

# Trust in Government and COVID-19 Preventive Behaviors

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# ABSTRACT

High levels of trust are positively correlated with increased collaboration, prosocial actions, and heightened adherence to preventive behaviors during the COVID-19 pandemic. Previous studies on trust during the pandemic have primarily focused on either cross-sectional data or its impact in conjunction with other related variables, such as political party affiliations or vaccine availability. In this study, we employed a national survey panel comprising data from 760 individuals interviewed at three intervals between July 2020 and January 2021. We used pooled datasets, panel datasets, and dependent variable lags to control for time-invariant unobservable variables and endogeneity. Our findings reveal that trust in government influences individuals' behavior when they are requested to follow public interventions. Notably, trust in local government is associated with increased adherence to COVID-19 preventive behaviors, similar to the effect observed with an annual income exceeding \$100,000.

# **KEYWORDS**

Trust; Preventive Behavior; COVID-19 pandemic; Health System; Non-pharmacological interventions

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# 1. Introduction

During the initial phase of the COVID-19 pandemic, governments relied on non-pharmaceutical interventions (NPIs) to mitigate the spread of the disease. However, adherence to these measures across various communities was heterogeneous. The success of these interventions varied based on compliance, timing, and public communication. Individuals' compliance was influenced by personal beliefs, social and economic pressures, and trust in government and health authorities. This study focuses on the last variable: how trust in government impacts individuals' compliance with preventive behaviors, and how governments can use these findings to strengthen and expedite epidemic response and mitigation.

NPIs required significant behavioral adjustments from individuals and compliance with regulations that restricted their freedoms and daily activities, thereby imposing substantial individual costs without immediate, proven benefits. In retrospect, many of these early actions were effective, as they reduced transmission and infection rates, thereby curbing the potential lethality of the pandemic (Bo et al., 2021; Odusanya et al., 2020; Rees et al., 2022).

Trust in government has been positively associated with increased in compliance with preventive behaviors during the COVID-19 pandemic (Bargain & Aminjonov, 2020a; Han et al., 2021a; Lim et al., 2021; Wright et al., 2021). Trust enhances prosocial behavior and increases the willingness to accept government mandates. However, most studies have focused on cross-sectional data (Clark et al., 2020; Lalot et al., 2022; Shanka & Menebo, 2022a) or the relationship between preventive behavior compliance and other variables, such as political orientation and vaccine availability (Andersson et al., 2021; Angerer et al., 2023; Campos-Mercade et al., 2021; Clinton et al., 2021a; Gadarian et al., 2021a). Relying on cross-sectional data raises the possibility of reverse causality and confounding since there is a feedback cycle among preventive behavior compliance, trust, and successful pandemic control (Devine et al., 2020; Eichengreen et al., 2021; Wong & Jensen, 2020). Our study used panel data to explore how trust in government shaped individuals' behaviors during the COVID-19 pandemic.

#### 1.1. Trust Theory

Trust enhances cooperation and prosocial behaviors in society. Its effects are observable in daily transactions, negotiations, and extend from clinical settings to the political public sphere. Trust between physician and patient has been proven to enhance communication, elevate satisfaction levels, foster improved therapy adherence, and encourage the likelihood of embracing behavioral change (Gilson, 2006). Similarly, trust within health systems fosters cooperation across multiple organizations and individuals, thereby facilitating the delivery of high-quality healthcare services and the generation of social value (Gilson, 2006). Trust in public health institutions has been correlated with less vaccine hesitation, higher vaccine acceptance rates, and less inappropriate use of healthcare services (Jennings et al., 2021; Larson et al., 2018; Ozawa & Stack, 2013; Syropoulos & Gkinopoulos, 2023). For instance, before launching the COVID-19 vaccine, it was expected that individuals with higher levels of trust in information from government sources will have greater vaccine acceptance (Latkin et al., 2021; Lazarus et al., 2021). This turned out to be true during the vaccination phase, which also highlighted the relevance of trust in institutions and interpersonal trust among strangers (Adhikari et al., 2022; Ahorsu et al., 2022).

Trust among individuals has been shown to be rooted in both risk-taking analysis and social preferences (Blomqvist, 1997; Carpiano & Fitterer, 2014; Shanka & Menebo, 2022b). The rational calculation of the risk/benefit analysis is based on the expectations about how other people will behave under uncertainty and incomplete information, based on the belief of shared social values (Fehr, 2009; Gilson, 2003). This trust fosters cooperation to achieve common aims, facilitate collective actions, and establish stable relationships.

Similarly, trust in governments leads individuals to be more tolerant and cooperative with government

interventions, accept binding decisions, and compliance without coercion. Trust in government has been highlighted as an important factor in shaping health and other behaviors under usual situations (Gilson, 2003; Jamison et al., 2019). Trust leads to increased implementation capacities, enabling resource allocation to pursue societal goals, and reducing the monitoring and transactional costs(Chanley et al., 2000). High trust levels in the government legitimize the exercise of state authority, which is necessary to maintain social order in the context of complexity and uncertainty (Chanley et al., 2000; Gilson, 2003). These elements are essential during a crisis such as the COVID-19 pandemic, where there are elevated uncertainty levels, limited scientific understanding to inform governmental policies and individuals might display reduced readiness to relinquish their autonomy and preferences in favor of government mandates and recommendations.

