Pink-collar communication: gender, occupation, and communication about COVID on Twitter by Members of Congress

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Although daily business ground to a halt during the COVID-19 pandemic, social media provided a venue for a continuation of the day-to-day communications of political leaders. In doing so, political leaders had a wide set of choices about what issues they focused on in their communication. We draw on theories of gender role socialization and representation to examine how the occupational backgrounds of women in the US Congress influence their political communication about issues associated with COVID-19. We argue that Members of Congress' (MOCs) occupation prior to entering into Congress shape how they communicate with their constituents. During the pandemic, women were more likely to provide essential services such as healthcare, childcare, and social assistance, where workers were disproportionately exposed to the virus. We posit that women's unique occupational patterns and experiences better situate women to represent these vulnerable groups during times of crises. Using more than 100,000 tweets sent by MOCs during the COVID-19 pandemic, we show that gender and occupational background shape which issues MOCs choose to prioritize in their communication. Women in general were more likely to tweet about COVID during the early weeks of the pandemic. But women who hail from frontline jobs gave outsized attention to COVID and essential workers on Twitter, especially in the U.S. Senate. Women from non-essential backgrounds, by contrast, behave more similarly to their male colleagues. Our findings show that gender and occupation work together to shape legislators' behavior, implying that occupational diversity among MOC is essential for representing the diverse needs of society.

On April 13, 2020, Elizabeth Warren tweeted: "Frontline workers – health care, transit, farm, grocery, domestic & delivery workers – are risking their lives to keep America running. We can't rely on big business to protect them. So @RepRoKhanna & I are proposing an Essential Workers Bill of Rights to #ProtectEssentialWorkers." Warren, a former schoolteacher and college professor, is one example of a U.S. Senators to bring experience in an essential worker occupation. In this chapter, we examine how gender and experiences in frontline occupations shaped the communication patterns of members of the U.S. Congress.

The COVID-19 pandemic laid bare broad society-wide inequalities, especially around gender and occupation. In the early response to the pandemic, inequalities emerged between frontline workers and those whose jobs allowed them to remain at home and protected from COVID exposure. This essential work was also gendered: though men and women were equally likely in the United States to hold these jobs, the actual jobs held, and work conducted varied enormously by gender. For example, health care support workers (85% women) and construction workers (4% women) engaged in very different work and COVID exposures during a pandemic (Barnes and Holman 2020). Importantly, women were more likely to hold jobs that required them to provide social services, personal assistance, and emergency care—disproportionately exposing them to the virus. Likewise, women are more likely to hold low-wage jobs and less likely to have savings— consequently they were not able to easily opt out of work and ride out the pandemic at home. These patterns led sociologist Jessica Calarco to note: "Other countries have a safety net, the United States has women" (quoted in Petersen 2020).

In this chapter, we draw on theories of gender and occupational socialization and representation to examine political communication during times of crisis. Both gender role socialization and occupational socialization are deeply impactful in shaping political values and priorities (Schneider and Bos 2019; Eagly and Koenig 2006; Bos et al. 2021). These effects extend to individuals in political office: a representative's gender identity and their occupational backgrounds shape their preferences and behavior (Homola 2021; Barnes and Beall 2021), including political communication (O'Grady 2019; Boussalis et al. 2021). Only recently, work in political science has begun to focus on the intertwined role of gender and occupation (e.g., Barnes, Beall, and Holman 2021), but less is known about how a crisis might amplify or decrease the effect of these identities. Tweets from women in Congress during our period of inquiry reflect how gender and occupation shaped their understanding of the pandemic.

The early policy response at the national level in the United States was tepid at best, largely because of failures at the national level. While the public often looks to leaders to provide calm and clear guidance during times of crisis (Merolla and Zechmeister 2009), the United States faced a vacuum in leadership. Then-President Trump first downplayed the extent of the pandemic and then promoted unsafe behavior, from countering mask-wearing recommendations[1] to promoting unsafe and untested medical interventions like drinking bleach (Motta, Stecula, and Farhart 2020).

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[1] For example, after the Centers for Disease Control issued recommendations for mask wearing, Trump gave an interview where he said: "You don't have to do it. They suggested... but this is voluntary. I don't think I'm going to be doing it."

The failures of the chief executive left room for others to engage in work to communicate about the severity of and potential solutions to the pandemic. In the United States, the clear alternative for leadership were Members of Congress (MOCs), who took to social media to communicate directly with the public, affirm or deny Trump's comments, and build reputations as individuals providing solutions to the nation's current and most urgent problems (Green et al. 2020).

We focus on how MOCs used social media to communicate about the COVID-19 crisis, particularly the challenges facing frontline workers in March and April of 2020. Political communicate during times of crisis is important for shaping mass behavior, calming and directing psychological panic, and cultivating support for policies (Coombs 1995). During the COVID-19 pandemic, social media accounts of political elites helped the public understand the crisis, weigh risks, and shaped preferences (Gallagher et al. 2021; Shugars et al. 2021). We document that MOCs (especially women) provided broad messaging about COVID-19 and about essential workers. Key venue and audience differences also emerge, with Senators, particularly women with frontline worker backgrounds, engaging in more messaging about essential workers.

Political communication and social media during times of crisis

Political leaders regularly need to engage in communication in a wide set of activities to remind voters, constituents, donors, and the media of their policy positions, activities, and accomplishments (Russell 2018; 2021). MOCs increasingly use social media, including Twitter, Facebook, and Instagram, as a central (if not *the* central) avenue of public communication (McGregor 2019; 2018). On social media, MOCs use tweets and posts to cultivate reputations as policy experts, credit claim, and signal a particular policy preference or issue priority (Russell 2021).

Women as candidates and in political office are more likely to adopt an expansive social media presence (Wagner, Gainous, and Holman 2017; Evans and Clark 2015). Some of this may be due to women's lack of access to many of the traditional forms of political capital (Barnes and Beall 2021; Holman and Mahoney 2018) including disparate coverage by the media (Barnes, Jinhyeok, and Jaehoo 2016; Thomas et al. 2021).

In this chapter, we focus on questions of gender and occupation via public communication. To do so, we examine public communication about COVID-19 and effects on representational behavior through Twitter posts by MOCs between March 15, 2020 and April 24, 2020. These dates span the initial panic over COVID-19, mass lockdowns, and three key pieces of legislation. We focus on broad patterns in communication, differences between men and women in Congress, and how experiences in frontline worker occupations (including education, social services, and medical work) shaped communication. To do so, we classify tweets about COVID generally and then about frontline workers specifically.

COVID Tweets By Members of Congress

To assess how occupation and gender shaped legislative communication during the early period of the COVID-19 pandemic, we scraped all tweets from members of the US Congress from

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their official and campaign accounts. To construct this list, we used a twitter handle list from Pew's report on social media in Congress and then individually searched for each member of Congress to check their handle and supplement with alternative handles that individuals used for communication. Many MOCs have multiple handles, often for legal and campaign reasons. For example, Alexandria Ocasio-Cortez, one of Twitter's most prolific and popular members of Congress, uses two handles: @AOC, her personal and campaign account that has tweeted 12,000 times to 12 million followers and @RepAOC, her official congressional account, which has tweeted 1,363 times to 741,000 followers.[2] This process produced a total of 1,118 twitter handles for all MOCs; only 7 MOCs do not have a twitter handle at all. We obtained data on representative gender from the Center for American Women in Congress and merged into the dataset; overall, 25.9% of MOCs in our dataset are women.

We then use the Academic Twitter API[3] to download a full list of all tweets by any member of the list of handles that we assembled and restrict that data to the time-period of March 15 to April 25, 2020, for a total of 83,926 tweets in the dataset. As we note previously, we focus on this time period as it covers three pieces of important, COVID-19 related legislation (see Table 1).

