PLEASE LET SCIENCE TALK: PRESIDENTIAL SENTIMENT AND THE PUBLIC'S RISK PERCEPTION IN THE ERA OF COVID-19 (MANUSCRIPT SUPPLEMENTARY TABLES)

Methodology

Study 1 Presidential COVID-19 Sentiment

To construct the presidential COVID-19 sentiment (PCS), we filter the former President Trump's tweets by a COVID-19–related keyword list. Specifically, following the COVID-19 related word list of Chen et al. (2020), we summarize all potential COVID-19–related words in social media, as shown in Appendix I. Chen et al. (2020) generates these COVID-19 related keywords by continuously monitoring Twitter's trending topics, keywords, and sources associated with COVID-19 and analysing more than 123 million tweets until 10 June 2020. By filtering the entire President Twitter Archive with these keywords, we obtain 688 of the former President Trump's COVID-19–related tweets.

To conduct a human-level social media sentiment analysis of the former President Trump's tweets, this paper uses Valence Aware Dictionary for sEntiment Reasoning (VADER) to assign a sentiment score to each tweet. VADER is a tool for rule-based sentiment analysis focusing on social media (Hutto and Gilbert, 2014). There are two reasons for using VADER sentimental analysis. First, the main word list of the VADER sentimental analysis is based on well-established baseline lexicons, such as Linguistic Inquiry and Word Count and General Inquirer, in which words are categorized into binary classes (i.e., either positive or negative) according to their context-free semantic orientation. Second, by using grammatical and syntax indicators, VADER sentimental analysis identifies five generalizable heuristics close to the way humans emphasize sentiment intensity, including punctuation, capitalization, intensifiers, contrastive conjunctions, and negation (see https://github.com/cjhutto/vaderSentiment for more details and implementations of these heuristics). These heuristics are more advantageous than the typical bag-of-words models, because they consider how humans express sentiment intensity.

To score an entire social media text, VADER sums the scores of all the words in the VADER lexicon following the aforementioned five heuristics. The sentiment score x is normalized to be between -1 (the most negative) and one (the most positive), as follows:

$$x = \frac{X}{\sqrt{X^2+\alpha}}$$

where X is the compound score (sum of the valence score of both negative and positive words) and α is the normalization constant (with a default value of 15).

Instead of categorizing tweets as either positive, neutral, or negative, we construct our PCS variable by using the daily average compound sentiment score of the former President Trump's COVID–related tweets. The value of the PCS variable thus shows the daily sentiment intensity of the former President Trump's COVID-19 tweets, where a higher value indicates a more positive tone, and a lower value indicates a more negative tone. If there are multiple COVID-related tweets on a given day, we calculate the daily PCS as an average sentiment score of all the COVID-related tweets on this day.

Study 2 Public Risk Perception of COVID-19

In this study, we use data from Google COVID-19 Community Mobility Reports to measure individuals' social distancing behaviour. The residential mobility data include several categories of public mobility information. For example, Google constructs the mobility information on residential places based on the length of visits to residential places and the length of stay in residential places in different geographic regions. Specifically, the residential mobility data are calculated by comparing the length of daily visits and the length of stay for the two weeks before 15 February 2020, normalized to range between -100 and 100. The individual mobility information is further aggregated through the location history of individuals' Google accounts, ensuring that enough observations are made in each geographical region.

To measure the public risk perception of COVID-19, we then obtain daily county-level data on public mobility information about residential places from the Google COVID-19 Community Mobility Reports and scale them from -1 to 1. To investigate the impact of presidential COVID-19 sentiment (PCS) on the public's COVID risk perception, we construct the variable $Stay\_at\_home_{t,t+2}$ as the average daily mobility of those living in the county regarding their visits to residential places in the three days after day *t*. A positive value for $Stay\_at\_home_{t,t+2}$ indicates people spend more time in residential places, on average, in these three days, compared to the average daily length they had stayed in residential places during the two weeks before 15 February 2020. The higher the value of $Stay\_at\_home_{t,t+2}$, the greater the increase.

