

#Polarized2020: Division and Duress in Policy Responses to COVID-19

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*Chaos: COVID-19*

*Mitigating the Spread of COVID-19: The Science*

Initially, the specific nature of COVID-19 was not fully understood beyond the knowledge that it was similar to previously encountered strains of the SARS virus. As such, early recommendations from the scientific community were somewhat mixed and in some cases inconsistent. However, several recommended types of mitigation techniques gained prominence and began to be widely communicated by both the U.S. Center for Disease Control (CDC) and the World Health Organization (WHO) in early 2020.

There has been general guidance from the CDC and WHO on preventative measures people can take to slow the spread of the disease and avoid infection. The experts advise people to wash their hands regularly with soap and water for twenty seconds each time. If soap and water is not readily available, people are advised to use hand sanitizer as a substitute. Additional guidance has included; coughing or sneezing into your elbow or sleeve vs. your hands, avoid touching your face, stay home and isolate yourself if you feel sick, and practicing physical distancing by avoiding large groups of people and reducing/restricting travel to areas with a high infection rate (Center for Disease Control).

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healthy, work to engage in schooling from home when possible. Avoid gathering in groups of more than ten people. Avoid discretionary travel. And avoid eating and drinking at bars, restaurants and public food courts. If everyone makes this change or these critical changes and sacrifices now, we will rally together as one nation and we will defeat the virus (Gittleson). At this moment in time, cities, counties, and states around the country began to roll out and impose strict, lock down orders.

From Mid-March to late April, 2020, it appeared that both Republican and Democrat politicians could agree on something: shelter in place and physical distancing would slow the spread of the disease. Still, many Democrat leaders, such as House Speaker Nancy Pelosi and Senate Minority Leader Chuck Schumer, forwarded a narrative accusing the president and his administration of failing to act swiftly enough and touted his handling of the pandemic as far less than adequate (Stolberg). Pelosi and Schumer criticized [redacted] for not doing enough to ramp up testing, enforce shelter in place orders, and ramp up production of ventilators and personal protective equipment for healthcare workers (Stolberg). Additionally, Pelosi and Schumer argued that the President was setting a poor example for all Americans due to his habit of appearing before the country without a face covering or mask, in contrast to CDC recommendations that wearing a face mask can help slow the spread of the disease (Centers for Disease Control).

As Democratic leadership and liberal media outlets strongly criticized the president and [redacted] -19, Donald Trump responded with self-praising statements applauding his own ban on Chinese goods and travel back in mid-January, 2020. He further gave credit to himself stating that his swift, decisive action has saved countless American lives (Keith). He touted from his bully pulpit that the United States was the

most prepared country in the world and his administration was handling the pandemic better than anyone else could, including his predecessor, Democrat Barack Obama (Burns). I



Another study by four members of different departments at the University of Pennsylvania titled,







U.S. adults if wearing face masks during travel on airplanes and public transportation was necessary to reduce the spread of COVID-19. 72% of Republicans felt it was necessary and an astounding 96% of Democrats stated it was a necessity. Although this is still a 24% difference based on political ideology, a vast majority of the population seems to have formed some type of agreement when it comes to mask wearing on planes and other forms of transportation.

[Insert Graphic 2.1]

[Insert Graphic 2.2]

In addition, a timeline poll asking Democrats and Republicans whether or not they regularly wear masks in stores or businesses netted a similar outcome (Image 2b). The poll, conducted by the Pew Research Center in June of 2020, showed 53% of Republicans and 76% of Democrats always or most of the time wore masks in stores. By February of 2021, the poll found that 83% of Republicans wore masks in stores and 93% of Democrats comply with this mitigation measure. These polls suggest or business has drastically increased over the past year. Based on these more recent surveys, it appears that the constant push by politicians and the news media from June 2020 to February suggest that these higher numbers indicate a desire or positive attitude towards wearing a mask, , and medical elites.

The news media and politicians have a great effect on how people view the pandemic and how it is being handled. With such contrasting id

citizens. Due to these unprecedented circumstances and times, it appears clear that partisan framing of the Coronavirus pandemic by political and media elites has increased politically polarized responses in the electorate.

