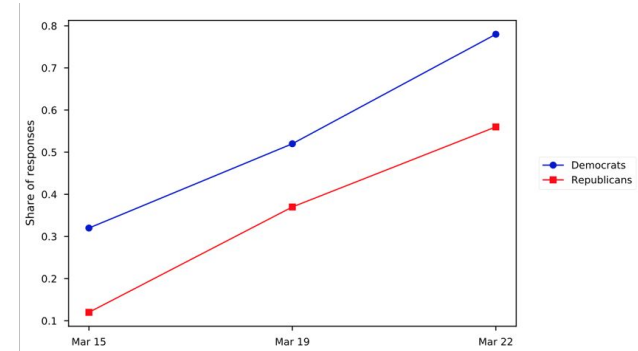


Politicization of covid-19 information matches trends in the partisan divide in social distancing in the US

Annie Chen, Yingying Chen, Annie Stephenson, Voltaire Vergara
Ic2s2 Datathon 2021

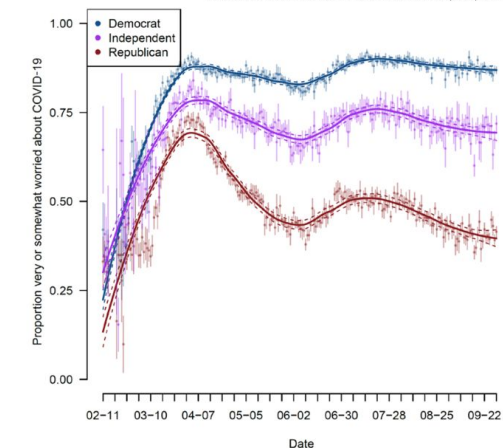
Data suggests there is a partisan difference in social distancing behavior

Survey data shows Democrats claim to avoid gatherings at a higher rate than Republicans



H. Allcott et al. / Journal of Public Economics 191 (2020) 104254

Another survey showed that Democrats tend to be more worried about COVID-19 than Republicans



Clinton et al., Sci. Adv. 2021; 7 : eabd7204

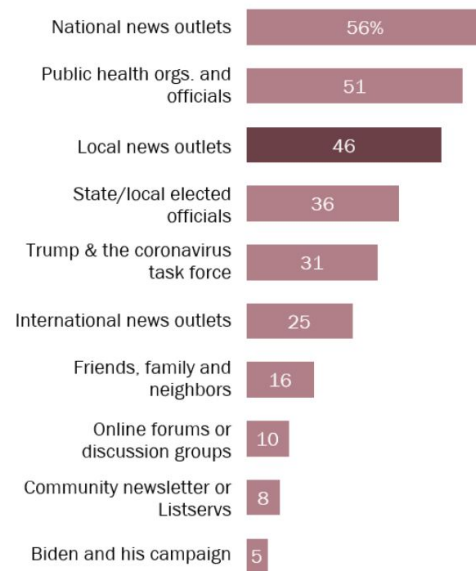
News media consumption seems to play a role in explaining the partisan difference in social distancing

A few studies have paid attention to news consumption to explain the origins of partisan difference.

1. The public turned to news media to seek information about the pandemic during the public health crisis (Dhanani LY et al., 2020)
2. Republicans who showed lower levels of concern have more consumption of Fox news (Clinton et al., 2021)
3. Inconsistent findings about the role of news consumption in explaining the partisan gap (Gadarian et al., 2021)

Nearly half of Americans say local news outlets are a major source of news about the coronavirus outbreak

% of U.S. adults who say ____ is/are a major source for news about the coronavirus outbreak



Source: Survey of U.S. adults conducted April 20-26, 2020.

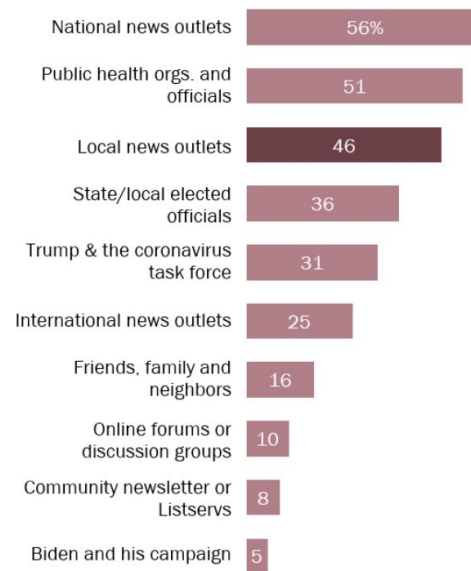
PEW RESEARCH CENTER

However, only looking at the news consumption is not enough to understand the partisan difference.

- The public receive Covid-19 information from both news media and social media.
- The production and circulation of Covid-19 information are highly politicized.

Nearly half of Americans say local news outlets are a major source of news about the coronavirus outbreak

% of U.S. adults who say ____ is/are a major source for news about the coronavirus outbreak

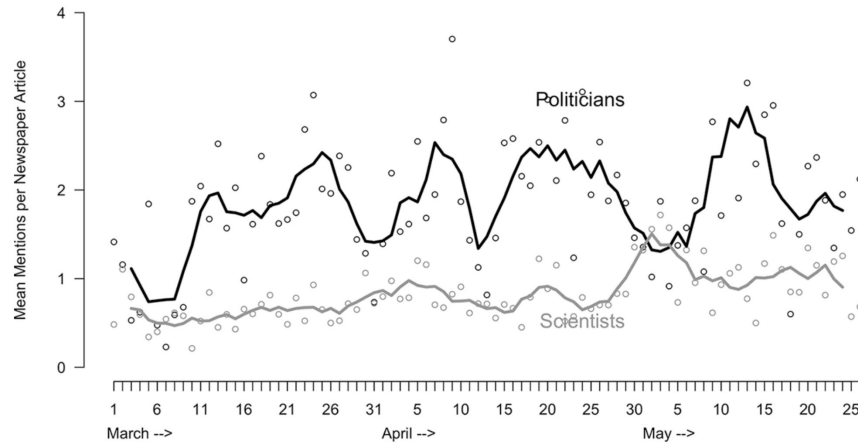


Source: Survey of U.S. adults conducted April 20-26, 2020.

