

Examining News Sharing Behavior with Social Media Analysis  
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## Introduction

Technological, social, and industrial changes have drastically transformed how Americans consume and the media report news. In a news environment that combines reporting with social media use, journalists are developing and reinventing this new style of reporting on a weekly, if not daily, basis. As journalists construct social media journalism norms and routines, media organizations are trying desperately to keep up. Journalists' use of the "retweet" function of *Twitter* is a perfect example of how media organizations are reacting to developing journalistic routines.

*Twitter* allows users to share information from other *Twitter* users. Known as retweets, these are posts created by an original *Twitter* user but shared by additional users. This project examines news sharing, when journalists retweet news from other journalists, of political journalists.

News sharing is a phenomenon seldom found in other news mediums. News sharing is when journalists link to other journalists' content. Social media journalism facilitates this by allowing journalists to retweet, or post a news story from another journalist or news organization, to their followers. News sharing allows journalists to pass on content they find interesting, newsworthy, and relevant to their *Twitter* audiences. Yet, it also allows journalists to share content from news organizations that they are not employed by. This behavior has become so popular that a few news organizations have put forth policies regulating whom journalists can retweet. For example, in February 2012 Sky News banned its reporters from retweeting any content from *Twitter* users who are not employed by the media company. Sky News' justification is simple- if the information is from a different news organization, journalists cannot validate its truthfulness because it has not been through the Sky News editorial process. While most news organizations do not have such strict policies, more organizations are developing retweeting guidelines in some form or another for their reporters.

This project examines political journalists' news sharing behaviors on the social media site, *Twitter*. As social media use among journalists and news consumers continues to increase, it is important to understand the product of social media news. This project accomplishes this through both a content analysis of political journalists' posts on *Twitter* and a social network analysis of the news sharing behaviors of these journalists. Despite the monumental changes occurring in today's media environment, American news media still serve a basic, fundamental role in the democratic system: as the fourth branch of government, the press is tasked with being a government watchdog while continuing to act as the purveyors of information about local, national, and international events. This project provides unique insight into this changing media environment by analyzing a novel, yet widespread, behavior: news sharing.

### **Theoretical framework**

A new institutionalism approach to studying organizations allows scholars to connect how institutional factors have organizational-level consequences. Prior to the late 1990s, most mass communication scholars had not applied this approach to studying news organizations. Yet, drawing on work in political science, Cook (1998) and Sparrow (1999) revitalized the new institutionalism approach to news media in last part of the 20<sup>th</sup> century. While their arguments differ in some key areas, both suggest that studies of the news media should mimic how political scientists examine other political organizations like Congress, the White House, or the Supreme Court.

Cook's and Sparrow's texts worked in unison, despite their differences, in advocating for examining the news media as a political institution. Cook (1998) argues that the news media are a political institution because of their "historical development, because of shared processes and predictable products across news organizations, and because of the way in which the work of newsmen is so intertwined with the work of official Washington that the news itself performs governmental tasks" (p. 3). Sparrow (1999) argues for the examination of the news media as an

institution because “the production of news by the media- indeed, often their simple presence- provides a regular and persisting framework by which and within which other political actors operate” (p. 12).

Perplexed by the homogeneity hypothesis in mass communication research<sup>1</sup>, both Cook and Sparrow argue that news content was remarkably similar, despite the medium/channel/outlet, because the news media are organizations and have analogous institutional practices. Both authors explain that the new institutionalist approach to studying news organizations seemed like a natural progression from the work of scholars during the 1970s (see Gans, 1979; Tuchman, 1978; Sigal, 1973) who took a painstakingly in-depth look at how news organizations operated. In a follow-up article written in 2006, Cook explains the paradigmatic transition as such:

“An institutional approach naturally followed the literature from the 1970s that saw the news as the result of organizational, even bureaucratic routines and formulas. Yet, these organizational explanations of the news could not explain why, despite considerable variation in audiences and formats, the news is similar from one news outlet to the next. To grasp this similarity requires a transorganizational understanding of the news that sees the news media as a collective institution in terms of what goes into the news and its political effects” (Cook, 2006, p. 161).

While both scholars reached the same conclusion- the news media are political institutions- they arrived here from very different routes. Cook’s rationale was based on a sociological perspective while Sparrow’s approach was more economically influenced. As discussed earlier, institutions are influenced by both economic and sociological factors. An organization develops institutional practices as a way to either manage human behavior (e.g., reduce uncertainty) (sociological influences) within the organization or to maximize resources while minimizing costs to the organization (economic influences). New institutionalism is based on one primary principle: there are abstract level forces that influence individual behavior. And while both Sparrow and Cook have different reasons for treating the news media as an organization, they both come to the same

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<sup>1</sup> The homogeneity hypothesis has its origins in Cater’s (1959) “fourth branch” analogy. It is the notion that the majority of the news media cover political stories in a similar fashion.

conclusion that the news media are political organizations defined by well-established institutional practices.

While media organizations may (and commonly do) share institutional practices, the purpose of this approach is not to analyze a specific organizational structure in order to generalize to the entire news media population; instead, it allows researchers to examine specific norms and routines of news organizations in order to explain how these institutional practices affect the final news product. While scholars recognize the importance of studying the organizational factors of news production; common agreement is that we should study the news media systems using an institutional approach rather than as a single organization (Cook, 2006).

