

Twitter Makes It Worse: Political Journalists, Gendered Echo Chambers, and the Amplification of Gender Bias

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Abstract

Given both the historical legacy and the contemporary awareness about gender inequity in journalism and politics as well as the increasing importance of Twitter in political communication, this article considers whether the platform makes some of the existing gender bias against women in political journalism even worse. Using a framework that characterizes journalists' Twitter behavior in terms of the dimensions of their peer-to-peer relationships and a comprehensive sample of permanently credentialed journalists for the U.S. Congress, substantial evidence of gender bias beyond existing inequities emerges. Most alarming is that male journalists amplify and engage male peers almost exclusively, while female journalists tend to engage most with each other. The significant support for claims of gender asymmetry as well as evidence of gender silos are findings that not only underscore the importance of further research but also suggest overarching consequences for the structure of contemporary political communication.

Keywords

political journalism, gender, Twitter, Washington journalism, beltway journalism, women in journalism

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As with other creative and knowledge industries, problematic gender dynamics have come to the forefront in journalism amid extensive news coverage about endemic sexual harassment. Journalist-on-journalist sexual harassment was reported in the United States; in Washington, D.C., top political journalists at MSNBC, *Vox*, *The New Republic*, National Public Radio (NPR), Fox News, and elsewhere resigned amid allegations. A “shitty media men” list circulated, listing powerful male journalists at top news organizations. Other journalist-on-journalist sexual harassment stories surfaced in Sweden, France, Japan, Italy, Pakistan, the United Kingdom, and Singapore, often with female journalists reporting abuse but unable to hold male journalists accountable (Allsop and Ho, 2017).

Gender asymmetry in journalism has been observed internationally across employment patterns, sourcing behaviors, and news decision making: in the United Kingdom and Ireland (Ross et al. 2018); in Australia (Hanns and Strong 2007); in Hong Kong (Tsui and Lee 2012); in Germany, Senegal, and Norway (Van Zoonen 2002); and beyond. According to the 2016 American Society of News Editors Diversity Survey, across 737 U.S. news organizations (mostly newspapers, along with some digital-native publishers), women make up just a third of journalists. A study of the coverage patterns of twenty leading U.S. news outlets showed that female journalists report and produce less news than men; 37.7 percent to 62.3 percent across all platforms (Women’s Media Center 2017).

Thus far, research on gender dynamics on social media has focused on political candidates (cf. McGregor and Mourão 2016), with scant attention by political communication scholars to these questions in political journalism. Given the pervasive evidence of off-line gender disparities in journalism, this article interrogates how gender dynamics impact the way Washington, D.C., political journalists (“beltway journalists”) relate to each other on Twitter, an all-important platform critical to how beltway journalists do their work. An overarching question orients this research: Do the off-line gender disparities in beltway journalism play out on Twitter, too? If so, how? On Twitter, political journalists tweet to and about other political journalists more than they engage with any other type of user on Twitter (Molyneux 2015; Molyneux and Mourão 2017; Mourão et al. 2016).

Thus, rather than examining journalists’ overall Twitter activity, we examine whether gender imbalances are present in beltway journalists’ peer-to-peer relationships on Twitter—or how journalists use the platform to legitimate, amplify, and engage each other. We focus on the United States here and develop a new approach to analyzing how political journalists use Twitter that advances our understanding of the substantially important gender imbalances we document in U.S. political journalism—but which are likely also present elsewhere. As such, we provide a template that we hope will empower further research internationally to advance our understanding of cross-national differences in political communication, news production, and the use of social media by journalists.

To explore these questions, we created a sample consisting of all beltway journalists with active Twitter accounts who are credentialed to cover the U.S. Congress. To be included in our sample, these journalists must have been living and working in the

Washington, D.C., area (referred to colloquially as “the beltway” because of the circular freeway that wraps around Washington and its immediate suburbs). While research on Twitter has often been critiqued as failing to be an adequate stand-in for a larger non-Twitter using population, in the case of political journalists, Twitter is absolutely integral to their daily work practices and reputational success in the United States (Hamby 2013; Kreiss 2016), but also increasingly in Europe (Nuernbergk 2016) and Westminster democracies (Hanusch 2017).

Our normative position must be established at the outset: While journalism research itself is mixed on the role of the gender of journalists in shaping news coverage (Hayes and Lawless 2015), we believe that it is a valuable social outcome to have more women in journalism, especially in positions of authority and influence. This is not just a question of equity: Greater representation of women in newsrooms may well change how female journalists are treated by their colleagues, their advancement, story selection, framing, and sourcing patterns (Mills 1997). In our sample, the number of male beltway journalists outnumbered female beltway journalists both off-line and on Twitter. Even if Twitter just reflected these existing gender asymmetries, this would already be a problem. But if Twitter data suggested *even worse* gender asymmetries, given Twitter’s critical role in the news production process, it might be actually augmenting gender inequality across political communication in the United States. Thus, the article first discusses why the Twitter dynamics of political journalists are essential to understanding political communication, documents issues facing female journalists and female political journalists, and reviews what we know about gender, journalism, and Twitter. It then moves to explicate our research questions, methods, and findings. Overall, we find support that Twitter reflects existing gender disparities in the beltway (and, indeed, may amplify them)—male journalists “win” and win big on Twitter across most measures; moreover, men appear almost to self-segregate, while women only do so in limited circumstances.

