Civic Capital and Social Distancing During the Covid-19 Pandemic

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Version: June 9, 2020

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ABSTRACT

The success of non-pharmaceutical interventions to contain pandemics often depends greatly upon voluntary compliance with government guidelines. What explains variation in voluntary compliance? Using mobile phone and survey data, the researchers show that during the early phases of COVID-19, voluntary social distancing was higher when individuals exhibit a higher sense of civic duty. This is true for U.S. individuals, U.S. counties, and European regions. They also show that after U.S. states began re-opening, social distancing remained more prevalent in high civic capital counties. The authors' evidence points to the importance of civic capital in designing public policy responses to pandemics.

Introduction

In their fight against COVID-19, governments around the world face technological and social constraints. To date, technological constraints (e.g., how many tests per day can be administrated) have been of primary concern. As the fight moves from the acute phase to a trench warfare, however, social constraints (e.g., ensuring adequate compliance with public health recommendations) become extremely important for the success of containment strategies until a vaccine is developed. Social distancing behavior depends on the willingness of individuals to consider the welfare of the collective when taking their own actions—a concept that has been linked to civic capital.

In this article, we analyze how differences in civic capital—across individuals, U.S. counties, and European regions—can account for varying degrees of voluntary compliance with social distancing rules during the early phases of the COVID-19 pandemic. Building on Almond and Verba (1963) and Guiso et al. (2011), we define the civic capital of a community as the "set of values and beliefs that help a group overcome the free-rider problem in the pursuit of socially valuable activities" (Guiso et al., 2011). In communities with higher civic capital, individuals display prosocial behavior that does not have an immediate personal utility (such as voting, volunteering, or donating blood), and trust other fellow citizens more in general. In these communities, citizens are able to solve coordination games better and provide public goods (Herrmann et al., 2008).

Thus far, the emerging literature on compliance with social distancing instructions during the COVID-19 pandemic has focused on political leaning and trust in government. In the United States, Trump leaning counties comply less (Alcott et al., 2020; Barrios and Hochberg, 2020). In Europe, regions that trust the government more comply more (Bargain and Aminjonov, 2020). Our analysis moves beyond political affiliation and shows that civic capital has a vital role in explaining the behavior of individuals during the COVID crisis. We find that after controlling for political affiliation, civic capital can explain compliance with social distancing not only in the United States but also in Europe.

Results

We begin by analyzing the relationship between social distancing behavior and civic capital across U.S. counties. To measure social distancing behavior (SDB), we rely on Google Community Mobility Reports. Google provides anonymized data on changes in the number of visitors to (or the time spent in) certain categorized places, compared to a baseline represented by the average value for the same day of the week during the period Jan 3 – Feb 6, 2020. Figure S1 in the Supplementary Material maps

trends in mobility behavior geospatially. In the supplementary material, we show the robustness of our results to using mobility measures computed from a separate source assembled by Unacast, a large location data products company.

Civic capital is more challenging to measure. Our first indicator of civic capital is electoral participation, since voting is the ultimate example of civic duty, with no personal payoff. We compute average voter participation during the presidential elections from 2004 to 2016, obtained from the MIT Election Data Science and Lab (MEDSL). We map this measure geospatially in Figure S2 in the Supplementary Materials. In the supplementary material, we show that our results are robust when we use the measure of Social Capital developed by the U.S. Joint Economic Committee (which adds several other county-level measures of community behavior).

In Figures S4 and S5, we present bin scatter plots relating social distancing behavior measures to civic capital. Each of the plots controls for the log number of confirmed cases, population density, income per capita, population, the day of the week, and the number of days since the first case in the county. Increases in civic capital are associated with decreases in mobility data near restaurants, cafes, shopping centers, theme parks, museums, libraries, and movie theaters (henceforth Retail & Recreation). Note that this category explicitly excludes mobility around groceries and pharmacies, and thus can be considered as the group of non-essential retailers. This negative association provides preliminary evidence on the variation of SDB across levels of civic capital. In Figure S4, we also present mobility results for the place of residence measure. If people are less likely to go out in counties with high civic capital, they will spend more time in the proximity of their residences. The results confirm this trend.

We formally investigate the relation between SDB and civic capital by estimating the following linear specification:

$$(1)\ Social\ Distancing\ Behavior_{ct} = \beta_t High\ Civic\ Capital_c * Day_t +$$
$$\alpha\ Health\ Controls_{c,t} + County_{FE} + StateXDay_{FE} + \varepsilon_{c,t}$$

where β_t are time-varying coefficients on High Civic Capital, $Health\ Controls_{c,t}$ is a vector of controls for exposure to COVID-19 in the county, including the log number of new COVID-19 cases and deaths measured on each county day. The specification includes county fixed effects to capture the local economics and demographics at the county and State by Day fixed effects to capture time variation in compliance measures at the state level through the sample period.

We present the results of the estimation graphically in Figure 1, which plots the β_t from estimating specification (1) with mobility data for Retail & Recreation as a dependent variable (blue line) and mobility data for Residential areas (red line). Each of the β_t estimates include 95 percent confidence intervals. Note that we expect different trends: mobility data for Retail & Recreation should go down, while mobility data for Residential areas should go up after the outbreak of the pandemic. Starting around March 10th 2020, the percent changes in mobility around Retail and Recreation (blue line) shows a much steeper decline in counties with higher civic capital. If people are less likely to go out and about in counties with high civic capital, they should also spend more time in proximity to their residences. The red line in Figure 1 shows that to be the case. In counties with high civic capital, the percentage increase in mobility in residential areas is higher than in counties with low civic capital. The graph of mobility in residential areas exhibits sharp drops during the weekends. This is not surprising since the difference in time spent at home before and after the pandemic should be smaller during the weekends than during the week. Consequently, even the difference between high civic capital areas and the rest is compressed. Notice, however, that the difference is significantly positive even during the weekends. In Figure S6, we present the results of a similar estimation using our alternative measures of SDB from Unacast, with similar patterns.

In the Supplementary Material (Table S1), we also estimate a more explicit multivariate model regressing changes in mobility on voter participation from presidential elections. In this model, we include Day X State fixed effects, log population, log population density, per capita income, Trump vote share, log(1+number of new COVID-19 cases), and log (1+number of new COVID-19 deaths). The control variables replace the county fixed effect in (1). Substituting these controls does not change the economic magnitude of the civic capital coefficient, further confirming that social distancing is substantially higher in areas with higher civic capital compared to other areas, even once we account for other characteristics, such as political orientation. Tables S2, S3 and S4 in the Supplementary Material replicate this analysis using: (1) the alternative Unacast SDB outcomes (Table S2), and (2) alternative measures of civic capital (Tables S3, S4).

One potential objection is that social distance behavior may be driven not by voluntary compliance, but by mandatory orders to close businesses or "stay home." If there are stricter social distancing orders in areas with high civic capital, our civic capital variable may capture local government mandates rather than voluntary behavior. In Figure 1, we absorbed any state-level order in State X Day fixed effects. In Table 1, we explicitly examine the differential response of High Civic Capital areas to state-level rules and a national guideline. We estimate the following regression:

$$(2) \ Social \ Distancing \ Behavior_{c,t}$$
$$= \beta_1 Post \ State \ Mandating \ Stay \ Home_{s,t}$$
$$+ \beta_2 Post \ State \ Mandating \ Stay \ Home_{st} * High \ Civic \ Capital_c$$
$$+ \beta_3 Post \ National \ Guidelines_t * High \ Civic \ Capital_c$$
$$+ \alpha \ Health \ Controls_{c,t} + County_{FE} + \ Day_{FE} + \varepsilon_{c,t}$$

where $Health \ Controls_{c,t}$ is a vector of controls for exposure to COVID-19 in the county including the log number of new COVID-19 cases and deaths measured on each county day and $Post \ State \ Mandating \ Stay \ Home_{s,t}$ is an indicator variable that is set to one in the state-days after a state implements a mandatory stay at home ordinance. We also interact this variable with an indicator variable for high civic capital counties ($High \ Civic \ Capital_c$), allowing us to see the differential response in SDB for these counties relative to others. As a control, we include a similar interaction with an indicator for the day being post March 16th, when the White House issued a national stay at home recommendation (Coronavirus Guideline for America). This allows us to look directly at the effect of the national-level guidelines on compliance ($Post \ National \ Guidelines_t$). The specifications also include county fixed effects and day fixed effects to capture time-invariant county characteristics (such as the political orientation of the county) and time-varying changes in responses to the pandemic.

When we use changes in mobility around Retail & Recreation as our dependent variable, both the coefficient on $Post \ State \ Mandating \ Stay \ Home_{s,t}$ and the coefficient on the interaction between this variable and the indicator for High Civic Capital county are negative and statistically significant (Table 1 columns (1)). In other terms, when a state issues an order to stay home all counties reduce mobility around non-essential businesses relative to the pre-COVID period, but high civic capital counties more so. As predicted by the civic capital explanation, we observe the opposite effect in column (3) where the dependent variable is mobility around residences: post state stay-home mandates, all counties increase the amount of time spent in residential areas relative to the pre-COVID period, but high civic capital counties more so.

While we absorb all differences in political leaning in the above specification with county fixed effects, these differences might still impact the response to mandatory rules. For this reason, in columns (2) and (4), we add an interaction between $Post \ State \ Mandating \ Stay \ Home_{s,t}$ and a county's share of votes for Trump in the last presidential election. Similarly, we interact Trump's vote share with the $Post \ National \ Guidelines_t$ dummy. Both these interactions exhibit estimated

coefficients with the expected sign (positive for the changes in mobility around retailers and negative for the changes in mobility around residence). The coefficients of the interaction between Trump's vote share and national guidelines (i.e., guidelines issued by Trump) are also statistically significant at conventional levels. In contrast, the coefficient of the interaction between state-level mandates and Trump's vote share is not significant at the conventional levels. Most importantly, both the economic magnitude and the statistical significance of the interactions between the introduction of state and national rules and the High Civic Capital dummy are unchanged by the introduction of the interactions with Trump's vote share. This confirms that the civic capital explanation of voluntary compliance is orthogonal to the "political affiliation " explanation. In supplementary material, we repeat this analysis using our alternative mobility measures (Table S5) and alternative measures of civic capital (Table S6). Our results remain robust in all these alternative specifications.

While our county-based regressions account for most of the variation (R^2 between 87% and 95%), it is still possible, at least theoretically, that there could be some unobserved variable at the county level that is correlated with High Civic Capital, and which drives our results. For example, it is possible that more restrictive stay at home mandates are issued in counties with higher civic capital. To address this potential limitation, in Table 2, we examine individual-level survey data. Since data on individual cell phones is not available, we rely on a self-reported measure of social interaction that estimates social distancing behavior. The survey was conducted for the Financial Trust Index via telephone by SSRS, on April 6th, 2020–April 12th, 2020, among U.S. adults. A total of 980 interviews were conducted, with a margin of error for total respondents of +/-3.43% at the 95% confidence level. The question we use is, "how many people were you in close physical contact with socially in the past seven days, not including people that live with you?" The possible answers were "None" (35% of the respondents), "Less than 3" (26%), 3 to 5 (19%), 6 to 10 (8%), and more than 10 (12%).