Previous scholars have devoted ample time and energy into explaining how organizational considerations and institutional practices of the news media guide news gathering processes and, ultimately- the news (Dunaway, 2006; 2008; 2011; Hamilton, 2004; Kirzinger, Dunaway, and Goidel; 2012). “The main finding of this study is that the pictures of society that are shown on television as national news are largely-though not entirely-performed and shaped by organizational considerations” (Epstein, 1973, p. 258). Epstein’s monumental work on television news still holds true in today’s society. As Sparrow (1999) explains, “an understanding of the news media as a political institution has to be grounded in specific, independent individual and organizational behaviors” (p. 10). Shoemaker and Reese (1996) identify four impacts on news content: 1) influences from individual media workers, 2) influences of media routines, 3) organizational influences, and 4) influences on content from outside the media organization. While all of these influences are important determinants of news content, this project is primarily concerned with influences of media routines.

### News Sharing on *Twitter*

Patterson (2007) argues that the organizational business model that affects traditional news content do not easily translate to the online news market. Therefore, online news should be

examined with the understanding of how online news organizations generate revenue. For example, online news organizations rely on “page views” as a way to attract advertisers. The more users viewing a webpage, the more attractive the page is for advertisers. Therefore, online news websites frequently adopt a news-aggregating role in order to generate more page views. This content sharing behavior is very different than traditional news models (Weber and Monge, 2011). Unlike traditional news models, in which the content flows from one source to consumers, online news content flows from multiples sources to other sources and finally, to the consumers. While Weber and Monge (2011) argue that news sharing is more common among news aggregators (AP, Reuters, Huffington Post, YahooNews), rather than news organizations, that produce and deliver their own content (NBC, *The New York Times*, *TIME*), this study is interested in whether the same behavior occurs in social media journalism. News sharing may have developed as a different way for online news organizations to generate revenue, but in social media journalism-this behavior serves a very different function. And while understanding the effect that this behavior will have on news content is outside the scope of this project, this project serves as the initial examination on the extent of this social media journalism routine.

Drawing from this theoretical framework, we put forth the following research questions and hypotheses.

RQ1: How frequently does news sharing occur among political journalists on *Twitter*?

H1: Journalists are more likely to share content from individuals working within their news organization than share content from competing news organizations.

H2: Independent and web-based journalists will engage in news sharing behaviors more frequently than traditional print and broadcast journalists.

RQ2: What are the network characteristics of journalists and those whom they share news from?

## Methods

This project relies on two methodologies. The first methodology is a quantitative content analysis of tweets from 77 political journalists. The second methodology used in this project is social network analysis (SNA) examining the same periods. This project is aimed at gathering a random sample of political journalists' content on *Twitter*, it relies on previously established sampling methodology and applies this sampling strategy to the new medium. This research is limited to the study of political journalists, referring to individuals who specifically cover national politics in the United States and/or are assigned to the national political beat by their news organizations. The decision to choose the political news beat is consistent with previous research examining the institutional structures of news reporting. Additionally, as Cook (1998) argues, news organizations are distinctly political organizations and reporters are political actors. Therefore, as an extension of this theoretical approach, this project specifically analyzes those journalists who are the strongest representations of political actors in journalism.

This project analyzes specific journalists rather than main news identities like *CNN* or *The New York Times*, unlike the Pew Center's Project's (2011) "How Mainstream Media Outlets Use *Twitter*." This is done for several reasons. First, the general news entities on *Twitter* generally just link to stories available on the new organization's website and do not interact with other *Twitter* identities. Secondly, these news handles are designated for "general" news and not about specific topics or issues (unlike this project's aim). And finally, as previously discussed, social media are inherently about creating relationships between individuals. One of the tenets of social media journalism is the relationship between journalists and their sources, other journalists, and members of the general public. Therefore, it is more informative for a project analyzing these relationships to include Amy Walter, Jake Tapper, and Rick Klein, all of who are political reporters for *ABCNews* rather than the *ABCNews Twitter* account. Most of the main news organizations' *Twitter* identities are

also set up to retweet content from journalists working for that organization. In order to reduce any redundancy, the main *Twitter* handle from the news organizations were not included in the analysis.

One of the unique attributes of social media is that it is a collection of journalists, who primarily work in a variety of different mediums, on one medium. Journalists from print, television, radio and online news sources all have social media handles. Therefore, it was important to have a sample that represents as many different news mediums as possible. The process of including political journalists from a variety of different news organizations representing a variety of different news mediums was two-fold. The first step was identifying the news organizations that would be included in the analysis.

Circulation data on national newspapers was gathered from the 2011 *BurrellesLuce* (published in June 2011) <http://www.burrellesluce.com>.<sup>2</sup> This study chose to include the three newspapers with the highest circulation (*The New York Times*, *The Wall Street Journal*, and *USA Today*) as well as *The Washington Post* (the highest circulating local newspaper in the Washington D.C. area). The highest circulating U.S. news magazine, *Time*, as reported by Magazine Publishers of America, was also included. Representing television news in the sample are the three broadcast news networks (*NBC*, *ABC*, and *CBS*), the three most-watched cable news networks (*CNN*, *FoxNews*, and *MSNBC*), and the only national non-profit television station governed by the Corporation for Public Broadcasting (CPB). National Public Radio (NPR), the non-profit media network, and two news wire services (Associated Press and Reuters) were also included in the sample.

After identifying these news organizations, *News Media Yellow Book*, Winter 2011 edition, was consulted to identify all congressional, White House, and national political reporters as well as Washington bureau chiefs. Since this project analyzes *Twitter* content, the individual reporter/correspondent was only included if he or she was active on *Twitter* as of October 17, 2011.