### **Survey: Policy Responses to COVID-19**

The *Policy Responses to COVID-19* survey is an original and IRB approved survey consisting of 38 questions designed to measure the types of variables that may influence a  
alternatives for addressing the  
COVID-19 pandemic. The main mechanic for measuring this sentiment involved capturing

agree). Respondents were presented with several statements made by Donald Trump, Joe Biden, and Anthony Fauci during 2020 regarding proper steps for addressing COVID-19. However, respondents were randomly assigned to two groups: a control group and a test group. In both groups, some deception was used in statement attribution in order to isolate the effects of elite cues as well as of priming.

hundred students enrolled in Introduction to American Government courses spanning two semesters (Fall, 2020, and Spring, 2021).

The control group was provided with twelve statements regarding proper policy responses to COVID-19. The control group was designed to both provide a baseline for the test group as well as to isolate a baseline for measuring the priming effect. Four statements were correctly attributed to Donald Trump and two statements were attributed to Donald Trump but

were in fact made by Anthony Fauci; similarly, four statements were correctly attributed to Joe Biden and two statements were attributed to Joe Biden but were in fact made by Anthony Fauci.

The test group was designed to provide a comparison to the results obtained in the control group by extending the deception in speaker attribution to include all twelve statements. Four statements were attributed to Donald Trump but were in fact made by Joe Biden and two statements were attributed to Donald Trump but were in fact made by Anthony Fauci; similarly, four statements were attributed to Joe Biden but were in fact made by Donald Trump and two statements were attributed to Joe Biden but were in fact made by Anthony Fauci.

The survey measured a full battery of variables intended for use both as independent variables and as control variables in a series of OLS regression models for hypothesis testing. Additionally, a number of other questions were asked to gather further data that can be used in future studies. These questions included measurements of internal and external political efficacy; trust in the media, politicians, and government; and the extent of media consumption in using both traditional/mainstream outlets and alternative/social media platforms. As noted above, we believe these additional data points significantly increase the utility value of this survey for use by other academics in their own future research.

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### **Research Question**

person agrees or disagrees with a political elite who shares their ideological leanings. Further, we expect that emotional assessments of political elites will have similar influences.

Donald Trump and Joe Biden should increase as proximity to Election Day draws closer, while no noticeable changes should be evident in discussion about Anthony Fauci. Last, we expect that under conditions of high negative sentiment, politically polarized messages will be less central to discussion within a network than messages centering on medical concerns related to COVID-19. In other words, we expect to see potentially polarizing messages to be sequestered on the perimeters of the network, where the potential audience is more limited in scope even if it is crowded with participants. Conversely, we expect to see less polarizing messages to be centrally located within the network, where the potential audience is far more broad in terms of potential readers. Simply put, when it comes to messages that are more likely to be seen by a wider range of participants in a Twitter network, we anticipate that science will trump politics even during periods of elevated affect.

## **Methods**

One method for testing our expectations was the use of OLS regression, although the data provided through the *Policy Responses to COVID-19* survey will allow for a wide range of other tests to be performed. For the purpose of addressing our research question, we ran eight individual regression functions using a set of four dependent variables from both the control and test survey data sets, as well as 15 independent and control variables:

Dependent Variables	Measurement
Statement attributed to Donald Trump and made by Donald Trump	<b>Control Group</b> 1: Strongly Disagree to 100: Strongly Agree
Statement attributed to Donald Trump and made by Anthony Fauci	
Statement attributed to Joe Biden and made by Joe Biden	
Statement attributed to Joe Biden and made by Anthony Fauci	
Statement attributed to Donald Trump and made by Joe Biden	<b>Test Group</b> 1: Strongly Disagree to 100: Strongly Agree
Statement attributed to Donald Trump and made by Anthony Fauci	
Statement attributed to Joe Biden and made by Donald Trump	
Statement attributed to Joe Biden and made by Anthony Fauci	

Independent variables included feeling towards Donald Trump, Joe Biden, Fox News, and CNN (1 very cold to 7 very warm); ideological self-placement (1 strong liberal to 7 strong conservative); party identification (1 strong Democrat to 7 strong Republican); gender; age group (in 10-year increments); education level (no high school, finished high school, some college, bache looking, not employed/looking, part time, full time); income level (\$25k increments to \$100+); and race represented as a dummy variable (0 for no, 1 for yes) including the self-identification of White, Black, Hispanic, and Asian. The full results for the four OLS regressions from the Control Group and four OLS regressions from the Test Group are provided in Tables 1.1 through 2.4 in the Appendix.