We use basic word searches to identify tweets about COVID, each piece of legislation, and essential workers (see appendix table A1 for list of terms). We searched the text of each tweet plus hashtags used by the MOCs.

Table 1 provides details on the three pieces of legislation, while Figure 1 provides descriptive information about the frequency of tweets over the period.

Table 1: Key pieces of COVID-19 Legislation in US Congress

| Legislation	Date passed	Key details
Families First Coronavirus Response Act (FFCRA)	March 18, 2020	Requires employers to offer paid sick leave; funds for families who qualify for free lunch; free COVID-19 tests; eviction and foreclosure moratoriums
Coronavirus Aid, Relief, and Economic Security Act (CARES Act)	March 27, 2020	Direct stimulus; unemployment benefits; Loans and grants to businesses; grants to state, local governments; grants to colleges and universities
Stimulus and Relief Package	April 24, 2020	Funding PPP; support for healthcare and hospitals; COVID-19 testing

We first look at the overall trends in Twitter activity mentioning COVID specific key words during the first 42 days of the pandemic. To capture discussions of COVID, we search for variants of

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[2] Followers and tweets current as of mid-April 2020.
[3] Twitter's academic API allows for much larger datasets of tweets to be easily downloaded once an academic researcher applies for access https://developer.twitter.com/en/products/twitter-api/academic-research. Data scraping and use of the Academic Twitter API approved by Tulane's Institutional Review Board.

COVID, pandemic, and words related to the three stimulus bills. We compare trends in the House and Senate. Specifically, on the x-axis we show the time since the beginning of the pandemic and identify the passage of key COVID legislation. On the first y-axis (on the left) we plot the average number of tweets per representative in each of the chambers, with Representative's indicated using the dashed line, and Senators indicated using the solid line.

Figure 1: Discussion of COVID by MOCs
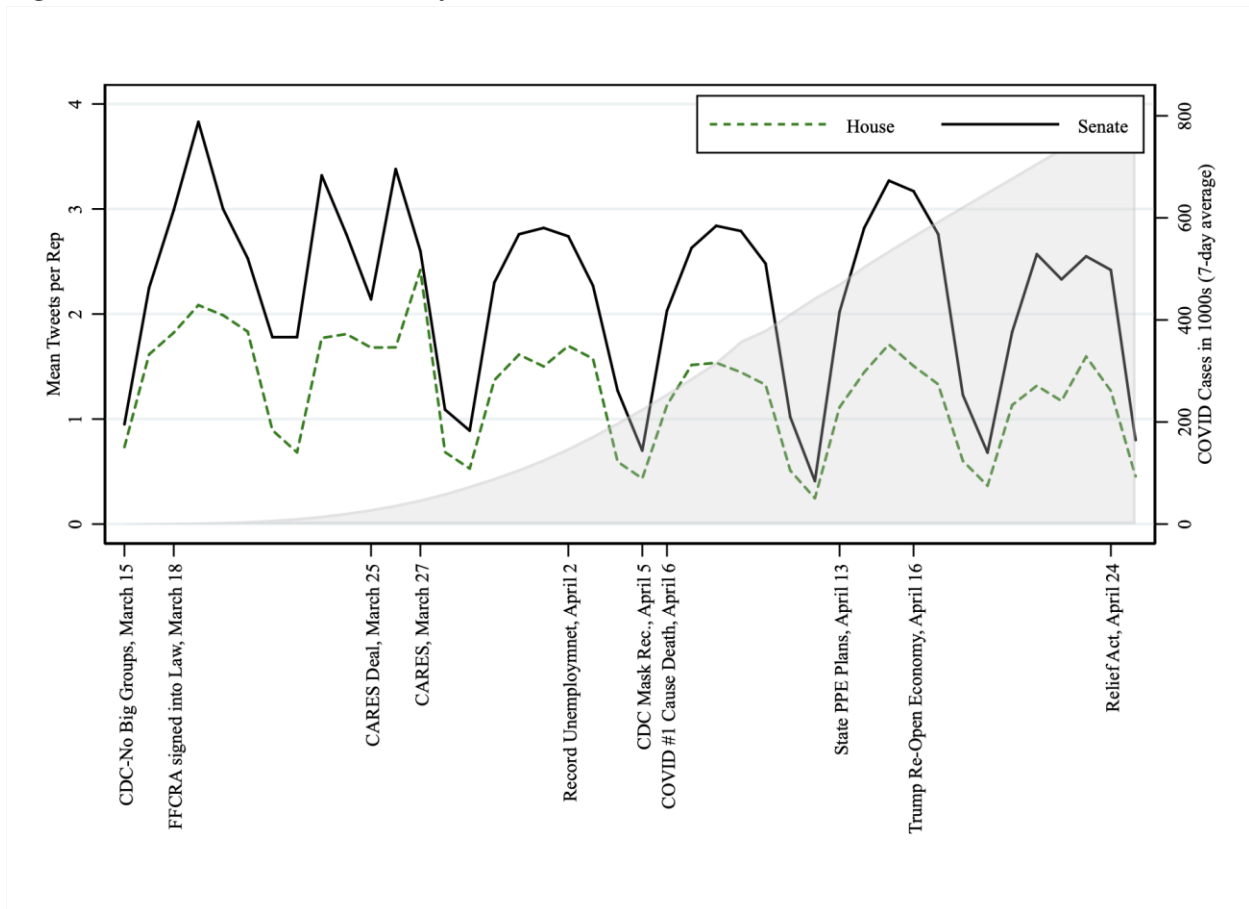
Tweets from women in Congress throughout this period highlight the growing concern about COVID, the changing health recommendations, and the struggles to put together effective policy to address the pandemic. Often MOCs tweeted similar messages to the public. On March 15, Kyrsten Sinema tweeted, "Social distancing and not attending large gatherings is important even if you're not feeling sick - read more here to learn why" with a link to information about the spread of COVID. That same day, Abigail Spanberger tweeted "Social distancing and avoiding larger groups of people are vitally important ways to contain the spread of #COVID－19 because those with milder symptoms may not know they are sick but can still spread it." And Sara Jacobs followed up by tweeting, "we have to stay socially physically distant - but that means it's more

important than ever to be emotionally there for each other. check in on your people. #COVID－19." The coordinating messaging on COVID-19 issues was more common at the beginning of the pandemic; as the policy discussions expanded in scope, so did how MOCs communicated on Twitter.

Our period of study covers three major pieces of legislation (as described in Table 1), as well as key events in the COVID infection and response in the United States and we focus on the level of Twitter around those points, along with examples of the form of rhetoric that MOCs engaged in around each law passage. To further put into context the escalating concern around COVID developments, we plot the number of COVID cases in the U.S. (indicated by the gray shaded area and the y-axis on the right[4]). This trend, depicted in light gray shading, shows an exponential increase in covid cases over the period. Broadly, communication does not appear to correspond to increased COVID cases nation-wide. Beyond the rising COVID rates, our period of inquiry includes the point where COVID became the leading cause of death in the United States (April 6), as well as efforts by states to step into the vacuum left by the Trump Administration's unwillingness to coordinate PPE efforts (April 13). Our time-period also covers several key recommendations from the CDC, including encouraging people to avoid gathering in large groups (March 15) and the recommendation to use masks (April 5). We also cover key points of the economic consequences of the pandemic, including record unemployment in early April, which was acknowledged by MOCs in their tweets. Shortly thereafter (on April 11), Kyrsten Sinema tweeted: "Arizonans: if you've lost your job, been furloughed, or had hours reduced due to the coronavirus outbreak, you may be eligible for unemployment benefits from the AZ department of economic security. Find out if you're eligible for unemployment insurance."

