Trust Me, Mask Up: Experimental Evidence on Social Trust and Responsiveness to COVID-19 Mitigation

Policies

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December 15, 2021

Word Count: 3882

Abstract

Observational evidence suggests that social trust, i.e., trust in others, and the closely related concept of social capital play a critical role in compliance with government policy, particularly in regards to public responsiveness to measures intended to curb the spread of the novel coronavirus. We use a survey experiment to causally estimate the impact of altering social trust on compliance with a range of policies intended to combat the COVID-19 pandemic. Utilizing an instrumental variable approach, we are able to alter reported social trust, but find null effects in regards to compliance with COVID-19 mitigation measures. We speculate on several explanations for this finding.

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[‡]We are grateful for financial support from the Yale Leitner Political Economy Program and Yale Tobin Center for Economic Policy. We would like to thank Ebonya Washington, Alex Coppock, Kyle Peyton, Matt Graham, YCLS Initiative, and participants of the Yale Student American Politics Workshop. We would like to acknowledge excellent research assistance from Alessandra Huamani. Pre-analysis plan: https: //osf.io/gjtcw. Yale IRB Exemption #2000028395. Competing interests: The authors declare none.

1 Introduction

"I have a duty to my family, friends, and community in keeping them safe. Therefore, it is my responsibility to be vaccinated to prevent people at risk from getting sick. I think of my grandmother, a 76 year old woman with Lupus. I have to protect her and everyone like her." – Urban Indian Health Institute (2021)

Evidence suggests that social factors contribute to whether citizens comply with measures intended to mitigate the COVID-19 pandemic. A report by the Urban Indian Health Institute – quoted above – focuses on select Native American communities, whose group members are at increased risk for health complications from the virus. The study finds that a prime motivation for individuals willing to receive the COVID-19 vaccine shortly after its approval was a desire to protect community members (Urban Indian Health Institute 2021). Social motives have often been found to shape behavior (Bandiera et al. 2005). Given the inconvenient measures required to curb the coronavirus, e.g., social-distancing and mask-wearing, it is critical to understand the factors that shape willingness to abide by mitigation policies suggested or imposed by many governments.

We focus on social trust, i.e., trust in others, which is thought to signify a publicmindedness that may be associated with increased engagement in society and willingness to bear costs in order to benefit the general public. Notably, this may manifest in greater compliance with both voluntary and mandatory government policy (Putnam 2001; Zmerli and Newton 2017; Liu and Stolle 2017; Hardin 2002; Uslaner and Brown 2005; Alesina and La Ferrara 2000; Tyler 2003). Yet, survey evidence suggests that Americans trust of one another has been decreasing in the last 20 years and that this trend varies depending on racial, age, and education factors (Rainie et al. 2019). Therefore, measuring the impact of social trust on policy adherence may inform policy-makers of which communities are most resistant to following COVID-19 measures and, more generally, allow them to better address potential barriers to policy compliance. Following a similar argument, a set of literature has found that higher levels of social trust – and the closely related concept of social capital – are correlated with greater compliance with COVID-19 mitigation policies (Goldstein and Wiedemann 2021; Barrios et al. 2021; Bartscher et al. 2020). We add to this observational literature by conducting a survey experiment to motivate an instrumental variable research design, which allows us to causally estimate the effect of social trust on compliance with COVID-19 mitigation policies. We randomly expose online respondents to a news article outlining results of a study in which wallets were dropped across the globe. The article reports a surprisingly high rate of the wallets being returned, which increases even further when they contain greater sums of money (Kennedy 2019). Our article-based instrument is able to significantly increase several reported measures of social trust. However, our results are insignificant for the effect of social trust on compliance with COVID-19 measures. We consider several explanations and scope conditions for this result.

2 Theory and Literature

An emerging literature suggests that political and social trust play a critical role in shaping behavior related to the COVID-19 pandemic (Devine et al. 2020). Trust has long been viewed as central to a well-functioning society (Almond and Verba 2015). Higher levels of social trust are thought to lead to greater civic engagement and be conducive to holding a more positive outlook of other people as well as government (Rothstein and Uslaner 2005; Tyler 2003). Hence, in the context of the COVID-19 pandemic, we argue that individuals who hold higher social trust may place greater value on complying with policy that they believe will benefit their community. This can manifest as an improved evaluation of such government-backed policies. Thus, higher social trust may entail greater willingness to follow COVID-19 mitigation measures that – while likely personally inconvenient – may benefit not only one's health but the safety of one's community. While the relationship of social trust to pandemic-related behavior has become a subject of interest, social trust remains a difficult concept to measure in a real-world context due to its abstract nature (Bauer and Freitag 2018). As a result, studies have often focused on the related and more easily measurable entity of social capital. Social capital is an concept that measures social structures and connections, e.g., volunteer or religious organizations, that may manifest in building mutual trust in others through forging reciprocity among network members (Putnam 2001). Observational studies have found that areas with higher social capital experience greater compliance with COVID-19 mitigation measures. This has generally been measured by decreased mobility using cellphone data to capture compliance with stay-at-home orders (Barrios et al. 2021; Bartscher et al. 2020; Durante et al. 2021; Makridis and Wu 2021; Goldstein and Wiedemann 2021; Ding et al. 2020).