Study 3 Robustness Check: GOP Governors and Presidential COVID-19 Sentiment (PCS)

For robustness, we also use the county governor's political orientation to determine whether the county is Democratic or Republican. To this end, this paper constructs the *Republic governor* dummy, which equals one when the governor is Republican, and zero otherwise.

Table 6 shows the results of the OLS regression of *Stay_at_home* on the PCS variable *PCS* and *Republican_governor* for the samples of blue counties and red counties, where

the county fixed effect is controlled for in specifications 2 and 3 and both county and time fixed effects are controlled for in specification 4. The key explanatory variable in Table 6 is the interaction term between *PCS* and *Republican_governor.* If the political affiliation of the Republican governor is more likely to show agreement with the former President Trump's risk attitude towards COVID-19, that governor's policy decision making and public statements about COVID-19 should be based on a lower risk perception, thereby enhancing the negative impact of *PCS* on social distancing behaviour. The coefficients on *PCS*Republican_governor* are negative and statistically significant at the 1% level for all specifications, suggesting a stronger negative effect of *PCS* on individuals' risk perception of COVID-19 in counties with a Republican governor. Our findings therefore highlight the partisan impact of governor affiliation on the relation between PCS and social distancing behaviour.

Study 4 Robustness Check: Social Connection–Based Partisanship (SCP) and Presidential COVID-19 Sentiment (PCS)

Another concern for the polarizing impact of PCS on the public's risk perception between Democratic and Republican counties involves omitted local economic factors that are correlated with both local partisanship and local policies related to COVID-19. To isolate the impact of partisanship from other potential local factors, this paper employs the Social Connection–Based Partisanship (SCP), introduced by Sheng et al. (2021). These authors calculate a social connection index (SCI) using the methodology of Bailey et al. (2018). The SCI measures how likely it is for the residents in any two U.S. counties to be Facebook friends, calculated at the county level as follows:

$$SCI_{i,j} = \frac{Connection_{i,j}}{User_i * User_j}$$

where $Connection_{i,j}$ is the number of pairs of Facebook friends in counties *i* and *j*, and $User_i$ and $User_j$ are the numbers of Facebook users in counties *i* and *j*. Following Kuchler et al. (2020) and Sheng et al. (2021), to examine the impact of partisan social connection, we construct the SCP measure weighted by Republican voting shares, as follows:

$$SCP_i = Ln(\sum(SCI_{i,j} * RedVote_j))$$

where $SCI_{i,j}$ is the SCI between counties *i* and *j*, and $RedVote_j$ is the Republican voting share of county *j* in the 2016 presidential election. Thus, the SCP measure is calculated as the magnitude of social connections between a county and other Republican counties. The SCP is weighted by partisanship in terms of how strongly a county is socially connected to other Republican counties. More importantly, we calculate SCP by excluding counties in the same state as the focal county, which arguably addresses the endogeneity issue associated with omitted local economic factors. Using SCP, this paper examines whether people in counties with strong social ties to Republican voters

in other counties are more likely to show lower risk perception regarding COVID-19 as the PCS measure rises.

Table 7 shows the results of OLS regressions of *Stay_at_home* on PCS and the SCP for the samples of blue and red counties, where county fixed effects are controlled for in specifications 2 and 3, and both county and time fixed effects are controlled for in specification 4. The key explanatory variable in Table 7 is the interaction term between the PCS and SCP variables. If the polarization effect of PCS is due to partisanship rather than other local factors, the negative impact of PCS on individual social distancing behaviour should be enhanced in counties that show higher levels of social connection with other Republican voters. More specifically, counties with higher levels of SCP are more likely to show agreement with the former President Trump's risk attitude towards COVID-19, enhancing the negative impact of PCS on public risk perception. The coefficients on *PCS*SCP* are negative and statistically significant at the 1% level for all specifications, suggesting that the negative effect of PCS on individual social distancing behaviour is more pronounced in counties with a higher level of SCP.