PEW RESEARCH CENTER

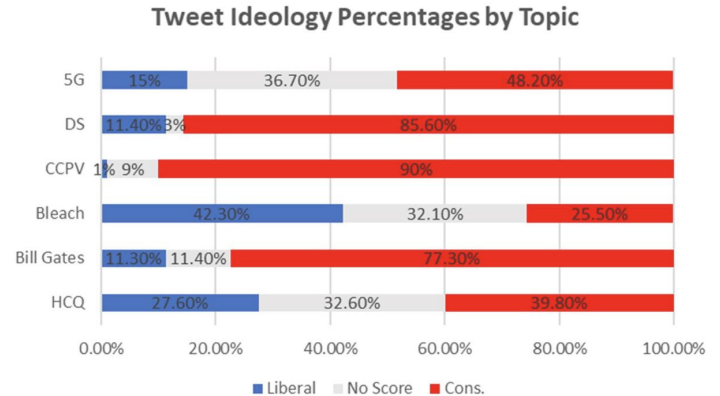
News and Social Media on Covid-19 is Highly Politicized

The production of politicized news reports related to the Covid-19 (Hart et al., 2021).



Hart et al., 2021

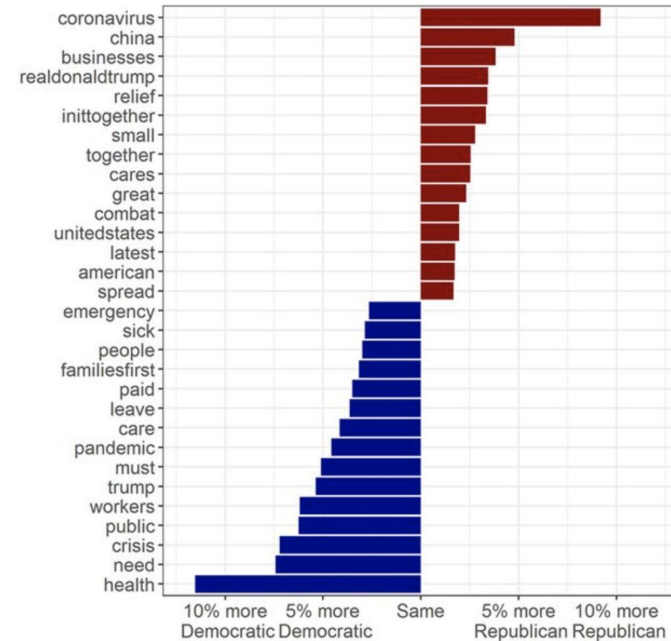
Conservatives are the major spreaders of fake news about the pandemic on Twitter (Havey, 2020).



Havey, 2020

Cues from political elites on Twitter may also influence social distancing behavior

- Political elites have different emphasis about the pandemic (Green et al., 2020)
- Cues from political elites are a major predictor of public opinion towards science issues (Carmichael et al., 2017) and the political polarization over science (Rekker, 2021).



B Absolute difference in words used by party

We aim to understand how politicization of information is related to the partisan difference in social distancing

In other words, will the politicization of information be a potential explanation to the partisan difference?

To make progress toward answering this broad question, we investigate:

1. The partisan difference in social distancing behavior
2. How politicized Covid-19 news from partisan media relates to social distancing
3. How Covid-related information from political elites on social media relates to social distancing

We use a variety of data sources to address our questions from different perspectives

Google Mobility Data

- We use mobility data as a proxy for social distancing (see Allcott et. al. 2020 Journal of Public Economics 191)
- Uses GPS data to show how visits or length of stay to places, such as grocery stores and parks, are changing in each geographic region

Media Cloud

- Collections for sources tweeted mostly left leaning individuals and sources tweeted mostly by right leaning individuals

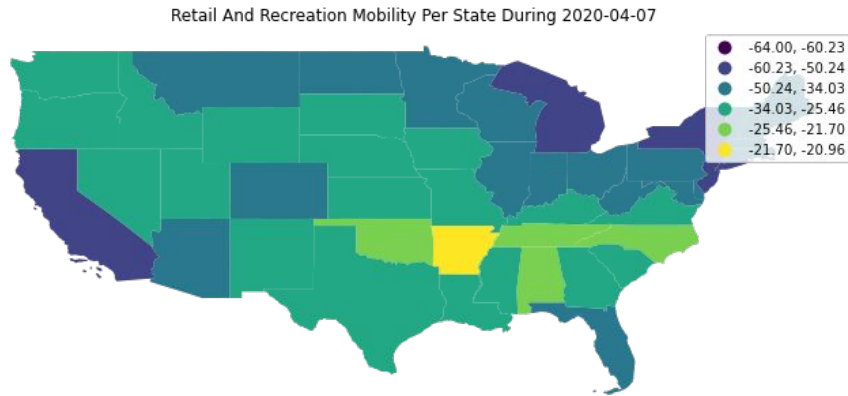
Twitter

- Brand Watch: Twitter Firehose data, tweets in English from the U.S. accounts
- Tweets from state legislators

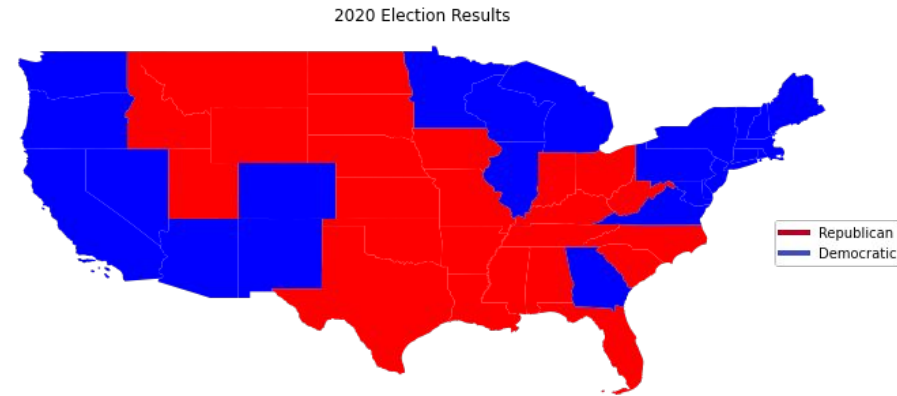
Sampling time: 2/15/2020 - 12/19/2020

Partisan Difference In Mobility

State mobility rates and state political party preference appear to be linked.