#### 1.2. Factors associated with non-pharmacological interventions (NPIs) adherence during COVID-19

For individuals, the COVID-19 pandemic presented a formidable decision-making challenge: whether to adhere to NPIs or consider the associated costs. Opting to follow NPIs like staying at home, avoiding social gatherings, and wearing masks was essential to curbing the virus's spread. However, these measures often came with personal costs, both in terms of disrupted routines and potential financial strain. Hence, the decision was influenced by socioeconomic conditions, cultural norms, law enforcement, risk perception, and trust (de Noronha et al., 2022; Hromatko et al., 2021; Solomon et al., 2022). Several factors were associated with adherence to NPIs: flexibility to work remotely, stronger enforcement, a sense of responsibility to protect vulnerable individuals, and a perceived high personal risk.

Trust also impacts the adherence to NPIs. Trust in science improves individual support for and compliance with these measures. The evidence regarding the role of trust in adherence to NPIs indicates that countries with diminished trust in science witnessed weakened individual support for and compliance with NPIs (Algan et al., 2021; Brzezinski et al., 2020; Hromatko et al., 2021). Moreover, the role of trust in government has been described as an important driver of NPIs compliance (Bargain & Aminjonov, 2020b; Pagliaro et al., 2021; Pak et al., 2021; Travaglino & Moon, 2021). However, in highly politicized contexts, partisanship and ideology gain relevance and shape the initial relationship (Becher et al., 2021; Clinton et al., 2021b; Gadarian et al., 2021b; Ramos et al., 2020).

Particularly, the United States had a highly politicized public health policy at the beginning of the pandemic, and the studies about the relevance of trust in government have yielded ambiguous results (Goldstein & Wiedemann, 2022; Q et al., 2021; Travaglino & Moon, 2021). At the federal level, there were mixed messages between the political leader and the public health institutions, which undermined compliance with NPIs. In contrast, at the local level, where the messages were more aligned, trust in government has been associated with increased compliance with protective health behaviors (Suhay et al., 2022).

Given the influential role that trust has in decision-making and its relevance during a crisis, our study contributes to the existing literature by exploring the relationship of trust on preventive behaviors compliance during the COVID-19 pandemic. We use panel data and self-reported measures of trust in local government. The utilization of panel data is innovative and allows us to control for relevant time invariant unobservable factors correlated with trust. Additionally, we introduce a lag in the trust variables as a control, partially accounting for unobservable factors that change over time. Taken together, our contributions lead to an empirical analysis that offers robust causal findings regarding the significance of trust in government for preventive behaviors.

# 2. Study design

# 2.1. Recruitment and sample characteristics

Seven hundred and sixty participants were recruited online from Amazon Mechanical Turk service (MTurk) and

paid \$0.50 to complete a 5-minute survey. We collected cross-sectional data as well as panel data in three waves. At each wave, new and returning participating individuals were accepted. The data was collected between June 18, 2020 – July 1, 2020; August 31, 2020 – September 28, 2020; and December 15, 2020 – January 12, 2021.

MTurk data use in research has increased during the last decade due to its logistical benefit, efficiency and costeffectiveness, with data quality comparable to those collected by other conventional means (Aguinis et al., 2020; Mortensen & Hughes, 2018; Walter et al., 2019). This sampling option has also been utilized for collecting panel data and experienced a significant increase in usage during the pandemic (Christenson & Glick, 2013; Goodman & Wright, 2022; Strickland & Stoops, 2018). We implement the following recommendations to improve the data quality: Respondents were required to be at least 18 years of age, complete an informed consent form, and provide their MTurk ID. Additionally, the survey was kept concise, include clear explanations of the expected time commitment and compensation, and completion of the entire survey was required for payment.

The study was reviewed and approved by the Ethical Committee of the Johns Hopkins Bloomberg School of Public Health. Respondents provided their informed consent before participating.

#### 2.2. Data

In total, we analyzed data on 1513 observations across the three surveys, involving 760 unique individuals who completed at least one survey. Among these, 525 individuals completed two surveys, and 289 individuals completed all three surveys. We recruited participants located in 48 U.S states. Among the unique individuals, 46% are female and the average age of the population is 39, slightly above the national average of 38.2. 46% consider themselves as Democrat and 64% of participants completed a graduate degree. Compared to the national average, Democrats are over-represented (46% vs 26%) and there is a higher percentage of highly educated individuals (64% vs 14%). Most respondents were employed, had an annual household income before taxes lower than \$70,000, and lived in cities with fewer than 100,000 people. Table A.1. shows the characteristics of the unique participants in our study sample. Furthermore, the separate analyses with both the pooled data and the three-wave panel data show similar sociodemographic distributions (see Table A2 and Table A3), indicating random attrition.