Political Journalists on Twitter

As Cook (2006) and others argue, news is the outcome of the interaction between journalists and political elites, with journalism operating as an interdependent but unofficial political institution. In the contest over framing power, political elites pit journalists against each other, leveraging scoops, leaks, and access as a form of message control (Entman 2004). However, this theorization tends to overlook how journalists become part of a politician’s inner circle and achieve “star” status to other journalists. Factors such as who these journalists are, what they look like, and where they work are critical to understanding journalistic legitimization in political communication, and require additional attention in the digital environment. Given Twitter’s centrality in political communication, understanding gender disparities on Twitter that exist matters, perhaps more so than ever before: What beltway journalists’ cover, report, and tweet has garnered a global audience (Patterson 2017), one that is also paying close attention to gender inequity.

The process of journalistic legitimization more generally might be thought of as a dynamic social process through which journalists and other social actors grant journalists authority (Carlson 2017), but journalists also play an important role in legitimating each other, a dynamic that has historically disadvantaged female political journalists (Ritchie 2005). Through what Zelizer (1993) calls an “interpretive community,” journalists discursively create shared epistemological foundations, practices, and social references. In political journalism, this is often crudely described as “pack journalism,” characterized by intrusive reporting, insularity, and homogeneous, excessive coverage (Frank 2003). Cultural authority in beltway journalism has historically been dominated by men, as characterized in Crouse’s ([1973] 2013) *The Boys on the Bus*, but also in its oft-forgotten rejoinder, Robertson’s (1992) *The Girls in the Balcony*, which details the pervasive patterns practiced by leading news organizations of excluding female beltway journalists.

Today, Twitter plays a critical role in the legitimization of journalists, and is, thus, a habitus-defining form of social capital. How one is regarded on Twitter reflects the position of dominance or subordination one has in the field (Barnard 2014); in fact, Twitter may well be what makes or breaks a journalist in Washington. Mourão (2015) argues Twitter is a key mechanism for journalists to establish their own sense of hierarchy and prestige, though her focus examines how journalists monitor the profession’s boundaries in their engagement with nonjournalists.

On Twitter, political journalism is deeply insular and self-involved, much like it is off-line. As Hamby (2013) chronicles, Twitter is the first app political journalists check in the morning, the primary place to break and to spot breaking news, and a “watering hole.” Lawrence (2015) quoted a journalist saying the “whole Beltway crowd” is on Twitter, and another saying, “The people I know who are on Twitter are other journalists” (p. 93). Journalists also use Twitter as a way to distinguish themselves. For journalists, breaking news, showing snark and humor, and demonstrating one’s insider status is a good way to be recognized by other journalists (Freelon and Karpf 2015; Kreiss 2016; Lawrence et al. 2014).

Digital status might be enhanced if journalists work to develop a personal brand on Twitter, which news organizations encourage (Brems et al. 2017; Lasorsa et al. 2012). Twitter may even enable journalists to become a household name, what Olausson (2017) calls the “celebrification” of journalistic self-promotion. While some research suggests that the insularity of beltway journalism has softened for journalists who work for lower prestige news organizations, the “beltway bubble” itself generally remains intact (Lawrence 2015; Lawrence et al. 2014). As a whole, political Twitter seems to reflect a “small world” effect, “highly dependent on a small number of users, critically positioned in the structure of the network . . .” (Jürgens et al. 2011: 21)—giving an advantage to political journalists that garner endorsements and recognition from other journalists, suggesting gender inequities on Twitter could impose additional barriers for female beltway journalists.

Women in (Washington) Journalism

Women in journalism already face structural inequalities that reflect a constellation of complex “historical, material and cultural/social conditions” (Steiner 2012: 201). Key questions for research on gender in journalism include whether men and women work in significantly different ways, and in what ways sex and gender matter in journalism (Steiner 2005). Gender can be explored through analysis of byline disparities, promotion and retention patterns, beat assignments, source selection, and gender representation in news coverage. In 2015, The Global Media Monitoring Project found “persistent and emerging gaps in gender portrayal and representation in not only traditional (print and broadcast) media, but in new electronic media forms” in research across 114 countries. Gendered practices emerge in the routines and rituals of news work (Nilsson 2010), often with the curious pattern of women denying the importance of gender to their work while simultaneously expressing frustration about how male journalists fail to treat them as equals (Nilsson 2010; Poindexter 2010).