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<sup>2</sup> BurrellesLuce is a media measurement service and widely used in media research.

Active on *Twitter* was determined by doing a *Twitter* search for their name as well as a Google search with their name and *Twitter*. We also made sure that each individual was working for that media organization during the sampling times for this study.<sup>3</sup>

In addition to traditional news mediums, this project also includes political journalists working for digital media organizations. Using Comscore's 2010 rankings, the top three U.S. news websites/blogs (*Huffington Post*, *Politico*, and *Drudge Report*) were identified and included in the sample. A simple online search within these websites/blogs provided a list of political commentators/bloggers. This list was then used to identify the journalists who were active on *Twitter* (using the same criteria previously discussed). Once a list of active *Twitter* users was identified, 50 percent (chosen using a random number table and choosing every 5th individual until we had captured 50 percent of the individuals from each site) of those individuals were included in the sample. Only half of the digital media journalists were included in the sample because the initial list of digital media journalists was much larger than that of journalists from traditional news organizations. To avoid over-sampling from digital journalists, only 50 percent of these individuals were included in the analysis.

Finally, while *Twitter* does allow journalists from all different mediums to distribute news in one place, one does not need to be working for a news organization to report news on *Twitter*. Therefore, independent journalists who are active on *Twitter* -yet not working for any national media organization- were also included. Using Muckrack.com, we identified four independent journalists

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<sup>3</sup> The one exception to this is Ben Smith. At the beginning of data collection, Smith worked for *Politico*. However, on December 26, 2011, Smith left *Politico* to serve as the political editor of *BuzzFeed*, a site not known for political news content. However, since Smith's arrival to the social media news site signified a concerted effort within *BuzzFeed* to cover political news, we kept Smith in the analysis. His tweets before December 26, 2011 are from his handle BenPolitico, and after are from BenBuzzFeed.

who cover national politics: WestWingReport, Donna Brazile, Jonathan Alter, and Tommy Christopher. These individuals were also included in the sample.<sup>4</sup>

The final sample consists of 77 political journalists representing 19 different news organizations. Organizational demographics (name of news organization, type of news organization, ownership model) as well as *Twitter* demographics (number of followers, *Klout* scores, number of tweets in sample period) were collected for each journalist. Demographics of each journalist were included in the sample. A list of these descriptives is found in Table 1.

### Sampling time periods

Two types of news coverage were sampled: event-driven news and routine news. The routine news time periods consist of a constructed four-day period with the following 24-hour periods: November 3<sup>rd</sup>, November 14<sup>th</sup>, January 6<sup>th</sup>, and January 14<sup>th</sup>. These time periods generated approximately 1800 units of analysis (tweets). The event-driven news sample includes two distinct news events: the November 22<sup>nd</sup> GOP primary presidential debate and President Obama's State of the Union address on January 24<sup>th</sup>, 2012. The content analysis includes 24-hour time periods in order to capture the news coverage preceding the event, the coverage during the event, as well as the immediate response of journalists after the event. Interestingly, both of these events generated significantly more tweets from journalists than during a routine news days. These two days generated 2274 units of analysis (tweets).

### Content analysis

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<sup>4</sup> Tommy Christopher is a pseudonym for an unknown political reporter who grew to *Twitter* fame in September, 2010, when he live-tweeted his own heart attack. He is a member of the White House press corps and frequently contributes to *mediaite.com*. WestWingReport is Paul Brandus, a former reporter for *NBC*, *MSNBC*, and *FOXNews*. In 2011, he won the Knight Foundation Journalist Award for his work as "WestWingReport." He has been a member of the White House press corps since 2009. Both Donna Brazile and Jonathan Alter are well-known political consultants and frequent contributors to a variety of media organizations and sources. Brazile is also a political analyst associated with the Democratic Party and frequently appears on *ABC news*. In late 2011, Alter announced his new syndicated column for *Bloomberg View*.

This study employs a quantitative content analysis in its examination of political news available on social media as well as the relationship between political journalists and sources and other journalists covering the same beat. Content analysis is a commonly used methodological approach to studying news content. Defined by Wright (1986) as a “technique for the systematic classification and description of communication content according to certain predetermined categories” (p. 125), content analysis allows researchers to analytically test the theoretically driven research questions and hypotheses.

All tweets were coded to determine if it was an original tweet or a retweet. A **retweet** refers to a post that the journalist did not originate. “RT,” followed by @user and the user’s original post, identifies a retweet. Retweets can also be identified as “...message...(via @user).” In some instances, the users post a short message before or after the RT. All of these were coded as retweets. Retweets were additionally analyzed in order to determine who was the author of the original tweet and whether the journalist made a statement agreeing or disagreeing with the tweet, or if there was no statement. Original authorship was determined by performing a *Twitter* search using the handle that appears in the tweet. Retweet authorship was coded in the following categories: journalist working for the same news organization, journalists who doesn’t work for the same news organization, political actor/organization, member of the general public (unofficial source), or other type of traditional source (academic, lawyer, political commentator). If retweet authorship could not be determined, it was coded as “unsure.”

#### Inter-coder Reliability

One primary researcher conducted coding, with an additional coder responsible for coding 15 percent of the sample. Coder training was conducted over two sessions led by the primary researcher. Coding reliability was analyzed using Cohen’s kappa, a common inter-coder reliability measure in mass communication research. This is also considered a more conservative measurement

of agreement because it controls for chance agreement (Cohen, 1968). If there is perfect agreement, Cohen's kappa is equal to 1, with a kappa coefficient of above .60 typically considered acceptable agreement between coders (Stemler, 2001).