Over the entire period, the average legislators tweeted about COVID an average of 1.45 times per day. However, these patterns vary over time and by chamber. On average, House Members tweeted about COVID 1.28 times per day compared to Senators who tweeted 2.21 times per day—almost twice as much as members of the House. Of course, MOCs tweeted about other things beyond COVID during this time, but even those tweets reflect the realities of life during early COVID response; for example, Ilhan Omar tweeted, "👋🏽 what's everyone watching? I am watching Malcolm X documentary and dirty money on netflix 😳." And Abigail Spanberger tweeted "Thank you to the Cuomo brothers for a bit of levity. (Now I've got to go call my mom.)" after a joking exchange between the brothers (one, the current Governor of New York and the other, a journalist) about their curfew growing up. These patterns persist across the entire period under study, with several important fluctuation points. For example, we find (similarly to research on social media use by elected officials) that legislators are more likely to tweet on weekdays than on weekends (Russell 2018; Gainous, Marlowe, and Wagner 2013).

Families First / FFCRA:

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[4] We use a 7-day average and report the figure in units of 1000s

The first spike in Twitter activity comes around the adoption of the Families First Coronavirus Response Act (FFCRA or the Families First Act), which established two emergency paid leave requirements in response to the economic shut down from the pandemic. The House passed FFRCA on March 16, the Senate on March 18, and it was signed into law the same day. On March 18, when the bill was approved by the Senate and signed into law, House members tweeted an average of 2.09 times and Senators tweeted 3.83 times, representing an increase from the average number of COVID Tweets. For the Senate, this is the highest level of Twitter activity observed during the period.

Tweets during this period included messaging about testing, the economic consequences of COVID, and shutting down businesses to slow the spread of the pandemic. Senator Debbie Stabenow tweeted during this period, "Today @senatedems released a report highlighting that the U.S. is leading the world in confirmed #covid19 cases and deaths but lags in testing. Without a national testing strategy, we've left our loved ones vulnerable to #COVID19". Representative Dina Titus (from Nevada) tweeted, "The strip will not be the same for now, but it will come back stronger. This will get worse before it gets better, but it will get better. Our city is a resilient one and soon we will prove that once again." And upon passage, Representative Betty McCollum tweeted, "The house has passed the #FamiliesFirst act to provide paid emergency leave, strengthened food security assistance, & enhanced unemployment insurance. The Senate should be prepared to take up this bill as soon as possible & send it to the president's desk to be signed into law." After the Senate passed Families First, Val Demmings tweeted, "Today, the Senate joined the House to pass the Families First Coronavirus Response Act. This bill is strong bipartisan legislation that protects the financial well-being of American workers and families as we confront one of the worst public health crises in generations."

CAREs Act:

Another big inflexion point in the data is near the passage of the Coronavirus Aid, Relief, and Economic Security Act (CAREs Act). Owing to a bipartisan negotiation, the CAREs Act, which established a $2.2 trillion stimulus package, unanimously passed the Senate on March 25, passed by a voice vote in the House on March 26, and was signed into law by the President on March 27. COVID Twitter activity was not notably high leading up to and on March 25 as the bill moved through the Senate but does increase substantially the following day. March 26 represented the second highest level of Twitter activity observed in the Senate during the period under study, with Senators tweeting about COVID an average of 3.38 times per day. Their activity remained high—2.6—the day CAREs was signed into law and tapered off afterwards. During the passage time, MOCs tweeted specifically about the bill. Debbie Stabenow tweeted, "I just voted for the cares act to address the impact of the #covid19 crisis. I voted to put Michigan families, workers, health providers first. We came together in a bipartisan way to provide critical health care funding & economic stability to families." Not all these tweets were about credit claiming. For example, Elizabeth Warren tweeted "We face a public health crisis that threatens to bring another great depression. Families, hospitals, & small businesses need immediate aid. This is not the bill I

wanted, but its immediate investments are vital. They are also insufficient. We will need to do more – and soon."

Paycheck Protection Program (PPP):

The "Paycheck Protection Program and Health Care Enhancement Act" (or PPP as it later became known) was the third COVID relief package passed by Congress. The Senate passed PPP on April 21, with the House approving the legislation on April 23, and signed by the President on April 24. This bill allocated $484 billion to supplement a subset of programs under the CARES Act, with a focus on supporting small business disaster loans and grants, providing PPE for hospitals and health care providers, expanding testing, and dramatically increasing funding for and access to the Paycheck Protection Program (PPP). The PPP program, managed by the Small Business Administration[5], provided grants and low-interest loans to businesses to help them to keep paying their workers during the pandemic. The loans could be partially or fully forgiven if the business kept similar levels of employee counts and wages (Bhatt et al. 2021).

The PPP saw notably less activity on twitter than previous relief packages, but still logged above average Twitter activity. The day the legislation passed in the Senate, there were an average of 2.57 COVID Tweets per Senator, this number was equally high (2.55) on the day it passed in the House and declined slightly to 2.42 the day the President signed it into law. The House had similar spikes in activity. Members of Congress tweeted about substantive components of the law; for example, Betty McCollum tweeted, "More aid is needed for the #smallbiz paycheck protection program. The senate & Trump admin must work with @housedemocrats on a bill that helps under-banked small businesses access PPP funds and helps state & local gov'ts and hospitals on the front lines" and Abigail Spanberger tweeted, "I'm urging Congressional leadership and the Trump administration to work together to allocate billions of additional dollars for this relief program. PPP can and must provide aid to thousands more small businesses."

Gender and representation

"Interesting read: what do countries with the best coronavirus responses have in common? Women leaders" @TammyForIllinois / Tammy Duckworth

Research on representation during the early period of COVID-19 suggests that women engaged in distinct communication styles when discussing the pandemic. During COVID, the blurring of the public and private sphere (as people brought work home and private behaviors became the subject of public scrutiny and judgement) may have allowed women to engage in more explicitly feminine communication (Johnson and Williams 2020). And in evaluating national leaders' speeches, Dada (2021) and colleagues find that "While all leaders described the economic impact of the pandemic, women spoke more frequently about the impact on the individual scale. Women

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[5] https://www.sba.gov/funding-programs/loans/covid-19-relief-options/paycheck-protection-program

leaders were also more often found describing a wider range of social welfare services, including: mental health, substance abuse and domestic violence." Research on cities engaging in eviction moratoriums and anti-racist statements during COVID-19 shows that cities with women mayors, particularly women of color, were more likely to issue statements on these issues (Farris, Holman, and Sullivan 2021).

Gender is a social construct (Bittner and Goodyear-Grant 2017; Bem 1978), built through socialization patterns, daily engagements, and life choices. Gender role theory argues that socialization and internal and external rewards and punishment teach women to be more communal, have more interpersonal skills and interests, and are interested in the needs of others (Eagly and Koenig 2006; Bos et al. 2020). Men's socialization and rewards and punishments include encouragement away from communal skills and towards agentic skills, including strong leadership, caring about prestige and accomplishments, and seeking power; (Eagly and Koenig 2006; Diekman and Schneider 2010; Schneider and Bos 2019).

Within this context, women in political office are more likely to represent women's interests because they engage in both a policymaking process that replicates gendered social roles, i.e., being more cooperative and collaborative (Barnes 2016; Holman and Mahoney 2018) and via the policies that they pursue (Holman 2015). In a time of crisis, women's socialization might push them to act to protect those most directly affected by the crisis: essential and frontline workers. As Mansbridge (1999, 628) notes, descriptive representatives should engage in "innovative thinking in contexts of uncrystallized, not fully articulated, interests." Women in Congress thus may engage in communication in new ways during a global crisis like COVID-19.