While social capital has been found to be closely correlated with social trust, they remain distinct phenomena. Social capital is a feature associated with networks and groups while social trust directly examines individual-level attitudes (Woolcock and Narayan 2000; Putnam 2001). Moreover, some argue that trust is a "moral value" that is shaped early in one's life, which would entail that an individual's level of social trust is set prior to them joining organizations that are often associated with social capital (Uslaner 2002). Therefore, we contribute by focusing on social trust and, hence, address concerns regarding an ecological fallacy potentially committed by past literature. We also add causal validity by using an experiment to connect social trust to compliance with COVID-19 mitigation policies, which contributes to a subset of experimental social science related to COVID-19 (Bhanot and Hopkins 2020; Druckman et al. 2020; Kushner Gadarian et al. 2020; Amat et al. 2020; Akesson et al. 2020; Kreps and Kriner 2020). Furthermore, our study contributes to a branch of experimental literature focused on the behavioral implications of social trust (Rothstein and Eek 2009; Robbins 2016).

In addition, COVID-19-related behavior appears to also be shaped by partial sanship and levels of political trust, i.e., trust in government. Moreover, it has been argued that the effect of the sociopolitical factors outlined above are augmented by attitudes within local networks (Tian et al. 2020; Bailey et al. 2020; Goldstein and Wiedemann 2021; Devine et al. 2020). These findings motivate examination of several heterogeneous effects in our experiment.

2.1 Hypotheses

We test a number of pre-registered hypotheses (see the appendix for exact statements). Primarily, we expect that exposure to treatment will lead to higher reported levels of social trust. This is because our treatment highlights a study demonstrating that individuals are notably honest in regards to returning lost wallets. Then, we expect higher social trust will lead to greater willingness to comply with COVID-19 mitigation measures for the reasons noted above. In addition, we test several hypotheses regarding heterogeneous effects focused on how local partisan and political trust attitudes interact with social trust to shape compliance.¹

3 Data and Methods

We ran two survey waves using Amazon Mechanical Turk for recruitment and administered by CloudResearch (Turk Prime), which allowed us to block low-quality respondents.² We include two attention checks and a comprehension check following exposure to treatment or control. Removing respondents who failed these checks, we have 912 respondents from wave 1 (October 8, 2020) and 664 respondents from wave 2 (December 18, 2020), which yields a sample of 1576 respondents.

Our sample skews female (56% versus 44%) and college educated (71%). Moreover, racial

¹We expect that Democratic respondents or those who report higher political trust will demonstrate greater compliance with mitigation measures. In turn, higher social trust will lead such respondents to report enhanced compliance. We predict Republican respondents will have diminished compliance that is further curtailed with higher social trust.

²CloudResearch verifies U.S. IP addresses, blocks respondents with geo-code locations deemed suspicious, and also removes respondents who had previously failed the service's checks. Moreover, our respondents had at least an 85% Amazon Mechanical Turk approval rating.

minorities and Republicans are relatively underrepresented. However, our sample appears balanced with regard to treatment status (see the appendix for summary statistics and balance tables).³ Moreover, we present covariate-adjusted results throughout.⁴ We control for age, sex, education, employment status, income, ethnicity, ideology, perceived COVID-19 risk, partisanship, the density of the living area of the respondents, and an indicator for the survey wave.

We use two-stage least squares to estimate the causal effect of social trust on compliance with COVID-19 policies. We run a first stage regression to measure the impact of the treatment article on social trust. Then, we use this instrument to measure how social trust shifts compliance with COVID-19 mitigation policies.⁵ Note that our methodology draws parallels to Peyton (2020).⁶ Our studies demonstrate the possibilities of using informationbased treatments as robust instruments for an instrumental variable (IV) estimation research design.

3.1 Treatment

We employ simple random assignment to present respondents either an article about returning lost wallets, which is intended to increase social trust or, a control article on the relaxation habits of Americans, e.g., Americans largely watch television to relax.⁷ Our treatment arm follows Mutz (2005) who presented survey respondents with a Reader's Digest article on rates of lost wallets being returned in several countries. The treatment conditions were in-

³Note that Peyton et al. (2020) find that, while the population of online respondents has somewhat shifted during the pandemic, prior survey experiments were generally able to be replicated with this respondent pool.