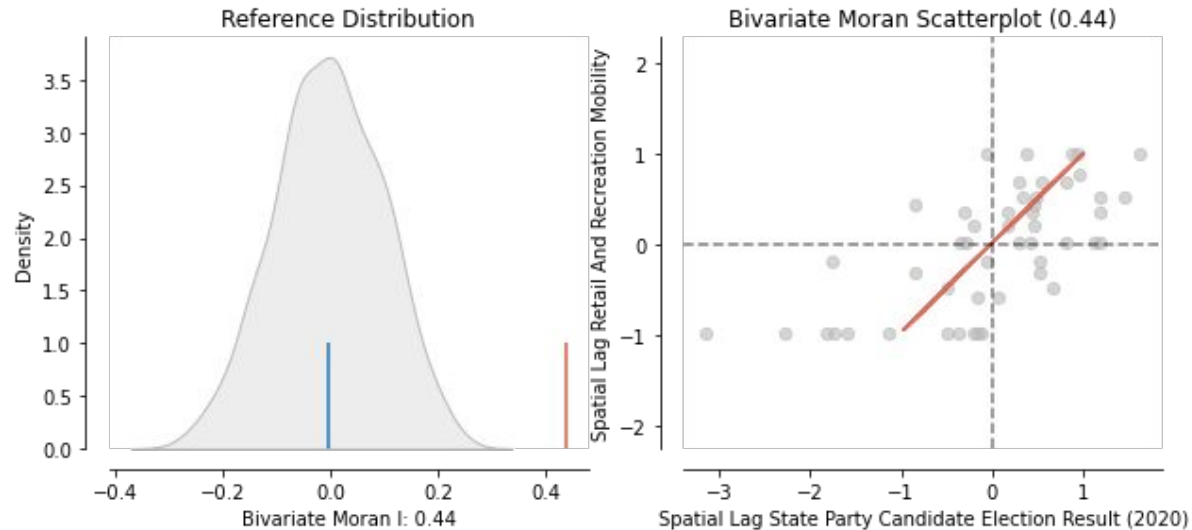


Dark blue is low mobility,
yellow is high mobility



We restrict our analysis to Feb 15, 2020 - Dec 19, 2020
to avoid the effects of vaccine availability on social distancing

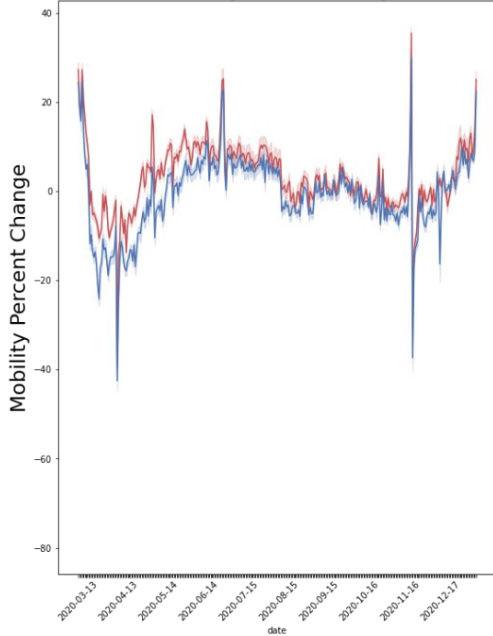
High retail and recreational mobility values statistically cluster with republican states, whereas low values of social mobility cluster with democratic states during the pandemic



$\alpha = .05$
 $P\text{-value} = .001$

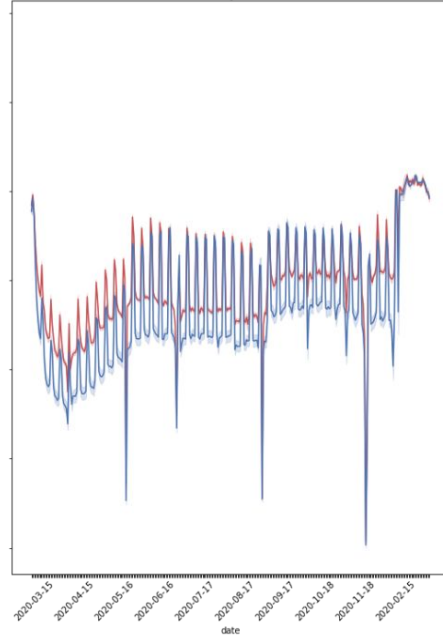
Across time, mobility for red states is higher than that of blue states, for various mobility categories

Grocery and Pharmacy



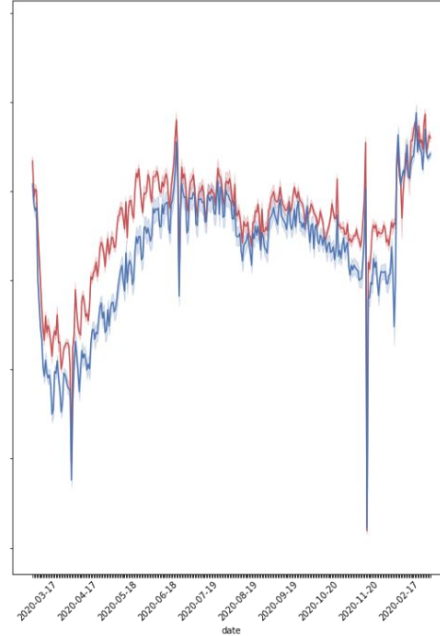
Mobility trends for grocery markets, food warehouses, farmers markets etc.

