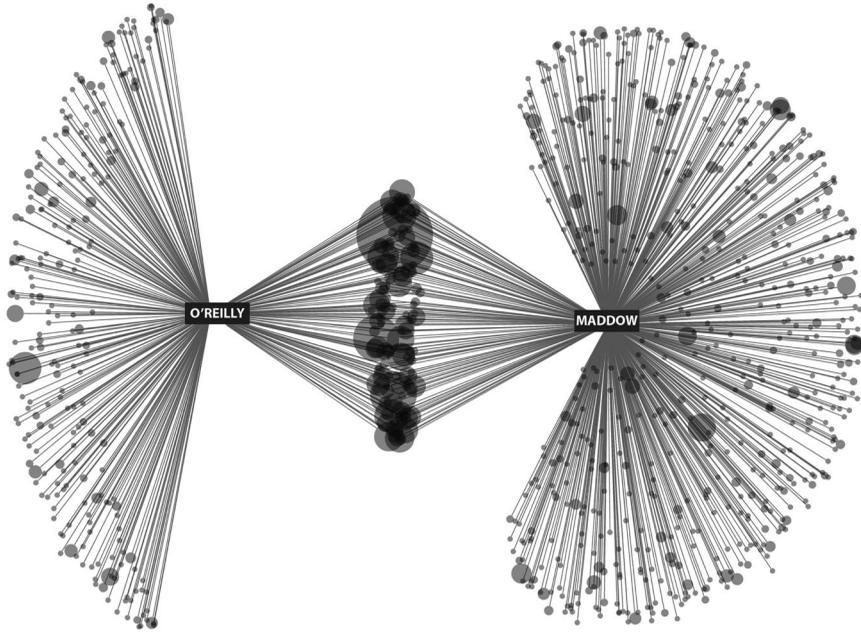


Figure 3. Network diagram of sources linked to by *Maddow* and *O'Reilly* audiences. The larger the bubble, the more frequently the resource is linked to. Note that there were just more than twice as many *Maddow* links as *O'Reilly* links (1864 *Maddow* to 863 *O'Reilly*).

Discussion

Does the use of links by the Facebook audiences of partisan news organizations reflect an open media system or an echo chamber? The candy-wrapper shape of the diagram generated by the network of links created by the *Maddow* and *O'Reilly* audiences suggests a double dose of the latter.

First, 50.5% of the links were referenced by either the *Maddow* audience or the *O'Reilly* audience, but not both. The sources of these links skewed more partisan, with 43% of the *O'Reilly* links referencing conservative information resources (49.3% reference neutral sources, 7% liberal sources), and 35.7% of the *Maddow* links referencing liberal information resources (58% reference neutral sources, 4.3% conservative sources), creating an information enclave similar to selective exposure, where audiences are more likely to ‘select media outlets sharing their political predispositions’ (Stroud, 2010, p. 556).

These results are supportive of studies such as those by Smith et al. (2014), who found that liberal and conservative Twitter audiences split into two distinct groups that reference different sources. Like the audiences in these previous studies, when the *Maddow* and *O'Reilly* audiences use links in their discussions, they are conversing within a filter bubble of people who share their own beliefs – in this case, about half (50.5%) of the time.

The other 49.5% of the links, which led to information resources common to both audiences, referenced just 12.2% of the total sources, indicating that when these conservative and liberal audiences do share information resources, they listen to an echo chamber of a very small number of voices. However, it is this relatively small number of sources that creates some common ground between the two partisan audiences. It is important to note that this group not only includes more than legacy news media sources, such as *The New York Times*, but also includes high-traffic news and nonnews sources on the Internet, such as *The Huffington Post*

and Facebook. Future research could further investigate the agenda-setting effects of this new group of potentially influential information resources.

Ironically, the breadth of sources referenced by the *Maddow* and *O'Reilly* Facebook audiences was greater among links used in only one of the two partisan audience groups. This may suggest that, within partisan discussion, it may be easier – or safer, referencing back to the spiral of silence theory which suggests that individuals may self-censor out of fear of being perceived negatively by others who support different points of view – to call upon a broader range of voices when those perspectives are more likely to share the perspective of the partisan group. Perhaps increased polarization of political discussion may broaden the definition of what it means to have conservative or liberal viewpoints. Another productive area of future research could include evaluating the spectrum of opinion found within conservative and liberal information sources, and the degree to which partisan audiences reference a range of partisan opinion.