As seen in Britain, Sweden, the United States, and elsewhere, women continue to be relegated to lifestyle or soft news beats (North 2016a). To establish expertise in “hard news,” women have to fight to be considered “one of the boys/blokes,” a challenge that is even harder for mothers (Nilsson 2010; North 2016b). Journalists are more likely to use more male sources; Armstrong (2004) found that male sources and subjects appeared at twice the rate of women, though reducing byline disparities may enable greater inclusion of female sources. Across the globe, there are simply more men than women producing news (Global Media Monitoring Project 2015). Today, in the United States, female journalists do not just face byline and representation disparity, but they also are more likely to burn out than men (Reinardy 2009), feel less job and financial security (Lucht 2016), and are awarded Pulitzer Prizes less frequently (Volz and Lee 2013). Such gendered inequalities are far from unique to the United States. The majority of high-profile journalists and editors in most countries are male, and women face a range of gender-specific challenges (e.g., Franks 2013).

There has not been much examination of the relationship between gender and journalists in Washington in the contemporary news environment. Clayman et al. (2012) examined five decades of presidential news conferences from 1953 to 2000, concluding female journalists were more adversarial than male journalists in earlier decades, though differences mitigated over time. Mourão (2015) noted the highly masculine word associations in campaign journalism, but did not focus on gender dynamics, while a 2015 Pew Research Center report looked at the state of beltway journalism, but did not examine gender.

There is reason to think that female journalists will continue to face the challenges they experience off-line in this online environment given previous research into gender and journalism and emerging work on gender, Twitter, and political elites (McGregor et al. 2016; Meeks 2013). Thus far, few studies examine gender dynamics of journalists on Twitter. Early content analysis of Twitter practices by news organizations is suggestive that men are mentioned more in tweets than women (Armstrong and Gao 2011; Artwick 2014). Matias et al. (2017) looked at 3,656 journalists’ Twitter

accounts across twenty-one U.S. news organizations, finding journalists were less likely to follow women as a whole and women were less likely to be retweeted, but did not discuss journalist-to-journalist behavior.

Other smaller scale studies indicate divergent gender patterns among journalists; a study of local journalists' tweets during a power outage found men who were more likely to send tweets served a one-way broadcast role, rather than engaging with audiences (Nee and Rebecca 2015). Research on female Indian journalists highlighted the toxic nature of the platform (Gudipaty 2017), while a study of U.S. foreign correspondents found limited use of Twitter and no gender difference (Cozma and Chen 2013). Using a convenience sample of forty-five political journalists, Parmelee et al. (2017) found male political journalists were more likely to engage in replies, although the sample makes it hard to generalize across aggregate behavior. Other research revealed female journalists were more likely than men to link outside their own organizations and tweeted more about their personal lives (Lasorsa 2012)—Twitter practices that may subject female journalists already vulnerable to online sexual harassment to further abuse (Adams 2017; Mantilla 2013).

Research Questions

We, thus, approach our analysis of gender dynamics on beltway journalism Twitter with three research questions:

Research Question 1 (RQ1): Is there gender asymmetry in the way that beltway journalists legitimate each other on Twitter?

Research Question 2 (RQ2): Is there gender asymmetry in the way that beltway journalists engage with other beltway journalists on Twitter?

Research Question 3 (RQ3): Is there gender asymmetry in the way that beltway journalists amplify other beltway journalists on Twitter?

Research questions guide our study rather than hypotheses, in part, because we take an inductive approach and, in part, because outliers in our data make verifiable hypotheses across the entirety of the data set less meaningful. This approach is used in other research on political journalism and Twitter (cf. Lawrence et al. 2014). Our first question considers whether Twitter cues about a journalists' cultural capital might be gendered, thus, possibly impacting how journalists assess the legitimacy of other journalists. The second and third research questions reflect how journalists treat each other—probing whether the peer-to-peer dynamics on Twitter among beltway journalists differ based on gender. There is little guidance or agreement in the political communication literature about which specific Twitter behaviors should be used as primary indicators to assess community discourse. In fact, Freelon et al. (2018) argue it is important “not to simply assume without justification that particular traces signify particular theoretical constructs” (p. 993)—whereby certain trace-based metrics may be considered more or less important based on the underlying theoretical questions and community context.

Sample

We created a purposive sample of 2,292 nonprotected Twitter accounts of beltway journalists credentialed to cover Congress (1,299 men or 56.7 percent of the sample; 993 women or 43.3 percent of the sample). While we collected tweets from Twitter's Timeline Application Programming Interface (API) for a broader time period, we limited our data set to tweets posted from June 1 to August 1, 2017. The total data set of 817,136 reflects every nondeleted tweet of these journalists, but does not include tweets from other accounts that reference the journalists in our sample.¹ We drew from the list of credentialed congressional correspondents found in the Congressional Directory for the 114th Congress of the United States. The Standing Committee of Correspondents, journalists elected by their peers, controls the overall congressional credentialing process. To be credentialed, a journalist must permanently reside in the D.C. area, work full-time as a journalist, and be "editorially independent of any institution, foundation or interest group that lobbies the federal government, or that is not principally a general news organization" (Congressional Directory 2016: 976). The White House has its own accreditation process and does not make its list public; however, a prerequisite of membership for The White House Correspondents' Association, a journalist-run association, is credentialing by the congressional committee. Our sample does not include every political reporter covering politics in Washington (for example, Maggie Haberman of the *New York Times*, who lives in New York). As the official Congressional Directory is only updated every two years, newly credentialed journalists are not in our sample. Nonetheless, the directory contains a substantial representation of political journalists who live and work in the beltway.