Figure 2: Gender and COVID discussions by Chamber
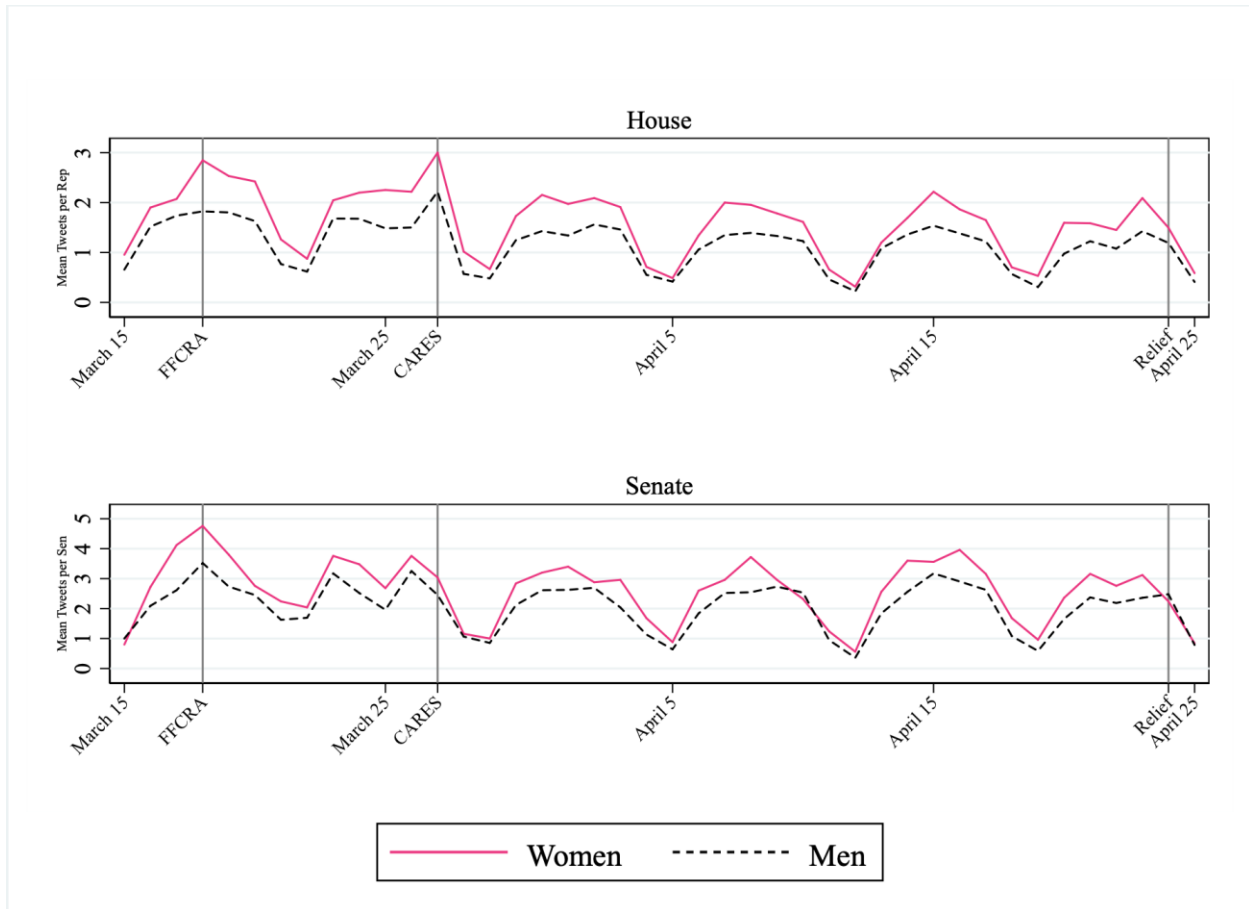
Women MOCs are more active in their discussions of COVID-19 than were their male colleagues. Figure 2 is structured similar to Figure 1 but disaggregates the data for women and men in the House and Senate. We plot women's tweets using the solid line and men's plots using the dashed line. It is clear from the figures that, on average, women Tweeted about COVID more than men. Whereas women House Members tweeted 1.61 times per day, men tweeted 1.17 times per day, a significant difference of .44. Similar patterns are observed in the Senate where women tweeted 2.63 times compared to men who tweeted 2.07 times, a difference of .55. These patterns persist across the entire period under study, with various fluctuation points.

In their public communication about COVID, women in Congress often focused on the gendered consequences of the pandemic, including childcare, domestic violence, and pregnancy and childbirth. For example, Elizabeth Warren tweeted, "It was already nearly impossible to find quality, affordable child care before this crisis and providers struggled to stay afloat. Now covid-19 is pushing this broken system to the brink of collapse. Without emergency funding, many providers will close their doors forever." Kyrsten Sinema tweeted, "The next coronavirus package needs to include money for domestic abuse survivors and essential service providers." Carolyn Maloney tweeted, "April 21st #ny12 #coronavirus update: including: -new report documenting abuse & mistreatment of pregnant women in immigration detention centers -streamlined application for NY unemployment insurance & pandemic unemployment assistance in NY." And

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Betty McCollum tweeted, "I'm working to secure additional funding in the next relief package to make sure underserved & underbanked communities, especially women- and minority-owned businesses and small mom & pop shops, have access to the emergency funding they need."

Twitter activity also tracks onto the discussions of legislation, including an influx in COVID-related Twitter activity among women around the FFCRA passage: Whereas women in the House typically tweet about 1.68 times per day, following the passage of FFCAR they tweeted 2.85 times on average. We observe a similar increase—from an average of 2.63 to 4.76—among women Senators on this same day. Women discussed components of the legislation in their tweets, such as Elizabeth Warren tweeting, "#1: employers must be required to provide personal protective equipment at no cost to workers, including contractors & subcontractors. and they must have protocols for informing employees & evacuating & cleaning the site if there is covid-19 exposure. #protectessentialworkers." We see similar increases in women MOCs' tweets around the passage of the CAREs act. Finally, there was also an observable increase in Twitter activity surrounding the adoption of PPP. On April 23, the day PPP was approved in the House, women Representatives tweeted 2.09 times. Two days earlier when it passed through the Senate, women Senators tweeted an average of 3.16 times about COVID. By the time the President signed the bill into law—on a Saturday—the Twitter traffic had died down.

Frontline women and representation

One reason that women in political office might communicate about COVID-19 in distinct ways is because of patterns of employment and occupational experience among women in office. During the earliest period of the COVID-19 outbreak, workers experienced shutdowns, PPE, and COVID testing in very different ways. One group, named essential or frontline workers, occupied jobs that required they engage directly, face-to-face, with other individuals, thus increasing their chances of contracting COVID from the workplace. Women are equally likely to be employed in frontline worker positions, but hold very distinct individual jobs compared to men, including occupying the majority of health care and social services jobs that required intensive face-to-face interactions with the public (Barnes and Holman 2020). More broadly, women in state legislatures are more likely to come from 'pink collar' jobs, or low status, low mobility jobs dominated by women (Barnes, Beall, and Holman 2021). In Congress, there are very few representatives from any kind of working class occupation. We thus focus on the presence of MOCs who have had employment experiences in frontline or essential worker categories, specifically examining those jobs traditionally held by women, including health care, social services, and education.

Theories of occupational socialization argue that occupation serve as an organizational anchor connecting representatives with members of society who engage in similar occupations (Manza and Brooks 2008). These shared life experiences provide a critical link between representatives and constituents, shaping who legislators empathize with and represent (Phillips 1995; Lovenduski and Norris 2003). As Moore noted in 1970: "Of the many roles or roles constellations that the modern adult is called upon to perform, few exceed in importance, the acquisition of requisite skills and attitude for occupation… In temporal terms, occupation is challenged only by the family

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as the major determinant and locus of behaviour. Were we to limit our comparison to the waking hours, occupation would be the clear winner" (Moore 1970).