Inter-coder agreement is found in Table 2.

### Social network analysis (SNA)

In order to examine the relationships between journalists and political news tweets on *Twitter*, this project relies on social network analysis (SNA). An often-overlooked methodology, SNA is the mapping and measuring of relationships between individuals, groups, companies, organizations, or other entities. Drawing from network science, a field that focuses on patterns of connection in a wide range of both physical and social behaviors, this methodology allows researchers to dissect and analyze communication patterns and relationships and can provide unique insight into various subsets of communication research- including social media. And while Garton et al. (1997) encouraged communication scholars to explore the role of computer-supported social networks more than 15 years ago, it is only recently finding its way into communication research.

Social network analysis focuses on patterns of relationships among nodes (people, organizations, states, etc...) (Berkowitz, 1987; Wasserman and Faust, 1994). As Wasserman and Faust (1994) explain, the units of analyses in SNA are not the individual (known as nodes) but the relationships between the nodes. Network analysis focuses on groups of nodes either in dyads (two nodes), triads (three nodes), or in larger systems (subgroups or entire networks). While the nodes in the network are the people and groups, SNA provides both visual and mathematical analysis of the relationships or flows between the nodes (also called vertices).

Unlike most social science research methodologies, which rely on attribute data, SNA uses relational data.<sup>5</sup> Scott (2000) defines relational data as “the contacts, ties and connections, the group attachments and meetings, which relate one agent to another and so cannot be reduced to the properties of the individual agents themselves. Relations are not the properties of agents, but of systems of agents” (Scott, 2000, p. 3). Human communication and interaction is a type of relational data that can be analyzed using SNA. In order to analyze a network, there must be identifiable relationships between people. This project uses the communications and interactions of the sample of political journalists on *Twitter* to analyze a particular social network: active political journalists on *Twitter*.

Each individual journalist in the sample is considered a node/vertex and the connections between the journalists, edges. A line, or edge, will exist when a journalist retweets another journalist. Social networks are described as  $G = (V, E)$ , where  $V$  represents the node/ vertices and  $E$  represents the edges between the nodes. The data was collected and analyzed using R and the software package *statnet*; it is presented in sociograms (network graphs) and tables presenting centrality measures.

### Measures of Centrality

This study also examines three important centrality measures in SNA. The most basic centrality measure is *degree centrality* and calculates the most important node in the network based on the number of connections that the node has (Scott, 2000). The placement of individuals within a network is one component of SNA. According to Hansen et al. (2010) the analytic technique *eigenvector centrality*, is a measure of “how important a particular individual is within a network.

Important users who are paid attention to by lots of others, who are themselves paid attention to by

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<sup>5</sup> This project also includes attribute data in its analyses of journalists. Although not necessary for network analysis, including attribute data adds insight into the SNA and subsequent visualization of networks. The attribute data of the nodes in this analysis includes their number of followers, people they follow, and their Klout score.

lots of others and so on” (p. 150). This is also known as *closeness centrality*. While it is not possible to calculate the *closeness centrality* for a node in undirected data, with directed data the *closeness or eigenvector centrality* will demonstrate which node is the most central figure in the network. While *degree* measures the number of connections, *eigenvector centrality* (x) looks at the influence of those connections to find the most influential node (West, 1996).

The final centrality measure in this study is *betweenness centrality*. This is a measure of how an individual node’s location within the network affects their access to information. As Newman (2007) explains, “betweenness is a crude measure of the control *i* exerts over the flow of information (or any other commodity) between others” (p. 6). This measure captures whether the node serves as an important mediator between two other nodes. Unlike degree and eigenvector centrality, betweenness centrality is less concerned with the vertices and instead bases its centrality measure, importance measure, on whether the vertices serve as important connectors. For example, if two journalists (A, C) never interacted with each other but were only connected through another journalist (B), if B did not exist, we would lose the connection between node A and node C and seemingly miss out on an important relationship. In this example, journalist B would have a higher betweenness centrality measure. Betweenness centrality measures the difference between the largest individual betweenness centrality measure and the individual (*n*) betweenness centrality value. It is also a non-directional measure.<sup>6</sup>

## Results

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<sup>6</sup> Because the mapping of the news sharing between journalists extends beyond the bounded network of journalists included in the sample, the betweenness centrality measure is more indicative of “information centrality” than betweenness centrality (Kim and Aldrich, 2005). This centrality measure indicates important journalists who are bringing outside information into the network of journalists who would not have access to this information if it was not for that specific journalist. As Kim and Aldrich (2005) argue, without full network data, betweenness centrality should be called “information centrality.” Ideally, in order to make substantial claims about the role of these individuals within the network, we should rely on an entire, bounded network.

The first research question asks how frequently journalists engage in this news sharing behavior. Of the 3,347 political news tweets, 941 were retweets (28.1 percent of the sample). When examining the sources of the retweets, results are counter to hypothesis 1. Almost fifty percent (48.1) of the political news retweets were from journalists working at a different news organization than the individual who retweeted the information. In fact, this is more than twice as many from journalists working at the same news organization (22.4 percent). Ten percent of the retweets of journalists were from political actors (10.4 percent) and 10.9 percent of the retweets were from non-traditional sources.

When examining the tone surrounding the news sharing of journalists, the majority of the retweets did not include a positive nor a negative comment (84.6 percent). However, 14.3 percent included a statement of agreement while only 1.1 percent of the retweets included a negative comment from the journalists.