Extended Data Table 1 Descriptive Statistics

Panel A: Demographics and the COVID-19 crisis

	All		Blue		Red		Diff	
	Observations	Mean	Observations	Mean	Observations	Mean	(Blue - Red)	t-value
Income	1776	57192.215	362	63532.293	1414	55569.083	7963.21	9.345***
Education	1776	0.168	362	0.23	1414	0.153	0.078	21.362***
Population	1776	174628.480	362	484309.494	1414	95346.631	388962.864	16.622***
Trump voting share (2016)	1776	0.595	362	0.362	1414	0.655	-0.293	-52.990***
SCP	1776	3882.041	362	1876.438	1414	4395.497	-2519.059	-16.692***
GOP governor	1776	0.521	362	0.367	1414	0.561	-0.193	-6.651***
Residential	1776	7.157	362	9.923	1414	3.473	3.473	25.528***
COVID-19 cases (per 1000 people)	1776	62.601	362	53.962	1414	64.813	-10.851	-7.606***
Deaths (per 1000 people)	1776	1.023	362	1.005	1414	1.028	-0.023	-0.657

Panel B: Social media summary

	All		Other tweets		COVID-19 related		Diff	
	Observations	Mean	Observations	Mean	Observations	Mean	(Other – COVID-19)	t-value
Sentiment	4986	0.192	4298	0.192	688	0.19	0.002	0.088
Retweets	4986	27009.33	4298	26795.117	688	28347.568	-1552.452	-1.899*
Favourites	4986	127518.1	4298	126434.773	688	134285.577	-7850.804	-1.795*

This table presents summary statistics for Republican (red) and Democratic (blue) counties and the Trump Twitter Archive. Panel A presents county-level demographics, COVID-19 crisis data, and univariate comparisons between red and blue counties. The sample period is from 1 January 2020 to 31 December 2020. We exclude counties that have no records in the Google COVID-19 Community Mobility Reports. Panel A lists summary statistics regarding demographics and the COVID-19 crisis. Panel B presents the summary statistics of the Trump Twitter Archive and univariate comparison between other tweets and COVID-19–related tweets. Statistical significance at the 1%, 5%, and 10% levels are denoted by ***, **, and * respectively.

Extended Data Table 2 PCS and Partisan Social Distancing Behaviour

	(1)	(2)	(3)	(4)
	Blue counties		Red counties	
VARIABLES	Stay-at-home	Stay-at-home	Stay-at-home	Stay-at-home
PCS	**0.00466*** **	**0.00443*** **	**-0.00989*** **	**-0.00997*** **
	(12.21)	**(11.55)**	**(-13.75)**	**(-14.05)**
Ln (Confirmed)	0.00550***	0.00546***	0.000394*	0.000432**
	(31.52)	(32.91)	(1.847)	(2.106)
Other_sentiment	0.0580***	0.0582***	0.0782***	0.0786***
	(32.79)	(35.70)	(34.14)	(35.09)
Favourites_of_COVID-19_tweets	0.0166***	0.0168***	-0.00501***	-0.00458***
	(20.77)	(23.14)	(-4.276)	(-4.162)
COVID_tweets/Total_tweets	0.114***	0.113***	0.0766***	0.0750***
	(87.05)	(87.84)	(52.06)	(52.77)
Ln (Income)	0.0328***		0.0493***	
	(7.837)		(8.427)	
Ln (Population)	0.00276***		0.0103***	
	(4.098)		(6.093)	
Education	0.147***		-0.102***	
	(9.640)		(-2.832)	
Constant	-0.408***	0.0222***	-0.597***	0.0374***
	(-9.394)	(13.21)	(-9.822)	(28.03)
Observations	106,917	106,916	24,196	24,194
R-Squared	0.264	0.326	0.139	0.199
Controls	Yes	Yes	Yes	Yes
County FE	No	Yes	No	Yes

This table presents the results of OLS regressions on the stay-at-home variable for the subsample of blue counties (in the lowest quartile of Trump voters) and red counties (in the highest quartile of Trump voters). Figure 1 outlines the coefficients for PCS and the relevant 95% confidence intervals based on these results. All the variables are illustrated in Appendix I. Statistical significance at the 1%, 5%, and 10% levels are denoted by ***, **, and *, respectively.