Two other factors in the results may lend support to the idea that the Internet may enable an ‘open media code’ that lets citizens review news and information from multiple sources and perspectives (Lee & So, 2001, p. 498). First, more than half of the audience members of both partisan news organizations linked to neutral information sources in their Facebook discussions. However, it is too simplistic to suggest that, just because the Facebook audience members preferred to link to more neutral sources, their linkages represent habitual exposure to or agreement with different points of view. As Jamieson and Cappella (2010) found, sometimes links to neutral or even oppositional sites supported a partisan view. For example, in addition to linking to Ron Paul videos on Cable-Satellite Public Affairs Network (C-SPAN), a few *O'Reilly* audience members linked to neutral or liberal news sources when the sources agreed with conservative perspectives; a few members of the *Maddow* Facebook audience linked to conservative sources that they felt were over the top (for example, discussions about whether or not President Obama is a Muslim) to show how wrongheaded the conservative sources were. While these examples seem to support the idea that Facebook users reference opposing views for partisan reasons, some scholars suggest that citizens who seek out points of view counter to their own beliefs, regardless of motive, may be less polarized in their views (Huckfeldt et al., 2004; Stroud, 2010).

Second, the range of sources shows that the Facebook news audience is reaching beyond MSNBC and Fox News, even though other studies show that news organizations most often use links in their own websites to reference their own publications. By injecting these extra comments, recommendations, ideas and links into the experience of news discussion, the audience may be using Facebook to expand the range of information sources and perspectives offered by the networks, potentially further eroding the power of news organizations alone to shape what the audience thinks about.

Conclusion

The results of this study lend support to the idea that news audiences have a limited number of sources they prefer to reference when discussing the news, as about one-third of the information resources comprised about 80% of the links by the audience members, a relationship just shy of a power-law distribution. The other two-thirds of the information resources, the ‘long tail’, made up just 20% of the total links, and most were referenced by only one of the two Facebook audience groups. The candy-wrapper shape of who links to what in the news discussions shows both of these influences at work, and generally supports findings of previous research that Internet users are more likely to engage with a relatively small number of information resources (Chang et al., 2009; Jamieson & Cappella, 2010; Shirky, 2003) and that partisan groups tend to reference nonoverlapping information resources in online discussions (Himmelboim et al., 2013; Smith et al., 2014).

On a slightly more positive note, the use of links on the Facebook Wall of partisan news organizations may indicate that audience members of these organizations are looking to information sources that extend beyond their hosts – in this case, MSNBC and Fox News. News organizations may limit the sources that they expose their audiences to, but this study suggests that Facebook may serve as a proxy for outgoing links that do not exist on the sites of news organizations. However, while Facebook discussion may expand the number of sources that news audiences are exposed to beyond the host news organization (MSNBC or Fox), the evidence does not show whether these sources have enough impact to interject alternative or uncongenial perspectives into the news audience discussion. This may be a fruitful area for further research.

There are several other potential areas of future research suggested by this study. First, both Facebook audiences shared links to a small group of media sources; it may be fruitful to investigate the agenda-setting effects of this new group of potentially influential information resources. Second, the study suggested that there could be room for a spectrum of opinion found within conservative and liberal information sources; further research could investigate the degree to which partisan audiences reference a range of partisan opinion. Another area for future research may include how online audiences use and reference YouTube content in political discussions. Although links to YouTube were removed from this study for reasons stated previously, a number of the YouTube links referenced music videos, humor and other elements of popular culture. Scholars investigating connections between politics and popular culture might use YouTube links in political discussions as one entry point.

This study is easily replicable on social media outlets dedicated to partisan discussions. This is only one study, covering two news organizations during a three-week time period. The social media phenomenon is in its infancy, and more studies are needed to see whether communication among online news audience members evolves into ever-tighter filter bubbles or embraces a more open media code.

Disclosure statement

No potential conflict of interest was reported by the authors.

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