Occupational experiences shape representatives' legislative preferences and priorities (Barnes and Saxton 2019; Barnes, Beall, and Holman 2021; Matter and Stutzer 2015). For instance, research finds that the most common legislation authored by nurses who left the profession to serve as legislators pertains to public health and healthcare (Suhd-Brondstatter 2021). Similarly, research on provincial level cabinets in Canada shows that when a larger share of cabinet ministers hail from not-for-profit backgrounds, governments allocate more spending to social services (Borwein 2021). Similarly, in the United Kingdom, working-class legislators use their speeches in parliament and vote to advance welfare policies (O'Grady 2019). In sum, occupational experiences shape the behavior of representatives within institutions.

Occupation shapes how individuals experience the state. Income and employment security, reliance on social services and redistributional policies, and employment in the provision of safety net policies are all deeply undergirded by occupation. Gender, occupation, employment insecurity, social class, income, and use of redistributional services all correlate with preferences for social policy among voters (Ondercin 2017; Barnes and Cassese 2017; Michener 2019; Iversen and Soskice 2001; Iversen and Rosenbluth 2006).

To assess whether the occupation of legislators shapes their Twitter communication during the early days of the pandemic, we examine the differences between legislators who previously held jobs in industries considered "frontline" or "essential" during the pandemic. We consulted four sources to identify MOCs who had previously worked in the medical, social work, or education fields (1) Congressional Quarterly's official list of Educators and Medical Professionals in Congress; (2) by looking at the list of social workers from the National Association of Social Work; (3) by double-checking each list with alternative lists available from organizations like the Congressional Research Institute for Social Work and Policy and Nursing World, and (4) individually reading each Senator's biography from sources like Ballotpedia and Wikipedia.

In total, we identified 27 women and 55 men in the House who have experience in essential work. Although there are twice as many men essential workers in the House, because women are so underrepresented in Congress, these workers make up a smaller share of men in the House than of women in the House. Men essential workers only make up 17% of men House members compared to women essential workers who comprise 26% of all women House members. In the Senate, by contrast, only 7 women (or 28% of women) and 15 men (or 20% of men) have frontline worker backgrounds.

Next, we plot tweets for men and women in the House and Senate, but this time we distinguish whether they previously held a job in a "frontline" or "essential" work. We refer to these legislators as essential workers. Figure 3 plots these twitter trends for essential workers in the solid line and non-essential workers.

Figure 2: Gender, Frontline Workers, and COVID discussions by Chamber
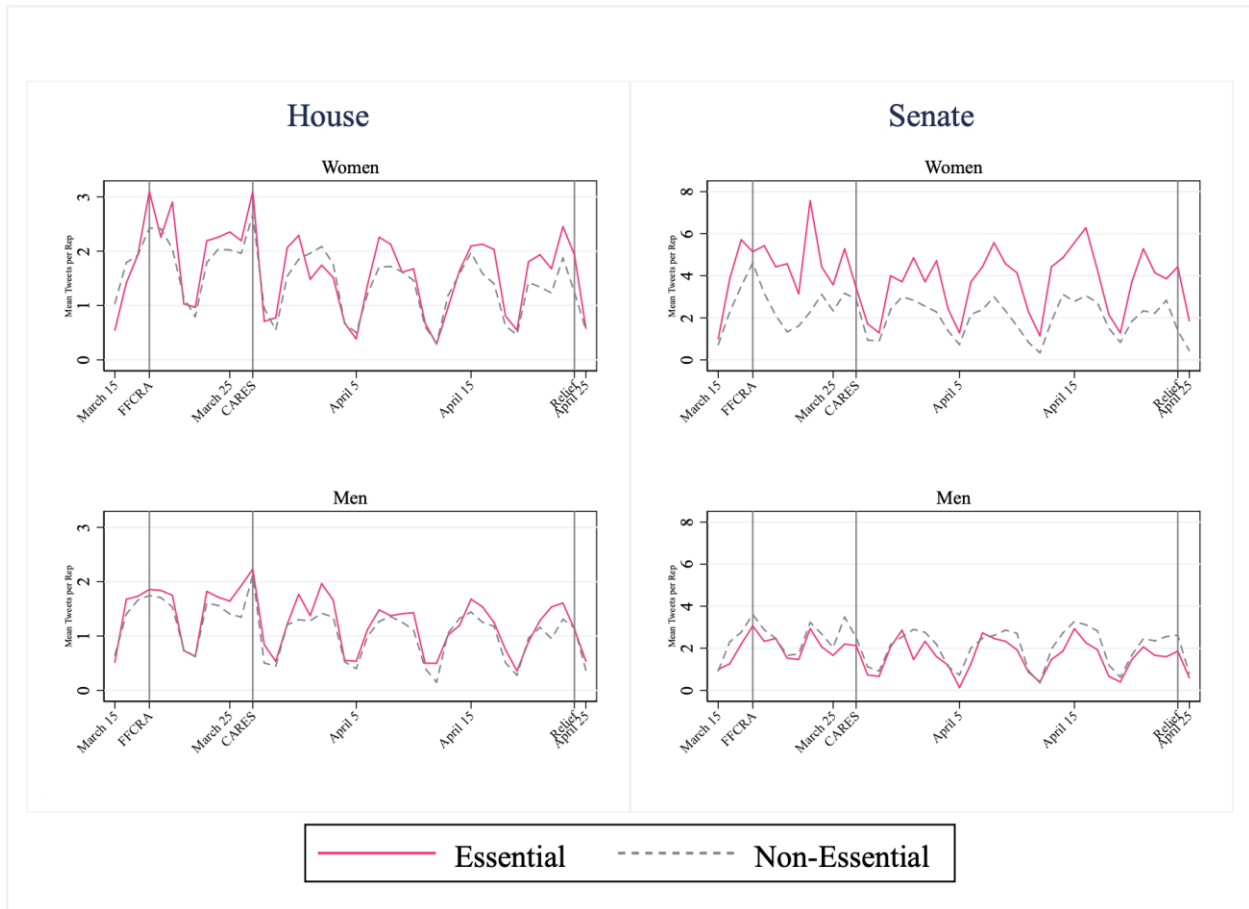
As Figure 3 shows, essential workers are more likely than their colleagues who did not work in frontline jobs to tweet about COVID across the beginning of the pandemic. What's more, these patterns are much more pronounced for women essential workers. Notably, the average number of tweets from essential men in the House is 1.39 compared to 1.14 tweets by non-essential men. We likewise observe only small differences between essential (1.84) and non-essential (2.17) men in the Senate. These small difference of 0.13 and 0.45 respectively pales in comparison to the differences we observe among women in the House (diff=0.25) in Senate (diff=.33).

Women in the Senate often focus explicitly on gender and frontline workers. For example, in a series of tweets, Elizabeth Warren focused on the joint burdens for women and essential workers: "#8: Congress must ensure that essential workers have access to reliable, safe, healthy, & high-quality child care, & commit robust funding to help struggling child care providers during this pandemic. #protectessentialworkers" and Abigail Spanberger tweeted "Thank you to our nation's healthcare providers for your service to our communities, especially during this crisis. They must be able to protect themselves and their patients. They need PPE now."