⁴The coefficients of interest are largely unaffected by the covariate-adjustment (see the appendix for tables including all coefficients).

⁵The first stage regression is given by: $T_i = X'_i \beta + \rho Z_i + \epsilon_i$, where T_i captures respondent *i*'s social trust level; X_i are respondent-specific covariates; Z_i takes a value of 0 if a respondent was assigned to control and 1 when a respondent assigned to treatment; and ϵ_i denotes the error term. The intent-to-treat regression is characterized by: $Y_i = X'_i \beta + \gamma Z_i + \psi_i$, where Y_i stands for compliance, and ψ_i denotes the error term. The 2SLS estimand can then be expressed as $\frac{\gamma}{\rho}$ (see Angrist and Pischke (2008)).

⁶Peyton (2020) uses an opinion article to shift reported political trust and then measures if this instrument altered preferences over redistribution.

⁷No deception is involved in the articles but they are edited for brevity (see the appendix).

tended to either increase or decrease trust. They either highlighted that individuals were surprisingly trustworthy in regards to returning wallets or untrustworthy and failed to do so. The strongest effects were uncovered for the treatment condition that focused on positive trustworthiness. This manipulation enhanced generalized measures of social trust and increased the likelihood of engaging in online shopping (which requires greater trust due to a decreased ability to monitor sellers).

Following a similar strategy, we focus on increasing perceived social trust. To do so, we adapt an NPR report on a recent wallet-returning experiment conducted across a number of countries (Cohn et al. 2019). In addition to dropping wallets, the researchers varied the amount of money in the wallets and whether a key was included. The researchers expected that increasing the money in the lost wallet would decrease the probability it was return, with "279 top-performing academic economists agree[ing]" (Kennedy 2019). In fact, their study found that a wallet was more likely to be returned with higher amounts of cash or the inclusion of the key. We highlight this surprisingly positive outcome in our informational treatment. Thus, our treatment varies from Mutz (2005) in the sense that we present an even more unexpectedly positive outcome found in the context of an academic study. As a result, we expect that this treatment should increase reported levels of social trust.

3.2 Measure

Following our manipulation, we measure social trust and then present questions intended to capture the degree of compliance with COVID-19 mitigation policies. Questions on social trust and COVID-19 compliance are combined, respectively, into indexes. This has the benefit of ameliorating measurement error. Indexes are then normalized using Glass's Delta (see the appendix for details).

Social trust is often difficult to measure due to its conceptual nature. To address this concern, we develop separate indexes based on two related definitions of social trust: 'particular social trust,' i.e., trusting others you know directly, and 'general social trust,' e.g., trusting others in your society (Newton and Zmerli 2011). Corresponding to the two possible definitions, we create two indexes for social trust. First, there is the 'people trust' index that asks respondents the degree to which they trust specific groups, e.g., friends or neighbors. This has the benefit of bringing to mind for respondents specific groups of individuals, which they may consider the degree to which they trust. Second, we create the 'outlook trust' index that asks a series of questions about their views towards members of their society, for example: 'How much of the time do you think you can trust other people to do what is right?' The second index captures a more general sense of trust in society while also addressing specific actions that may violate trust, e.g., other people not being honest. In addition, for precision, we utilize 5-point Likert scales rather than the dichotomous questions often employed on social trust, such as in the General Social Survey (Lundmark et al. 2016). The construction of the indexes is further outlined in the appendix.⁸

For our measure of compliance, we contend with the complication that mandatory or recommended COVID-19 policies have differed considerably across the United States. Therefore, we measure compliance by presenting respondents with a set of hypothetical policies mandated by their state governor and then elicit respondents' willingness to comply with the proposed policies on a 5 point-scale. The questions address mask-wearing indoors and outdoors as well as adherence to social-distancing, bans on large gathering, and limitations on movement. Responses to these questions are combined to form a compliance index, which is referred to as 'Index' in the analysis. We also investigate several alternative measures of compliance, including, for example: scenario-based questions (e.g., attending a wedding in violation of COVID-19 procedures), questions on the respondent's support for mitigation policies, and self-reported engagement with non-mandated mitigation behavior, e.g., handwashing.

⁸Our social trust questions were shaped by similar ones found on the World Value Survey and influenced by the approaches of Lundmark et al. (2016), Rothstein and Eek (2009), and Holmberg and Rothstein (2017). In addition, we also pre-registered an adapted version of the canonical ANES question on trust in the federal government. Analysis involving this question may be found in the appendix.