The second hypothesis suggests that journalists working for non-traditional organizations (web-based media organizations and independent journalists) will retweet more frequently than journalists working for traditional news organizations (print and broadcast). A regression analysis was used to analyze the relationship between type of journalist and their proclivity to retweet news content. As seen in Table 4, the regression examining the relationship is significant,  $R=.27$ ,  $F(4, 4131)= 80.73$ ,  $p<.01$ . Print journalists and online journalists were significant predictors of retweeting behaviors, while independent and broadcast journalists were not significant (however the direction was negative). These findings provide mixed results for H2. While institutional characteristics affect the proclivity of journalist to retweet information, it is not always in the direction predicted.

### Social network analysis

There were 1,202 retweets of 725 different *Twitter* users. In-degree measures provide details on the *Twitter* account most retweeted by the journalists. Of the 725 individuals who were retweeted,

there were only 10 *Twitter* users who were retweeted eight or more times in the sample. These individuals are AshleyRParker, ErikaMasonhall, JakeSherman, MarcAmbinder, RealClearScott, SamSteinHP, TheFix, DaveWeigel, PeterHambyCNN, and Mediaite. All of these *Twitter* users are media actors. All of these are journalists (Mediaite is an individual who tweets on behalf of an online news organization) working for either a traditional news organization or an online media organization. Figure 1 shows the network map of the journalists and the *Twitter* accounts that they share news content from and Table 6 details the network characteristics.

When examining the centrality measures of individual journalists within the network of news sharing journalists (see Table 4), several important trends emerge. Eigenvector centrality scores highlight the most influential individuals in a network while betweenness centrality measures important connectors in the network. According to the analyses, Karen Travers (ABC News) is the most influential journalist based on retweets and Jonathan Martin (*Politico*) is the most important connector in the network (see Table 5). Karen Travers' assignment is the Washington-based correspondent for ABC NewsONE, the network's news service affiliate. She is responsible for providing both live and packaged reports for hundreds of ABC local news affiliate programs. Martin, on the other hand, is a senior political reporter for *Politico*. While both of these individuals are fixtures in the political news environment, they are not as well-known as several other journalists included in the sample. In fact, none of the senior political reporters for any broadcast, cable, or newspaper are in the top five of any of the centrality measures. Instead, news editors and online journalists hold these positions more often. There are several ideas on why these findings occur. The first is that perhaps more well-known reporters, those with household names and established brands, have less incentive to build a social media brand since they already have an established reputation. In addition, perhaps these journalists are so concerned with their brand that they are unwilling to use their brand name to build influence around competing journalists. This clearly needs more research.





Each journalist creates their own unique network of *Twitter* users that they retweet. This is demonstrated in Figure 2 by the fans surrounding each journalist. For example, if you examine Ben Smith's network (@benpolitico) it is obvious that he retweets information from a variety of *Twitter* users. However, only a handful of the individuals he retweets, are also retweeted by the other influential journalists in the sample. In fact, there are only fifteen individuals who were retweeted at least once by two or more of the influential journalists in the sample. Of these fifteen individuals, three were part of the sample of 77 journalists (Jmartpolitico, RickKlein, and SamSteinHP), 10 are journalists or contributors for a media organization (AndrewNBCNews, BrianStelter, DaveWeigel, KatrinaNation, Mattyglesias, MorningmoneyBen, ThePlumLineGS, RamesPonnuru, DanFosterNRO, and AKaczynski1), and one is a conservative blogger (Moelane). There were no individuals who were retweeted more than twice by more than one of the journalists. Clearly, when an influential journalist shares news from other *Twitter* users, they are not doing so from people outside of mainstream news outlets.

### **Limitations**

This study is limited by its sampling methodology. In network analysis, it is ideal to analyze an entire network because it allows you to make important claims about influences on that network. This analysis is confined to a small sample of journalists who cover the national political beat. Ideally, the analysis would include every journalist who covers this beat. Unfortunately, because there is no way to access the population, the project is limited to sampling as the most appropriate methodology for achieving generalizability. Future studies with complete networks will help researchers better understand the predictors of journalists' interactions and news sharing behaviors. The next step in this project is to use exponential random graph models to examine what characteristics of journalists and other *Twitter* users explain their popularity or influence on *Twitter*. As Shumate and Palazzolo (2010) explain in their review article on the use of social network analyses

in communication research, until recently, researchers were very limited in their analysis of networks. Most of these analyses were limited to descriptive explanations and the visual mapping of networks. While these studies still added to our understanding of communication networks, the researchers were unable to perform any significance testing (predictions) of the networks using node attributes. Exponential random graph models (ERGMs) are able to include node attributes into SNA, thereby providing the ability to study the predictability of a network based on node attributes (for a complete review of ERGMs, see Robins and Morris, 2007).

ERGMs allow researchers to “examine the prevalence of the network structures above what would occur by chance alone” (Shumate and Palazzolo, 2010, p. 347). For example, in this study we could examine if there are any characteristics of journalists that help predict the likelihood of them being followed by other journalists. Or by gathering attribute data on all the *Twitter* users who were retweeted or mentioned by the journalist, we could explore if there are any demographic characteristics or *Twitter*-specific characteristics that can predict the likelihood of an individual being retweeted. This is clearly the next step for this research.

Despite these limitations, this research provides unique insight into the networks of political journalists on *Twitter*. An increase in networked journalism has led to substantial changes in the current news media environment. It is important to clarify that networked journalism is not citizen journalism (Gillmor, 2004). Rather than allowing members of the general public to be involved in the development of news, networked journalism is the changing of the news process from a linear relationship to one that is a networked process- with constant communication and interactions. As Jarvis (2006) explains, networked journalism allows journalists to cross “boundaries” in order to share information. These results support this assertion by demonstrating how frequently journalists engage in news sharing across news organizations and mediums.