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Women essential workers in the House and Senate appear to be driving the trends observed in Figures 1 and 2 where legislators generate considerable Twitter content pertaining to COVID in the first 42 days of the pandemic and particularly around key dates where important legislation was signed into law. Indeed, the gender differences we identify in Figure 2 appear to be driven almost entirely by essential worker women and not non-essential women—particularly in the Senate. In fact, non-essential women look more like men in our sample than they do essential women. For comparison, essential women in the House generated an average of 2.26 tweets per day compared to 1.51 from non-essential women and 1.39 from essential men. Essential women in the Senate tweeted an average of 3.89 times per day compared to 2.13 tweets from non-essential women Senators and 1.83 from essential men.

As observed above, the spikes in Twitter activity tend to correspond with key dates. But interestingly the key dates appear to amplify differences between essential women and everyone else as opposed to generating more attention from everyone evenly across the board. For example, on March 18 when FFCRA was signed into law, essential women in the House tweeted an average of 4.33 times compared to 2.56 from non-essential women. Although both groups exhibited an increase in Twitter activity, the passage of FFCRA is associated with an increase in the twitter gap (from 0.75 to 1.77) between these two groups. Similar increases in the twitter gap are observed around the signing of the CARES act.

The differences around the FFCRA are less stark in the Senate where essential women tweeted 5.14 comped to 4.61 from non-essential women. In this case, both groups responded to the FFCRA and the gap narrowed. The differences between the two groups are similarly narrow when the CARES act is signed into law. With that said, a number of notable differences do stand out in the Senate, they simply do not correspond to the adoption of key legislation. Instead, a big increase in the gap came on March 23, when women Senators from essential backgrounds tweeted an average of 7.57 times. Given the small number of essential workers in the senate, the trends are much more sensitive to the behavior of individual Senators.


Examining Discussions of Frontline Workers

We next move away from examining just who and how COVID discussions happened to evaluating discussions of frontline workers specifically. For example, when Tammy Duckworth tweeted "I joined @senblumenthal in calling on @osha_dol to provide and enforce safety standards that protect all essential workers who continue to perform their jobs during the #COVID19 pandemic," she's both communicating about COVID and discussing the realities for essential workers. To examine this subset of tweets we searched for words such as frontline, essential, healthcare, health work, and workforce (see table A2).

Similar to Figure 3, Figure 4 plots tweets by legislators who worked in "essential" jobs but focuses on tweets that refer to frontline or essential workers. As with the COVID tweets, legislators who hail from essential jobs tweet more about frontline and essential workers than their colleagues. And these trends are far more pronounced among women than men. In fact, men essential workers look very similar to their male colleagues—an average of 0.62 tweets per day by essential workers

in the Senate pertaining to frontline workers, compared to 0.44 by non-essential workers. Women essential workers, by contrast, are notably more active in discussing essential workers on Twitter. Whereas non-essential women in the Senate tweet about frontline workers 0.46 times per day, essential workers do so 1.19 times per day—more than twice as many tweets. Similar trends hold in the House, albeit not as stark as in the Senate.

Interestingly when we narrow our focus to tweets about frontline workers, the fluctuation points are slightly different than when we focus on tweets pertaining to COVID more generally. There are still small spikes around FFCAR and larger influxes around CAREs. But there are also some sharp increases in twitter activity that reveal differences in discussions of workers versus COVID more generally. These differences are exemplified by tweets from women with essential worker backgrounds in the Senate. For example, after the CAREs Act passage, Krysten Sinema (former social worker) tweeted, "The next coronavirus package needs to include money for domestic abuse survivors and essential service providers" and Tammy Duckworth, former medic, tweeted, "Every day, every hour, every minute, heroic frontline healthcare workers and the legion of support staff that enable them are risking their health & lives while responding to the deadly #covid19 pandemic. Congress *must* prioritize delivering support to these brave heroes ASAP."

Figure 4 of Occupation x gender x worker discussions

15
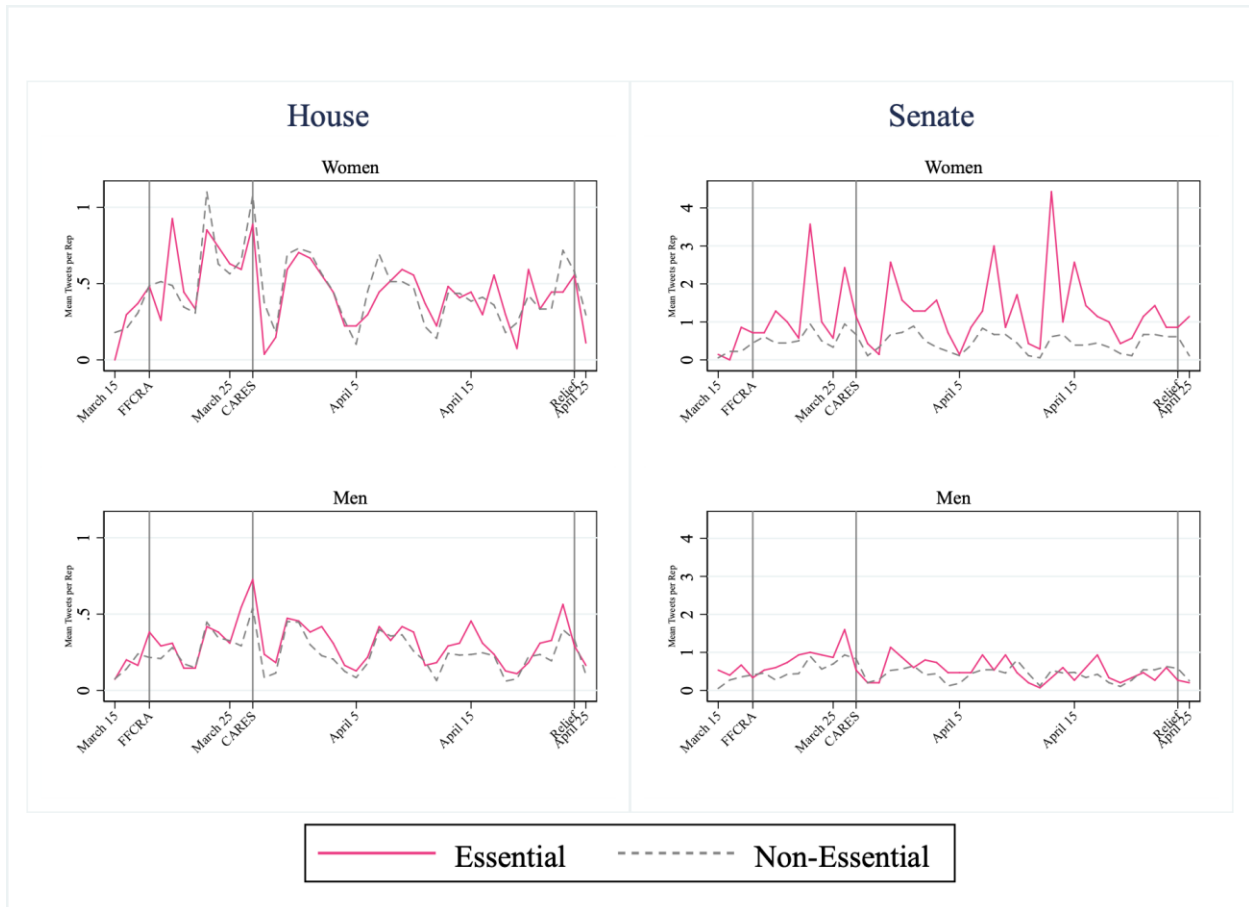
Conclusion:

We theorized that gender and occupational socialization work together to shape legislators' behavior. Leveraging twitter data from the critical early weeks during the pandemic—a period where occupational experiences were extremely salient owing to the disproportionate impact the pandemic exerted on individuals from frontline jobs—we show that women who hail from frontline jobs are more likely to take to Twitter to communicate about COVID. Although women, on average, were more likely to tweet about COVID in the early days of the pandemic, we observe that the gendered trends are largely driven by the combination of gender and occupational socialization. That is, we do not observe similar differences when comparing men from essential and non-essential jobs as we observe among women. That gender and occupation work together to shape legislative behavior suggest that women have distinct occupational experiences that uniquely prepare them to advocate on behalf of an underrepresented constituency in Congress.