To arrive at the final list of 2,292 beltway journalists, we eliminated some accounts from a broader list of 2,546 American/Anglo media journalists. To do so, we identified journalists with active Twitter accounts and updated their entries, eliminating journalists who were identified as no longer working for a news organization or in Washington, D.C. This list-building process took two months and was completed on May 31, 2017. Over these two months, some journalists might have changed jobs or left journalism; however, we believe including the tweeting behavior of these journalists would not substantially affect our results.

Our sample is unique: It is a purposive account-driven data set of journalists who share a definably similar characteristic: They are elite political journalists doing work considered worthy of permanent credentials to cover the United States' national legislative body. By collecting the tweets of a specific set of users, this study is different from others that rely on keywords or hashtags. Our sample includes a variety of types of news media not distinguished in any meaningful way by the Congressional Directory, as in a cross-media era, the different types of political media are intermingled (niche, local, national, radio, TV, digital native, etc.). Moreover, young journalists can start right out of college working at top-flight national news outlets, niche outlets play an important role in the news ecosystem, and networking across beats and news outlets is a well-established Washington phenomena. For these reasons, our sample is more similar than different because of the peculiarities of the beltway and is as "apples

to apples" as one can get for political journalists; while some might have greater cultural capital or more experience, as a whole, these are journalists in the elite stratosphere of political reporting.

Data Collection

From June 1, 2017 to August 1, 2017, we collected tweets, followers, and profile information from a final list of 2,292 nonprotected, active Twitter accounts of journalists (journalists who did not tweet during the collection period were removed). Collection was performed using Social Feed Manager (George Washington University Libraries 2016), an open-source software that harvests data from Twitter, Tumblr, Flickr, and Sina Weibo, and for this project, relied on Twitter's Timeline API. During the data collection period, a small number of accounts were deleted or became protected and were removed from the sample. A small number of accounts changed handles (the @ identifier for an account), but because Social Feed Manager relies on user IDs, this did not affect collection.

Measures

We assess legitimization, amplification, and engagement patterns of beltway journalists on Twitter through measures derived from our research questions, extant theory, and context.

Gender

Our most critical measure is gender itself. Each Twitter account was manually coded for gender and assessed via normative social constructions of gender: by name, by gender presentation in profile photos, and by secondary information such as Twitter bios and self-identification in the journalist's twenty most recent tweets. Gender here is constructed as a binary, and it is acknowledged that ascribing gender raises issues.

Power Users

The top twenty-five users in the ranking for each Twitter activity are defined here as "power users." To determine them, the users were ranked for each of the Twitter activities (mentions, retweets/quotes, replies, and following) by total count of the activity. This gives us more detailed insight into who the biggest players are in beltway journalism Twitter. Power users are sometimes called influencers because they may disproportionately impact the amplification patterns of a tweet or its underlying information (Bakshy et al. 2011), but in our case, "power user" is more appropriate because it examines a wider range of Twitter activities and their possible impact.

Measures for RQ1: Legitimation

Verification status, aggregate followers, mentions, original tweets, gender, power users. Legitimation in this context is not how the profession itself establishes legitimacy

as a broader cultural construct, but is more narrowly construed as *legitimacy*—what factors on Twitter are indicators of cultural capital on the platform, or the publicly visible signals that serve as shortcuts for assessing a journalist's prominence. Although not all of these are initiated by journalists, they nonetheless provide cues that are likely to set the tone for future peer-to-peer engagement.

Verification status is the blue check next to an account. Twitter decides whether someone's account can be verified, reserved the check mark for who the platform dubs a "public figure." News organizations, however, can help staff get verified by sending lists of accounts to Twitter.

Total follower numbers are often considered a low-value indicator, what Cha et al. (2010) describe as the "the million follower fallacy." There is increasing evidence that follower numbers have significant noise, from bots to users who may inflate numbers by purchasing followers. But the widespread perception among Twitter users is that follower numbers connote influence (Cha et al. 2010), and so the cultural capital inferred upon journalists by this external validation is nonetheless useful.

Mentions by other journalists also signal legitimacy because of their particular conversational function: a "shout out" to another journalist, which may be particularly important if the journalist doing the "shout out" has many followers herself. The more mentions a peer has, particularly by users perceived as having higher cultural capital on the platform, the more important that journalist may be taken to be in the insular world of beltway journalist Twitter. Of course, one can be mentioned on Twitter negatively as well as positively, but tone is beyond the scope of this study.