Extended Data Table 3 PCS and Major Events (30 Days before and after the former President Trump Tested Positive)

	(1)	(2)	(3)	(4)	(5)	(6)
		Blue counties			Red counties	
VARIABLES	Stay-at-home	Stay-at-home	Stay-at-home	Stay-at-home	Stay-at-home	Stay-at-home
PCS	0.00262***	0.00226***	0.00452***	0.0114***	0.00892***	0.0128***
	(6.684)	(6.134)	(14.24)	(12.22)	(9.234)	(14.52)
President_tests_positive	0.0124***	0.0118***	0.00586***	0.0218***	0.0207***	0.0163***
	(18.26)	(17.55)	(9.056)	(14.82)	(13.20)	(10.03)
PCS*President_tests_positive	**0.00392*** **	**0.00271*** **	**-2.45e-05**	**-0.0143*** **	**-0.0159*** **	**-0.0205*** **
	(6.836)	**(4.829)**	**(-0.0446)**	**(-9.338)**	**(-9.196)**	**(-11.66)**
Ln (Confirmed)		0.00500***	0.0347***		0.00148	0.0260***
		(4.671)	(20.19)		(1.203)	(12.36)
Other_sentiment		0.0223***	0.00774***		0.0222***	0.00794***
		(21.27)	(8.207)		(13.37)	(4.435)
Favourites_of_COVID-19_tweets		-0.0112***	-0.0160***		0.0102***	0.00471**
		(-14.05)	(-21.92)		(4.802)	(2.252)
COVID_tweets/Total_tweets		0.0216***	0.0265***		0.00972***	0.0127***
		(26.14)	(35.28)		(4.227)	(6.364)
Ln (Income)		0.0256***			0.0332***	
		(5.374)			(5.170)	
Ln (Population)		0.000867			0.00112	
		(0.590)			(0.464)	
Education		0.182***			-0.00616	
		(10.98)			(-0.158)	
Constant	0.0658***	-0.306***	-0.209***	0.0145***	-0.374***	-0.167***
	(48.08)	(-6.151)	(-15.19)	(9.910)	(-5.424)	(-12.05)
Observations	22,524	22,072	22,071	6,690	6,598	6,596
R-Squared	0.036	0.444	0.695	0.075	0.169	0.500
Controls	No	Yes	Yes	No	Yes	Yes
County FE	No	No	Yes	No	No	Yes

This table presents the results of OLS regressions of the stay-at-home variable for the subsamples of blue counties (in the lowest quartile of Trump voters) and red counties (in the highest quartile of Trump voters). Figure 3 outlines the coefficients for PCS and the relevant 95% confidence intervals based on these results. All the variables are illustrated in Appendix I. Statistical significance at the 1%, 5%, and 10% levels are denoted by ***, **, and *, respectively.