4 Results

There are three conditions that must hold for our instrumental variable research design to be valid. First, there is the inclusion restriction, which requires that our instrument is strongly correlated with our endogenous variable measuring social trust. Table 1 demonstrates that – regardless of how social trust is operationalized – treatment effects are highly statistically significant. Moreover, this assumption is often judged by an F-test of the first stage regression where values above 10 are considered a strong instrument (Stock, Yogo, et al. 2005). Table 1 reports F-statistics between 21 and 40, depending on the specification. This indicates that our treatment was effective at shifting respondents' levels of social trust.

Second, there is the exclusion restriction, which requires that our instrument only impacts compliance through social trust. While this condition cannot be directly tested, we argue that it plausibly holds because the treatment and the control articles make no mention of COVID-19. Furthermore, the articles should not impact concepts related to compliance such as perceptions of the risk of contracting COVID-19 or punishment from not complying with mitigation policies.

Lastly, the instrument needs to be exogenous to potential outcomes of the dependent variable, which is achieved by means of randomization of exposure to the treatment condition. Thus, we believe our initial results and the design of our instrument validate our experiment.

	1st Stage		
	People Trust	Outlook Trust	
Treat	0.31^{***}	0.23***	
	(0.05)	(0.05)	
Adj. \mathbb{R}^2	0.08	0.07	
Num. obs.	1558	1558	

Table 1: First Stage Regressions of Treatment on Social Trust Indexes

Treatment indicates exposure to the wallet article. Social trust is measured by the 'people trust' index and the 'outlook trust' index. Controls include: age, sex, education, employment status, income, ethnicity, ideology, perceived Covid risk, party, living area, and survey wave. Covariates are suppressed for space but may be found in the appendix. ***p<0.01, **p<0.05, *p<0.1

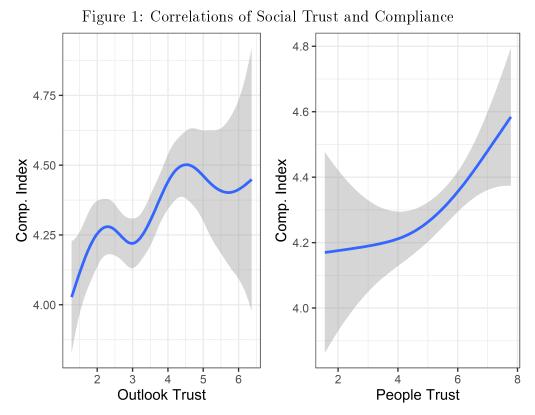
4.1 Social Trust and Compliance

We first note that the correlation between social trust and compliance with COVID-19 policies appears relatively strong regardless of the specific operationalization of trust and compliance (see figure 1). This resonates with existing observational evidence from the literature. Moreover, we find that baseline levels of compliance with COVID-19 measures are high within our sample.⁹

Next, column 1 of table 2 presents the intent-to-treat (ITT) effect of our treatment on compliance and figure 2 visualizes the results. The effects is small and distant from statistical significance at conventional levels. Moreover, the causal IV estimates in columns 2 and 3 in table 2 suggest that we cannot reject the null hypothesis that social trust does not affect compliance. This holds irrespective of the metric used to measure social trust. While we take caution in interpreting the coefficients given the statistical insignificance, the coefficients are also substantively small. Thus, while our experiment moves respondents' reported levels of social trust, compliance remains broadly unchanged.¹⁰

 $^{^{9}}$ In the appendix, we present histograms and box-and-whisker plots of our compliance measures by treatment status and survey wave.

¹⁰In the appendix, we present results utilizing additional compliance and behavior metrics.

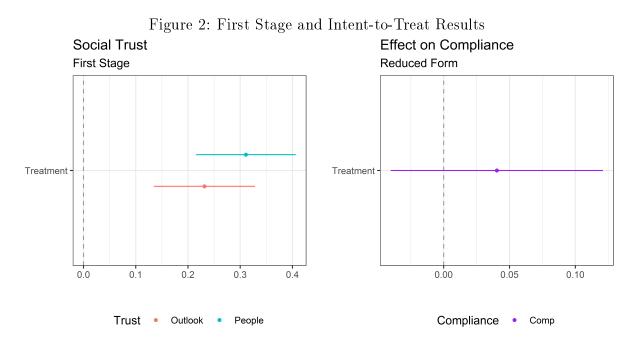


The panels show correlations of social trust (measured by the outlook trust index and the people trust index) and compliance with COVID-19 mitigation measures (measured by the compliance index).