Our findings have important implications for our understanding of the link between descriptive representation and substantive representation. Previous research tends to overlook the ways that gender and occupation intersect to structure legislators' preferences and political behavior (but see Barnes, Beall and Holman 2021). Yet, our research illustrates that simply considering gender in isolation of occupation, or occupation in isolation of gender, paints an incomplete picture. Indeed, we observe that—at least during times of crises—occupational experience is a more salient factor influencing women's than men's behavior. From a practical standpoint, our research indicates that simply having more women in office—or more men from a diverse range of occupations—is insufficient to adequately represent the diverse needs and perspectives in modern society.

To this end, more research is necessary to learn how and when women from non-traditional pipelines enter office. Research is rife with studies of women's political ambition (Bos et al. Forthcoming; Shames et al. 2020; Bernhard, Shames, and Teele 2021) but few studies to date of occupational backgrounds consider the varied pathways through which men and women enter office (Kerevel and Matthews 2021).

Finally, subsequent work should consider the combined influence of race, gender, and occupation on legislative behavior. Because of patterns of systematic racism and sexism, women, people of color, and especially women of color in the United States experience poverty at higher levels, are more likely to live under the poverty line, and to qualify for and receive welfare benefits, food stamps, public housing, and income assistance (Abercrombie and Hastings 2016; Pearce 1978). Underlying these patterns, the economy is specifically designed to limit women's labor in jobs that value continuity and learning on the job, thus ensuring that pink-collar jobs are more likely to be insecure (Iversen and Rosenbluth 2013). We saw (and are seeing) these patterns play out in COVID relief, in who continued to work in frontline jobs during the pandemic, and the ways

that the government did (and did not) respond to the crises created by the pandemic. Future work should consider how these patterns shaped representation from state and federal legislators.

Works Cited:

Abercrombie, Sarah H., and Sarah L. Hastings. 2016. "Feminization of Poverty." In *Encyclopedia of Gender and Sexuality Studies*, 1–3. American Cancer Society. https://doi.org/10.1002/9781118663219.wbegss550.

Barnes, Tiffany D. 2016. *Gendering Legislative Behavior: Institutional Constraints and Collaboration in Argentina*. New York: Cambridge University Press.

Barnes, Tiffany D., and Victoria Beall. 2021. "Women in the Plenary: Verbal Participation in the Argentine Congress." In *Women, Power, and Political Representation: Canadian and Comparative Perspectives*, edited by Roosmarijin de Geus, Erin Tolley, Elizabeth Goodyear-Grant, and Peter John Loewen. Toronto, CA: University of Toronto Press.

Barnes, Tiffany D., Victoria Beall, and Mirya R. Holman. 2021. "Pink Collar Representation and Policy Outcomes in U.S. States." *Legislative Studies Quarterly* 46 (1): 119–54. https://doi.org/10.1111/lsq.12286.

Barnes, Tiffany D., and Erin C. Cassese. 2017. "American Party Women: A Look at the Gender Gap within Parties." *Political Research Quarterly* 70 (1): 127–41.

Barnes, Tiffany D., and Mirya R. Holman. 2020. "Essential Work Is Gender Segregated: This Shapes the Gendered Representation of Essential Workers in Political Office." *Social Science Quarterly*. https://doi.org/10.1111/ssqu.12850.

Barnes, Tiffany D., Jang Jinhyeok, and Park Jaehoo. 2016. "Gender Stereotypes and Election Coverage in South Korea: An Exploratory Analysis in Presidential and Seoul Mayoral Elections." *The Review of Korean Studies* 19 (2): 165–93.

Barnes, Tiffany D., and Gregory W. Saxton. 2019. "Working-Class Legislators and Perceptions of Representation in Latin America." *Political Research Quarterly* 72 (4): 910–28.

Bem, S.L. 1978. *Bem Sex-Role Inventory–Short Form*. Palo Alto, CA: Consulting Psychologists Press.

Bhatt, Nirav, Bijal Vira, Peter Carson, Jared Ramo, and Michael Baranovic. 2021. "UPDATED: The Reauthorization and Revival of the Paycheck Protection Program and Economic Injury Disaster Loan Program under the Economic Aid to Hard-Hit Small Businesses, Nonprofits, and Venues Act." *The National Law Review* XII (111). https://www.natlawreview.com/article/updated-reauthorization-and-revival-paycheck-protection-program-and-economic-injury.

Bittner, Amanda, and Elizabeth Goodyear-Grant. 2017. "Sex Isn't Gender: Reforming Concepts and Measurements in the Study of Public Opinion." *Political Behavior* 39 (4): 1019–41. https://doi.org/10.1007/s11109-017-9391-y.

Borwein, Sophie. 2021. "Do Ministers' Occupational and Social Class Backgrounds Influence Social Spending?" *Politics, Groups, and Identities* 0 (0): 1–23. https://doi.org/10.1080/21565503.2020.1854792.

Bos, Angela L., Jill S. Greenlee, Mirya R. Holman, Zoe M. Oxley, and J. Celeste Lay. 2021. "This One's for the Boys: How Gendered Political Socialization Limits Girls' Political Ambition and Interest." *American Political Science Review*, 1–18.

Bos, Angela L., Mirya R. Holman, Jill S. Greenlee, Zoe M. Oxley, and J. Celeste Lay. 2020. "100 Years of Suffrage and Girls Still Struggle to Find Their 'Fit' in Politics." *PS: Political Science & Politics* 53 (3): 474–78. https://doi.org/10.1017/S1049096520000293.

Boussalis, Constantine, Travis G. Coan, Mirya R. Holman, and Stefan Müller. 2021. "Gender, Candidate Emotional Expression, and Voter Reactions During Televised Debates." *American Political Science Review* 115 (4): 1242–57. https://doi.org/10.1017/S0003055421000666.

Coombs, W. Timothy. 1995. "Choosing the Right Words: The Development of Guidelines for the Selection of the 'Appropriate' Crisis-Response Strategies." *Management Communication Quarterly* 8 (4): 447–76.

Dada, Sara, Henry Charles Ashworth, Marlene Joannie Bewa, and Roopa Dhatt. 2021. "Words Matter: Political and Gender Analysis of Speeches Made by Heads of Government during the COVID-19 Pandemic." *BMJ Global Health* 6 (1): e003910. https://doi.org/10.1136/bmjgh-2020-003910.

Diekman, Amanda B., and Monica C Schneider. 2010. "Understanding the Gender Gap in Voting and Political Attitudes: When and Why?" *Psychology of Women Quarterly* 34: 486–97.

Eagly, Alice H., and Anne M. Koenig. 2006. "Social Role Theory of Sex Differences and Similarities: Implication for Prosocial Behavior." In *Sex Differences and Similarities in Communication*, edited by Kathryn Dindia and Daniel Canary, 2nd ed., 161–77. Mahwah, NJ, US: Lawrence Erlbaum Associates Publishers.

Evans, Heather K., and Jennifer Hayes Clark. 2015. "'You Tweet Like a Girl!' How Female Candidates Campaign on Twitter." *American Politics Research*, August, 1532673X15597747. https://doi.org/10.1177/1532673X15597747.

Farris, Emily M., Mirya R. Holman, and Miranda Sullivan. 2021. "Representation and Anti-Racist Policymaking in Cities during COVID-19." *Representation*.