Workplace



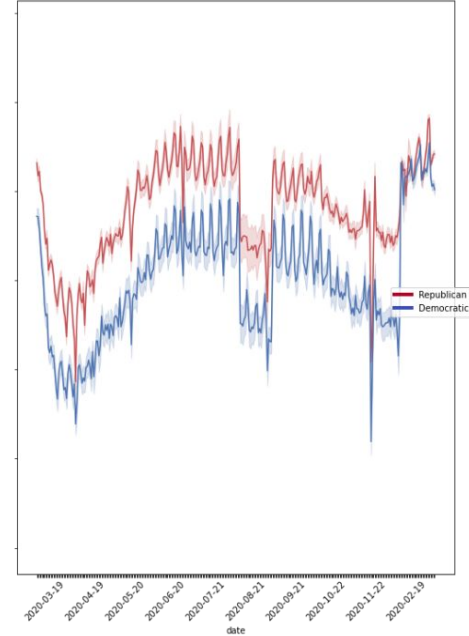
Mobility trends for places of work

Retail and Recreation



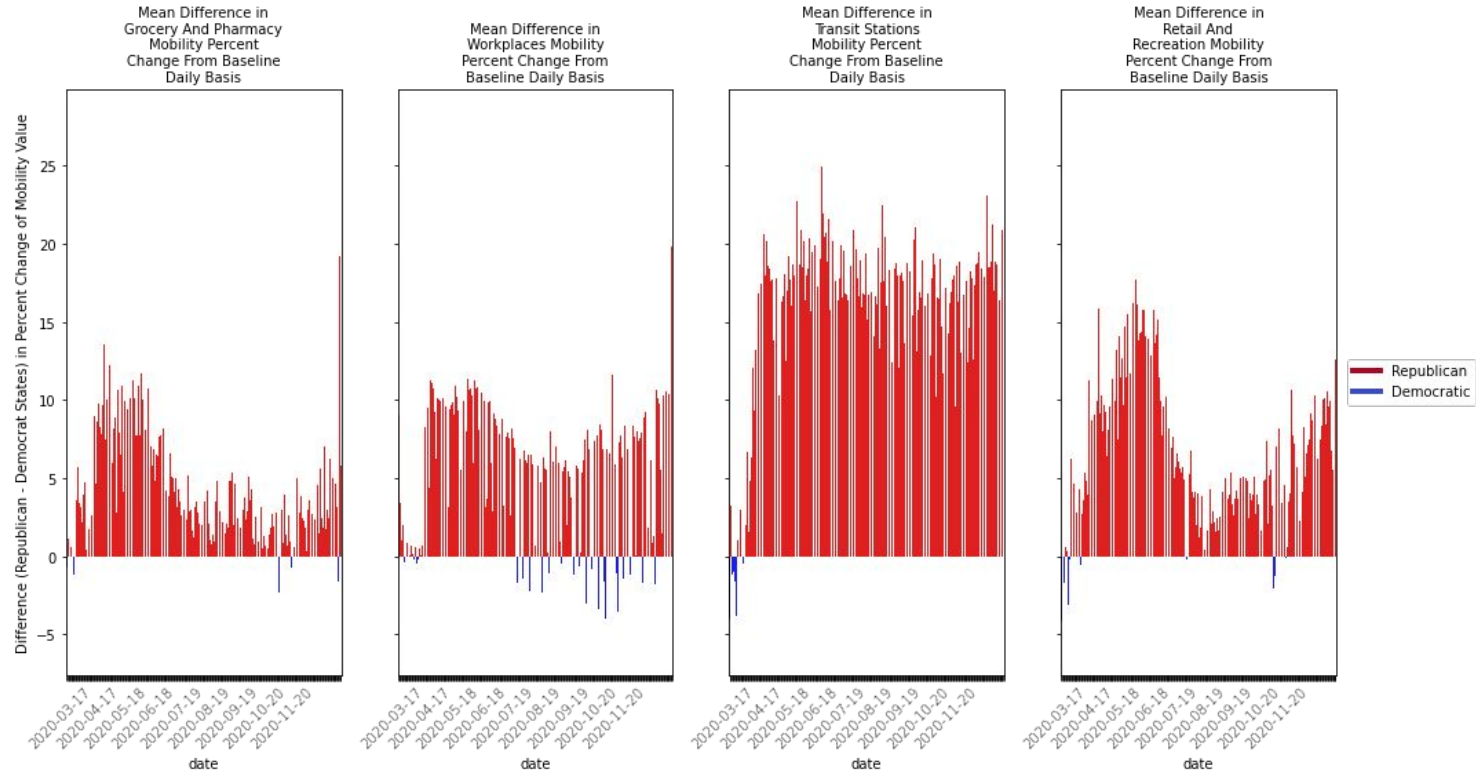
Mobility trends for restaurants, cafes, shopping-centers, theme parks, museums, etc.

Transit Stations



Mobility trends for public transport hubs such as subway, bus, and train stations.

The mean difference in mobility patterns between republican and democratic states is often greater for republican states than democratic states.



Potential Causes Of Divide In Mobility
Across Partisanship: Partisan Media

To examine the politicization of news and social media, we searched for stories containing words related to Covid-19, and political words versus science words

We used the dictionary from Hart et al. as our keyword search method.

In this method, political words (e.g. Republican, Democrat) are treated evidence that the story is politicized, while scientific words (e.g. Scientist) are treated as evidence that the story is not political and instead focuses on science

To avoid stories with a mix of political and scientific tilt, we excluded those with both political and scientific words

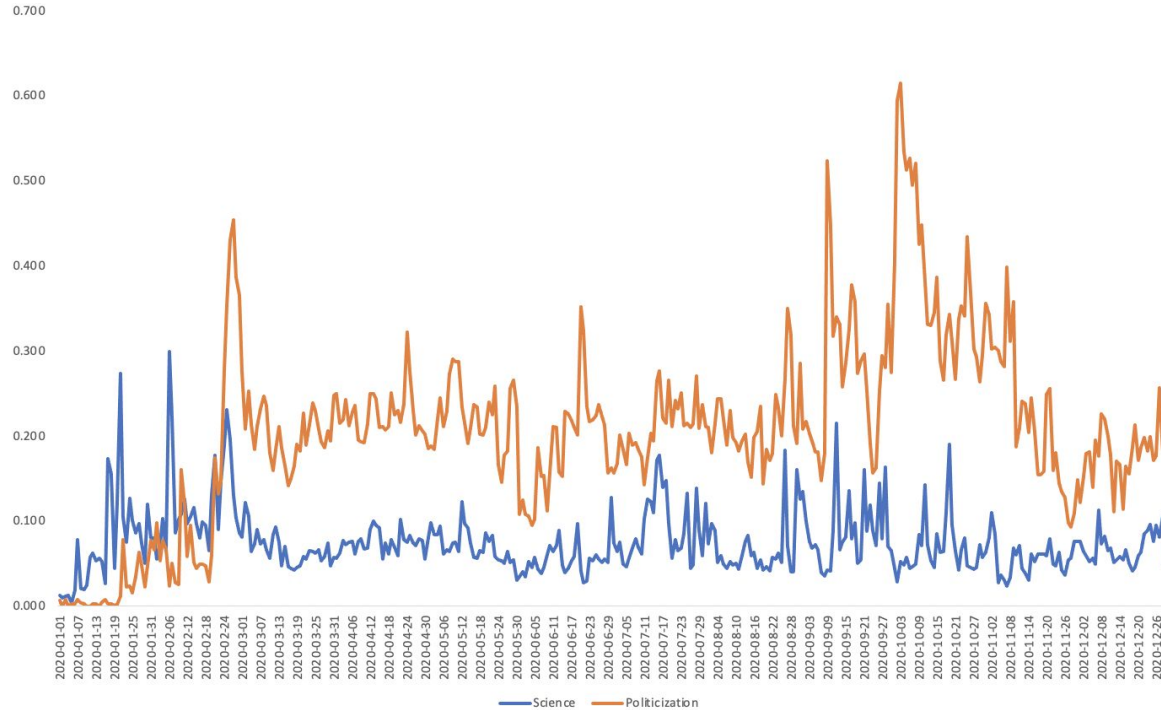
We used the mediacloud.org database for all news searches

Table 1. Dictionaries.