Interestingly, these findings also support Putnam’s (2000) explanation of bridging and bonding

capital. According to Putnam, online communities provide the ability to bond and bridge capital. Bonding capital is the ability to more easily reach your ardent supporters (or in the case of *Twitter*-followers) while bridging capital allows individuals to reach beyond their traditional supporters. The tightness of a large social network comes less from increasing the number of connection, but rather from increasing the number of connections that the most connected people can support (much like betweenness centrality).

Beckett and Mansell (2008) argue that networked journalism will also increase heterogeneity and diversity in the news process. This research suggests that this is not currently occurring among political journalists on *Twitter*. While lesser known journalists have higher status levels in social media than they do in traditional media, the vast majority of these individuals are not minorities, and this dearth of minority voices is in step with Hindman's (2009) findings for those authoring the nation's most influential political blogs. By continuing to analyze these networks on social media sites, researchers will have better understanding of the construction process of social media news.

## **Discussion**

Journalists use *Twitter* to follow other journalists, interact with other journalists, share content from other journalists, but rarely use it to engage with audiences. This is counter to previous theoretical research on the use of social media among journalists and news organization. For example, Baym (2010) suggests that *Twitter* encourages "weak ties," providing users with a chance to interact with news organizations and subsequently become interactive news audiences. This research does not support this argument. The majority of the retweets of journalists on *Twitter* are among journalists or, less frequently, with political actors. In fact, fewer than 5 percent of the retweets in the sample are from members of the general public. Media companies and other elite journalists (like Dave Weigel) are the most frequently retweeted *Twitter* accounts among the journalists in the sample. This may indicate that social media journalism is following the trend of other forms of journalism, in

that the norms of elite journalists may be setting the standard for lesser journalists who will mimic competitors and creating a more homogeneous news product (Bennett, 2006).

Despite increasing restrictions enforced by news organization, journalists are frequently using *Twitter* to share information for other news organizations and competing journalists. Java et al. (2007) and Marwick and boyd (2011) argue that *Twitter* is used primarily for four reasons: daily chatter, conversation, sharing information, and reporting the news. In an extension of these studies, Lasorsa et al. (2011) found that journalists working for traditional media organizations were less inclined to share news content from other news organizations. They were less likely to “relinquish their gatekeeping role” (Lasorsa et al., 2011, p. 1). This study supports this finding but adds to it by providing information on who is being retweeted and retweeting most often. Less well-known journalists are retweeting more often and are retweeting content from lesser-known journalists. This may be as an attempt to increase their name recognition among audiences, or perhaps is simply a measure of what work journalists find valuable and informative. Since news on *Twitter* is more policy-oriented than traditional news (Kirzinger, Dunaway, and Goidel, 2012), journalists may value a different news product than news audiences and use *Twitter* as a vehicle to distribute this higher quality news product.

It is important to note that journalists (within the sample) are interacting within a vast network of other *Twitter* users in their retweeting behaviors. While these results may suggest a diverse and varied news product, it also results in hundreds of weak ties between the journalists and the users they interact with. These types of connections may also influence the centrality measures. For example, because betweenness centrality is a measure of how important that individual (node) is in connecting with other nodes in the network, betweenness centrality scores (in the retweet network) may be inflated based on the number of connections (retweets) the journalist has in the sample. But the *Twitter* networks examined in this analysis are not simply indicative of relationships,

but also of “networked journalism.” When *Politico*’s Jonathan Martin retweets a news item from another *Twitter* user, he is not just creating an edge between himself and that user (as displayed in the network graph) but also distributing that content to all of his followers, including the other journalists in the sample who follow him. Each clique, a subgroup of nodes connected to one journalist and no others in the sample (Luce and Perry, 1949), is contributing to the news content on *Twitter*. This is consistent with Granovetter’s theory, “strength of weak ties,” which proposes that “access to new information...comes into strongly connected groups through [nodes] with external connections, which are likely to be weak” (as explained by Hawe, Webster, and Shiell, 2004). In these instances, betweenness centrality scores serve as a proxy measure of individuals within the network who bring in the most “outside” information. And for networked journalism, this is a very important quality. This study examines social media journalistic norms in the current media environment. By examining the news sharing behaviors of journalists on *Twitter*, we are better able to understand how the changing news environment is developing a new set of norms and routines for political journalists.

Networking has always been an important tool for journalists. Building and maintaining social networks is not novel; journalists need to interact with fellow journalists, sources, and news audiences in order to be successful news reporters. However, researchers have not been able to systematically analyze these networks. Social media provides researchers with the necessary data to study these networks. Examining these news sharing behaviors provides researchers with a better understanding of how news goes viral, and give a better glimpse into social media journalism.