2. Intent-to-freat af	ia mstru	imentai	variable
	ITT	IV	
	Index	Index	Index
Treat	0.04		
	(0.04)		
People Trust		0.13	
		(0.13)	
Outlook Trust			0.17
			(0.18)
Adj. \mathbb{R}^2	0.33	0.34	0.33
Num. obs.	1557	1557	1557
1st Stage F Stat		40.46	21.74

Table 2:	Intent-to-	Treat and	Instrumental	Variable Results

Column 1 is the intent-to-treat regression of treatment on compliance and columns 2-3 are the instrumental variable regressions of social trust on compliance. Social trust is measured by the people trust index and outlook trust index. Compliance is measured by the overall compliance index. Models are covariate-adjusted. ***p<0.01, **p<0.05, *p<0.1



The left-hand panel shows first stage effects of treatment on social trust, as measured by the outlook trust index and the people trust index, respectively. The right-hand panel shows the reduced form (ITT) effect of treatment on reported compliance, as measured by the compliance index. The regressions are covariateadjusted.

4.2 Heterogeneous Effects: Partisanship, Political Trust, and Local Mask Compliance

We next test the observational finding that social trust may interact with local mitigation attitudes and behavior. First, 3 demonstrates that partisanship and political trust are strongly and significantly correlated with compliance with COVID-19 mitigation measures (see the appendix). While not causal, we interpret these results as reassurance that our measures of COVID-19 compliance are capturing the intended behavior.

In regards to causal analysis, we do not find statistically significant differential treatment effects of social trust on compliance by respondents' partisanship or by levels of political trust (see the appendix).¹¹ In other words, social trust appears to not causally effect compliance among the subset of only Republican or Democratic respondents, nor conditional on

¹¹The political trust measure is created by an index consisting of two ANES-style pre-treatment questions that are adapted to focus on trust in state government and trust in the federal government.

respondents' reported level of political trust.¹²

Finally, to leverage a behavioral measure of local compliance, we connect a New York Times measure of mask-wearing by county from July, 2020 to our survey respondents' home counties (Katz et al. 2020).^{13 14} We test whether higher social trust leads to greater compliance with mitigation orders when mask-wearing is more common in respondents' home counties. Similar to our other heterogeneous analysis, table 4 suggests that this is not the case (see figure 3 for visualization). While the results are just short of a p-value of 0.1, contrary to our expectation, the coefficient's sign is negative.¹⁵

Table 3: Correl	ation of Partis	sanship v	with Compliance
		Index	-
	Democrat	0.21***	-
		(0.05)	
	Republican	-0.06	
		(0.08)	
	Adj. \mathbb{R}^2	0.33	-
	Num. obs.	1557	

The reference category is Independents. Compliance is measured by the compliance index. Models are covariate-adjusted. ***p<0.01, **p<0.05, *p<0.1.

 $^{^{12}}$ In the appendix we show that, while short of statistical significance at conventional levels, social trust may affect mask-wearing compliance more strongly for Independents than for Republicans, with Democratic respondents' placed in between.

¹³Note that the local mask compliance analysis was not pre-registered.

¹⁴ZIP code-to-county matching was implemented using Census crosswalks (HUD 2020).

¹⁵Note that the instrument using 'outlook trust' as the trust measure is relatively weak with an F-statistic of 4.9 (see the appendix).

	1st Stage	ITT	IV
	People Trust	Index	Index
Treat	0.29***	0.09	
	(0.07)	(0.06)	
Mask Prev.	-0.06	0.14^{**}	2.15
	(0.07)	(0.06)	(1.51)
Treat x Mask Prev.	0.04	-0.11	
	(0.10)	(0.08)	
Trust	× ,	· /	0.33
			(0.23)
Trust x Mask Prev.			-0.38
			(0.28)
Adj. \mathbb{R}^2	0.08	0.33	0.30
Num. obs.	1548	1547	1547
1st Stage F Stat			20.10
1st Stage F Stat 2			11.08

Table 4: Heterogeneous Effects of Social Trust on Compliance by Local Mask-Wearing Prevalence

Column 1 reports the first stage regression, column 2 reports the ITT effect, and column 3 reports IV effects. Compliance is measured by the compliance index. Social trust is measured by the people trust index. 'Mask Prev.' is the prevalence of mask-wearing in respondent's county, and was transformed into a binary variable, where the median prevalence was the cutoff. The models are covariate-adjusted. ***p<0.01, **p<0.05, *p<0.1.