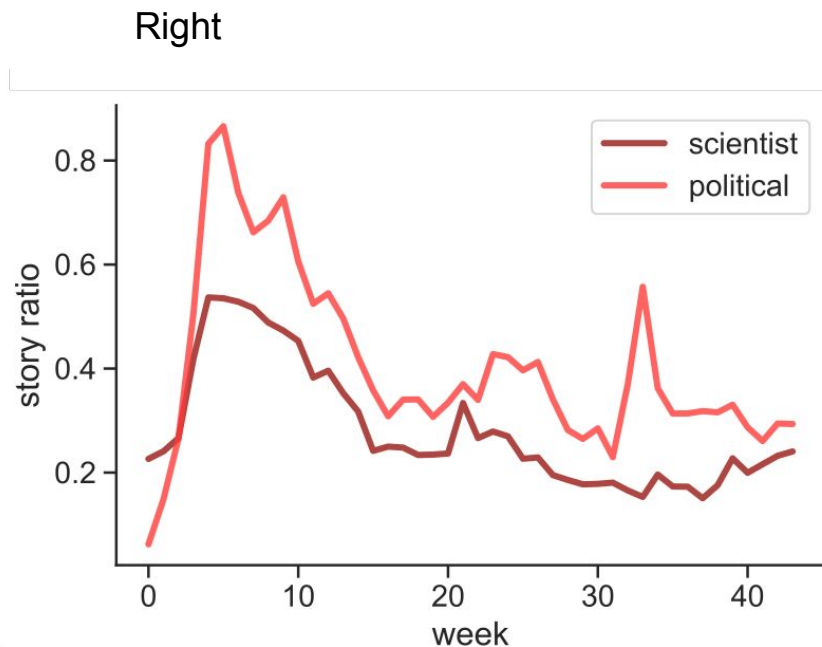
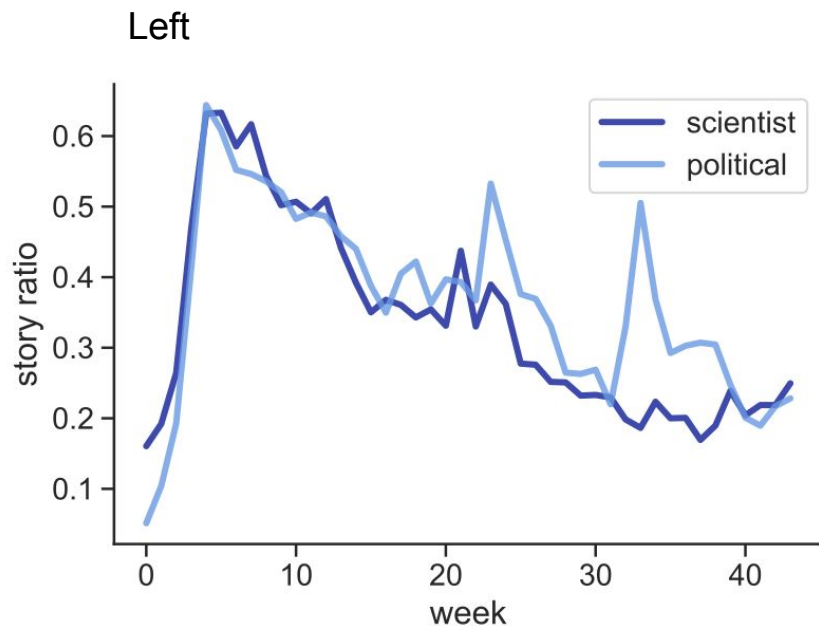
| Dictionary | Words |
|------------|--|
| Covid-19 | “corona,” “coronavirus,” “covid” |
| Scientist | [“scientist,” “research,” “professor,”], “health official,” “doctor,” “dr,” “health commission,” “expert,” “health leader,” “health service,” “health authorit,” “world health organization,” “centers for disease control and prevention,” “cdc,” “national institutes of health,” “health and human services,” “mayo clinic,” “johns hopkins,” “fauci,” “birx,” “tedros” |
| Republican | [“republican,” “gop,” “conservative,”], “trump,” “pence,” “mcconnell,” “white house,” “administration” |
| Democrat | [“democrat,” “liberal,” “progressives,”], “pelosi,” “schumer,” “biden,” “obama,” “newsom,” “whitmer,” “cuomo,” “biden,” “sanders” |

Note. Words in brackets make up the general dictionary developed by Chinn et al. (2020). The targeted dictionary includes these words and adds the additional words listed by category.

More Covid-19 related Tweets mentioned science at the beginning of the pandemic, but many more mentioned words about politics starting at the end of February



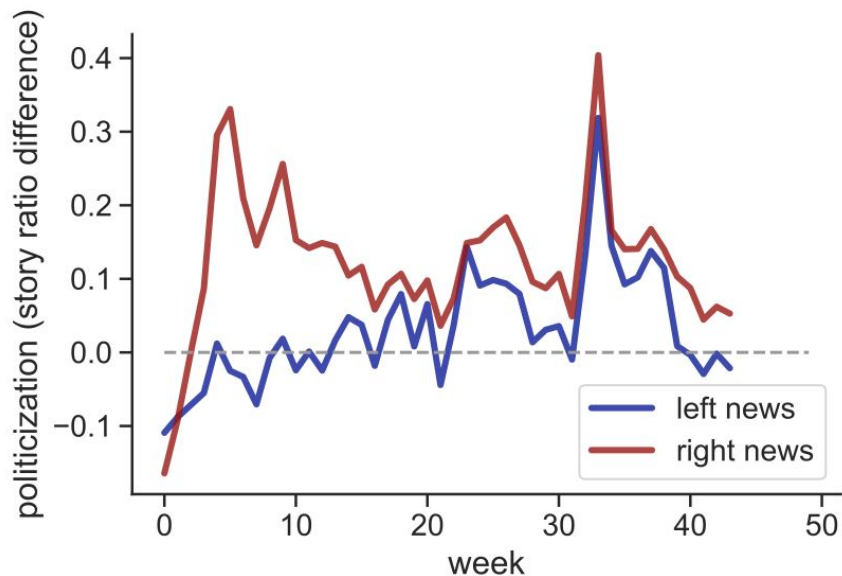
When reporting on covid, popular right news sources have a higher ratio of politicized stories compared to science-based stories