[Insert Table 1.1; Table 1.2; Table 1.3; Table 1.4; Table 2.1; Table 2.2; Table 2.3; Table 2.4]

For the purpose of testing our expectations regarding the prevalence and effects of affective language in social networks over time, we draw upon a collection of approximately 30



the 2020 presidential election. These tweets were captured using a Live Stream API interface in the popular data mining software application NodeXL Pro, then filtered to create three subsets of

analysis to identify positive and negative language, drawing upon a sentiment dictionary of over 7,000 words.

For the purpose of testing our expectations regarding the combined influences of priming and mass tease out these influences by measuring the comparative effects between control and test groups. Since participants in both the





s never provided to respondents as a prompt for

(Trump and Biden).

Whereas our first set of observations sought to isolate the combined influences of priming and mass polarization through the examination of summary data, our second set of observations sought to isolate the combined influences of priming and affective polarization. Rather than using ideological self-placement as our main independent variable, we drew upon -reported feelings towards Joe Biden and Donald Trump.

[Insert Table 2.1 and Table 2.2]

Using this data, we applied the same proposed theoretical model as used in the first round of observations. Unfortunately, two of the 16 data points did not meet the 95% confidence interval, so the statistical significance of these results cannot be confirmed. However, we felt there was still value in applying the results to our proposed theoretical model if for no other reason than to demonstrate a proof of concept.

[Insert Image 3.1]

As was the case in our first round of observations which used ideological self-placement, we found similar differences in disagreement with Fauci statements among those with warmer

feeling towards Trump when compared to those with warmer feelings towards Biden. (It should be restated that respondents were never told the statements were actually made by Fauci).

When comparing the effects of warm feelings towards Trump on the acceptance of identical Fauci statements, there was a stronger correlation (4.672) between warmth towards Trump and agreement with statements made by Fauci but attributed to Trump (in the control group) compared to the correlation (2.099) between warmth towards Trump and agreement with the same statements made by Fauci but attributed to Biden (in the test group). The control group was primed with Trump statements, while the test group was primed with Biden statements yet both groups were told the statements were made by Trump. We calculated this difference as a median effect of 3.385, meaning when primed with an alleged Trump statement, as a respondent moved from 1 to 7 on the \_\_\_\_\_ scale, their acceptance of Fauci quotes attributed to Trump increased by 3.385 points.

Warmth towards Trump decreased the likelihood (-4.087) that respondents would agree with statements attributed to Biden but made by Fauci when primed with correctly attributed Biden statements (-3.863), while when primed with statements attributed to Trump but made by Biden (2.099) the likelihood of agreeing with Fauci statements attributed to Trump was -0.924. We calculated this difference as a median effect of -0.206, meaning when primed with an alleged Biden \_\_\_\_\_ scale, their acceptance of Fauci quotes attributed to Biden decreased by 0.206 points.

When comparing the two median effects, we argue there is evidence that warm feelings towards Trump predict a higher likelihood of respondents accepting Fauci statements attributed

In all observations, respondents' warmth towards Trump predicted positive assessments of Biden statements merely due to being told that Trump made those statements.