#### 2.3. Variables

We measured participants' trust in both local and federal government and asked about four behaviors: (i) mask use, (ii) keeping social distance, (iii) hand washing, and (iv) adherence to lockdown measures. Additionally, we collected data on respondents' demographics and socio-economic characteristics, including gender, age, education level, total household income before taxes, partisanship, perception of the severity of the virus, perception of whether the worst part of the pandemic has passed, the importance of the vaccine, city population of residence and state location.

We measured the trust in local government by asking the respondents to rate their level of trust in their state/local leaders to handle the COVID-19 situation on a scale from 1 (not at all) to 10 (completely trust). For the main analysis, a binary variable was created using a cutoff point at 7, where trust scores from 1 to 7 were categorized as low trust, and scores greater than 7 were categorized as high trust. In a robustness check, we tested different cutoff points, moving it up and down by one value.

To measure compliance with preventive behaviors, we created four variables. Respondents were asked, "Please rate the likelihood that you would use a mask when near others regularly during the next week. (1 = not at all likely, 10 = extremely likely)." All four questions followed the same structure, with the behavior being evaluated changing to assess the likelihood of the remaining three: practicing social distancing by staying six feet away from non-household members, washing hands regularly and staying in lockdown. We analyzed these outcomes as dichotomous variables,

using a cutoff point of 7 based on the variable distribution and dispersion of the data.

We controlled for respondents' sociodemographic characteristics. Education was measured in 9 categories, and for the analysis, they were grouped in three categories: up to high school, up to bachelor's degree, and graduate degree or higher. The survey provides respondents' annual income before taxes in 12 categories, and they were ultimately grouped into four categories: \$0 - \$39,999; \$40,000 - \$69,999; \$70,000 - \$99,999; more than \$100,000. Age was measured as a continuous variable, while sex and employment status were measured as dichotomous variables. Finally, we include data of the respondent's residency state and population size in their home city. The population variable was initially recorded as a continuous variable in the survey and was later re-coded as either higher or lower than 100,000 people.

We estimate standard reduced-form specifications of the effect of trust on preventive behavior. It is important to highlight that as we were interested in including exogenous levers of preventive behavior, we decided not to include responders' political affiliation (Democrats or Republicans) since partisanship may be considered a mediator in the relationship of interest (Becher et al., 2021; Clinton et al., 2021b; Gadarian et al., 2021b; Goldstein & Wiedemann, 2022). The political orientation and ideology used to be stable on the short time (Green & Platzman, 2022), it affects the level of trust in government and at the same time it has also been shown to be important for the adherence to preventive health behaviors (Druckman et al., 2020; Pennycook et al., 2022). For the same reason, we did not include in the analysis individuals believe about severity of COVID-19 pandemic, relevance of vaccine or effective treatment availability to return to normal behavior, and the believe about the worse part of COVID-19 is behind. However, we run several models including these covariates to explore the validity of our exogenous assumptions.

Similarly, we decided to limit our analysis to trust in subnational governments since there was a change in federal government leadership during the data collection period, resulting in a shift in the official preventive narrative. This decision was made to maintain a focus on examining the relationship of trust on preventive behavior, rather than introducing potential confounding variables. However, it is important to note that political preferences and beliefs about the pandemic tend to be relatively stable over short periods of time. Therefore, the panel structure of the data allows us to account for the influence of these factors.

#### 2.4. Analysis

Several standard linear probability models were implemented to explore the initial association between trust levels and compliance with preventive behavior. The dependent variables are dummy variables of the likelihood of compliance with the four preventive behaviors included in the survey, along with an aggregated index of them. The aggregate index is the average value of the four preventive behavior per person. All analyses were conducted using STATA version 17.1 software. The figures were generated using the software R version 4.1.1 (R Foundation for Statistical Computing, Vienna, Austria). A P-value < 0.05 was considered statistically significant for all analyses, and robust standard errors are presented.

#### 2.5. Econometric model

We used a sequential method to add relevant exogenous covariates into our analysis. Initially, we ran models using pooled data. Then, we implemented additional specifications using the panel structure of the data to control for time invariant unobservable variables that might influence preventive behaviors. Additionally, we ran models with one lag of the dependent variable to mitigate endogeneity issues arising from the influence of time-variant unobservable factors.