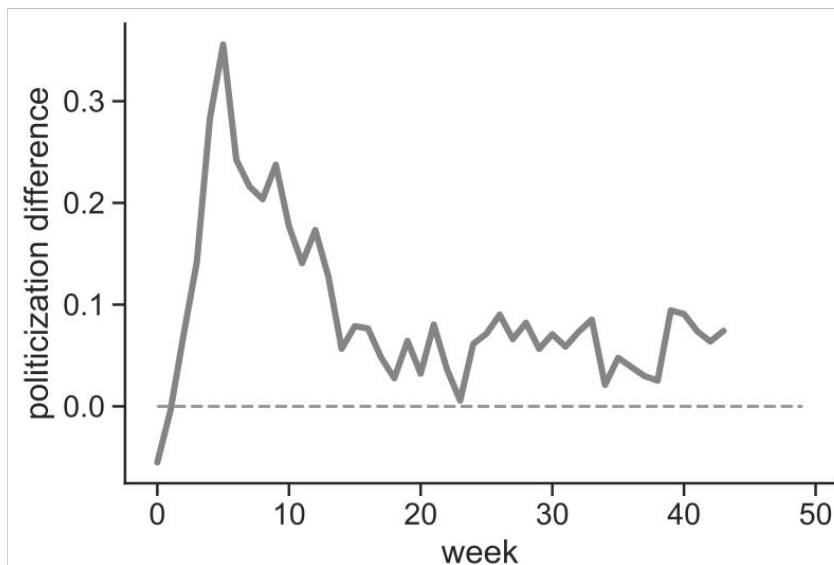
Left and right news is identified based on collections from [mediacloud.org](https://sources.mediacloud.org/#/collections/200363061)
These collections contain media for which url sharing on twitter is aligned with the US left or right
see: <https://sources.mediacloud.org/#/collections/200363061>

The difference in politicization between right and left news sources shows a peak around week 5 that gradually falls

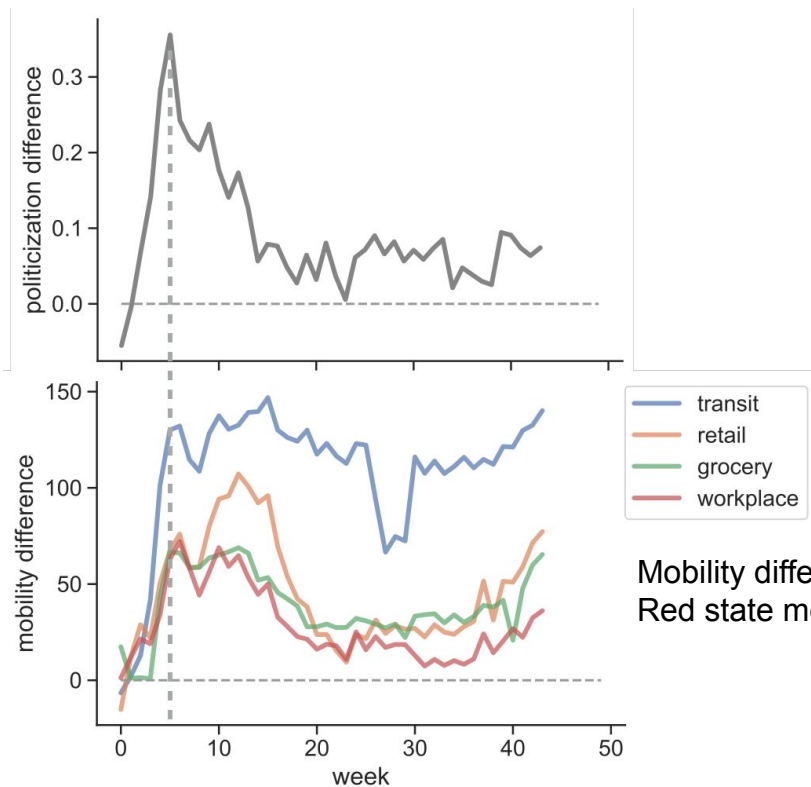
We define a measure of politicization as:
Political story ratio - science story ratio



We then define the politicization difference as:
Right politicization - Left politicization

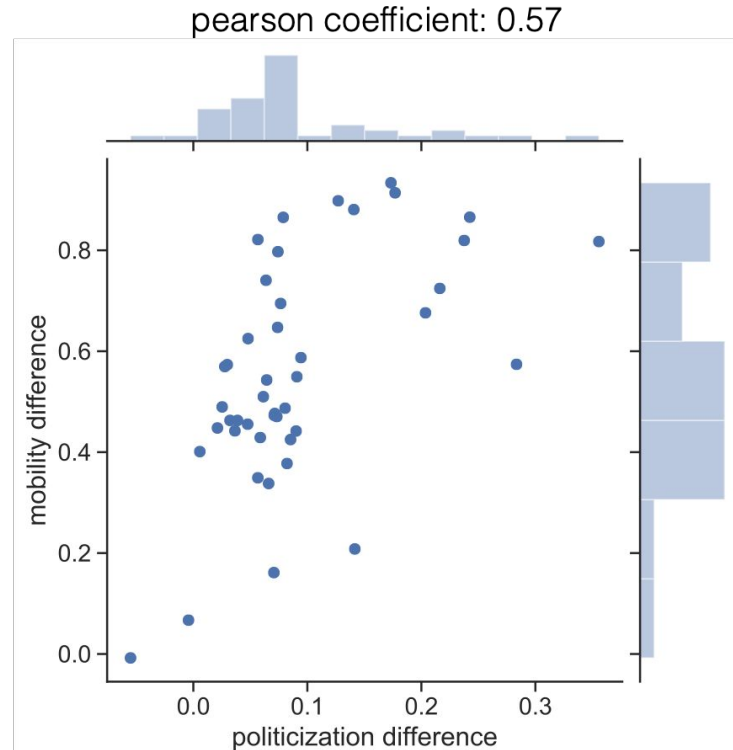
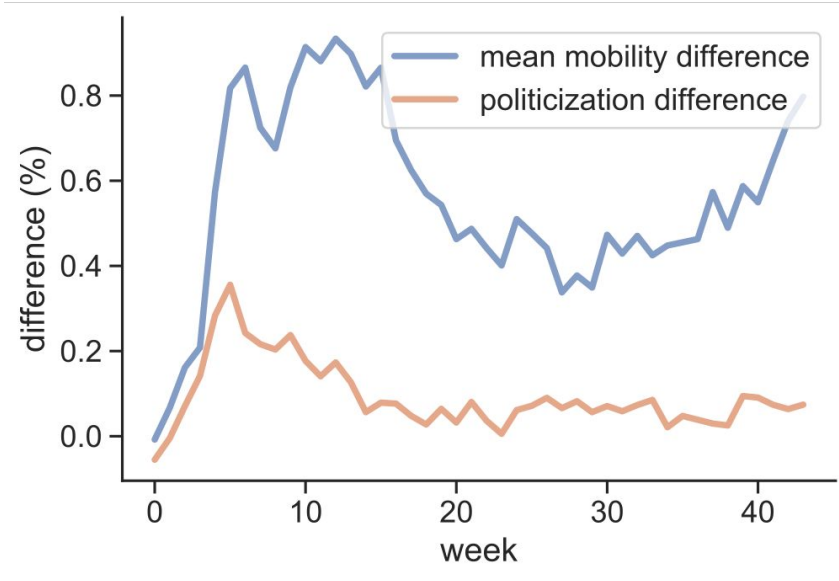