Original tweets are ways to brand oneself, to say something new, and to initiate a conversation. When it comes to measures of legitimacy on the platform, original tweets are the only factor that the journalist herself gets to control.

Measures for RQ2—Engagement

Replies, following patterns by journalists, gender, power users. *Replies* indicate the extent to which other journalists are considered discussion partners (Molyneux 2015).

Following patterns by journalists provides a closer look at the activities and decisions journalists make about who to follow among their peer group. In-group following patterns provide a more nuanced sense of dynamics among journalists; the "million follower fallacy" suggests that following is done mostly out of etiquette—if someone follows you, it is the polite thing to follow them back—and whether this respect for etiquette reflects gender asymmetry is, therefore, a compelling indicator of the way journalists might value each other as interlocutors.

Measures for RQ3—Amplification

Retweets/quote tweets, gender, power users. Retweets show what journalists consider worthy of passing along, showcasing their judgment as Twitter curators (Molyneaux 2015). Retweets and quote tweets give the retweeter the opportunity to comment on the source tweet, flagging the importance of engagement with a specific account in reference to the retweet (thus, amplifying the referenced account). Because a quote is

Table 1. Power Users—Top Twenty-Five Users Per Twitter Activity.

Gender-Directed Twitter Activity	Men #	Women #
Original tweets by top twenty-five accounts	22	3
Replies to power users by . . .		
all journalists	21	4
male journalists	25	0
female journalists	3	22
Top power users followed by		
all journalists	22	3
male journalists	21	4
female journalists	21	4
Retweets to power users by . . .		
all journalists	20	5
male journalists	18	7
female journalists	22	3

Note. Table shows activity of power users for activity with significant results.

a retweet with a comment, in our analysis, we consider them similar enough actions to treat as one category; below, the word “retweet” should be taken to include “retweet/quotes.” (As users often note, Twitter retweets do not always necessarily constitute endorsements.)

Results

Several layers of tests across multiple measures of gender parity suggest a consistent, though not unanimous, imbalance between male and female Washington-based political journalists on Twitter. The central starting point for our analysis is the breakdown of the sample as a whole—of the 2,292 nonprotected Twitter accounts of beltway journalists credentialed to cover Congress who tweeted during the collection period, there are 1,299 men and 993 women, for a statistically significant gender split of 56.7 percent male journalists to 43.3 percent female journalists ($p < .001$). *While the split as a whole favors men, when a measure matches the split, it suggests that the bias reflects existing inequity; a measure that does not match the split suggests further gender bias (assuming a significant result).* We used a chi-square goodness-of-fit test to calculate whether the gender differences on any specific activity/measure were significant when compared with the split, while the average account-level Twitter measures were compared by gender using a standard difference-of-means test. We approach our analysis in three key ways to examine whether beltway journalists differ by gender: how they are legitimated, engaged, and amplified. To look at these dynamics in a more descriptive way, we looked at the gender dynamics of the top twenty-five power users (see Table 1).

Table 2. Legitimation Indicators of Male and Female Beltway Journalists.

Twitter Activity	Men	Women % (#)
Total followers by gender (\bar{x})	20,181.31	11,609
Original tweets issued by ...	64.4%	35.6%
Original tweets (\bar{x}) by account	115.993	83.838
Verification	56%	51.4%
Mentions by other journalists (\bar{x}) ...	6.388	6.042

Note. Tests are chi-square goodness of fit comparisons (Degrees of Freedom = 1) unless indicated by \bar{x} , when mean difference test was conducted. Verification data represent the share of each gender that is verified.

* $p < .05$. ** $p < .001$.

Legitimation

By legitimation, we mean the account characteristics of beltway journalists that signal cultural capital on Twitter (Barnard 2014)—indicators of a journalists' legitimacy as a member of the in-group. We considered four key characteristics by gender: verification status, journalists' follower count, journalists' mention counts by other journalists, and journalists' original tweets.

First, we considered verification status, which we found to be statistically significant: Male political journalists are slightly more likely to be verified than female journalists, with the little blue check mark of authenticity conferring legitimacy in a way suggestive of gender bias.

Second, we considered the possible impact of a journalists' number of total followers. We find male journalists are followed at roughly twice the rate of women; male journalists were, on average, followed by 20,181.31 total accounts, while female journalists were, on average, followed by 11,609.53 total accounts ($8,517.786$; $p < .001$, \bar{x}).

If journalists are making an assessment about which of their peers is worth paying attention to on Twitter, this huge gender asymmetry in aggregate followers may well have a disproportionate impact in the perceived legitimacy of their peers.