The survey does not contain questions on civic capital directly. However, it does contain a question on generalized trust in others: "On a scale from 1 to 5 where 1 means "I do not trust them at all" and 5 means "I trust them completely," Can you please tell me how much do you trust other people in general?" 14% choose 1, 16% 2, 41% 3, 20% 4 and 9% 5. Since high civic capital individuals can be trusted more not to cheat, civic capital and generalized trust are linked theoretically and empirically. This is certainly true at the aggregate level (Putnam, 1993), but also at the personal level to the extent one projects their own behavior onto others, as observed in the literature on trust (Glaeser et al., 2000). For example, in the European Social Value Survey, the correlation between voting and generalized trust in others at the individual level is 48%. This measure of cultural attitudes is

commonly used to measure subjective social capital (Alesina and Giuliano, 2015). The survey also includes a question about trust in the government (where 30% respond either 4 or 5) and a question about political leaning (where 30% lean Republican, 41% Democrat, and 29% neither).

Table 2 reports the estimates from an ordered probit, where our dependent variable is the response to the question on the number of people outside your household you were in contact with the previous week. In column (1), our explanatory variables are the degree of trust in others and the degree of trust in government. Consistent with our county-level results, more trusting people see fewer people outside of their family, i.e., they self-distance more. An increase from the median level of trust (category 3) to a complete level of trust (category 5) reduces the probability of interacting with 10 people or more by 6 percentage points (60% of the sample probability). In contrast, people who trust the government more tend to socialize *more* with people outside their family. This effect, however, is a proxy for political leaning. When we insert a dummy equal to 1 if a respondent declares to lean Republican (column 2), the effect of trust in government disappears, while the effect of trust in others remains virtually unchanged. As was the case for the county data, there seem to be two sources of variation in SDB: one related to political affiliation, and the other to civic capital, and the two are orthogonal to each other. These results are unchanged when we control for fear of getting killed by the virus as self-reported in the survey, and for other regional conditions (number of COID-19 cases in the country, population density, income per capita), as we report in columns (3) and (4). Thus, the individual survey results confirm the cell-phone based results at the county level.

Is the effect of civic capital just a U.S. phenomenon, or does it apply to other countries as well? To answer this question, we turn next to European data. National guidelines and shopping habits are too different across countries to allow comparison across countries. We therefore conduct a within country analysis, as we have done for the U.S. above. To do so, we cannot use a national measure of civic capital like Coen et al. (2019), rather, we need sub-national measures of civic capital. The European Social Survey (ESS) provides such a measure at the sub-regional level. For the 41 countries participating in the survey, the ESS asks the question, "generally speaking, would you say that most people can be trusted, or that you can't be too careful in dealing with people? Please tell me on a score of 0 to 10, where 0 means you can't be too careful, and 10 means that most people can be trusted."

The ESS countries are divided into sub-regions with different levels of coarseness. The NUTS 1 classification includes 82 sub-regions, while NUTS 2 includes 114. Since the number of observations per country remains the same, there is a trade-off between going deeper into the sub-region classification and more noisy civic capital measures. This is due to the sparsity of respondents as we

go deeper into sub-region classifications. In Figure 2 and Table 3, we use ESS data at the NUTS 1 level, utilizing the last eight waves of the ESS. Due to a change in the NUTS classification system for France, we are only able to utilize the last wave of the ESS survey for France. In the Supplementary Material, we show the robustness to using NUTS2 level classifications (Table S7). To measure SDB, we use the same Google mobility data we used for the United States.

Figure 2 plots the estimated β_t of a specification similar to (1) based on European data, where High Civic Capital areas are defined based on the average level of generalized trust of an area vis-à-vis the national average. We plot in the same figure the β_t of the regression of the mobility around Retail and Recreation locations (blue line) and those of the regression of the mobility around Residences (red line). As expected, and consistent with our U.S. county and individual-level findings, mobility around retail and recreation locations declines after the beginning of March 2020 and more so in high civic capital areas. By contrast, the mobility in the residential areas goes up, and the more so in high civic capital areas.

In Table 3, we reports the estimates from richer multi-variate regressions in the spirit of Table S1. For each of the dependent variables, the first specification (columns (1) and (4) contains our measure of civic capital (average trust in the region), the log number of COVID-19 deaths per million inhabitants (as a proxy for the severity of the pandemic in the area), and population density. We also include country fixed effects and calendar-day fixed effects. Even after controlling for the severity of the disease in the region and population density, we observe that more civic areas experience a steeper decline in mobility around retailing and a steeper rise in mobility in residential areas. A one standard deviation increase in the average trust is associated with a 0.1 standard deviation change in mobility near retailing. This effect, which is statistically significant at the conventional level, is unchanged in column (2) and (5) where we control for the average share of votes to right-wing parties (as defined by the ESS). Finally, in columns (3) and (6) we control for the percentage of people in the region trusting the politician more than the country average as in Bargain and Aminjonov (2020). While the generalized trust coefficient is slightly reduced, it remains similar in magnitude and statistically different from zero at the conventional level. Consistently with the results from the U.S. survey data, trust in others and trust in politicians capture two separate effects.

Overall, our findings show that civic capital is correlated with social distancing behavior consistently across individuals, European regions, and U.S. counties.

Discussion

Understanding voluntary compliance with government guidelines is an essential step towards designing any government policy, but especially so during a pandemic. If citizens cannot be trusted to comply voluntarily with reasonable social distancing rules, the government has to either mandate rigid rules and enforce them, or use alternative mechanisms to contain the disease.

As many countries and states are re-opening their economies, epidemiologists can only predict how individuals respond to the new rules (and thus how the disease will spread) by looking at the mobility of individuals after the restrictions have been lifted. Any variable able to predict compliance can significantly improve their predictions and thus provide better policy guidance. Our analysis shows that the level of civic capital is an important factor in explaining voluntary compliance not only across U.S. counties, but also across regions of Europe, and even across individuals. These findings help explain why Sweden (a very high civic capital country) has chosen a very different (and less economically costly) approach to fight the disease. It did not need to order businesses to close down, because it could expect shoppers and businesses to behave safely. By contrast, Italy (a low civic capital country in Europe) had to kill its economy via strict lockdown to achieve the same result.

We can further confirm the predictive ability of civic capital on SDB by looking at the changes in mobility around the time U.S. states began to loosen their restrictions. Figure 3 plots the changes in mobility near Retail & Recreation for high civic capital counties (in blue) and low civic capital counties (in red). As before, the high civic capital counties are defined as those in the top quartile of voter participation, and the low civic capital ones are those in the bottom quartile. As Figure 3 shows, even as states began loosening restrictions, social distancing compliance remained steady in high civic capital counties (blue line), even when it was not mandated by the law. By contrast, in low civil capital counties (red line), mobility around Retail & Recreation increased steadily even before the loosening of restrictions and continued to increase afterwards. In the Supplemental Material Figure S7, we perform the same analysis for mobility near residences, with symmetric results. We also perform the same analysis with Unacast data, with similar results.

While crucial in designing a response to the pandemic, our results have implications beyond COVID-19. They confirm the idea that a local region's civic capital is a source of collective capital, enabling societies to function better in general. For example, from a government perspective, in high civic capital regions, government programs (such as unemployment insurance) may be more effective because their deadweight cost is lower. Furthermore, from a private sector perspective, high civic

capital may enable to private businesses to function better. For example, Gennaioli et al. (2020) show that in high civic capital countries, private risk-sharing can be more wide-spread because insurance contracts are less likely to be abused. Ultimately, civic capital is an essential source of a country's comparative advantage.

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Tables and Figures

Figure 1: **Mobility and High Civic Capital**
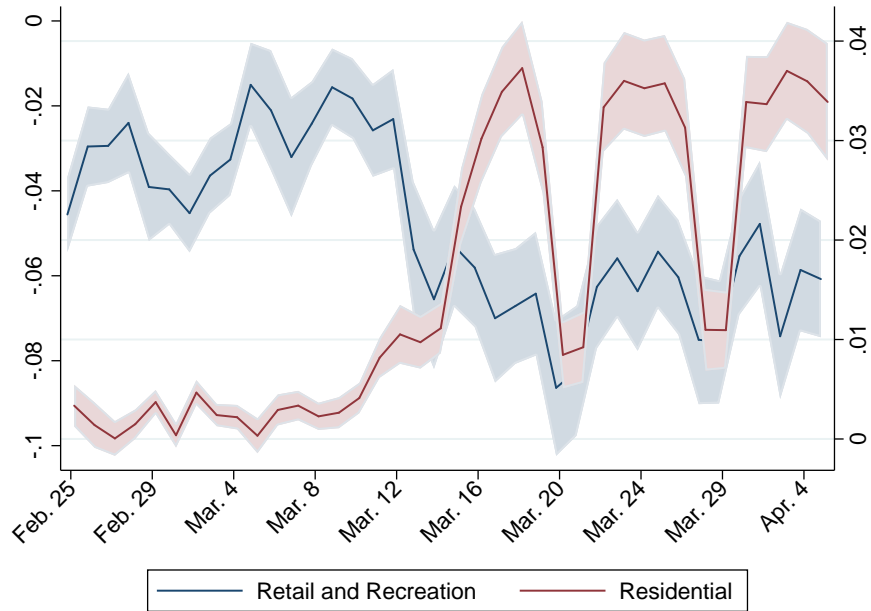
Figure 1— The plotted estimates are obtained by regressing the percent change in mobility measures on the interaction between high voter participation county and the day indicator. The specification includes county fixed effects, state by day fixed effects, and controls for COVID-19 cases and deaths. Each of the estimates includes 95 percent confidence intervals. Standard errors are clustered at the county level. The plot captures the difference in social distance behavior between high civic capital counties and the rest of the counties on each day. The change in mobility in retail (excluding groceries and pharmacies) and recreation is plotted in blue. The percent changes in Retail and Recreation show a much higher decline in mobility in counties with higher civic capital. In red, we plot Residential mobility, which shows the opposite trend; the reference y-axis is on the right. When practicing social distancing, people tend to move more in the proximity of their residence. In areas with high civic capital, the percentage change in residential mobility is greater than in areas with low civic capital. The graph shows sharp differences on weekends.