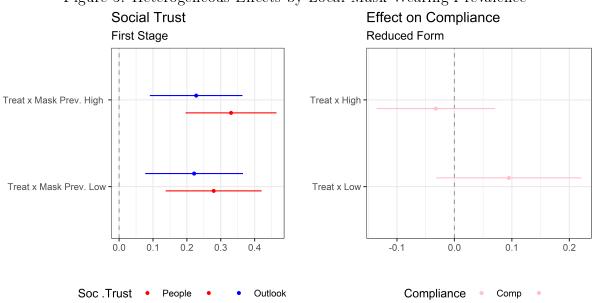


Figure 3: Heterogeneous Effects by Local Mask-Wearing Prevalence

The left-hand panel shows first stage effects of treatment on social trust, as measured by the outlook trust index and the people trust index respectively, by (high or low) mask-wearing prevalence in a respondent's county. The right-hand panel shows the reduced form (ITT) effects of treatment on reported compliance, as measured by the compliance index, by mask-wearing prevalence. Regressions are covariate-adjusted.

5 Discussion

Returning to our hypotheses, we found that our experiment shifted reported levels of social trust. Moreover, we document a significant correlation of partisanship and compliance – Republicans and Independents report significantly lower levels of compliance – as well as a positive and significant correlation of political trust and compliance. However, we do not find support for our hypothesis that social trust causes higher levels of compliance. In fact, we argue that our results are substantially indistinguishable from zero. To show this, consider the magnitude of the social trust intent-to-treat effects on compliance (0.04; see table 2) compared to the impact partisanship has on compliance (0.27; see the appendix). Thus, the effects are less than one-sixth of the effect due to partisanship.

Our findings contrast with a literature that has found observational evidence to support the existence of a relationship between social trust (or, often, social capital) and compliance with COVID-19 mitigation policies. One possibility is that the literature suffers from omitted variable bias, which is a challenge endemic to observational studies. Furthermore, measures of social trust remain difficult to capture outside of a survey and, therefore, observational results may be partially driven by factors correlated with utilized measures. We next consider further factors that may help account for our findings.

5.1 Ambiguous Effects of Social Trust

While we hypothesized that social trust has a positive effect on compliance because it may increase concern for the well-being of others, there could also be a countervailing effect such that greater social trust may lead individuals to believe that others are more likely to comply. That is, higher social trust could lead individuals to comply at lower rates given they trust others to responsibly adhere to COVID-19 precautions, e.g., wear masks. Moreover, in support of this supposition, table 4 presents a result, which is just short of statistical significance, that higher social trust further diminishes compliance among respondents from localities where local mask-wearing was more common. Hence, one explanation for the null results could be that the two competing effects of social trust offset one another.¹⁶

To more thoroughly assess this explanation, we include post-treatment questions asking respondents about their expectations of other people's compliance. Yet, we find that social trust does not appear to affect respondents' answers (see the appendix). This tentative analysis suggests that beliefs over the rate of compliance by others was not shifted by our social trust instrument and, thus, does not support an explanation of countervailing effects.

5.2 Survey Timing and Compliance Measure

A primary difference between our analysis and related literature is that these observational studies often focus on compliance with stay-at-home orders in the early days of the pandemic. It is possible that at the onset of the pandemic as mitigation policies were first developing and going into force, underlying social factors may have been more influential on shaping behavior. In contrast, our survey waves took place seven and nine months into the pandemic, respectively. Therefore, while our initial pilot studies conducted earlier in the summer provide greater support for the effect of social trust on compliance, individual behavior such as mask-wearing may have already calcified by the time our survey waves took place.¹⁷

Moreover, we consider both mask-wearing and stay-at-home orders as components of our compliance index, and mask-wearing became notably politicized as the pandemic progressed (Rojas 2020). In contrast, stay-at-home orders hearken back to the onset of the pandemic when compliance was generally less politicized, the consequences of the illness were less certain, and there was potentially stricter government enforcement of mitigation violations. While we combine these factors in the index utilized throughout the analysis, in the appendix we separate mask-wearing to account for its differential impact due to partisanship. However,

¹⁶Bai et al. (2020) make a related argument by separating the effect of social capital into norms that facilitate action towards a common good and social networks that favor maintaining social contacts.