First, we utilized pooled data to run a regression model to estimate the impact of trust level on adherence to COVID-

19 preventive behaviors, controlling for individuals' sociodemographic characteristics, population city, state of residency, and survey wave. Separate models were run for each of the four preventive behaviors included in the survey, as well as for an aggregate index. The aggregate index served as a proxy of willingness to engage comprehensively with government policies, rather than selectively adhering to specific interventions. The regression model used is expressed as follows:

$$y = \beta_0 + \beta_1 \operatorname{Trust} + \beta_2 x + \varepsilon \tag{1}$$

where *y* is the outcome of interest,  $\beta_1$  is the coefficient associated with the dummy variable of the trust level in local government, and  $\beta_2 X$  includes individual-level demographic characteristics, such as age, gender, education, employment status, income, residency state, and population.  $\beta_0$  is a constant term, and  $\epsilon$  is the error term. This model used the 760 unique individuals with wave fixed effects.

Next, we investigated how previous behavior influences present behavior, as evidence suggests that people used to stick of their behaviors even in the presence of changing information or uncertainty(Ortoleva, 2010; Samuelson & Zeckhauser, 1988). We run a lagged model to address the potential status quo bias and control for time-variant unobservable factors. We added a dependent lagged autoregressive control variable. The model used is shown in equation (2):

$$y_t = \beta_0 + \beta_1 \operatorname{Trust}_t + \beta_2 x_t + \beta_3 y_{t-1} + \varepsilon_t$$
(2)

Where all variables are as described in equation 1. The  $\beta_3$  represents the one-time dependent lagged variable. One should notice that by adding the lag control, we lost one wave of data in the analysis.

To control for time-invariant unobservable factors, we limited the sampled to panel data and included fixed-effect at individual, state and wave levels. Fixed effects help to mitigate omitted variable bias by accounting for state-invariant and survey unobservable differences over time. We used the model shown in equation 3.

$$y_{ijt} = \beta_0 + \beta_1 \operatorname{Trust}_{ijt} + \beta_2 x_{ijt} + \delta_i + \gamma_j + \lambda_t + \varepsilon_{ijt}$$
(3)

where  $y_{ijt}$  is the outcome of interest for individual i residing in state j during survey wave t. The coefficient  $Trust_{ijt}$  is a dummy variable of the trust level on local government, and  $x_{ijt}$  contains individual-level demographic characteristics. We included individual, state, and wave fixed effects, given by  $\delta_i$ ,  $\gamma_j$ ,  $\lambda_t$ , respectively.  $\beta_0$  is a constant term, and  $\varepsilon_{ijt}$  is the error term.

As trust might change when individuals acquire more information to assess trustworthiness of the relationship, we examined how compliance with preventive behaviors varied over time. To assess potential nonlinearities in the relationship between trust and preventive behaviors, we estimated the heterogeneous response over time. We used the same control variables as in the first analysis. We re-estimated equations 1 and 2, this time including an interaction term between trust and survey wave. Equation 4 shows the modification to equation 2.

$$y_{ijt} = \beta_0 + \beta_1 \operatorname{Trust}_{ijt} + \beta_2 x_{ijt} + \beta_3 \operatorname{Trust}_{ijt} * \operatorname{Wave2}_t + \beta_4 \operatorname{Trust}_{ijt} * \operatorname{Wave3}_t + \delta_i + \gamma_j + \lambda_t + \varepsilon_{ijt}$$
(4)

Where all variables are as described in equation. The  $\beta_3$  is the coefficient of the interaction term between trust level and wave.

#### 3. Results

We found a positive correlation between trust level and the four preventive behaviors (mask use, keeping social distance, hand washing, and staying in lockdown) (see Table 1). Additionally, there was a positive relationship between

preventive behaviors and home income. The compliance with social distancing and staying in lockdown followed a concave curve (see Figure A.1). Likewise, the relationship between mask use and age was concave, with lower usage among individuals in their fifties. Staying in lockdown also exhibited a concave relationship with age, but older individuals overall had higher likelihood of adherence. Keeping social distance and hand washing did not have a correlation with age (see Figure A.2).

Variable	Mask	Keep social	Hand	Stay in	Trust in local
	use	distance	washing	lockdown	government
Mask use	1.00				
Keep social distance	0.68***	1.00			
Hand washing	0.47***	0.44***	1.00		
Stay in lockdown	0.58***	0.54***	0.35***	1.00	
Trust in local government	0.19***	0.16***	0.07**	0.27***	1.00
Notes: *** n < 0.01 ** n < 0.05	*n<01				

Table 1	. Pearson	correlation	matrix.

*Notes:* \*\*\* *p* < 0.01, \*\* *p* < 0.05, \* *p* < 0.1.

Table 2 shows the estimated results using pooled data for both regression models, with and without interaction terms with survey wave. Trust in local government had a statistically significant positive effect on the compliance with COVID-19 preventive behaviors, controlling for age, sex, education level, employment status, city population, and income. Trust in local government increases the adherence to mask use by 7.6 percentage points (relative to a mean of 9 percent), keeping social distance by 7.2 percentage points (relative to a mean of 8 percent), hand washing by 3.7 percentage points (relative to a mean of 4 percent), staying in lockdown 13.9 percentage points (relative to mean 20 percent), and the aggregate index by 11.7 (relative to mean of 15 percent). All these estimates were statistically significant at an alpha level of 0.05 and did not vary significantly after changing the cutoff point for the results variables.