Table 1: Civic Capital and Social Distancing Behavior

VARIABLES	(1) Chg. Retail Visits	(2) Chg. Retail Visits	(3) Chg. Residential	(4) Chg. Residential
Post Stay Home Order	-0.035***	-0.034***	0.013***	0.012***
	(0.00)	(0.00)	(0.00)	(0.00)
High Civic Capital X Post National Guideline	-0.069***	-0.062***	0.019***	0.018***
	(0.01)	(0.01)	(0.00)	(0.00)
High Civic Capital X Post Stay Home	0.007*	0.007*	0.003**	0.003**
	(0.00)	(0.00)	(0.00)	(0.00)
High Trump X Post National Guideline		0.034***		-0.014***
		(0.01)		(0.00)
High Trump X Post Stay Home		0.011*		-0.003
		(0.01)		(0.00)
Observations	90,239	90,239	43,152	43,152
Adjusted R-squared	0.868	0.869	0.948	0.948
Day FE	Yes	Yes	Yes	Yes
County FE	Yes	Yes	Yes	Yes
Health Controls	Yes	Yes	Yes	Yes

Table 1 presents estimates from multi-variable regression, where we regress our two mobility measures on indicators for state stay at home orders. To examine the differential social distancing behavior, we interact *Post Stay Home Order* and *Post National Guidelines* with an indicator for high voter participation (county being in the top quartile of voter participation). Post National Guidelines is an indicator variable for days after March 16th, when the White House issued a national stay at home recommendation (Coronavirus Guideline for America). We also control for the interaction between the share of Trump voters and *Post Stay Home Order* and *Post National Guidelines* to separate the potential confounding effect of civicness and political leaning. Each specification includes controls for the log number of confirmed cases, county fixed effects, and day fixed effects. Standard errors are clustered by county.

Table 2: Trust toward others and social distancing behavior

VARIABLES	# people socially (excluding people living with)			
	(1)	(2)	(3)	(4)
Trust in other people	-0.082**	-0.081***	-0.086**	-0.085**
	(0.033)	(0.033)	(0.035)	(0.035)
Trust the US Government	0.059	0.025	0.031	0.029
	(0.028)**	(0.029)	(0.030)	(0.030)
Lean Republican		0.331***	0.306***	0.312***
		(0.074)	(0.080)	(0.080)
Fearful of getting sick			0.041	0.040
			(0.036)	(0.036)
Log of population density in county			-0.029	-0.006
			(0.023)	(0.027)
Income per capita in the county			0.000	0.000
			(0.000)	(0.000)
Number of cases in the county				-0.030
				-0.022
Observations	940	929	871	871

Table 2 presents estimates from multi-variable ordered probit regressions where the dependent variable is the answer to the question: "About how many people were you in close physical contact with socially in the past seven days not including people that live with you? This includes the number of family members, friends, people at religious services, and people at other social gatherings you saw in person. (IF NECESSARY: Please do not include those you saw for work-related reasons.)" The main variable of interest is "trust in other people" which is the answer to the question" On a scale from 1 to 5 where 1 means "I do not trust them at all" and 5 means "I trust them completely," Can you please tell me how much do you trust other people? We include controls such as trust in the U.S. government, Lean Republican (a dummy variable equal to one if respondents answer republican to the question "As of today do you lean more to the Republican Party or more to the Democratic Party?") Fearful of getting sick (a variable that takes higher values if individual reports to be fearful of getting sick from coronavirus), and county-level measures for population density, income per capita and the number of cases.

Figure 2: Mobility and High Trust (International)
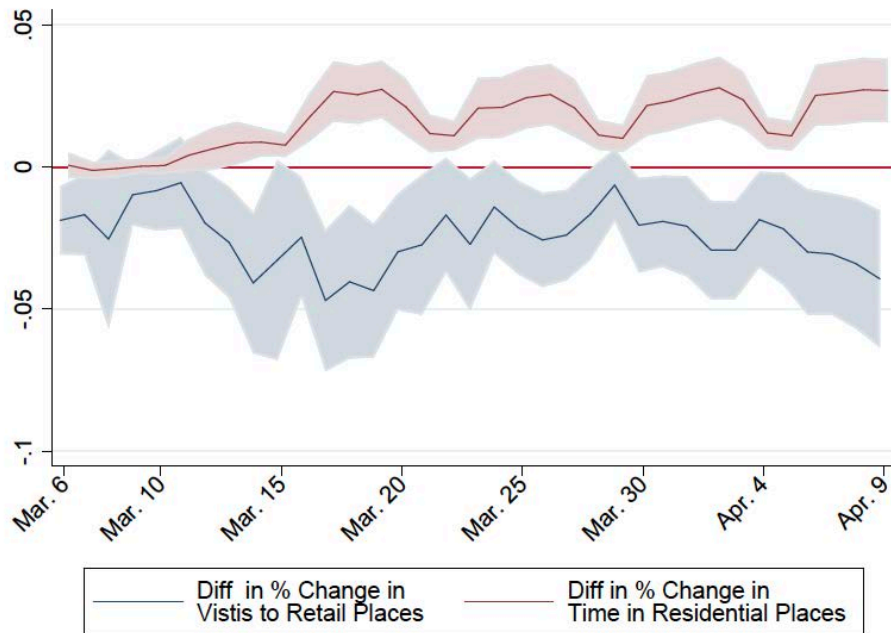
Figure 2 plots the estimates obtained by regressing the percent change in mobility measures on the interaction between high trust regions and the day indicator. We define regions at the NUTS level 1. The specification includes country by day fixed effects. Each of the estimates includes 95 percent confidence intervals. Standard errors are clustered at the regional level. The plot captures the difference in social distance behavior between high trust regions and the rest of the regions on each day. We plot in blue the change in mobility in retail (excluding groceries and pharmacies) and recreation, while in red, we plot the change in Residential mobility during the sample period. We find that high trust regions reduce their visits to retail locations to a larger extent than low trust regions. Moreover, when practicing social distancing, people tend to move more in the proximity of their residence. In areas with high civic capital, the percentage change in residential mobility is higher than in areas with low civic capital.

Table 3: Trust toward others and social distancing behavior

VARIABLES	(1) Chg. Retail	(2) Chg. Retail	(3) Chg. Retail	(4) Chg. Resident	(5) Chg. Resident	(6) Chg. Resident
Avg. Trust	-0.034***	-0.031***	-0.023**	0.018***	0.018***	0.013***
	(0.01)	(0.01)	(0.01)	(0.00)	(0.00)	(0.00)
Lag Num of Death per milli	-0.009***	-0.009***	-0.011***	0.004***	0.004***	0.005***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Log(Population Density)	-0.018***	-0.018***	-0.015***	0.009***	0.008***	0.007***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Avg. Political Leaning		-0.012	-0.003		-0.001	-0.002
		(0.01)	(0.01)		(0.00)	(0.003)
Trust in Politicans			-0.096*			0.037**
			(0.06)			(0.02)
Observations	4,404	4,404	4,404	4,404	4,404	4,404
Adjusted R-squared	0.888	0.888	0.887	0.892	0.892	0.892
Mean. Outcome	-0.41	-0.41	-0.41	0.13	0.13	0.13
Date Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes
Country Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes

Table 3 presents estimates from multi-variable regression, where we regress international mobility measures on indicators for the level of trust in the NUTS 1 regions. To measure trust, we averaged ESS data over 8 waves, including France only in the last survey because NUTS classifications have changed over time in France. We control for the lag number of deaths in the region, population density, the average voting preferences and trust in politicians in the NUTS region, country fixed effects, and day fixed effects. Standard errors are clustered by country.

Figure 3: Mobility Around State Reopenings
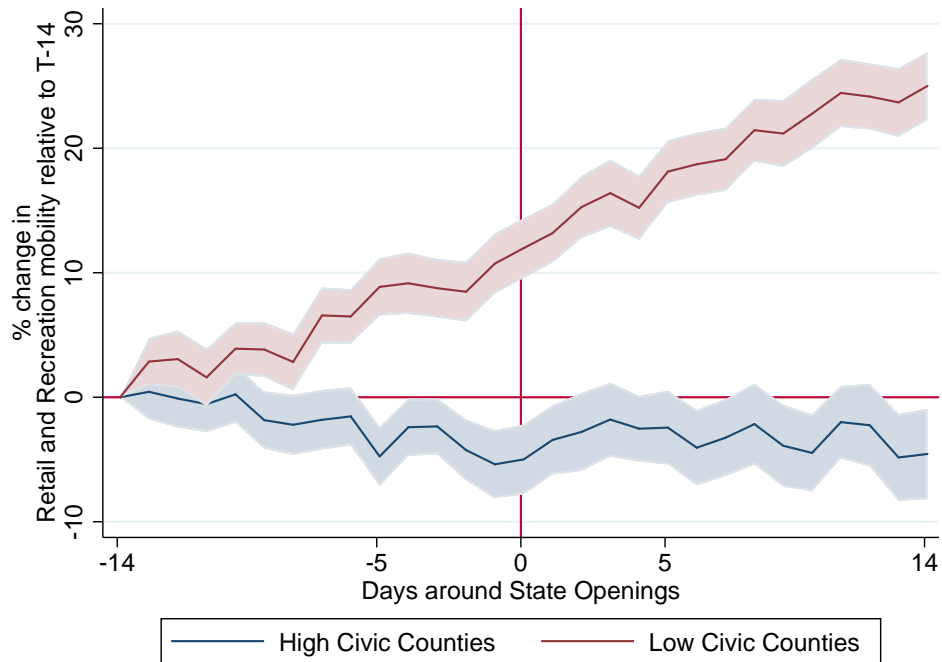
Figure 3 analyses changes in social distancing behavior (percent changes in phone mobility near Retail and Recreation) around the time of the loosening of U.S. state restrictions. The figure traces in event time the changes in mobility for high civic capital counties (top quartile of voter participation) in blue and the low civic capital counties (lowest quartile of voter participation) in red. The plotted estimates are obtained by regressing the percent change in mobility measures on event day dummies, and we set the base date as 14 days before the state opens. The specification includes calendar day fixed effects, and controls for COVID-19 cases, the population density, Trump voter share, and per capita income in the counties. Each of the estimates includes 95 percent confidence intervals. Standard errors are clustered at the county level. The graph shows sharp differences between the two groups with high compliance in high civic areas when the states open up. We provide various alternative specifications to the above figure in the supplemental material.

Supplementary Materials for

Civic Capital and Social Distancing Compliance during the Covid-19

Pandemic

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This PDF file includes:

Overview

This Supporting Online Material provides details on the data used, the methods followed in the analysis and the robustness of the analysis for the results derived in the paper.

Materials and Methods for the U.S. Analysis

<u>Mobility data</u>

We use two different sources of data to measure people's mobility at the county level. Our primary measure of mobility, which we use for both the U.S. and the international analysis, comes from the Google COVID-19 Community Mobility Report, which reports aggregated location data from users who have opted-in to Location History for their Google Account. Google calculates visits and length of stay at different places change compared to a baseline. Changes for each day are compared to a baseline value for that day of the week: Google uses as a baseline the median value, for the corresponding day of the week, during the 5-week period Jan 3–Feb 6, 2020. The data contain information on community mobility based on the type of location: Retail and Recreation, Grocery and Pharmacy, Parks, Transit stations, Workplaces, and Residential, with Residential and Parks having the opposite trends than all the other measures in the presence of social distancing rules, as people are more likely to spend time in parks and be in their residence. In the primary analysis in the paper, we use two of these community mobility measures: "Retail and Recreation" and "Residential." Retail and recreation is defined as the percent change in visits to places like restaurants, cafes, shopping centers, theme parks, museums, libraries, and movie theaters. In contrast, the Residential measure is defined as the percent change in time spent by individuals' at their place of residence. Figure S1 Panel A maps the two Google mobility-based measures used in the main text geospatially.