¹⁷See our pre-analysis plan for details.

we find similarly null effects for this separate outcome. Furthermore, to focus on an outcome that has likely been less politicized, in table 5, we rerun the IV analysis focusing on willingness to comply with stay-at-home orders as the dependent variable. While the results are slightly shy of statistical significance at the 0.1-level, this result points in the direction that social trust may affect respondents' willingness to comply when considering stay-at-home orders. In addition, in the appendix we consider a compliance index that removes mask-wearing and find marginally stronger results. This suggests that less politicized issues may leave more leeway for social trust to impact compliance. Thus, we interpret these results as providing suggestive evidence that social trust may still impact certain forms of compliance, if only modestly.

able 5: ITT and IV	Effects of Compliance with Stay-at-Home (
	ITT	IV		
	Stay-at-Home	Stay-at-Home	Stay-at-Home	
Treat	0.09*			
	(0.05)			
People Trust		0.28		
		(0.17)		
Outlook Trust			0.38	
			(0.24)	
Adj. \mathbb{R}^2	0.27	0.26	0.22	
Num. obs.	1558	1558	1558	
1st Stage F Stat		40.88	21.89	

of Compliance with Star at II.

Column 1 reports ITT and columns 2-3 report IV effects. Compliance is measured by whether a respondent would be willing to comply with a stay-at-home order enacted for the next month. Social trust is measured by the people trust index and the outlook trust index, respectively. Regressions are covariate-adjusted. ***p < 0.01, **p < 0.05, *p < 0.1

Conclusion 6

A large observational literature has argued that social trust has played an important role in shaping behavior related to the COVID-19 pandemic. We conducted a survey experiment to evaluate this finding. While we were able to significantly and meaningfully shift reported levels of social trust, we find null effects for the role of social trust on compliance. Given past studies, we offer several explanations for our findings and caution limitations to our study. Nonetheless, while we do not claim our results disproves these prior results, we argue it offers a piece of additional evidence that should be considered. Moreover, we contend that our study emphasizes the importance of substantiating observational studies of difficult to measure concepts, e.g., social trust, with causally valid methodology.

In addition, research suggests that pandemics may have a profound effect on subsequent levels of social trust Aassve et al. (2020). Thus, while in this study we have focused on the impact of social trust on compliance, future research may examine the long-term impact of the COVID-19 pandemic on social trust and its implications for government.

References

- Aassve, Arnstein et al. (2020). Epidemics and trust: the case of the spanish flu. IGIER, Universita Bocconi.
- Akesson, Jesper et al. (2020). Fatalism, beliefs, and behaviors during the COVID-19 pandemic. Tech. rep. National Bureau of Economic Research.
- Alesina, Alberto and Eliana La Ferrara (2000). "Participation in Heterogeneous Communities". In: The Quarterly Journal of Economics 115.3, pp. 847–904.
- Almond, Gabriel Abraham and Sidney Verba (2015). The Civic Culture: Political Attitudes and Democracy in Five Nations. Princeton university press.
- Amat, Francesc et al. (2020). "Pandemics meet democracy. Experimental evidence from the COVID-19 crisis in Spain". In.
- Angrist, Joshua D and Jörn-Steffen Pischke (2008). Mostly harmless econometrics: An empiricist's companion. Princeton university press.
- Bai, John Jianqiu et al. (2020). "The impact of social capital on individual responses to covid-19 pandemic: Evidence from social distancing". In: SSRN.
- Bailey, Michael et al. (2020). "Social distancing during a pandemic: The role of friends". In: NBER Working Paper w28234.
- Bandiera, Oriana et al. (2005). "Social preferences and the response to incentives: Evidence from personnel data". In: *The Quarterly Journal of Economics* 120.3, pp. 917–962.
- Barrios, John M et al. (2021). "Civic capital and social distancing during the Covid-19 pandemic". In: *Journal of public economics* 193, p. 104310.
- Bartscher, Alina K et al. (2020). "Social capital and the spread of Covid-19: Insights from European countries". In.
- Bauer, Paul C and Markus Freitag (2018). "Measuring trust". In: The oxford handbook of social and political trust 15.

- Bhanot, Syon and Daniel J Hopkins (2020). "Partisan Polarization and Resistance to Elite Messages: Results from a Survey Experiment on Social Distancing". In: Available at SSRN 3593450.
- Cohn, Alain et al. (2019). "Civic honesty around the globe". In: Science 365.6448, pp. 70–73.
- Devine, Daniel et al. (2020). "Trust and the Coronavirus Pandemic: What are the Consequences of and for Trust? An Early Review of the Literature". In: *Political Studies Review*, p. 1478929920948684.
- Ding, Wenzhi et al. (2020). Social distancing and social capital: why US counties respond differently to COVID-19. Tech. rep. National Bureau of Economic Research.
- Druckman, James N et al. (2020). "How Affective Polarization Shapes Americans' Political Beliefs: A Study of Response to the COVID-19 Pandemic". In: Journal of Experimental Political Science, pp. 1–12.
- Durante, Ruben et al. (2021). "Asocial capital: Civic culture and social distancing during COVID-19". In: Journal of Public Economics 194, p. 104342.
- Goldstein, Daniel AN and Johannes Wiedemann (2021). "Who Do You Trust? The Consequences of Partisanship and Trust for Public Responsiveness to COVID-19 Orders". In: *Perspectives on Politics*, pp. 1–27.
- Hardin, Russell (2002). Trust and Trustworthiness. Russell Sage Foundation.
- Holmberg, Sören and Bo Rothstein (2017). "Trusting other people". In: Journal of public affairs 17.1-2, e1645.
- HUD (2020). HUD USPS ZIP CODE CROSSWALK FILES. URL: https://www.huduser. gov/portal/datasets/usps_crosswalk.html#codebook.
- Institute, Urban Indian Health (2021). "Results from a National COVID-19 Vaccination Survey: Strengthening Vaccine Efforts in Indian Country". In: Urban Indian Health Institute.
- Katz, Josh et al. (2020). NYT Mask-Wearing Survey Data. URL: https://github.com/ nytimes/covid-19-data/tree/master/mask-use.