Third, we looked at how often a journalist was mentioned by another journalist. We argue that mention counts provide an important marker of cultural capital on the platform. On average, these mention patterns by gender of journalists do not differ in a significant way (see Table 2), a hopeful sign: Male and female journalists are giving "shout outs" in a way that does not suggest gender bias.

Fourth, we looked at original tweets. For journalists assessing the cultural capital of a peer journalist on Twitter, a key factor may be whether a journalist is tweeting interesting content. These original tweets (as opposed to retweets or replies) constitute 28.6 percent of all of the tweets in our sample and, thus, play an important role in overall dynamics. We note that, on average, male journalists craft more original tweets than female journalists: Men tweeted 115.993 original tweets, while women tweeted 83.838 tweets ($p < .001$) during the eight-week period studied; in aggregate, male beltway journalists do more original tweeting than female beltway journalists (see Table 2).

Women may be at a disadvantage in terms of influence among their male peers because they simply do not craft as many original tweets. Among the top twenty-five most prolific original tweeters (see Table 1), only three are women. One is Greta Van Susteren, who has been an anchor for CNN, Fox, and MSNBC, suggesting women may be less likely to compose high numbers of original tweets unless they reach a high level of prominence in the field.

Taken together, these measures are imperfect but useful ways of assessing the extent to which legitimization is affected by gender, and we learn that there is significant gender asymmetry when it comes to aggregate follower patterns and original tweet count. There are indications that women face an upward battle in terms of how their peers recognize them as significant players on the platform.

Engagement and Amplification

Our question about legitimization examined whether markers of Twitter cultural capital were different for male and female beltway journalists. Our next two analyses specifically focus on how *journalists treat each other* on Twitter, and whether this differs by gender. We look first at engagement, or how journalists value and talk *to each other*, and then, how journalists amplify other journalists, or talk *about* each other.

The syntactical difference between "of" and "by" interactions can be confusing: Journalists reply to other journalists, but they are also replied to by other journalists. Journalists follow other journalists, but they are also followed by other journalists. Journalists retweet other journalists, but they are also retweeted by other journalists. Our goal is to examine engagement by looking at the overall patterns of interaction at an aggregate level. Social Feed Manager distinguishes between "of" and "by" tweet construction and, as such, provides a comprehensive sense of overall interaction patterns.

Engagement

To look at engagement, we considered two key indicators. First, we looked at following patterns by journalists of other journalists. This helps us understand how journalists are paying attention to each other, and explore whether this differs by gender. Then, we looked at reply patterns, which provides insight into how journalists respond to each other.

Following. We find statistical support that there is gender asymmetry among whom beltway journalists choose to follow (see Table 3). On average, beltway journalists (taken as the entire sample of male and female journalists) are more likely to follow male journalists than female journalists; male journalists follow male journalists more, but female journalists *also* follow male journalists more.

The top twenty-five beltway journalists followed by other beltway journalists provides additional descriptive nuance to this asymmetry: The list only includes four women (see Table 1). The first woman in the top twenty-five most-followed list does not even make it into the top ten; she is Andrea Mitchell, who has covered politics for

Table 3. Engagement Indicators of Male and Female Beltway Journalists.

Gender-Directed Twitter Activity	Men	Women	
Journalists followed by female journalists who were . . .	62.0%	38.0%	6,883.208***
Journalists followed by male journalists who were . . .	62.3%	37.7%	9,722.886***
Journalists followed by all journalists who were . . .	62.2	37.8%	16,604.077***
Twitter replies issued by . . .	76.5%	23.5%	12,155.73***
Male journalist replies to	91.5%	8.5%	22,763.9***
Female journalist replies to . . .	27.9%	72.1%	2,012.875***

Note. Tests are chi-square goodness of fit comparisons (Degrees of Freedom = 1), unless indicated by \bar{x} , when mean difference test was conducted.
 * $p < .05$. ** $p < .005$. *** $p < .001$.

fifty years for every major U.S. broadcast network, CNN, and MSNBC. These following patterns suggest a systemic problem: If female journalists are not followed to the same degree as male journalists by other beltway journalists, their capacity to be seen and engaged with is much lower.

Reply Patterns. We examined whether beltway journalists were more likely to reply to male journalists than to female journalists. For context, when beltway journalists reply to other users, almost a third of these replies are to other beltway journalists' accounts. As a whole, when beltway journalists reply to other beltway journalists, 76.5 percent of those replies are to male journalists ($p < .001$; see Table 3). The list of the top twenty-five most-replied-to beltway journalists by other beltway journalists is also suggestive: It includes only four women (see Table 1); none are in the top ten.

Another indicator of gender asymmetry is whether a journalist's gender affects who they reply to; for example, does being a male journalist make it more likely that the journalist will reply to other men? We find that when male journalists reply to other beltway journalists, they reply to another male journalist 91.5 percent of the time ($p < .001$). That means male journalists only reply to female journalists 8.5 percent of the time. In contrast, we find that female journalists are most likely to respond to other female journalists. When female journalists reply to other beltway journalists, they reply to female journalists 72.1 percent of the time ($p < .001$). We see the starker evidence of gender asymmetry at play when we look at reply patterns by journalists—in fact, there are arguably gender silos with men existing in their own bubble replying to other men, women existing in their own bubble replying to other women.