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Table 1: Sample descriptives

<b>Name of Reporter</b>	<b>Twitter ID</b>	<b>News organization</b>	<b>Type</b>	<b>Followers</b>	<b>Total number of tweets in sample</b>	<b>Average number of tweets</b>
<b>Amy Gardner</b>	AmyEGardner	Washington Post	Newspaper	956	16	2.67
<b>Amy Walter</b>	Amyewalter	ABC	Broadcast	13456	57	9.50
<b>Ann Compton</b>	AnnCompton	ABC	Broadcast	5210	2	0.33
<b>Anne Kornblut</b>	AnneKornblut	Washington Post	Newspaper	8395	0	0.00
<b>Arianna Huffington</b>	AriannaHuff	Huffington Post	Blog	769506	66	11.00
<b>Amanda Terkel</b>	Aterkel	Huffington Post	Blog	10688	127	21.17
<b>Bryan Boughton</b>	bboughtonFNC	FOX	Cable	114	0	0.00
<b>Ben Smith</b>	BenPolitico	Politico	Blog	55953	341	56.83
<b>Ben Werschkul</b>	benwerschkul	The New York Times	Newspaper	332	0	0.00
<b>Bob Schieffer</b>	bobschieffer	CBS	Broadcast	17988	2	0.33
<b>Caren Bohan</b>	carenbohan	Reuters	Wire	1579	36	6.00
<b>Carl Cameron</b>	CarlCameronFox	FOX	Cable	552	5	0.83
<b>Chuck Todd</b>	ChuckTodd	NBC	Broadcast	161202	139	23.17
<b>Dan Balz</b>	DanBalz	Washington Post	Newspaper	9171	4	0.67
<b>Dan Lothian</b>	DanlothianCNN	CNN	Cable	3258	9	1.50
<b>David Chalian</b>	DavidChalian	PBS	Broadcast	6273	11	1.83
<b>Dick Stevenson</b>	DickStevenson	The New York Times	Newspaper	1138	35	5.83
<b>Domenico Montanaro</b>	DomenicoNBC	NBC	Broadcast	3403	138	23.00
<b>Don Gonyea</b>	DonGonyea	NPR	Radio	3571	91	15.17
<b>Donna Brazile</b>	donnabrazile	Independent	Independent	144802	125	20.83
<b>Matt Drudge</b>	Drudge	Drudge	Blog	258265	1	0.17
<b>Ed Henry</b>	EdHenryTV	FOX	Cable	37950	83	13.83
<b>Ezra Klein</b>	EzraKlein	Washington Post	Newspaper	109710	145	24.17
<b>Gregory Korte</b>	GregoryKorte	USA Today	Newspaper	1594	14	2.33
<b>Harold Ford</b>	Hford2	MSNBC	Cable	4287	1	0.17

Table 1 continued

<b>Name of Reporter</b>	Twitter ID	News organization	Type	Followers	Total number of tweets in sample	Average number of tweets
<b>Howard Fineman</b>	HowardFineman	MSNBC	Cable	18218	40	6.67
<b>Jack Tapper</b>	JakeTapper	ABC	Broadcast	145186	145	24.17
<b>Jeff Mason</b>	jeffmason1	Reuters	Wire	256	2	0.33
<b>Jeff Zeleny</b>	JeffZeleny	The New York Times	Newspaper	15985	41	6.83
<b>Jonathan Martin</b>	Jmartpolitico	Politico	Blog	22804	205	34.17
<b>Jay Newton-Small</b>	JNSmall	Time	Magazine	7485	40	6.67
<b>John King</b>	JohnKingCNN	CNN	Cable	59016	60	10.00
<b>Jonathan Alter</b>	jonathanalter	Independent	Independent	14445	23	3.83
<b>Jonathan Weisman</b>	JonathanWeisman	The Wall Street Journal	Newspaper	6275	14	2.33
<b>Jon Karl</b>	JonKarl	ABC	Broadcast	14719	22	3.67
<b>Jon Ward</b>	Jonward11	Huffington Post	Blog	6496	222	37.00
<b>Julie Pace</b>	paceDC	AP	Wire	2166	5	0.83
<b>Julie Mason</b>	JulieMason	MSNBC	Cable	2680	3	0.50
<b>Karen Travers</b>	KarenTravers	ABC	Broadcast	5898	48	8.00
<b>Kasie Hunt</b>	Kasie	Politico	Blog	6498	22	3.67
<b>Kelly O'Donnell</b>	KellyO	NBC	Broadcast	12437	106	17.67
<b>Ken Rudin</b>	kenrudin	NPR	Radio	7381	7	1.17
<b>Karen Tumulty</b>	Ktumulty	Washington Post	Newspaper	18588	64	10.67
<b>Kate Zernike</b>	Kzernike	The New York Times	Newspaper	269	9	1.50
<b>Luke Russert</b>	LukeRussert	NBC	Broadcast	74184	152	25.33
<b>Marin Cogan</b>	MarinCogan	Politico	Blog	2208	30	5.00
<b>Mark Halperin</b>	MarkHalperin	MSNBC	Cable	5614	35	5.83
<b>Mark Knoller</b>	markknoller	CBS	Broadcast	83410	241	40.17
<b>Mark Thompson</b>	MarkThompson_DC	Time	Magazine	1373	17	2.83
<b>Michael Falcone</b>	MichaelpFalcone	ABC	Broadcast	5182	57	9.50
<b>Michael Scherer</b>	MichaelScherer	Time	Magazine	10210	112	18.67
<b>Mike Allen</b>	MikeAllen	Politico	Blog	104790	42	7.00