The second source of mobility data is from Unacast, a location data products company that combines granular location data from tens of millions of anonymous mobile phones and their interactions with each other each day. They then extrapolate the results to the population level. The

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data spans the period of February 24th to May 17th, 2020. They provided data to us on the change in average daily distance traveled from baseline (avg. distance traveled for the same day of the week during the pre-COVID-19 period for a specific county) and the change in visits to non-essential retail and services from baseline (avg. visits for the same day of the week during the non-COVID-19 period for a specific county). The pre-COVID baseline period is defined as January 1, 2020, to March 8th, 2020. The company uses the guidelines issued by various state governments and policymakers to categorize venues into essential vs. non-essential, with essential locations including venues such as food stores, pet stores, and pharmacies. They calculate the average visitation for each day of the week prior to the COVID-19 outbreak (defined as March 8th and earlier) as a baseline and compare those baselines to visits on the corresponding days of the week post-outbreak (March 9th to the present). By always comparing Saturdays to Saturdays, Tuesdays to Tuesdays, and so forth, social distancing in these measures is captured in the context of the regular visitation rhythm of the 7-day week. Figure S1 Panel B maps the average daily level of the Unacast social distancing behavior measures geospatially. On the left, we plot the daily average of the percentage change in distance traveled in the county relative to the pre-COVID period, while on the right, we plot the daily average of the percentage change in visits to non-essential business in the county relative to the pre-COVID-period. Figure S1 Panel B maps these geospatially in a similar manner to Figure S1 Panel A.

Civic and Social Capital Data

We use three different measures of civic and social capital. The first is voter participation, calculated by using data from the 2004 to 2016 presidential elections, obtained from the MIT Election Data Science and Lab (MEDSL). For each county and election, we calculate voter participation as the number of votes cast divided by the number of voting-age individuals in the county. We then take the average across the five elections to generate the Civic Capital measure. Figure S2 maps the measure geospatially across the U.S.

The second measure is a social capital composite index developed by the Social Capital Project from the U.S. Joint Economic Committee. The index is constructed from four sub-indexes at the county level: (1) a family Unity sub-index; (2) a Community health sub-index; (3) an institutional health sub-index; (4) and a collective efficacy sub-index. The data are downloaded from https://www.jec.senate.gov/public/index.cfm/republicans/2018/4/the-geography-of-social-capital-in-america. We denote this measure Social Capital Measure 1.

The second measure is a social capital composite index from Rupasingha et al. 2006 that uses a principal component analysis to include four social capital factors: (1) The aggregate of various civic, religious, business, labor, political associations in the county divided by population per 1,000; (2) Voter turnout in the 2012 election; (3) Census response rate; (4) Number of non-profit organizations without including those with an international approach. The four factors are standardized to have a mean of zero and a standard deviation of one, and the first principal component is considered as the index of social capital. We denote this measure Social Capital Measure 2.

Individual Survey Data

We augment our analysis with survey level data, where we ask respondents about their specific behavior and how much they trust people in general. This information comes from a special edition of the Financial Trust Index. A survey used to study the level of trust in institutions that a representative sample of Americans have. This wave of the survey was conducted for the Financial Trust Index via telephone by SSRS on April 6th, 2020 – April 12th, 2020, among U.S. adults. A total of 980 interviews were conducted, with a margin of error for total respondents of +/-3.43% at the 95% confidence level. The survey collects information on demographics and various other variables (http://www.financialtrustindex.org/). For the purpose of our study, we focus on the answer to the question "About how many people were you in close physical contact with socially in the past seven days not including people that live with you? This includes the number of family members, friends,

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people at religious services, and people at other social gatherings you saw in person. (IF NECESSARY: Please do not include those you saw for work-related reasons.) "We correlate the above answer with: (1) a measure of generalized trust, the answer to the question "On a scale from 1 to 5 where 1 means "I do not trust them at all" and 5 means "I trust them completely," Can you please tell me how much do you trust other people?"; (2) a measure of trust in the U.S. government; (3) a measure of political preferences (measured by the answer to the question "As of today do you lean more to the Republican Party or more to the Democratic Party?"); and (4) a control for fear of the virus (a variable that takes higher values if individual reports to be fearful of getting sick from coronavirus).

Controls

To account for different risk factors, we control for exposure to COVID-19 in the county by including the log number of new COVID-19 cases and deaths measured on each county day. The number of confirmed COVID-19 cases and deaths in a county are obtained from the COVID Tracking Project.[1] The Project collects data on cases and deaths from COVID-19 from state/district/territory public health authorities (or, occasionally, from trusted news reporting, official press conferences, and social media updates from state public health authorities or governors). The data includes the location and date of each case and death, allowing us to geo-assign them to a county-day.

To control for differential effects driven by state mandates, we code the information on when each state government-issued "Stay Home" (shelter-in-place) directive. Data is through April 2, 2020. Data is obtained from FINRA (https://www.finra.org/rules-guidance/key-topics/covid-19/shelter-in-place). Figure S3 maps these mandates geospatially across the U.S. We finally include the following socio-economic variables at the county level: population, population density, per capita income, and the

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[1] The data can be obtained from: https://coronavirus.1point3acres.com/en.

percentage of Trump votes in the county obtained in the 2016 election.

Materials and Methods for the International Analysis

<u>Mobility data</u>

For the international analysis, we used the same source of data to measure people's mobility at the international level. The measure comes from Google COVID-19 Community Mobility Report, which reports aggregated location data from users who have opted-in to Location History for their Google Account. Google calculates the change in visits and length of stay at different places compared to a baseline. Changes for each day are compared to a baseline value for that day of the week: Google uses as a baseline the median value for the corresponding day of the week during the 5-week period Jan 3–Feb 6, 2020. As for the domestic survey, we focus on two measures of mobility: Retail and Recreation and Residential. Retail and Recreation does not include essential retail, such as grocery and pharmacy.

<u>Proxy for civic capital: trust</u>

To study social distancing internationally, we perform an analysis within countries that allows us to absorb country-level characteristics, using country fixed effects. There are very limited measures of civic capital at the regional level within a country that are available for a large enough set of countries. The most comprehensive option is the European Social Value Survey (ESS), which contains data at the regional level for European countries. The ESS is a biennial cross-national survey of attitudes and behavior established in 2001 and conducted in 41 European countries over time. The ESS uses cross-sectional probability samples, which are representative of all persons aged 15 and over residing within private households in each country. The ESS contains information on regions using the NUTS system, the Nomenclature of Territorial Units for Statistics, a standardized system for referencing subnational regions within European countries created by the European Union. NUTS is a hierarchical system, with three levels of NUTS defined. Each E.U. Member State is subdivided into

several regions at the NUTS 1 level. Each of these regions is then subdivided into subregions at NUTS level 2, and these, in turn, into lower regions at NUTS level 3. To generate a regional measure of civic capital, we face a trade-off. The finer the regional classification, the closer is the match with the mobility data, but the coarser are the civicness measures, as they average fewer responses in each given area. For that reason, we start with NUTS1 classifications, for larger macro-regions (92 sub-regions corresponding to 82 unique regions in ESS). We then do additional robustness tests with NUTS2 regions (244 sub-regions corresponding to 114 unique regions in ESS), knowing that our measure of civic capital may become noisier in the process. In the main analysis, to generate a trust variable, we average all ESS surveys responses to the question, "generally speaking, would you say that most people can be trusted, or that you can't be too careful in dealing with people? Please tell me on a score of 0 to 10, where 0 means you can't be too careful, and 10 means that most people can be trusted." Because France has changed its definition of NUTS regions over time, in our main analysis, we exclude France. In supplementary analysis, we only average responses in the last survey, and we can include France.

Controls

Similar to our U.S. analysis, we control for several characteristics at the country level. To account for different risk factors, we control for exposure to COVID-19 in the country, including the log number of new COVID-19 deaths per million population at the country level measured on each preceding day (source: Johns Hopkins CSSE data https://coronavirus.jhu.edu). We also control for (log) population density (source: Eurostat) and a measure of political leaning based on the regional average of the answer to ESS question: "In politics people sometimes talk of 'left' and 'right.' Using this card, where would you place yourself on this scale, where 0 means the left and 10 means the right?"

Supplementary Text

In this section, we reinforce the results presented in the main text of the paper and perform additional analysis using alternative measures of mobility and civic capital at the U.S. level. We also demonstrate additional robustness of our results at the international level.

U.S. Social Distance Results

Figure S1 illustrates the spatial distribution of mobility behavior in the U.S. The top two panels use Google data on the percentage change in retail and recreation visits (left) and staying in residential areas (right). The bottom two panels report percentage changes in distance traveled (left) and non-essential business visits (right) using Unacast data. The figure demonstrates the heterogeneity in mobility behavior across the country–with the largest declines in mobility and non-essential and retail visits in the North-East region and lowest declines in the South and Southwest areas of the U.S.

In Figure S2 we present the geographical variation in voter participation – one of our measures of civic capital across the U.S. Voter participation is calculated by taking the average voter participation in the 2004, 2008, 2012, and 2016 presidential elections in a county. The figure demonstrates the heterogeneity in voter participation – with voter participation tending to be higher in the North East, Mid-West, and Mid-West and Northern Mountain and Pacific areas.

Next, we provide graphical relations between the various google social distancing measures and our measure of civic capital in Figure S3. Figure S3 presents bin scatter plots relating google social mobility data to the measure of civic capital based on electoral participation. Each of the plots controls for the log number of confirmed cases, population density, income per capita, population, the day of the week, and the number of days since the first case in the county. The various plots clearly show that increases in civic capital are associated with decreases in the various measures of social distance behavior. Figure S4 repeats the same exercise using Unacast mobility data. The patterns are consistent with those displayed in Figure S3.

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We display the temporal variation in state-level social distancing mandates in Figure S5. Specifically, Figure S5 shows the timing of state-level social distancing guidance using darker shades for the states that issued "stay home" and "shelter-in-place" directives later.

Figure S6 replicates Figure 1 from the main text, using the Unacast measures of mobility rather than the Google mobility measures. The plotted estimates are obtained by regressing the Unacast mobility measures on the interaction between High Voter Participation county and the day indicator. The specification includes county fixed effects, state by day fixed effects, and controls for COVID-19 cases and deaths. The lower the coefficient, the higher the social distancing compliance in the counties in the bottom three quartiles of voter participation relative to the high vote participation counties (Q4). Each of the estimates includes 95 percent confidence intervals. Standard errors are clustered at the county level. The plot exhibits similar patterns to those obtained with Google data, with slightly larger magnitudes: counties with higher voter participation comply more with social distancing guidelines, reducing mobility relative to lower civic capital counties.