Variable	Mask use	Keep social distance	Hand washing	Stay in lockdown	Aggregate index
	(1)	(2)	(3)	(5)	(6)
Panel A. Average effect					
High trust in local government	0.0763***	0.0715***	0.0373**	0.139***	0.117***
	(0.0209)	(0.0203)	(0.0182)	(0.0257)	(0.0232)
Relative size (% percent)	9.06	8.3	4.23	19.56	14.27
Panel B. Heterogeneity by wave					
High trust in local government	0.120***	0.122***	0.0425	0.181***	0.132***
	(0.0344)	(0.0286)	(0.0294)	(0.0404)	(0.033)
Relative size (% percent)	14.25	14.16	4.82	25.48	16.1
Mean dependent variable Observations	0.842 1513	0.8616 1513	0.8824 1513	0.7105 1513	0.8201 1513

Table 2. The effect of trust on preventive behaviors: Pooled models.

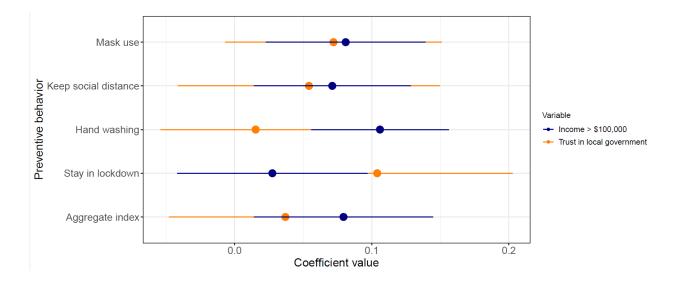
*Notes: Panel A presents estimated coefficients from regressions of high trust in local government* on preventive behaviors (equation 1). Panel B reports coefficients from regression of high trust in local government on preventive behaviors interacted with the survey wave (equation 2). All models used pool dataset with fixed effects for wave, and state. Each column reports a regression with different preventive behavior. Robust standard errors are shown in parentheses. \*\*\* p < 0.01, \*\* p <0.05, \* p < 0.1.

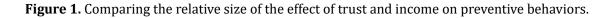
The effect of trust on preventive behaviors is substantial, similar to having an annual household income higher than \$100,000. These two relative size effects are closer for the mask use and social distance variables (see Figure 1). Similar results were obtained using the lagged model and the panel data with fixed effects, as presented in Table 3 and Table 4, respectively. Figure 2 compares the relative sizes of the effects for the five outcome variables depending on the model used. In general, the relative size is higher in the pooled data model with interaction, but most effects conserve their direction regardless of the model used.

Variable	Mask use	Keep social distance	Hand washing	Stay in lockdown	Aggregate index
	(1)	(2)	(3)	(5)	(6)
Panel A. Lagged dependent va	riable				
High trust in local government	0.0253 (0.0252)	0.0433 (0.0265)	0.0407** (0.0207)	0.0847** (0.0345)	0.0469 (0.0289)
Relative size (% percent)	3	5.03	4.61	11.92	5.72
Mean dependent variable Observations	0.842 753	0.8616 753	0.8824 753	0.7105 753	0.8201 753

Table3. The effect of trust on preventive behaviors: Lag-dependent variable models.

Notes: Panel A presents estimated coefficients from regression of high trust in local government on preventive behavior adjusting for the lagged dependent variable (equation 3). All models used pool dataset with fixed effects for individual level, wave, and state. Each column reports a regression with different preventive behavior. Robust standard errors are shown in parentheses. \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.1.

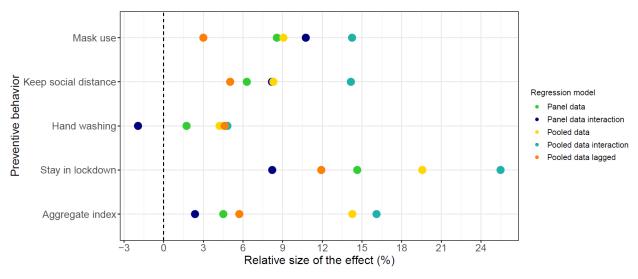


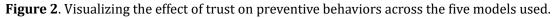


Variable	Mask use	Keep social distance	Hand washing	Stay in lockdown	Aggregate index
	(1)	(2)	(3)	(5)	(6)
Panel A. Average effect					
High trust in local government	0.0721*	0.0542	0.0153	0.104**	0.037
C	(0.0395)	(0.0478)	(0.0347)	(0.0494)	(0.0425)
Relative size (% percent)	8.56	6.29	1.73	14.64	4.51
Panel B. Heterogeneity by wave					
High trust in local government	0.0905**	0.0706	-0.0171	0.0583	0.0194
Relative size (% percent)	(0.0437) 10.75	(0.0513) 8.19	(0.0398) -1.94	(0.0595) 8.21	(0.0495) 2.37
Mean dependent variable Observations	0.842 866	0.8616 866	0.8824 866	0.7105 866	0.8201 866

Table 4. The effect of trust on preventive behaviors: Fixed Effects Models.