Table 1 continued

<b>Name of Reporter</b>	<b>Twitter ID</b>	<b>News organization</b>	<b>Type</b>	<b>Followers</b>	<b>Total number of tweets in sample</b>	<b>Average number of tweets</b>
<b>Mike Emanuel</b>	MikeEmanuelFox	FOX	Cable	2352	15	2.50
<b>Mark Murray</b>	mmurraypolitics	NBC	Broadcast	6675	58	9.67
<b>Nia-Malika Henderson</b>	NiaWaPo	Washington Post	Newspaper	1998	4	0.67
<b>Nick Confessore</b>	Nick Confessore	The New York Times	Newspaper	6679	109	18.17
<b>Gwen Ifill</b>	pbsgwen	PBS	Broadcast	15625	26	4.33
<b>Perry Bacon Jr.</b>	PerryBaconJr	Washington Post	Newspaper	631	12	2.00
<b>Peter Wallsten</b>	PeterWallsten	The Wall Street Journal	Newspaper	1283	0	0.00
<b>Philip Rucker</b>	Philip Rucker	Washington Post	Newspaper	2581	22	3.67
<b>Scott Wilson</b>	PostScottWilson	Washington Post	Newspaper	604	6	1.00
<b>Richard Wolf</b>	RichardjWolf	USA Today	Newspaper	150	0	0.00
<b>Dick Wolffe</b>	richardwolffedc	MSNBC	Cable	12816	7	1.17
<b>Rick Klein</b>	RickKlein	ABC	Broadcast	28886	205	34.17
<b>Sam Feist</b>	SamFeistCNN	CNN	Cable	14860	6	1.00
<b>Sandhya Somashekhar</b>	Sandhyawp	Washington Post	Newspaper	325	0	0.00
<b>David Sanger</b>	SangerNYT	The New York Times	Newspaper	781	0	0.00
<b>Savannah Guthrie</b>	SavannahGuthrie	NBC	Broadcast	40526	23	3.83
<b>Steve Brusk</b>	stevebruskCNN	CNN	Cable	12567	26	4.33
<b>Steve Holland</b>	stevholland1	Reuters	Wire	3077	18	3.00
<b>Susan Page</b>	SusanPage	USA Today	Newspaper	8221	25	4.17
<b>Suzanne Malveaux</b>	SuzanneMalveaux	CNN	Cable	79484	3	0.50
<b>Tabassum Zakaria</b>	tobyzakaria	Reuters	Wire	926	35	5.83
<b>Tommy Christopher</b>	tommyxtopher	Independent	Independent	2990	95	15.83
<b>Paul Brandus</b>	westwingreport	Independent	Independent	81174	234	39.00
<b>Wendell Goler</b>	wgoler	FOX	Cable	953	0	0.00
<b>Jessica Yellin</b>	YellinCNN	CNN	Cable	16592	10	1.67

Table 2. Inter-coder reliability

<i>Variable</i>	Cohen's kappa
Type of tweet	
Original tweet	.987
Retweet	.886
Mentions	1(100 percent agreement)
Links	1(100 percent agreement)
Hashtags	1(100 percent agreement)
Retweet	
Who is retweet?	.927
Retweet agreement	.836

*Note.* If there is perfect agreement, Cohen's kappa is equal to 1, with a kappa coefficient of above .60 typically considered acceptable agreement between coders (Stemler, 2001). Since the kappa scores of all the variables were above .70, there is a high level of confidence in the reliability of the coding guide and coders.

Table 3. Retweet frequencies

Retweet	29.2	1208
<b>Journalist in same news organization</b>	22.4	270
<b>Journalist in different news organization</b>	48.1	579
<b>Political actor</b>	10.4	125
<b>Non-traditional source</b>	10.9	131
<b>Agree with retweet</b>	14.3	172
<b>Disagree with retweet</b>	1.1	13
<b>Neither</b>	84.6	1019

Table 4: Regression examining retweeting by news organization variables

	$\beta$	SE B	B	$p$
News sharing				
<b>Print</b>	.140	.025	.172	.000
<b>Web-based</b>	.246	.023	.257	.000
<b>Independent</b>	-.008	.028	-.011	.695
<b>Broadcast</b>	-.028	.022	-.027	.221
<b>Pseudo R<sup>2</sup> = .071</b>				
<b>Constant</b>		.019	.208	.000

Table 5. Network characteristics of Journalists and Retweets

Betweenness Centrality	Indegree	Degree Centrality	Eigenvector Centrality
Jonathan Martin (3612.9)	Mediaite (20)	Ben Smith (206)	Karen Travers (.50)
Ben Smith (3029.1)	Dave Weigel (13)	Jon Ward (115)	Michael Scherer (.34)
Rick Klein (2909.5)	Peter Hamby (13)	Jonathan Martin (102)	Rick Klein (.34)
Jon Ward (2008.8)	Sam Stein (10)	Michael Scherer (77)	Amy Walter (.32)
Jake Tapper (1649.5)	TheFix (10)	Rick Klein (57)	Chuck Todd (.32)
Chuck Todd (1502.5)	Ashley Parker (8)	Nick Confessore (56)	Ben Smith (.26)
Philip Rucker (1401.8)	Erika Masonhall (8)	Chuck Todd (56)	Michael Falcone (.26)
Amy Walter (1218.9)	Jake Sherman (8)	TommyXtopher (48)	Jonathan Martin (.23)
Luke Russert (730)	Marc Ambinder (8)	Amanda Terkel (42)	Don Gonyea (.19)
Jeff Zeleny (358)	RealClearScott (8)	Ezra Klein (42)	Jake Tapper (.19)
Mark Murray (355)	2Chambers (7)	Don Gonyea (40)	Mark Murray (.12)

Table 6. Network characteristics

	Network density	Edges	Vertices
Network A <i>Journalists following each other</i>	.366	2087	76
Network B <i>Journalists retweeting content from other Twitter users</i>	.023	1202	724

*Note.* Network A is a baseline network for comparison. As seen above, the network of journalists and their retweets is significantly less dense than a more-restricted network.