Gainous, Jason, Adam David Marlowe, and Kevin M. Wagner. 2013. "Traditional Cleavages or a New World: Does Online Social Networking Bridge the Political Participation Divide?" *International Journal of Politics, Culture, and Society* 26 (2): 145–58. https://doi.org/10.1007/s10767-013-9130-2.

Gallagher, Ryan J., Larissa Doroshenko, Sarah Shugars, David Lazer, and Brooke Foucault Welles. 2021. "Sustained Online Amplification of COVID-19 Elites in the United States." *Social Media+ Society* 7 (2): 20563051211024956.

Green, Jon, Jared Edgerton, Daniel Naftel, Kelsey Shoub, and Skyler J. Cranmer. 2020. "Elusive Consensus: Polarization in Elite Communication on the COVID-19 Pandemic." *Science Advances* 6 (28): eabc2717. https://doi.org/10.1126/sciadv.abc2717.

Holman, Mirya R. 2015. *Women in Politics in the American City*. Philadelphia, PA: Temple University Press.

Holman, Mirya R., and Anna Mitchell Mahoney. 2018. "Stop, Collaborate, and Listen: Women's Collaboration in US State Legislatures." *Legislative Studies Quarterly* 43 (2): 179–206. https://doi.org/10.1111/lsq.12199.

Homola, Jonathan. 2021. "The Effects of Women's Descriptive Representation on Government Behavior." *Legislative Studies Quarterly* OnlineFirst. https://doi.org/10.1111/lsq.12330.

Iversen, Torben, and Frances Rosenbluth. 2006. "The Political Economy of Gender: Explaining Cross-National Variation in the Gender Division of Labor and the Gender Voting Gap." *American Journal of Political Science* 50 (1): 1–19. https://doi.org/10.1111/j.1540-5907.2006.00166.x.

———. 2013. "The Political Economy of Gender in Service Sector Economies." In *The Political Economy of the Service Transition*, edited by Anne Wren, 306–26. New York: Oxford University Press.

Iversen, Torben, and David Soskice. 2001. "An Asset Theory of Social Policy Preferences." *The American Political Science Review* 95 (4): 875–93.

Johnson, Carol, and Blair Williams. 2020. "Gender and Political Leadership in a Time of COVID." *Politics & Gender* 16 (4): 943–50. https://doi.org/10.1017/S1743923X2000029X.

Lovenduski, Joni, and Pippa Norris. 2003. "Westminster Women: The Politics of Presence." *Political Studies* 51 (1): 84–102.

Mansbridge, Jane. 1999. "Should Blacks Represent Blacks and Women Represent Women? A Contingent 'Yes.'" *The Journal of Politics* 61 (3): 628–57.

Manza, Jeff, and Clem Brooks. 2008. "Class and Politics." In *Social Class: How Does It Work?*, edited by Annette Lareau, 201–32.

Matter, Ulrich, and Alois Stutzer. 2015. "The Role of Lawyer-Legislators in Shaping the Law: Evidence from Voting on Tort Reforms." *The Journal of Law and Economics* 58 (2): 357–84. https://doi.org/10.1086/684039.

McGregor, Shannon C. 2018. "Personalization, Social Media, and Voting: Effects of Candidate Self-Personalization on Vote Intention." *New Media & Society* 20 (3): 1139–60. https://doi.org/10.1177/1461444816686103.

McGregor, Shannon C. 2019. "Social Media as Public Opinion: How Journalists Use Social Media to Represent Public Opinion." *Journalism* 20 (8): 1070–86.

Merolla, Jennifer L., and Elizabeth Zechmeister. 2009. "Terrorist Threat, Leadership, and the Vote: Evidence from Three Experiments." *Political Behavior* 31 (4): 575–601.

Michener, Jamila. 2019. "Policy Feedback in a Racialized Polity." *Policy Studies Journal* 0 (0). https://doi.org/10.1111/psj.12328.

Moore, Wilbert Ellis. 1970. *The Professions: Roles and Rules*. Russell Sage Foundation.

Motta, Matt, Dominik Stecula, and Christina Farhart. 2020. "How Right-Leaning Media Coverage of COVID-19 Facilitated the Spread of Misinformation in the Early Stages of the Pandemic in the U.S." *Canadian Journal of Political Science/Revue Canadienne de Science Politique* 53 (2): 335–42. https://doi.org/10.1017/S0008423920000396.

O'Grady, Tom. 2019. "Careerists Versus Coal-Miners: Welfare Reforms and the Substantive Representation of Social Groups in the British Labour Party." *Comparative Political Studies* 52 (4): 544–78.

Ondercin, Heather L. 2017. "Who Is Responsible for the Gender Gap? The Dynamics of Men's and Women's Democratic Macropartisanship, 1950–2012." *Political Research Quarterly* 70 (4): 749–77.

Pearce, Diane. 1978. "The Feminization of Poverty: Women, Work, and Welfare." *Urban and Social Change Review* 11 (1–2): 28–36.

Petersen, Anne Helen. 2020. "Other Countries Have Social Safety Nets. The U.S. Has Women." Substack newsletter. *Culture Study* (blog). November 11, 2020. https://annehelen.substack.com/p/other-countries-have-social-safety.

Phillips, Anne. 1995. *The Politics of Presence*. Oxford University Press, USA.

Russell, Annelise. 2018. "US Senators on Twitter: Asymmetric Party Rhetoric in 140 Characters." *American Politics Research* 46 (4): 695–723.

———. 2021. "Senate Representation on Twitter: National Policy Reputations for Constituent Communication." *Social Science Quarterly* 102 (1): 301–23.

Schneider, Monica C., and Angela L. Bos. 2019. "The Application of Social Role Theory to the Study of Gender in Politics." *Political Psychology* 40 (S1): 173–213. https://doi.org/10.1111/pops.12573.

Shugars, Sarah, Adina Gitomer, Stefan McCabe, Ryan J. Gallagher, Kenneth Joseph, Nir Grinberg, Larissa Doroshenko, Brooke Foucault Welles, and David Lazer. 2021. "Pandemics, Protests, and Publics: Demographic Activity and Engagement on Twitter in 2020." *Journal of Quantitative Description: Digital Media* 1.

Suhd-Brondstatter, Jennifer. 2021. "From Nurse to Politician: Nurses Who Left the Bedside for Public Policy." PhD Thesis, University of California, Davis.

Thomas, Melanee, Allison Harell, Sanne AM Rijkhoff, and Tania Gosselin. 2021. "Gendered News Coverage and Women as Heads of Government." *Political Communication* 38 (4): 388–406.

Wagner, Kevin M., Jason Gainous, and Mirya R. Holman. 2017. "I Am Woman, Hear Me Tweet! Gender Differences in Twitter Use among Congressional Candidates." *Journal of Women, Politics, and Policy* 38 (4): 430–55. https://doi.org/10.1080/1554477X.2016.1268871.

Appendix

Table A1. Keywords for COVID Relevant Tweets

Key Words	# of Tweets with Key Word	# of Hashtags with Key Word
COVID	16,103	11,053
Coronavirus	11,551	5,236
Pandemic	6,345	226
CAREs	3,180	1,276
PPP	1,315	687
Stimulus	1,328	76
FFCRA	0	0
Families First	656	474

We replaced all capital letters in the tweets with lower case letters so that our searches were not cap sensitive.

Table A2. Keywords for Frontline and Essential Worker Relevant Tweets

Key Words	# of Tweets with Key Word	# of Hashtags with Key Word
Frontline	1,435	31
Front-line	121	0
Essential	1,717	1
Healthcare	1,720	101
Health Care	3,365	0
Health Work	191	0
Workforce	313	0
Protectessentialworkers	0	20

We replaced all capital letters in the tweets with lower case letters so that our searches were not cap sensitive.