Extended Data Table 4 PCS, Media Sentiment, and Social Distancing Behaviour

	(1)	(2)	(3)	(4)	(5)	(6)
		Blue counties			Red counties	
VARIABLES	Stay-at-home	Stay-at-home	Stay-at-home	Stay-at-home	Stay-at-home	Stay-at-home
PCS	-0.0173***	0.00345***	0.00325***	-0.00492***	-0.00106	-0.00146*
	(-39.14)	(5.562)	(5.499)	(-5.499)	(-1.230)	(-1.682)
Media_criticism	0.00475***	0.0137***	0.0136***	0.0112***	0.0114***	0.0107***
	(9.560)	(24.00)	(24.84)	(13.68)	(13.03)	(12.85)
PCS*Media_criticism	**0.0187*** **	**0.00153** **	**0.00150** **	**-0.00895*** **	**-0.0113*** **	**-0.0108*** **
	(23.33)	**(2.112)**	**(2.149)**	**(-6.846)**	**(-8.218)**	**(-8.160)**
Ln (Confirmed)		0.00563***	0.00560***		0.000503**	0.000534***
		(32.01)	(33.64)		(2.365)	(2.603)
Other_sentiment		0.0662***	0.0662***		0.0801***	0.0801***
		(38.97)	(42.62)		(36.27)	(37.00)
Favourites_of_COVID-19_tweets		0.0139***	0.0140***		-0.00521***	-0.00474***
		(17.83)	(20.24)		(-4.468)	(-4.352)
COVID_tweets/Total_tweets		0.108***	0.107***		0.0757***	0.0743***
		(89.76)	(91.19)		(55.29)	(56.51)
Ln (Income)		0.0327***			0.0493***	
		(7.827)			(8.432)	
Ln (Population)		0.00256***			0.0101***	
		(3.806)			(5.960)	
Education		0.147***			-0.101***	
		(9.676)			(-2.827)	
Constant	0.0966***	-0.415***	0.0119***	0.0531***	-0.603***	0.0284***
	(81.81)	(-9.572)	(6.057)	(43.17)	(-9.952)	(18.91)
Observations	107,369	106,917	106,916	24,288	24,196	24,194
R-Squared	0.010	0.271	0.333	0.007	0.141	0.201
Controls	No	Yes	Yes	No	Yes	Yes
County FE	No	No	Yes	No	No	Yes

This table presents the results of the OLS regressions of the level of the stay-at-home variable for the subsamples of blue counties (in the lowest quartile of Trump voters) and red counties (in the highest quartile of Trump voters). Figure 3 outlines the coefficients for *PCS*Media_criticism* and the 95% confidence intervals based on these results. All the variables are illustrated in Appendix I. Statistical significance at the 1%, 5%, and 10% levels are denoted by ***, **, and *, respectively.

Extended Data Table 5 PCS and the Growth Ratio (GR) of COVID-19 Cases

	(1)	(2)	(3)	(4)	(5)	(6)
		Blue counties			Red counties	
VARIABLES	GR t+23	GR t+23	GR t+23	GR t+23	GR t+23	GR t+23
PCS	**0.000703**	**0.00706**	**0.00610**	**0.0512****	**0.0763*****	**0.0768*****
	(0.0797)	**(0.785)**	**(0.681)**	**(2.578)**	**(3.706)**	**(3.727)**
Ln (Confirmed)		0.00928***	0.00738***		0.0362***	0.0341***
		(6.969)	(5.441)		(11.98)	(10.16)
Other_sentiment		0.0134	0.0224		-0.0544	-0.0670
		(0.603)	(0.997)		(-0.965)	(-1.192)
Favourites_of_COVID-19_tweets		-0.000593	-0.00566		-0.0852*	-0.0784
		(-0.0298)	(-0.283)		(-1.707)	(-1.563)
COVID_tweets/Total_tweets		-0.0347**	-0.0481***		0.0701	0.0700
		(-2.001)	(-2.766)		(1.124)	(1.121)
Ln (Income)		0.00838			0.00229	
		(0.666)			(0.0479)	
Ln (Population)		0.0198***			0.0222	
		(7.182)			(1.633)	
Education		-0.0224			0.391	
		(-0.446)			(1.645)	
Constant	0.962***	0.575***	0.923***	0.897***	0.431	0.753***
	(169.5)	(4.376)	(53.02)	(67.77)	(0.878)	(20.40)
Observations	104,729	104,200	104,198	27,939	27,766	27,758
R-Squared	0.000	0.004	0.014	0.000	0.010	0.023
Controls	No	Yes	Yes	No	Yes	Yes
County FE	No	No	Yes	No	No	Yes

This table presents the results of OLS regressions of the level of the stay-at-home variable for the subsamples of blue counties (in the lowest quartile of Trump voters) and red counties (in the highest quartile of Trump voters). All the variables are illustrated in Appendix I. Figure 4 outlines the coefficients for *PCS* and the relevant 95% confidence intervals based on these results. Statistical significance at the 1%, 5%, and 10% levels are denoted by ***, **, and *, respectively.