Table S1 reports estimates from a multivariate regression of changes in mobility (based on Google data) as a dependent variable on voter participation from presidential elections as the main explanatory variable (our proxy for civic capital). We include as explanatory variables voter participation (our main measure of civic capital in the U.S.), Trump vote share in the county in the 2016 Presidential election, log population, income per capita, population density, log (1+number of new COVID-19 cases), log (1+number of new COVID-19 deaths) as well as Day X State fixed effects. Panel A reports results from a regression that uses the change in retail and recreation visits, and Panel B uses the change in time spent in residential areas as the dependent variable. Consistent with the inferences in Figure 1, we observe that areas with higher civic capital are associated with greater social distancing as reflected by lower daily visits to retail and recreational locations and higher amounts of time spent in the residence.

Table S2 conducts a similar analysis to Table S1 using Unacast data to measure social distancing. The table reports the estimate for two social distancing measures: change in distance traveled (columns 1-7) and change in non-essentials visits (columns 8-14). Consistent with our prior results, we again observe greater social distancing as reflected by lower daily distance traveled and fewer visits to non-essential businesses relative to the pre-COVID period in areas with higher civic capital.

To demonstrate the robustness of our analysis, in Table S3, we replicate the analysis in Tables S1 and S2 using an alternative measure of civic capital: Social Capital Measure 1 (see definition above). The table presents an analysis using measures of social distancing from both Google and Unacast. Consistent with the analysis in Table S1, we observe greater social distancing compliance in areas with high social capital. The magnitude of the association is consistent across the various social distancing outcomes and statistically significant across specifications. Table S4 replicates the analysis in Tables S3 using Social Capital Measure 2 (see discussion above) as the alternative measure of civic capital. In line with our previous results, we continue to observe greater social distancing as reflected by lower daily distance traveled and fewer visits to non-essential businesses relative to the pre-COVID period in areas with higher social capital. These results are of similar magnitude as those observed in Table S3.

We next examine the robustness of our results from Table 1 to alternative social distancing outcomes. Specifically, Table S5 replicates the analysis in Table 1 in the main text. It explores the differential response of High Civic Capital areas to state-level social distancing mandates and a national guideline. Here, we use data from Unacast to construct our dependent variable instead of Google data. In line with our initial inferences in Table 1, we obtain similar results using the Unacast measures of social distancing. Finally, to conclude our analysis of the robustness of the results from Table 1, in Table S6, we replicate that analysis using the two alternative measures of civic capital—Social Capital 1 and Social Capital 2 (see definitions above)—along with mobility measures from

both Google and Unacast. We find results highly consistent with our main inferences in Table 1. Both measures of social capital are significantly associated with higher social distancing compliances around state distancing mandates across the various outcome measures. Overall, our robustness analysis of the U.S. data further reinforces significant relations between civic capital and social distancing compliance.

Finally, Figure S7 presents robustness to the results presented in Figure 3 in the main text. We show the patterns for social distancing in high (Q4) and low (Q1) voter participation counties around the re-opening of states. Panel A replicates Figure 3 using the Google residential measure, while Panel B replicates Table 3 using the two Unacast mobility measures. The patterns are similar to those in Figure 3 in the main text: in high civic capital counties, even with the reopening of states, residents continue to exhibit high levels of social distancing and do not increase their mobility much, if at all. In contrast, residents of low civic capital counties begin to increase their mobility even prior to re-opening, and this increase continues to rise after re-opening steadily.

International Results

In the principal analysis, we provided international evidence of the correlation between social distancing behavior and civicness, using NUTS1 regions. In Table S7, we replicate the results of Table 3 in the main text utilizing NUTS2 areas. Because there are much fewer observations in the NUTS2 region, this potentially adds noise to our regressions. Consistent with this, the coefficients are lower than in Table 3, but they retain the same sign, and they remain statistically significant.

Supplementary Materials Tables and Figures

Figure S1: Trends in Mobility Behavior

Trends in Mobility Behavior - Google

Percentage Change In Retail Visits

Percentage Change Residential
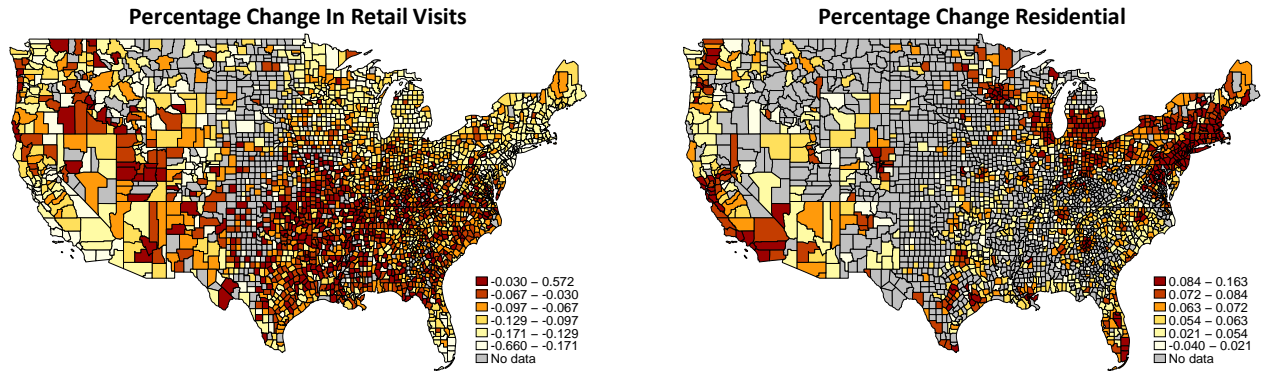
We plot the average daily level of two mobility behavior measures based on Google data. In the left panel, we plot the daily average of the percentage change in visits to retail and recreation for the county (relative to the pre-COVID period). In contrast, in the right panel, we plot the average percentage change in time in the residence in the county (relative to the pre-COVID-period).

Trends in Mobility Behavior – Unacast

Percentage Change In Avg. Distance Traveled

Percentage Change in Visits to Non-Essential Business
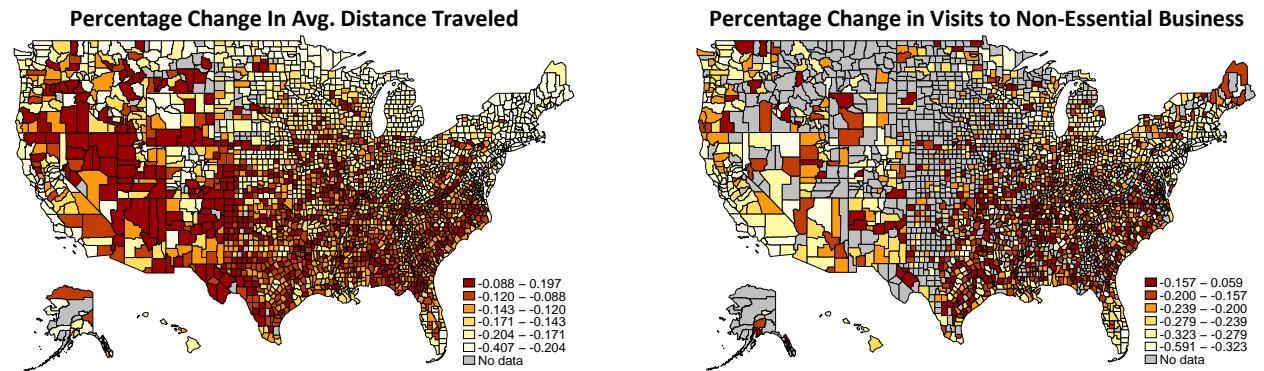
We plot the average daily level of two mobility behavior measures based on Unacast data. In the left panel, we plot the daily average of the percentage change in distance traveled in the county (relative to the pre-COVID period). In contrast, in the right panel, we plot the daily average of the percentage change in visits to non-essential businesses in the county (relative to the pre-COVID-period).

Figure S2: Civic Capital

Voter Participation

> 90%
80% - 90%
60% - 80%
40% - 60%
20% - 40%
< 20%
No data
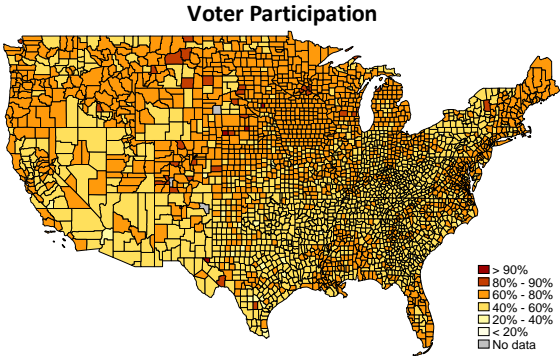
This figure plots our measure of civic capital based on voter participation for each of the counties. Our measure is calculated by taking the average voter participation in the 2004, 2008, 2012, and 2016 presidential elections it the county. The data is obtained from the MIT Election Data Science and Lab (MEDSL).

Figure S3: Bin-Scatter Plots of Social Distancing Behavior vs. Voter Participation - Google Mobility Measures
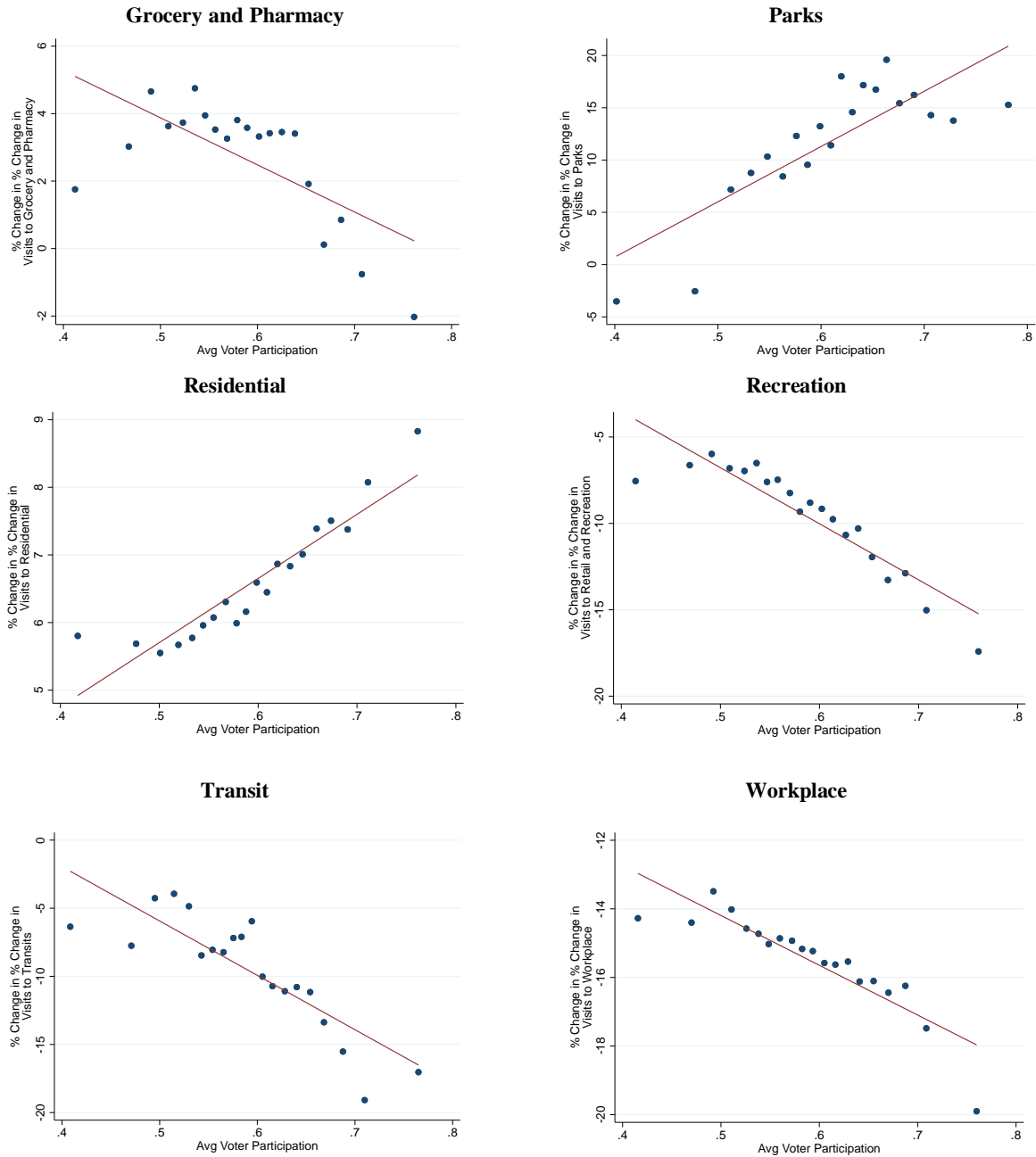
Figure S4 plots the various measures of social distancing from google against the county voter participation rate. In addition to examining the change in mobility in retail and recreation (excluding groceries and pharmacies) and residential, we also include visits to grocery stores, parks, transit stations, and the workplace. Each plot controls for log 1+ number of new confirmed cases that day, log 1+ number of COVID-19 deaths that day, population density, income per capita, population, and day of the week.