Difference in mobility between left and right states
also shows a peak around the same time



Mobility difference:
Red state mean mobility - Blue state mean mobility

The mean mobility difference between blue and red states and the mean politicization difference between left and right news shows a qualitatively similar trend over time



Potential Causes Of Divide In Mobility Across Partisanship: Political Elites on Twitter

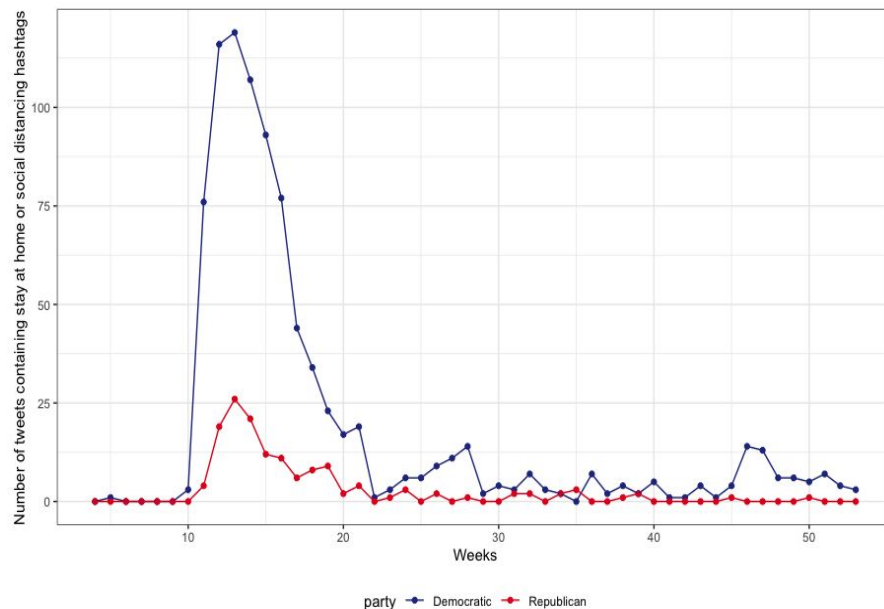
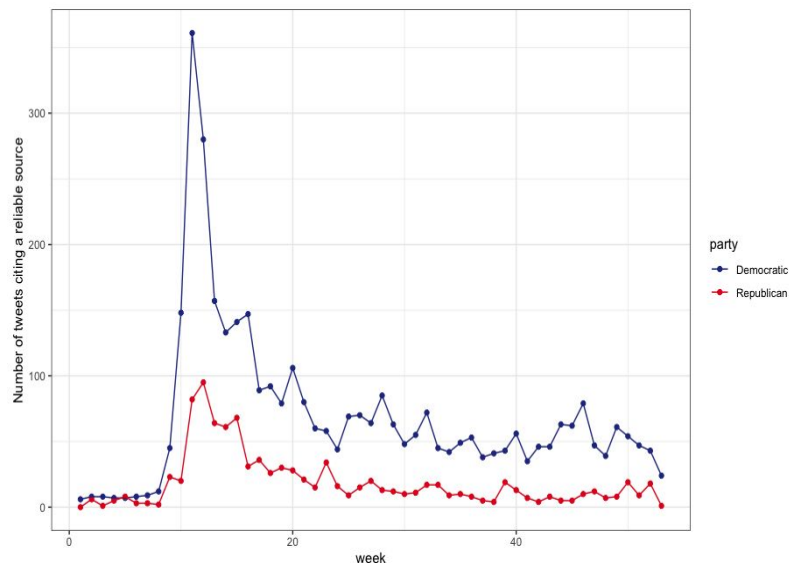
Could political elites be exacerbating partisan divisions in mobility patterns?

Method:

1. Collected the Twitter handles of all state legislators (found 5,234 of 7,383 total legislators)
2. Scraped all the tweets that were posted in 2020
3. Collected the Twitter accounts for government health agencies (i.e., all state health departments, the CDC, and the WHO)
4. Searched for mentions of these accounts in legislators' tweets, as well as hashtags related to social distancing measures