Notes: Panel A presents estimated coefficients from regressions of high trust in local government on preventive behaviors (equation 1). Panel B reports coefficients from regression of high trust in local government on preventive behaviors interacted with the survey wave (equation 2). Both models used panel data of the three waves with fixed effects for individual level, wave, and state. Each column reports a regression with different preventive behavior. Robust standard errors are shown in parentheses. \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.1.





# 4. Discussion

Trust in local government has a significant and positive effect on preventive behaviors, increasing compliance with preventive behaviors by 4% to 20%. These findings align with previous studies (Bronfman et al., 2022; Han et al., 2021b; Shanka & Menebo, 2022b; Vu, 2021), which demonstrated that higher levels of trust in government correlated with

increased compliance with COVID-19 measures. Therefore, policy actions aimed at increasing trust may represent a viable approach to encourage cooperation and altruistic behavior, ultimately reducing the implementation time and the associated transactional costs of law enforcement (Luscombe & Mcclelland, 2020).

The relationship between trust in government and individual behavior change seems to be mediated by a reduction in individual's perceived costs of risk calculation under uncertain conditions, increasing the acceptability of public health interventions. There is an increase in problem awareness and prosocial behavior. Improved problem awareness leads to a better understanding of the importance of precautionary measures and encourages people to heed government and health authorities, thereby increasing compliance with government-backed preventive measures (Shanka & Menebo, 2022b). Furthermore, trust fosters citizen cooperation. Individuals are more likely to engage in cooperative efforts that benefit the collective well-being, as trust creates a sense of security and reliability, assuring individuals that their contributions will be valued and reciprocated by others. Moreover, trust forms a positive feedback loop: as cooperation increases, so does trust. It represents an implicit promise to cooperate in the present and the future (Evans & Krueger, 2009).

The COVID-19 pandemic highlighted the importance of a rapid and coordinated response. It required high technical capabilities, ranging from data availability for disease modeling to surveillance capacity and a resilient health system. However, what matters most in pandemic preparedness is the willingness to deploy these technical capabilities effectively and promptly. The opportunity window is brief and demands a nation capable of swift action (Omberg & Tabarrok, 2022). While some primary control methods rely on a country's technical prowess and system robustness, such as contact tracing and testing, many others are independent of these factors. Measures like lockdowns, social distancing, and mask-wearing largely hinge on the public's compliance with these guidelines.

As trust influences behavioral change, strengthening trust in government may serve as an alternative to fostering non-pharmacological interventions without resorting to law enforcement. During the COVID-19 pandemic, many countries employed police and military forces to enforce preventive measures such as lockdowns, movement restrictions, and mask use. Policing the pandemic proved to be expensive and diverted the police attention away from other crimes. Moreover, these aggressive measures instilled in the public a sense of loss of freedom, procedural injustice, and reduced compliance (Harris et al., 2021; Kajeepeta et al., 2022; McCarthy et al., 2021; Obioha & Mugari, 2022; Perry et al., 2022). Additionally, compliance with preventive behaviors through monetary penalties and fines is challenging and complex. Fines might disproportionately impact individuals with limited financial resources, potentially exacerbating existing inequalities(Centre for Crime, 2022). Furthermore, effective enforcement requires a robust and often costly administrative infrastructure, diverting resources that could be allocated to preventive measures and education. Finally, law enforcement might be perceived as punitive rather than as a means to promote public welfare, leading to a decreased willingness to comply voluntarily.

High trust levels may increase the dissemination and receptiveness of institutional messages among the population. Efficient communication is essential to pandemic control efforts. Transmitting new knowledge assertively and promoting behavioral change are crucial to improve the implementation of pandemic-responsive policies. During the COVID-19 pandemic, individuals were overwhelmed with information from thousands of sources, often unverified, and provided with a multitude of options, ranging from taking hydroxychloroquine to using ivermectin as a preventive treatment. (Gisondi et al., 2022). This misinformation jeopardizes institutional efforts aimed at pandemic response(Al-Omoush et al., 2023). Nonetheless, the community receptivity to institutional recommendations increases when there is high public trust in the government (Valentini & Badham, 2022).

Furthermore, given that trust might affect individuals' behaviors and transmission patterns, trust may play a role in pandemic modeling and forecasting. Nowadays, most models are based on virus transmissibility rates, individuals' mobility, and the probability of re-infection. While some models include social variables, including expected compliance

with non-pharmacological measures and anticipated governments policies, to our best knowledge, none of them include trust in government as a potential predictive variable. This omission may be due to the largely unrecognized impact of trust on health behaviors as well as the difficulty to measure trust. Nevertheless, trust levels might serve as a proxy for compliance with preventive measures and the success of health policy implementation. Including trust in trend analysis and forecasting might improve the performance of models which rely solely on epidemiological variables and offer an early source of data for modeling, even before compliance measures become available.