Figure S4: Bin-Scatter Plots of Social Distancing Behavior vs. Voter Participation – Unacast Mobility Measures

<table>
<tr>
<td align="center">Panel A:</td>
<td align="center">Panel B:</td>
</tr>
<tr>
<td align="center">Percent Change in Daily Distance Traveled</td>
<td align="center">Percent Change in Visits to Non-Essential Businesses</td>
</tr>
</table>
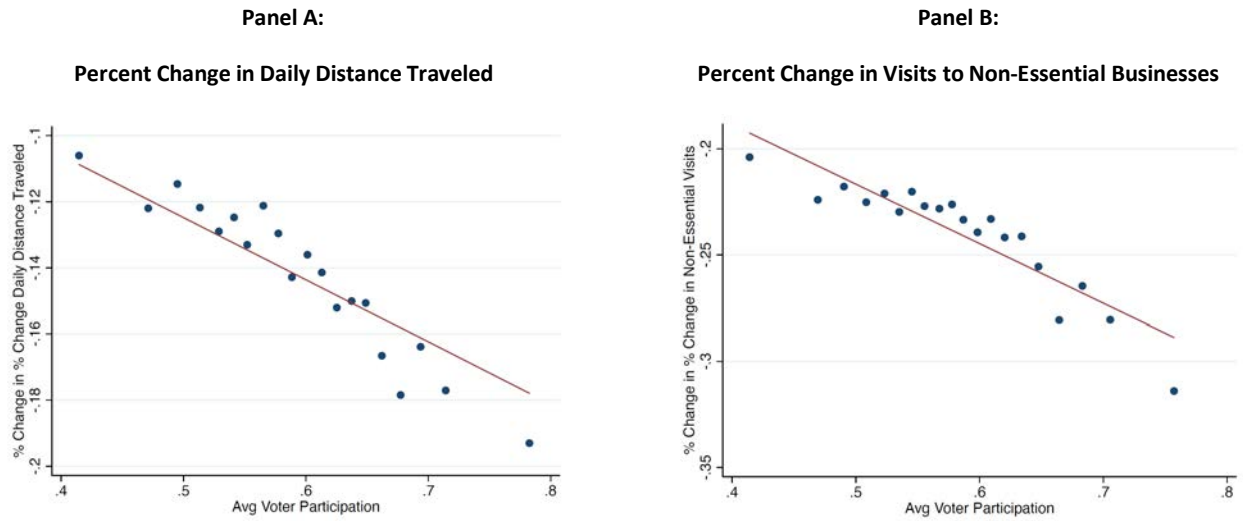
Figure S5 plots our two measures of social distancing against the county voter participation rate. Panel A uses the percent change in daily distance traveled while Panel B uses the percent change in visits to non-essential businesses. Each plot controls for log 1+ number of new confirmed cases that day, log 1+ number of COVID-19 deaths that day, population density, income per capita, population, and day of the week.

Figure S5: State-Level Social Distancing Guidance

Stay Home – Work Safe Mandates
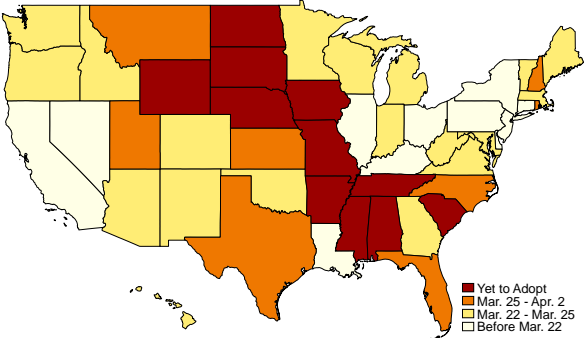
Figure S3 plots the date when each state government-issued "Stay Home" (shelter-in-place) directive. Data is through April 2, 2020. The dates are obtained from FINRA (https://www.finra.org/rules-guidance/key-topics/covid-19/shelter-in-place).

Figure S6: Replication of Figure 1 using Unacast Mobility Data
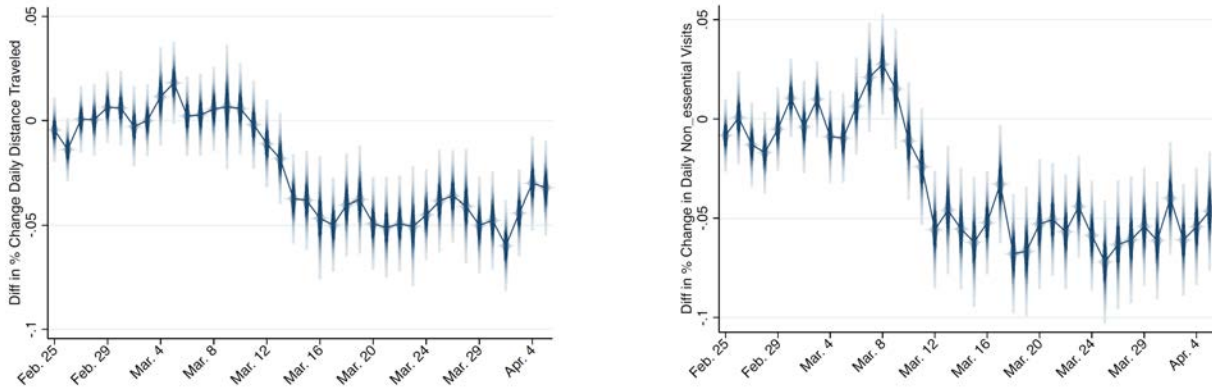
Figure S6 plots the differential changes in mobility (the percentage change in travel distancing (right panel) and visits to non-essential businesses (left panel)) for High Voter Participation counties versus all others by calendar time (day). The plotted estimates are obtained by regressing the Unacast mobility measures on the interaction between High Voter Participation county and the day indicator. The specification includes county fixed effects, state by day fixed effects, and controls for COVID-19 cases and deaths. The lower the coefficient, the higher the social distancing compliance in the counties in the bottom three quartiles of voter participation relative to the high vote participation counties (Q4). Each of the estimates includes 95 percent confidence intervals. Standard errors are clustered at the county level.

Figure S7: Social Distancing Around State Openings

Panel A: Replication of Figure 3 (main text) using Google Residential Measure
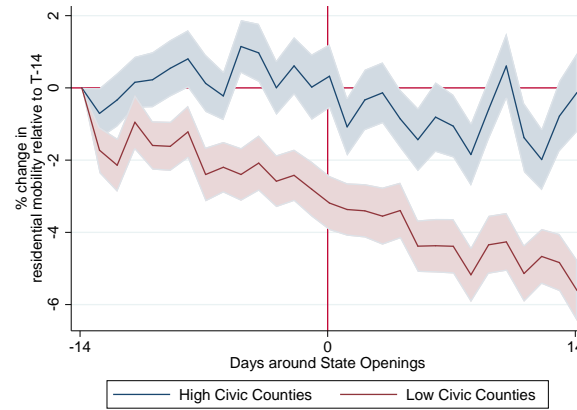
Panel B: Replication of Figure 3 (main text) for Unacast Social Distancing Measures
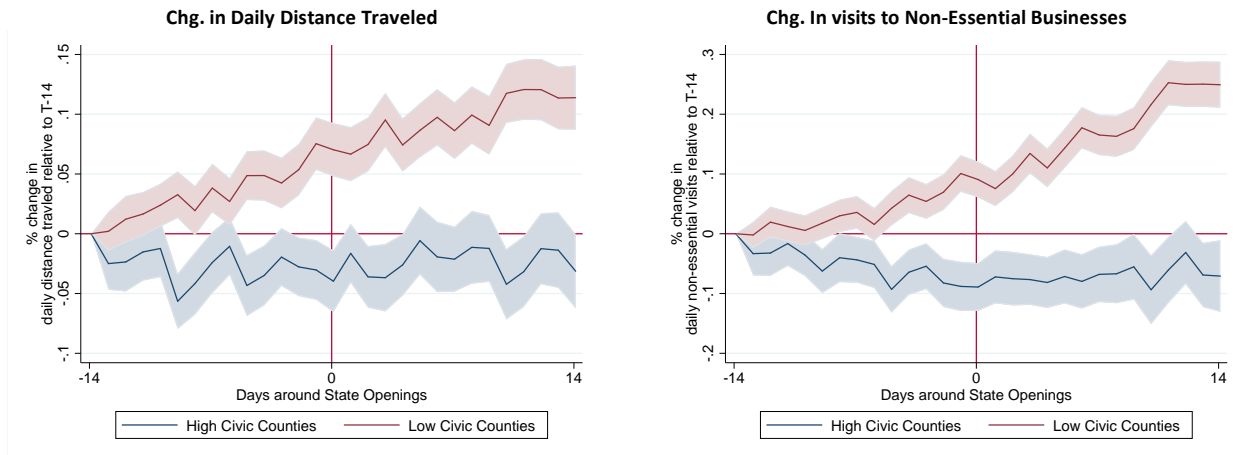
This figure replicates the specification used in Figure 3 of the main text. In Panel A, we repeat the analysis using the residential measure. Panel B is done using our two Unacast social distancing measures the percentage change in the average distance traveled (left panel) and change in visits to non-essential businesses (righty panel). The figures trace in event time the changes in mobility for high civic capital counties (top quartile of voter participation) in blue and the low civic capital counties (lowest quartile of voter participation) in red. The plotted estimates are obtained by regressing the percent change in mobility measures on event day dummies, and we set the base date as 14 days before the state opens. The specification includes calendar day fixed effects, and controls for COVID-19 cases, the population density, Trump voter share, and per capita income in the counties. Each of the estimates includes 95 percent confidence intervals. Standard errors are clustered at the county level. The graph shows sharp differences between the two groups with high compliance in high civic areas when the states open up. We provide various alternative specifications to the above figure in the supplemental material.