Amplification

We were interested in understanding whether amplification patterns among beltway journalists were gendered. The total retweets and quote category represents the most

Table 4. Amplification Activity by Beltway Journalists of Other Beltway Journalists.

Twitter Activity	Men	Women	DoF	χ^2
Retweets by beltway journalists of other beltway journalists	68.9	31.1	1	16,706.04***
Male retweets of beltway journalists by gender	74.2	25.8	1	17,453.80***
Female retweets of beltway journalists by gender	59.6	40.4	1	1,570.08***

Note. DoF = Degrees of Freedom.

* $p < .05$. ** $p < .005$. *** $p < .001$.

substantial portion of our data—56 percent of all tweets in the data set (42.3 percent retweets, 13.7 percent quotes); 25.6 percent of these retweets are journalists retweeting other journalists.

First, we considered whether beltway journalists as a whole retweeted male journalists more often than they retweeted female journalists. We found that when beltway journalists retweeted other journalists, they retweeted men 68.9 percent of the time and women 31.1 percent of the time ($p < .001$; see Table 4). Of the top twenty-five most retweeted journalists by fellow journalists, only five were women. In this case, a woman did break into the top ten—Seung Min Kim, at the time *Politico*'s highest ranking congressional reporter, was the sixth most retweeted beltway journalist by her peers.

We then assessed whether the gender of the journalist made a difference as to whether he or she was more likely to retweet a man or a woman. Based on our reply patterns, which showed strong evidence of gender self-segregating, we thought we might see the same pattern in retweets. We found that male journalists, indeed, were more likely to retweet other male journalists—in fact, when male journalists retweet, they retweet men almost three times more often than they retweet women (see Table 4). We then examined if female journalists were more likely to retweet female journalists or male journalists. Like male journalists, female journalists also retweeted male journalists significantly more often than female journalists (56.9 percent to 40.4 percent, $p < .001$). Thus, men are siloed in their retweet patterns, whereas women amplify male voices more than women's. Overall, these retweet patterns provide evidence that female beltway journalists face an uphill battle in being amplified by their peers.

Discussion

Our research found significant indicators that gender bias among beltway journalists is present on Twitter. We knew from the outset that there was, indeed, a statistically significant gender imbalance between the number of male and female beltway journalists on Twitter, already a problem given our normative concern. What would be more concerning was whether these asymmetries were, in fact, somehow worse on Twitter, which they, indeed, were: Results are suggestive not just of male beltway journalists

dominating on Twitter, but also of men engaging with male peers and leaving women out of the picture. In trying to make sense of our findings, we posit that the nature of the platform itself, the hostile and toxic environment women face online (Mantilla 2013), and implicit gender bias sets women up to be less represented on the platform, and may well create an even greater structural disadvantage for female journalists, given how this platform is so critical to success in beltway journalism.

Male journalists' accounts have more cues that legitimate them in the eyes of other beltway journalists. Men are more likely to have the all-important sign-off as a verified Twitter account, a sign they are a "public figure" in the eyes of the tech company (or the news organization that may have submitted their account for verification), they have more followers as a whole and they tweet more, cues for their cultural capital on the platform. When it comes to engagement patterns, men reply to men an astonishing percentage of the time, and both men and women follow more male beltway journalists. Amplification patterns advantage men more than women, with the vast majority of retweets featuring male journalists.

Given the "small world" effect of Web dynamics in political communication (Jürgens et al. 2011), some journalists have outsized capacity to promote other journalists, and our data suggest that male journalists will get heard more than women. Our work looked at the aggregate behavior of our sample as well as among power users, giving an added dimension of not just what journalists on Twitter do, but also insight into gender disparities among the most influential political journalists on Twitter. With the exception of female journalists' reply activity, for every other category of Twitter activity (with statistical significance), eighteen or more men were featured in the top twenty-five power users list.

A journalist has different levels of agency when it comes to the factors that affect whether peers might legitimate her: verification status is largely out of her hands, as is the external validation accorded by her aggregate number of Twitter followers. The frequency to which other journalists give her a "shout out" may be determined by innumerable and intangible reasons beyond her control. However, original tweets do seem to matter, and we hypothesize may have an even larger impact than our results show: original tweets are the wellspring of engagement and amplification by other Twitter users, and if women tweet less, they will be heard less.