[Insert Image 3.2]

When comparing the effects of warm feelings towards Biden on the acceptance of Fauci statements, warmth towards Biden decreased the likelihood that respondents would agree with statements attributed to Fauci but made by Trump when primed with correctly attributed Trump statements (-1.712), yet when provided the same Fauci quotes and being told Biden made them (after being primed with Trump quotes misattributed to Biden), respondents were far more accepting of those same Fauci statements (2.056). We calculated this difference as a median effect of 0.172, meaning when primed with an alleged Trump statement, as a respondent moved attributed to Trump decreased by 0.172 points. Perhaps the bigger story is that as warmth towards Biden increased, respondents went from rejecting Fauci statements attributed to Trump and after being primed by Trump statements to accepting those same statements after being primed by identical Trump statements (attributed to Biden) and being told Biden made the same Fauci statements that were presented to the Control Group.

Warmth towards Biden increased the likelihood that respondents would agree with statements attributed to Biden but made by Fauci (4.791) when primed with correctly attributed Biden statements (6.145) than the rate at which they agreed with identical Fauci statements attributed to Trump (1.574) after being primed with identical statements attributed to Trump but made by Biden (2.143). We calculated this difference as a median effect of 3.183, meaning

feelings towards Biden

3.183 points.

When comparing the two median effects, we argue there is evidence that warm feelings towards Biden predict a higher likelihood of respondents accepting Fauci statements attributed to Trump, than cold feelings predict respondents accepting Fauci statements attributed to Biden. In short, this further perceptions of scientific advice. Interestingly, warm feelings towards Biden appeared to have a stronger effect on this phenomenon than warm feelings towards Trump. This phenomenon can be seen more clearly when comparing the effects of affect on acceptance of Trump and Biden quotes within the control group versus the test group, as well as in comparing the effects of priming on acceptance of Fauci quotes within the control group versus the test group. In short, warmth towards Biden predicted positive assessments of Trump statements merely due to being told that Biden made those statements. These observations strongly suggest affective polarization and priming comb

[Insert Image 3.3, Image 3.4, Image 3.5, and Image 3.6]

### *Testing the Effects of Affect in Social Media Discourse*

The second major element of our research examines the extent to which affective polarization shapes the communications landscape that serves as a platform for discussing COVID-

ation shape our digital

We approach the latter question by first measuring levels of affective language directed

to identify whether levels of affective l



Biden *decreased*. Rates of positive sentiment in tweets mentioning Donald Trump, Joe Biden, and Anthony Fauci were relatively consistent among each other. These observations indicate that at least on one significant level, Anthony Fauci was a stronger catalyst for affective polarization in Twitter discussions about coronavirus than Donald Trump and Joe Biden. In sum, these findings were particularly striking, as they suggest high levels of politicization associated with perceptions of ostensibly science-based policy alternatives (Fauci) compared to policy alternatives that one would expect to be more politicized (Trump and Biden).

[Insert Image 4.2, Image 4.3, Image 4.4, and Image 4.5]

#### *Testing the Effects of Affect in Social Media Networks*

Our final test of social media data focused on approximately 241,000 tweets mentioning <sup>st</sup>, 2020, which was the day of highest negative sentiment in the month leading up to the 2020 Presidential Election. A network visualization was created using the software program Gephi 0.8.2 and the modeling algorithm Force Atlas 2. This ),

retweets,

volume it receives in the form of likes, retweets, and mentions. When the Force Atlas 2

visual map is produced that helps to reveal where various types of discussion are concentrated, the amount of traffic various nodes generate, and the types of themes that are more closely linked with each other. Ultimately, nodes that are located closer to the center of the network are more

likely to be seen by a broader audience, while nodes located at the periphery of the network are less likely to be seen by other participants in the network. The purpose of this test was to identify any high volume areas of significant clustering within the network, as this is an indication of a polarized community. Once any of such clusters were identified, the content of the tweets was analyzed to assess the nature of the tweets (e.g. politically polarized language virus preventative health information). In this network visualization, eight cluster regions were identified as areas of interest.

[Insert Image 5.1 and Image 5.2]

[Insert Image 5.3, Image 5.4, Image 5.5, Image 5.6, Image 5.7, Image 5.8,  
Image 5.9, and Image 5.10]

While the network visualization results were somewhat mixed, the content within these highly concentrated and peripheral clusters mostly supported our initial expectations. Cluster 1 and Cluster 4 documented a study that suggested Trump campaign events. While this may have been true to some extent, the information that suggested







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