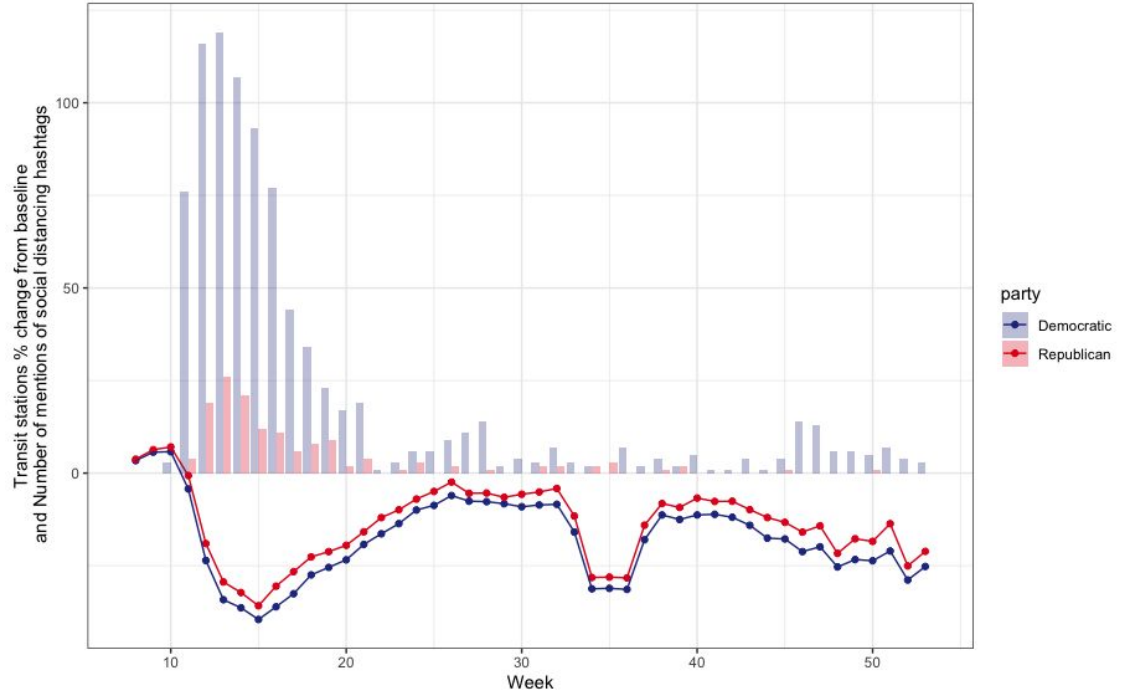
Differences in elite messaging on COVID-19

- (A) Democrats generally tweet more reliable sources of information from government agencies than Republicans.
- (B) Democratic elites use distancing hashtags (i.e., #stayathome, #togetherathome) more often



Follow the leader

- Most tweets about social distancing peak at the height of lockdown
- Democratic legislators continue to tweet about distancing measures throughout the year
- Roughly correlates with mobility patterns



Our goal was to understand how politicization of information is related to the partisan difference in social distancing

What we've investigated and learned:

1. The partisan difference in social distancing behavior

There is a partisan difference in mobility patterns, shown by comparing mean mobilities across blue and red states

2. How politicized Covid-19 news partisan media relates to social distancing

The partisan difference in mobility patterns is correlated to the difference in politicization between right and left news sources

3. How Covid-related information from political elites on social media relates to social distancing

Democrats tend to tweet scientific sources more often and use social distancing hashtags more often than Republicans, and the frequency of social distancing hashtag use roughly correlates with lower mobility rates

Futures studies

- Include more control variables (weather, infected and death cases, seasonality, population, rural/urban)
- Build a causal inference model to see which factors most predict the partisan divide in social distancing
- Build an agent-based model to investigate how news and social media affect individuals to lead to the divide in social distancing
- Investigate what factors can reduce the partisan divide in distancing
- Perform a cross-country comparison

APPENDIX/EXTRA SLIDES

Social distancing hashtags:

"#stayhome",

"#staysafe",

"#quarantine",

"#stayhealthy",

"#stayathome",

"#safehands",

"#togetherathome",

"#socialdistancing",

"#quarantinelifelife",

"#stayhomestaysafe",

"#flattenthecurve",

"#quarentineandchill"

APPENDIX/EXTRA SLIDES

U.S. public health agencies

- [1] "World Health Organization"
- [2] "Center for Disease Control"
- [3] "Department of Health"
- [4] "National Institute of Allergy and Infectious Diseases"
- [5] "National Institutes of Health"
- [6] "Alabama Department of Health"
- [7] "Alaska Department of Health"
- [8] "Arizona Department of Health"
- [9] "Arkansas Department of Health"
- [10] "California Department of Health"
- [11] "Colorado Department of Health"
- [12] "Connecticut Department of Health"
- [13] "Delaware Department of Health"
- [14] "Florida Department of Health"
- [15] "Georgia Department of Health"
- [16] "Hawaii Department of Health"
- [17] "Idaho Department of Health"
- [18] "Illinois Department of Health"
- [19] "Indiana Department of Health"
- [20] "Iowa Department of Health"
- [21] "Kansas Department of Health"
- [22] "Kentucky Department of Health"
- [23] "Louisiana Department of Health"
- [24] "Maine Department of Health"
- [25] "Maryland Department of Health"
- [26] "Massachusetts Department of Health"
- [27] "Michigan Department of Health"
- [28] "Minnesota Department of Health"
- [29] "Mississippi Department of Health"
- [30] "Missouri Department of Health"
- [31] "Montana Department of Health"
- [32] "Nebraska Department of Health"
- [33] "Nevada Department of Health"
- [34] "Nevada Health Response Center"
- [35] "New Hampshire Department of Health"
- [36] "New Jersey Department of Health"
- [37] "New Mexico Department of Health"
- [38] "NY Department of Health"
- [39] "North Carolina Department of Health"
- [40] "North Dakota Department of Health"
- [41] "Ohio Department of Health"
- [42] "Oklahoma Department of Health"
- [43] "Oregon Department of Health"
- [44] "Pennsylvania Department of Health"
- [45] "Rhode Island Department of Health"
- [46] "South Carolina Department of Health"
- [47] "South Dakota Department of Health"
- [48] "Tennessee Department of Health"
- [49] "Texas Department of Health"
- [50] "Utah Department of Health"
- [51] "Vermont Department of Health"
- [52] "Virginia Department of Health"
- [53] "Washington Department of Health"
- [54] "West Virginia Department of Health"
- [55] "Wisconsin Department of Health"
- [56] "Wyoming Department of Health"

APPENDIX/EXTRA SLIDES

Boolean search queries for mediacloud search

Politicization: ("corona"OR"coronavirus"OR"covid") AND ("republican" OR "gop"OR "conservative" OR "trump" OR "pence" OR "mcconnell" OR "white house" OR "administration" OR "democrat" OR"liberal" OR "progressives" OR "pelosi" OR "schumer" OR "biden" OR "obama" OR "newsom" OR "whitmer" OR "cuomo" OR "biden" OR "sanders")

Science: ("corona"OR"coronavirus"OR"covid") AND ("scientist" OR "research" OR "professor*" OR "health official" OR "doctor" OR "dr" OR "health commission" OR "expert" OR "health leader" OR "health service" OR "health authority" OR "world health organization" OR "centers for disease control and prevention" OR "cdc" OR "national institutes of health" OR "health and human services" OR "mayo clinic" OR "johns hopkins" OR "fauci" OR "birx" OR "tedros")