Table S1: Alternative Specification for Table 1 (Main Text)

Panel A:

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)
				Chg. Retail_Recreation			
Voter Participation	-0.311***	-0.247***	-0.252***	-0.250***	-0.241***	-0.227***	-0.227***
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Trump Vote Share		0.188***	0.134***	0.132***	0.127***	0.121***	0.121***
		(0.01)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Lop Population			-0.012***	-0.011***	-0.004	-0.001	-0.001
			(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Income Per Cap				-0.000	-0.000	-0.000	-0.000
				(0.00)	(0.00)	(0.00)	(0.00)
Pop Density					-0.007**	-0.007**	-0.007**
					(0.00)	(0.00)	(0.00)
Log(New COVID Cases +1)						-0.013***	-0.013***
						(0.00)	(0.00)
Log (New Death +1)							-0.001
							(0.01)
Observations	89,993	89,993	86,981	86,981	86,981	86,907	86,897
Adjusted R-squared	0.818	0.827	0.830	0.831	0.831	0.832	0.832
DayXState FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Health Controls	No	No	Yes	Yes	Yes	Yes	Yes

Panel B:

VARIABLES	(8)	(9)	(10)	(11)	(12)	(13)	(14)
				Chg. Residential			
Voter Participation	0.193***	0.154***	0.131***	0.132***	0.121***	0.108***	0.108***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Trump Vote Share		-0.084***	-0.053***	-0.053***	-0.043***	-0.039***	-0.039***
		(0.00)	(0.01)	(0.01)	(0.00)	(0.00)	(0.00)
Lop Population			0.009***	0.008***	0.001	-0.002*	-0.002*
			(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Income Per Cap				0.000	0.000	-0.000	-0.000
				(0.00)	(0.00)	(0.00)	(0.00)
Pop Density					0.008***	0.007***	0.007***
					(0.00)	(0.00)	(0.00)
Log(New COVID Cases +1)						0.009***	0.008***
						(0.00)	(0.00)
Log (New Death +1)							0.002*
							(0.00)
Observations	42,918	42,918	41,628	41,628	41,628	41,605	41,596
Adjusted R-squared	0.906	0.922	0.929	0.929	0.932	0.937	0.937
DayXState FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Health Controls	No	No	Yes	Yes	Yes	Yes	Yes

This provides a multivariate analysis of changes in social distancing behavior with respect to voter participation at the county level. The dependent variable is the percentage change in: visits to retail and recreational POI (Panel A) and residential time (Panel B). In each specification, we regress the SDB on average voter participation (average of voter participation from presidential elections 08-16). Each of the specifications includes Day X State fixed effects. The second column of each set begins to add controls for county characteristics that may affect SDB: log population, log population density, per capita income, and trump vote share. Additionally, we add COVID-19 risk-related controls: log one plus the number of new COVID-19 cases and log one plus the number of new COVID-19 deaths. Standard errors are reported in parenthesis and are clustered at the county level.

Table S2: Replication of Table S1 using Unacast Social Distancing Measures

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
				Chg. Dist							Chg. NE Visits			
Voter Participation	-0.138***	-0.133***	-0.242***	-0.233***	-0.217***	-0.191***	-0.190***	-0.270***	-0.149***	-0.116***	-0.121***	-0.101***	-0.074**	-0.074**
	(0.05)	(0.05)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.04)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Trump Vote Share		0.091***	0.026**	0.022	0.011	0.002	0.002		0.330***	0.173***	0.179***	0.167***	0.156***	0.156***
		(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)		(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Lop Population			-0.014***	-0.012***	0.005	0.009***	0.009***			-0.038***	-0.044***	-0.032***	-0.026***	-0.026***
			(0.00)	(0.00)	(0.00)	(0.00)	(0.00)			(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Income Per Cap				-0.000**	-0.000**	-0.000	-0.000				0.000***	0.000***	0.000***	0.000***
				(0.00)	(0.00)	(0.00)	(0.00)				(0.00)	(0.00)	(0.00)	(0.00)
Pop Density					-0.018***	-0.017***	-0.017***					-0.014***	-0.013***	-0.014***
					(0.00)	(0.00)	(0.00)					(0.00)	(0.00)	(0.00)
Log(New COVID Cases +1)						-0.023***	-0.023***						-0.024***	-0.025***
						(0.00)	(0.00)						(0.00)	(0.00)
Log (New Death +1)							0.001							0.002
							(0.00)							(0.00)
Observations	101,252	101,252	97,994	97,994	97,994	97,918	97,907	64,722	64,722	62,033	62,033	62,033	61,967	61,956
Adjusted R-squared	0.646	0.649	0.658	0.658	0.660	0.664	0.664	0.713	0.740	0.759	0.760	0.761	0.765	0.765
DayXState FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Soc-Econ Controls	No	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes
Health Controls	No	No	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes

This table provides a multivariate analysis of changes in social distancing behavior with respect to voter participation at the county level. The dependent variable is the percentage change in: distance traveled in the county (column 1-7) and non-essential visits (columns 8-15). In each specification, we regress the SDB on average voter participation (average of voter participation from presidential elections 08-16). Each of the specifications includes Day X State fixed effects. The second column of each set begins to add controls for county characteristics that may affect SDB: log population, log population density, per capita income, and trump vote share. Additionally, we add COVID-19 risk-related controls: log one plus the number of new COVID-19 cases and log one plus the number of new COVID-19 deaths. Standard errors are reported in parenthesis and are clustered at the county level.

Table S3: Replication of Tables S1 and S2 using Alternative Social Capital Measure 1

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	Chg. Retail Recreation							Chg. Residential						
Social Capital 1	-0.012***	-0.033***	-0.033***	-0.033***	-0.032***	-0.031***	-0.031***	0.010***	0.020***	0.019***	0.019***	0.018***	0.017***	0.017***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Trump Vote Share		0.269***	0.202***	0.201***	0.193***	0.184***	0.184***		-0.130***	-0.087***	-0.087***	-0.075***	-0.069***	-0.070***
		(0.01)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)		(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Lop Population			-0.015***	-0.014***	-0.007*	-0.004	-0.004			0.010***	0.010***	0.003**	-0.001	-0.001
			(0.00)	(0.00)	(0.00)	(0.00)	(0.00)			(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Income Per Cap				-0.000	-0.000	-0.000	0.000				0.000	0.000	-0.000*	-0.000**
				(0.00)	(0.00)	(0.00)	(0.00)				(0.00)	(0.00)	(0.00)	(0.00)
Pop Density					-0.008**	-0.007**	-0.007**					0.008***	0.008***	0.008***
					(0.00)	(0.00)	(0.00)					(0.00)	(0.00)	(0.00)
Log(New COVID Cases +1)						-0.013***	-0.013***						0.009***	0.008***
						(0.00)	(0.00)						(0.00)	(0.00)
Log (New Death +1)							-0.002							0.003***
							(0.00)							(0.00)
Observations	87,729	87,646	84,735	84,735	84,735	84,664	84,654	42,663	42,663	41,373	41,373	41,373	41,350	41,341
Adjusted R-squared	0.816	0.833	0.837	0.837	0.837	0.838	0.838	0.892	0.928	0.937	0.937	0.939	0.945	0.945
DayXState FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Soc-Econ Controls	No	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes
Health Controls	No	No	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	Chg. Dist							Chg. NE Visits						
Social Capital 1	-0.013***	-0.026***	-0.029***	-0.028***	-0.026***	-0.024***	-0.024***	0.009**	-0.022***	-0.023***	-0.024***	-0.022***	-0.020***	-0.020***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Trump Vote Share		0.155***	0.090***	0.083***	0.066***	0.050***	0.050***		0.381***	0.218***	0.227***	0.214***	0.198***	0.198***
		(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.01)		(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Lop Population			-0.015***	-0.013***	0.005*	0.009***	0.009***			-0.039***	-0.045***	-0.035***	-0.029***	-0.029***
			(0.00)	(0.00)	(0.00)	(0.00)	(0.00)			(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Income Per Cap				-0.000**	-0.000**	-0.000	-0.000				0.000***	0.000***	0.000***	0.000***
				(0.00)	(0.00)	(0.00)	(0.00)				(0.00)	(0.00)	(0.00)	(0.00)
Pop Density					-0.019***	-0.018***	-0.018***					-0.011***	-0.010***	-0.010***
					(0.00)	(0.00)	(0.00)					(0.00)	(0.00)	(0.00)
Log(New COVID Cases +1)						-0.025***	-0.025***						-0.024***	-0.024***
						(0.00)	(0.00)						(0.00)	(0.00)
Log (New Death +1)							0.001							0.001
							(0.00)							(0.00)
Observations	95,368	95,097	92,007	92,007	92,007	91,937	91,926	63,467	63,419	60,772	60,772	60,772	60,710	60,699
Adjusted R-squared	0.650	0.665	0.672	0.672	0.675	0.679	0.679	0.717	0.749	0.768	0.770	0.770	0.774	0.774
DayXState FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Soc-Econ Controls	No	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes
Health Controls	No	No	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes

This table provides a multivariate analysis of changes in social distancing behavior with respect to our Social Capital Measure 1 at the county level. The dependent variables in the top panel are the percentage change in: distance traveled in the county (column 1-7) and non-essential visits (columns 8-15) from google, while the bottom panel used the two measures from Unacast: the percentage change in distance traveled in the county (column 1-7) and non-essential visits (columns 8-15). In each specification, we regress the SDB the Social Capital Measure 1 (taken from the U.S. Joint Economic Committee). Each of the specifications includes Day X State fixed effects. The second column of each set begins to add controls for county characteristics that may affect SDB: log population, log population density, per capita income, and trump vote share. Additionally, we add COVID-19 risk-related controls: log one plus the number of new COVID-19 cases and log one plus the number of new COVID-19 deaths. Standard errors are reported in parenthesis and are clustered at the county level.