Despite the crucial role that trust plays in enhancing compliance with government mandates and crisis responsiveness, it is essential to avoid blind trust and instead work towards strengthening institutions to reciprocate that trust (Gilson, 2003, 2006). Historical evidence has shown instances of trust abuse by scientific organization towards minorities (Ball et al., 2013; Crooks et al., 2021), which has eroded the trust of these communities and resulted in their subsequent non-compliance with beneficial policies, thereby exacerbating the existing inequalities (Best et al., 2021; Lopez et al., 2021). Consequently, there is a need to bolster public health institutions and enhance the legitimacy of scientific organizations to prevent the abuse of power, address the inequitable outcomes of current social arrangements, and prioritize community wellbeing in health policies.

Similarly, additional safeguards might be required to be in place to act against misinformation and misleading leadership. For instance, continuous robust scientific and strategic communication strategies oriented to enhance the community's ability to take informed decisions. Having access to a wealth of verified information and a well health-educated community might mitigate the effect of misinformation and the detrimental influences of bad leadership.

Our study has some limitations. Measuring trust is challenging, as it is shaped by beliefs about others' trustworthiness and individual preferences regarding taking social risks (Fehr, 2009). Beliefs are malleable and subject to change quickly in response to new information, often influenced by personal experiences and time-varying factors that are difficult to observe. Additionally, the sample predominantly comprises individuals with internet access, highly educated and a larger proportion of Democrats, which limits the generalizability of the results. However, these findings remain informative regarding the relationship studied within the included population and may guide further research.

In conclusion, assuming the best interests and competence of the health system, increasing public trust in government health policies may be a feasible approach to better preparing for future health crisis. Trust promotes cooperation among individuals and organizations, encourages compliance with preventive health behaviors, and may even play a role in epidemic forecasting.

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#### **Conflict of interest**

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

#### Author contributions

Conceptualization: Gerard F. Anderson, Antonio J. Trujillo; Investigation: Gerard F. Anderson, Antonio J. Trujillo, Joshua L. Choe, Yenny Guzman-Ruiz; Methodology: Gerard F. Anderson, Antonio J. Trujillo, Joshua L. Choe, Yenny Guzman-Ruiz; Formal Analysis: Antonio J. Trujillo, Yenny Guzman-Ruiz; Writing – original draft: Antonio J. Trujillo, Yenny Guzman-Ruiz; Writing – revisions, review & editing: Gerard F. Anderson, Antonio J. Trujillo, Joshua L. Choe, Yenny Guzman-Ruiz:

# Appendix A. Descriptive statistics.

<b>Table A.1.</b> Descriptive statistics of unique participants.
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Variable	N = 760 <sup>1</sup>
High Trust in Local Government	0.28 (0.45)
Age	39 (12)
Female	353 (46%)
Education	
Up to High School graduate	81 (11%)
Up to Bachelor's degree (4 year degree)	192 (25%)
Graduate degree	487 (64%)
Employed	642 (84%)
Annual Household Income Before Taxes	
\$0 - \$39,999	223 (29%)
\$40,000 - \$69,999	246 (32%)
\$70,000 - \$99,999	162 (21%)
More than \$100,000	129 (17%)
Population more than 100,000 People	364 (48%)
Wave	
1	508 (67%)
2	148 (19%)
3	104 (14%)
Partisanship	
Other	414 (54%)
Democrat	346 (46%)
Perception of COVID-19 as a Serious crisis	521 (69%)
Perception that the Worst Part of the Pandemic is Behind Us	128 (17%)
Perception that a Vaccine is Required to Return to Normal Behavior	409 (54%)

<sup>1</sup>Mean (SD); n (%)

		Wave			·
Variable	Overall, N = 1,513 <sup>1</sup>	1, N = 508 <sup>1</sup>	2, N = 502 <sup>1</sup>	3, N = 503 <sup>1</sup>	p- value <sup>2</sup>
High Trust in Local Government	0.26 (0.44)	0.28 (0.45)	0.25 (0.43)	0.25 (0.43)	0.4
Age	40 (13)	40 (13)	40 (13)	41 (12)	0.3
Female	719 (48%)	242 (48%)	238 (47%)	239 (48%)	>0.9
Education					0.12
Up to High School graduate	155 (10%)	43 (8.5%)	48 (9.6%)	64 (13%)	
Up to Bachelor's degree (4 year degree)	398 (26%)	135 (27%)	124 (25%)	139 (28%)	
Graduate degree	960 (63%)	330 (65%)	330 (66%)	300 (60%)	
Employed	1,273 (84%)	416 (82%)	426 (85%)	431 (86%)	0.2
Annual Household Income Before Taxes					>0.9
\$0 - \$39,999	459 (30%)	154 (30%)	149 (30%)	156 (31%)	
\$40,000 - \$69,999	461 (30%)	147 (29%)	156 (31%)	158 (31%)	
\$70,000 - \$99,999	329 (22%)	117 (23%)	108 (22%)	104 (21%)	
More than \$100,000	264 (17%)	90 (18%)	89 (18%)	85 (17%)	
Population more than 100,000 People	728 (48%)	249 (49%)	238 (47%)	241 (48%)	0.9
Partisanship					0.3
Other	787 (52%)	278 (55%)	258 (51%)	251 (50%)	
Democrat	726 (48%)	230 (45%)	244 (49%)	252 (50%)	
Perception of COVID-19 as a Serious crisis	1,022 (68%)	356 (70%)	321 (64%)	345 (69%)	0.10
Perception that the Worst Part of the Pandemic is Behind Us	248 (16%)	67 (13%)	105 (21%)	76 (15%)	0.003
Perception that a Vaccine is Required to Return to Normal Behavior	824 (54%)	263 (52%)	268 (53%)	293 (58%)	0.10