We were most surprised to see the extent to which some of this disparity suggests a gendered echo chamber, especially when it comes to male journalists' engaging and amplifying each other. Although replies by beltway journalists to other beltway journalists represent a small portion of overall tweets, the patterns were eye-popping: men replying to men 91.5% of the time; women replying to other women 72.1 percent of the time, dynamics also demonstrated among our power users (see Table 1). Retweet patterns suggest that men live in a gendered echo chamber that promotes other male journalists at the expense of female ones: Men retweet other men almost three times more often than they retweet women. In contrast, women still retweet male journalists more than they retweet female journalists. As Freelon, McIlwain, and Clark (2016) observe in their *#blacklivesmatter* research:

replies and retweets may not always be endorsements but they do partially determine which participants are seen as experts and leaders. Put more directly, they confer power, and the women in our dataset have not received a proportionate share. (p. 14)

The same could be said for our data set. At times, female journalists confer power among other female journalists, but this does not change the overall pattern of male beltway journalists' domination on Twitter. The underproduction of original tweets of women compared with men may make it harder for both women and men to combat these gendered dynamics; one can only reply or retweet if one has something to respond to. One possible reason for this disparity in original tweets may be that women do more emotional labor at home and at work (Stevens et al. 2001), so may have less time to pay attention to Twitter, or perhaps women see a diminished utility from time spent on an emotionally burdensome platform relative to their other work responsibilities (Megarry 2014).

Of particular interest is the strong preference women have for replying to each other. Perhaps women are engaging with each other in a more supportive way, and so some of the anxiety, not to mention the threats and harassment that women face on Twitter, may be mitigated when female journalists talk to each other. This may also be an intentional and conscious effort on the part of female journalists to attempt to create a sliver of a supportive community on a digital platform that is known for its trolling (Adams 2017). Yet, women follow more men and retweet more men, which might be explained by a variety of reasons. Women may follow the same cues that men do when assessing an account's perceived value on the platform. As our data do not distinguish sentiment, it may be that men are more willing to "go negative" or challenge other men on the platform, while women turn away from this tenor of activity, or in the case of retweet/quote tweets, may be more comfortable critiquing men than women.

Our research did not account for the intersection of gender and the prestige of a media outlet, nor did it account for dimensions of partisanship or age. However, these journalists are all credentialed to work in the same physical setting, the press galleries of the House and Senate, and they intermingle in the same social settings (The Press Club, award dinners, bars, etc.), and young people are often vaulted into some of the most prestigious jobs in beltway journalism. We contend these journalists are arguably the most uniform sample of U.S. political journalists analyzed thus far.

Further research is warranted. Comparative work across credentialed journalists may reveal the role national culture plays in these dynamics we observed. Secondary analysis would be instructive to see how much men link to other men in these original tweets; if most original tweets do have some specific reference to one's original journalism content, reducing byline disparities may help overcome some gender issues. Additional research supplemented by qualitative interviewing may shed light on rationales for various tweeting behaviors and help assess whether journalists themselves are aware of these gender imbalances. The gender asymmetry also begs future questions about gender-based public perception of journalists on social media. The approach we have developed here has helped us advance our understanding of how U.S. political journalists use Twitter, and how that use amplifies and reinforces gender

imbalances. We hope other scholars in the future will adapt this approach to study the same issue in other countries, advancing our understanding of cross-national differences and similarities in this area. We would hypothesize that variation in both institutional structures (such as media systems) and in "political communication cultures" (Pfetsch 2014) might influence outcomes in different countries.

Our exploratory approach matters at a conceptual level as well as a practical one, especially in light of the recent attention to journalist-on-journalist sexual harassment. As U.S. journalist Ezra Klein wrote in the aftermath of the "Shitty Media Men" list, "What does it mean that these men—and so many others like them—held the power to literally shape America's political narrative?" (Klein, 2017). Of course, this study cannot answer that question, but it does provide support to suggest that in addition to offline gender asymmetry, gender asymmetry in beltway journalism is also present online. As a whole, our findings are deeply concerning: The gender imbalances present on beltway journalism Twitter are another case showing women do not receive adequate recognition or attention for their creative labor.

Beltway journalists are the embodiment of news as a political institution (Cook 2006). What happens in Washington matters on a global scale, and systemic gender imbalances felt at the top of the political ecosystem may well have a trickle-down effect, as framing models suggest (Entman 2004; Entman and Usher 2018). In Washington politics, the framing of political communication happens by predominantly male politicians and by beltway journalists who have troubling gender asymmetries, including on Twitter. Our research calls for continuing to consider whose voices are not heard (regardless of impact on coverage), and suggests that Twitter reflects (and may amplify) existing gender asymmetry in the power center of U.S. politics. The significance of the case deserves our alarm and possible attempts at mitigation.

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Notes

1. Complete data set, code, and output available on Github. Tool: <https://gwu-libraries.github.io/sfm-ui/>. Notebook 1: https://nbviewer.jupyter.org/github/justinlittman/beltway_reporters/blob/master/jupyter/Genderdynamics-Part1.ipynb; Notebook 2: https://nbviewer.jupyter.org/github/justinlittman/beltway_reporters/blob/master/jupyter/Genderdynamics-Part2.ipynb.

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