Table S4: Replication of Table S2 using Alternative Social Capital Measure 2 (2014 Measure)

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
				Chg. Dist							Chg. NE Visits			
Social Capital 2	-0.003**	-0.006***	-0.012***	-0.011***	-0.011***	-0.010***	-0.010***	0.008**	0.002	-0.016***	-0.017***	-0.017***	-0.016***	-0.016***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Trump Vote Share		0.102***	0.044***	0.038***	0.023*	0.012	0.012		0.341***	0.176***	0.183***	0.168***	0.156***	0.156***
		(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)		(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Lop Population			-0.016***	-0.013***	0.007**	0.011***	0.011***			-0.042***	-0.049***	-0.034***	-0.028***	-0.028***
			(0.00)	(0.00)	(0.00)	(0.00)	(0.00)			(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Income Per Cap				-0.000**	-0.000**	-0.000	-0.000				0.000***	0.000***	0.000***	0.000***
				(0.00)	(0.00)	(0.00)	(0.00)				(0.00)	(0.00)	(0.00)	(0.00)
Pop Density					-0.021***	-0.021***	-0.021***					-0.016***	-0.015***	-0.015***
					(0.00)	(0.00)	(0.00)					(0.00)	(0.00)	(0.00)
Log(New COVID Cases +1)						-0.025***	-0.026***						-0.024***	-0.025***
						(0.00)	(0.00)						(0.00)	(0.00)
Log (New Death +1)							0.004							0.003
							(0.00)							(0.00)
Observations	101,771	101,252	97,994	97,994	97,994	97,918	97,907	64,856	64,722	62,033	62,033	62,033	61,967	61,956
Adjusted R-squared	0.634	0.647	0.654	0.655	0.657	0.662	0.662	0.709	0.739	0.759	0.761	0.762	0.766	0.766
DayXState FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Soc-Econ Controls	No	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes
Health Controls	No	No	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes

This table provides a multivariate analysis of changes in social distancing behavior with respect to our Social Capital Measure 2 at the county level. The dependent variable is the percentage change in: distance traveled in the county (column 1-7) and non-essential visits (columns 8-15). In each specification, we regress the SDB on average voter participation (average of voter participation from presidential elections 08-16). Each of the specifications includes Day X State fixed effects. The second column of each set begins to add controls for county characteristics that may affect SDB: log population, log population density, per capita income, and trump vote share. Additionally, we add COVID-19 risk-related controls: log one plus the number of new COVID-19 cases and log one plus the number of new COVID-19 deaths. Standard errors are reported in parenthesis and are clustered at the county level.

Table S5: Replication of Table 1 (main text) using Unacast Mobility Measures

VARIABLES	(1) Chg. Dist	(2) Chg. Dist	(3) Chg. NE Visits	(4) Chg. NE Visits
Post Stay Home Order	-0.018***	-0.019***	-0.021***	-0.022***
	(0.00)	(0.00)	(0.00)	(0.00)
High Civic Capital X Post National Guideline	-0.039***	-0.038***	-0.047***	-0.043***
	(0.01)	(0.01)	(0.01)	(0.01)
High Civic Capital X Post Stay Home	-0.014***	-0.013***	-0.009**	-0.008*
	(0.00)	(0.00)	(0.00)	(0.00)
High Trump X Post National Guideline		0.008		0.028***
		(0.00)		(0.01)
High Trump X Post Stay Home		0.009*		0.021***
		(0.00)		(0.01)
Observations	101,927	101,927	64,936	64,936
Adjusted R-squared	0.711	0.711	0.839	0.839
Day FE	Yes	Yes	Yes	Yes
County FE	Yes	Yes	Yes	Yes
Health Controls	Yes	Yes	Yes	Yes

Table S5 presents estimates from multi-variable regression, where we regress the two alternative social mobility measures from Unacast on indicators for state stay at home orders. The dependent variable is the percentage change in: distance traveled in the county (column 1-2) and non-essential visits (columns 3-4). To examine the differential social distancing behavior, we interact *Post Stay Home Order* and *Post National Guidelines* with an indicator for high voter participation (county being in the top quartile of voter participation). Post National Guidelines is an indicator variable for days after March 16th, when the White House issued a national stay at home recommendation (Coronavirus Guideline for America). We also control for the interaction between the share of Trump voters and *Post Stay Home Order* and *Post National Guidelines* to separate the potential confounding effect of civic capital and political leaning. Each specification includes controls for the log number of confirmed cases, county fixed effects, and day fixed effects. Standard errors are clustered by county.

Table S6: Replication of Table 1 for Alternative Social Capital Measures and Outcomes

Google Outcomes

VARIABLES	(1) Chg. Retail	(2) Chg. Retail	(3) Chg. Residential	(4) Chg. Residential
Post Stay Home Order	-0.034***	-0.032***	0.013***	0.012***
	(0.00)	(0.00)	(0.00)	(0.00)
High Social Capital 1 X Post National Guideline	-0.050***	-0.045***	0.022***	0.021***
	(0.01)	(0.01)	(0.00)	(0.00)
High Social Capital 1 X Post Stay Home	-0.004	-0.004	0.003**	0.003**
	(0.00)	(0.00)	(0.00)	(0.00)
High Trump X Post National Guideline		0.040***		-0.014***
		(0.01)		(0.00)
High Trump X Post Stay Home		0.008		-0.003
		(0.01)		(0.00)
Observations	90,239	90,239	43,152	43,152
Adjusted R-squared	0.868	0.869	0.948	0.948
Day FE	Yes	Yes	Yes	Yes
County FE	Yes	Yes	Yes	Yes
Health Controls	Yes	Yes	Yes	Yes

Unacast Outcomes

VARIABLES	(1) Chg. Dist	(2) Chg. Dist	(3) Chg. NE Visits	(4) Chg. NE Visits
Post Stay Home Order	-0.018***	-0.019***	-0.023***	-0.023***
	(0.00)	(0.00)	(0.00)	(0.00)
High Social Capital 1 X Post National Guideline	-0.014**	-0.014**	-0.033***	-0.029***
	(0.01)	(0.01)	(0.01)	(0.01)
High Social Capital 1 X Post Stay Home	-0.017***	-0.017***	-0.007	-0.007
	(0.00)	(0.00)	(0.01)	(0.01)
High Trump X Post National Guideline		0.011**		0.032***
		(0.00)		(0.01)
High Trump X Post Stay Home		0.011**		0.022***
		(0.00)		(0.01)
Observations	101,927	101,927	64,936	64,936
Adjusted R-squared	0.710	0.710	0.838	0.839
Day FE	Yes	Yes	Yes	Yes
County FE	Yes	Yes	Yes	Yes
Health Controls	Yes	Yes	Yes	Yes

Google Outcomes

VARIABLES	(1) Chg. Retail	(2) Chg. Retail	(3) Chg. Residential	(4) Chg. Residential
Post Stay Home Order	-0.030***	-0.028***	0.014***	0.013***
	(0.00)	(0.00)	(0.00)	(0.00)
High Social Capital 2 X Post National Guideline	-0.055***	-0.051***	0.001	0.000
	(0.01)	(0.01)	(0.00)	(0.00)
High Social Capital 2 X Post Stay Home	-0.026***	-0.025***	0.005**	0.005**
	(0.01)	(0.01)	(0.00)	(0.00)
High Trump X Post National Guideline		0.039***		-0.017***
		(0.01)		(0.00)
High Trump X Post Stay Home		0.008		-0.004
		(0.01)		(0.00)
Observations	90,239	90,239	43,152	43,152
Adjusted R-squared	0.869	0.869	0.946	0.947
Day FE	Yes	Yes	Yes	Yes
County FE	Yes	Yes	Yes	Yes
Health Controls	Yes	Yes	Yes	Yes

Unacast Outcomes

VARIABLES	(1) Chg. Dist	(2) Chg. Dist	(3) Chg. NE Visits	(4) Chg. NE Visits
Post Stay Home Order	-0.015***	-0.016***	-0.019***	-0.020***
	(0.00)	(0.00)	(0.00)	(0.00)
High Social Capital 2 X Post National Guideline	-0.008	-0.008	-0.009	-0.007
	(0.01)	(0.01)	(0.01)	(0.01)
High Social Capital 2 X Post Stay Home	-0.029***	-0.029***	-0.037***	-0.036***
	(0.00)	(0.00)	(0.01)	(0.01)
High Trump X Post National Guideline		0.011**		0.034***
		(0.00)		(0.01)
High Trump X Post Stay Home		0.013***		0.022***
		(0.00)		(0.01)
Observations	101,927	101,927	64,936	64,936
Adjusted R-squared	0.710	0.710	0.838	0.839
Day FE	Yes	Yes	Yes	Yes
County FE	Yes	Yes	Yes	Yes
Health Controls	Yes	Yes	Yes	Yes

Table S6 presents estimates from multi-variable regressions, where we examine the relation between our two alternative social capital measures and social distancing behavior around the state stay at home orders. In the top panel, we examine Social Capital Measure 1 whine the bottom panel examines the Social Capital Measure 2. The dependent variables on the left panels are the percentage change in: distance traveled in the county (cols. 1-2) and non-essential visits (cols. 3-4) from google, while the right panels use the two measures from Unacast: the percentage change in distance traveled in the county (cols. 1-2) and in non-essential visits (cols 3-4). To examine the differential social distancing behavior, we interact *Post Stay Home Order* and *Post National Guidelines* with an indicator for high Social Capital Measure 1 (2) (county being in the top quartile of social capital 1 (2)). Post National Guidelines is an indicator variable for days after March 16th, when the White House issued a national stay at home recommendation (Coronavirus Guideline for America). We also control for the interaction between the share of Trump voters and *Post Stay Home Order* and *Post National Guidelines* to separate the potential confounding effect of social capital and political leaning. Each specification includes controls for the log number of confirmed cases, county fixed effects, and day fixed effects. Standard errors are clustered by county.

Table S7: Alternative International Specification using NUTS 2 Region Variation

VARIABLES	(1) Chg. Retail	(2) Chg. Retail	(3) Chg. Retail	(4) Chg. Resident	(5) Chg. Resident	(6) Chg. Resident
Avg. Trust	-0.004	-0.014***	-0.012**	0.007***	0.010***	0.012***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Lag Num of Death per milli	-0.012***	-0.012***	-0.012***	0.006***	0.006***	0.006***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Log(Population Density)		-0.012***	-0.012***		0.009***	0.009***
		(0.00)	(0.00)		(0.00)	(0.00)
Avg. Political Leaning			0.007			0.005***
			(0.01)			(0.00)
Observations	6,150	6,150	6,150	6,028	6,028	6,028
Adjusted R-squared	0.877	0.878	0.878	0.885	0.891	0.892
Mean. Outcome	-0.41	-0.41	-0.41	0.13	0.13	0.13
Date Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes
Country Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes

This table presents estimates from multi-variable regression where we regress international mobility measures on indicators for the level of trust in the NUTS 2 regions. To measure trust, we averaged ESS data over eight waves, including France only in the last survey, because NUTS classifications have changed over time in France. We control for the lag number of deaths in the region, population density, the average voting preferences in the NUTS region, country fixed effects, and day fixed effects. Standard errors are clustered by country.