- Kennedy, Merrit (June 2019). "What Dropping 17,000 Wallets Around The Globe Can Teach Us About Honesty". In: The New York Times.
- Kreps, SE and DL Kriner (2020). "Model uncertainty, political contestation, and public trust in science: Evidence from the COVID-19 pandemic". In: *Science advances* 6.43, eabd4563.
- Kushner Gadarian, Shana et al. (2020). "Partisan Endorsement Experiments Do Not Affect Mass Opinion on COVID-19". In: SSRN.
- Liu, Christopher and Dietlind Stolle (2017). "Social Capital, Civic Culture and Political Trust". In: *Handbook on political trust*. Edward Elgar Publishing.
- Lundmark, Sebastian et al. (2016). "Measuring generalized trust: An examination of question wording and the number of scale points". In: *Public Opinion Quarterly* 80.1, pp. 26–43.
- Makridis, Christos A and Cary Wu (2021). "How social capital helps communities weather the COVID-19 pandemic". In: *PloS one* 16.1, e0245135.
- Mutz, Diana C (2005). "Social trust and e-commerce: Experimental evidence for the effects of social trust on individuals' economic behavior". In: *Public Opinion Quarterly* 69.3, pp. 393–416.
- Newton, Kenneth and Sonja Zmerli (2011). "Three Forms of Trust and their Association". In: European Political Science Review 3.2, pp. 169–200.
- Peyton, Kyle (2020). "Does Trust in Government Increase Support for Redistribution?" In: American Political Science Review.
- Peyton, Kyle et al. (2020). "The Generalizability of Online Experiments Conducted During the COVID-19 Pandemic". In.
- Putnam, Robert (2001). "Social capital: Measurement and consequences". In: Canadian Journal of Policy Research 2.1, pp. 41–51.
- Rainie, Lee et al. (July 2019). "Trust and Distrust in America: The state of personal trust".In: Pew Research Study.
- Robbins, Blaine G (2016). "From the general to the specific: How social trust motivates relational trust". In: Social Science Research 55, pp. 16–30.

- Rojas, Rick (June 2020). "Masks Become a Flash Point in the Virus Culture Wars". In: *The* New York Times.
- Rothstein, Bo and Daniel Eek (2009). "Political corruption and social trust: An experimental approach". In: *Rationality and society* 21.1, pp. 81–112.
- Rothstein, Bo and Eric M Uslaner (2005). "All for all: Equality, corruption, and social trust".In: World Pol. 58, p. 41.
- Stock, James H, Motohiro Yogo, et al. (2005). "Testing for weak instruments in linear IV regression". In: Identification and inference for econometric models: Essays in honor of Thomas Rothenberg 80.4.2, p. 1.
- Tian, Yuan et al. (2020). "Social learning along international migrant networks". In: NBER Working Paper w27679.
- Tyler, Tom R (2003). "Trust and Democratic Governance". In: Trust and Governance. Ed. by Valerie Braithwaite and Margaret Levi. Russell Sage Foundation, pp. 269–294.
- Uslaner, Eric M (2002). The Moral Foundations of Trust. Cambridge University Press.
- Uslaner, Eric M and Mitchell Brown (2005). "Inequality, Trust, and Civic Engagement". In: American Politics Research 33.6, pp. 868–894.
- Woolcock, Michael and Deepa Narayan (2000). "Social Capital: Implications for Development Theory, Research, and Policy". In: *The World Bank Research Observer* 15.2, pp. 225–249.
- Zmerli, Sonja and Kenneth Newton (2017). "Objects of Political and Social Trust: Scales and Hierarchies". In: *Handbook on political trust*. Edward Elgar Publishing.