Extended Data Table 6 PCS, Republican Governors, and Risk Perception of COVID-19

VARIABLES	(1) Stay-at-home	(2) Stay-at-home	(3) Stay-at-home	(4) Stay-at-home
PCS	-0.00466***	0.000968***	0.000583	
	(-12.43)	(2.656)	(1.576)	
Republican governor	-0.0113***	-0.00398***		
	(-7.790)	(-4.804)		
PCS*Republican governor	**-0.00259*** **	**-0.00258*** **	**-0.00254*** **	**-0.00166*** **
	(-5.113)	**(-5.985)**	**(-5.808)**	**(-6.887)**
Ln (Confirmed)		0.00340***	0.00331***	0.0108***
		(30.78)	(30.91)	(25.66)
Other_sentiment		0.0682***	0.0688***	
		(65.77)	(69.99)	
Favourites_of_COVID-19_tweets		0.00907***	0.00908***	
		(18.04)	(19.00)	
COVID_tweets/Total_tweets		0.101***	0.0994***	
		(119.5)	(118.2)	
Ln (Income)		0.0372***		
		(13.50)		
Ln (Population)		0.00631***		
		(13.18)		
Education		0.132***		
		(11.95)		
Constant	0.0899***	-0.478***	0.0286***	0.0177***
	(79.66)	(-16.38)	(27.83)	(7.101)
Observations	266,401	265,322	265,313	265,313
R-Squared	0.013	0.266	0.326	0.919
Controls	No	Yes	Yes	Yes
County FE	No	No	Yes	Yes
Date FE	No	No	No	Yes

This table presents the results of OLS regressions of the level of the stay-at-home variable for the full sample. All the variables are illustrated in Appendix I. Statistical significance at the 1%, 5%, and 10% levels are denoted by ***, **, and *, respectively.

Extended Data Table 7 PCS, Social Connection–Based Partisanship and Risk Perception of COVID-19

VARIABLES	(1) Stay-at-home	(2) Stay-at-home	(3) Stay-at-home	(4) Stay-at-home
PCS	0.0101***	0.0141***	0.0143***	
	(23.45)	(32.03)	(32.82)	
SCP	-0.113***	-0.0241***		
	(-24.92)	(-4.776)		
PCS * SCP	**-0.0352*** **	**-0.0350*** **	**-0.0365*** **	**-0.0145*** **
	(-31.86)	(-31.85)	(-34.81)	(-19.01)
Ln (Confirmed)		0.00340***	0.00331***	0.0108***
		(31.26)	(30.89)	(25.65)
Other_sentiment		0.0684***	0.0691***	
		(66.49)	(70.39)	
Favourites_of_COVID-19_tweets		0.00919***	0.00916***	
		(18.45)	(19.11)	
COVID_tweets/Total_tweets		0.101***	0.0993***	
		(120.3)	(118.0)	
Ln (Income)		0.0313***		
		(10.77)		
Ln (Population)		0.00202***		
		(3.216)		
Education		0.139***		
		(12.80)		
Constant	0.130***	-0.356***	0.0286***	0.0207***
	(59.91)	(-10.24)	(29.35)	(8.512)
Observations	266,401	265,322	265,313	265,313
R-Squared	0.118	0.268	0.326	0.919
Controls	No	Yes	Yes	Yes
County FE	No	No	Yes	Yes
Date FE	No	No	No	Yes

This table presents the results of OLS regressions of the level of the stay-at-home variable for the full sample. All the variables are illustrated in Appendix I. Statistical significance at the 1%, 5%, and 10% levels are denoted by ***, **, and *, respectively.