<sup>1</sup>Mean (SD); n (%)

<sup>2</sup>Kruskal-Wallis rank sum test; Pearson's Chi-squared test

		Wave			
Variable	Overall, N = 867 <sup>1</sup>	1, N = 289 <sup>1</sup>	2, N = 289 <sup>1</sup>	3, N = 289 <sup>1</sup>	p- value <sup>2</sup>
High Trust in Local Government	0.23 (0.42)	0.25 (0.43)	0.22 (0.42)	0.22 (0.42)	0.7
Age	42 (13)	42 (13)	42 (13)	42 (13)	0.8
Female	433 (50%)	144 (50%)	144 (50%)	145 (50%)	>0.9
Education					>0.9
Up to High School graduate	80 (9.2%)	27 (9.3%)	27 (9.3%)	26 (9.0%)	
Up to Bachelor's degree (4 year degree)	239 (28%)	80 (28%)	80 (28%)	79 (27%)	
Graduate degree	548 (63%)	182 (63%)	182 (63%)	184 (64%)	
Employed	716 (83%)	236 (82%)	237 (82%)	243 (84%)	0.7
Annual Household Income Before Taxes					>0.9
\$0 - \$39,999	280 (32%)	93 (32%)	94 (33%)	93 (32%)	
\$40,000 - \$69,999	236 (27%)	78 (27%)	77 (27%)	81 (28%)	
\$70,000 - \$99,999	194 (22%)	65 (22%)	66 (23%)	63 (22%)	
More than \$100,000	157 (18%)	53 (18%)	52 (18%)	52 (18%)	
Population more than 100,000 People	414 (48%)	136 (47%)	138 (48%)	140 (48%)	>0.9
Partisanship					>0.9
Other	423 (49%)	143 (49%)	141 (49%)	139 (48%)	
Democrat	444 (51%)	146 (51%)	148 (51%)	150 (52%)	
Perception of COVID-19 as a Serious crisis	598 (69%)	206 (71%)	188 (65%)	204 (71%)	0.2
Perception that the Worst Part of the Pandemic is Behind Us	117 (13%)	35 (12%)	46 (16%)	36 (12%)	0.3
Perception that a Vaccine is Required to Return to Normal Behavior	478 (55%)	153 (53%)	152 (53%)	173 (60%)	0.14

<sup>1</sup>Mean (SD); n (%)

<sup>2</sup>Kruskal-Wallis rank sum test; Pearson's Chi-squared test

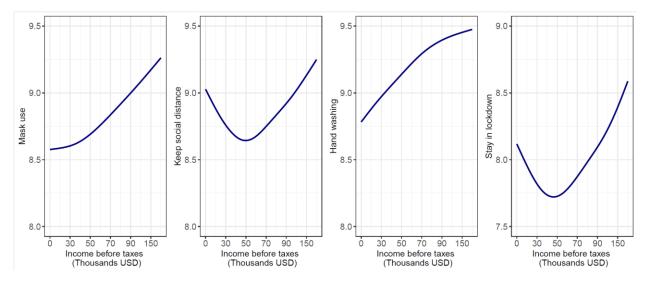


Figure A.1. Correlation of income and preventive behaviors.

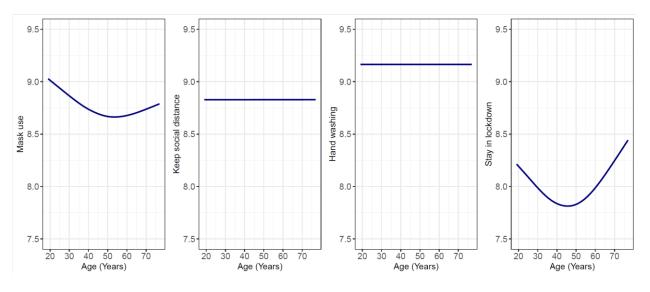


Figure A.2. Correlation of age and preventive behaviors.

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