Appendix I

COVID-Related Keyword List			
14DayQuarantine	GetMePPE	Pfizer	staysafestayhome
ban	Health	ppe	Tedros
c.d.c	HYDROXYCHLOROQUINE	PPEshortage	testing
china virus	infectious	quarantinelife	transmission
chinavirus	InMyQuarantineSurvivalKit	quarentinelife	Trump pandemic
chinese virus	invisible	saferathome	Trumppandemic
chinesevirus	kung flu	sflockdown	Ventilator
coronakindness	lock down	sheltering in place	virus
Coronials	lockdown	shelteringinplace	W.H.O.
Coronials	moderna	social distance	wear a mask
COVID	pandemie	Social Distancing	wearamask
Curve	panic buy	SocialDistancing	WHO
DontBeASpreader	panic buying	SocialDistancingNow	
DuringMy14DayQuarantine	panic shop	stay at home	
epitwitter	panic shopping	stay home	
F.D.A.	panicbuy	stay home challenge	
fauci	panic-buy	stay safe stay home	
FDA	panicbuying	stayathome	
flatten the curve	panicshop	stayhome	
flattenthecurve	panic-shop	stayhomechallenge	

Appendix II

Definitions of the main variables		
Variable name	Description	Source
Total tweets	The daily count of total tweets from the former President Trump's Twitter account.	Trump Twitter Archive
COVID-tweets	The daily count of COVID-related tweets from the former President Trum s Twitter account.	Trump Twitter Archive
Favourites_of_COVID tweets	The average daily count of favourite COVID-related tweets from the former President Trum's Twitter account.	Trump Twitter Archive
PCS	The daily average sentiment of COVID-related tweets from the former President Trum's account. In this paper, the Twitter sentiment is measured by Valence Aware Dictionary and sEntiment Reasoner (VADER), a lexicon and rule-based sentiment analysis methodology developed by the Georgia Institute of Technology (Hutto and Gilbert, 2014).	Trump Twitter Archive
Other_sentiment	The daily average sentiment of tweets other than COVID-related tweets from the former President Trum's account.	Trump Twitter Archive
Media_criticism	This dummy equals 1 when the average sentiment of the headlines of CNN news articles is negative under the VADER classification, and 0 otherwise. All the collected news articles contains the keyword *Trump* and are under Factiva's novel coronavirus subject category.	Factiva
Income	The 5-year estimate of the median household income from the American Community Survey (ACS).	U.S. Census Bureau
Population	The 5-year estimate of the county population from the ACS.	U.S. Census Bureau
Education	The 5-year estimate of people over the age of 25 who hold a bachelor's degree, scaled by the county population, from the ACS.	U.S. Census Bureau
President_test _positive	This dummy variable equals 1 after 2 October 2020, when the former President Trump announced that he and the First Lady had tested positive, and 0 otherwise.	New York Times
Republican_governor	The dummy variable equals 1 if the county has a Republican state governor, and 0 otherwise.	Wikipedia
Trump_voting_share (2016)	The county-level Republican vote share in the 2016 U.S. presidential election.	MIT Election Data and Science Lab
Stay_at_home	Average daily mobility information regarding people's visits to residential places (at the state level) in the subsequent 3 days.	Google mobility data
SCP	The Social Connectedness Index (SCI) was introduced by Bailey et al. (2018). It is a county-level measure based on Facebook friendship links that capture the relative probability of the residents in any two U.S. counties being Facebook friends. Social connection–based partisanship (SCP) measures the degree of partisanship based on social connection ties. Following Kuchler et al. (2020), this is the logarithmic weighted sum of Republican voting shares in the 2016 presidential election, where the weight is the SCI between the county of interest and other counties outside the county's state.	Facebook SCI
Cases GR	The COVID-19 cases growth rate (GR) ratio for a given county on a given day. Specifically, following Badr et al. (2020), the ratio is defined as the logarithmic rate of change (in the number of newly reported cases) over the previous three days relative to the logarithmic rate of change over the previous week. The GR variable for any county *i* on day *t* is calculated as follows: $$GR_i^t = \frac{Ln(\sum_{t-2}^{t} \frac{C_i^t}{3})}{Ln(\sum_{t-6}^{t} \frac{C_i^t}{7})} \quad (4)$$ where C_i^t is the number of newly confirmed cases in county *i* on date *t*. Considering the impact of previous new cases, this metric intuitively indicates the spread of COVID-19 within a specific period.	COVID-19 Dashboard of the Center for Systems Science and Engineering at Johns Hopkins University