



## WAVE 4

National Income Dynamics  
Study (NIDS) – Coronavirus  
Rapid Mobile Survey (CRAM)

# Role of Social Trust and Trust in Source of Information on Adherence to COVID-19 Regulations in South Africa: Evidence from NIDS-CRAM

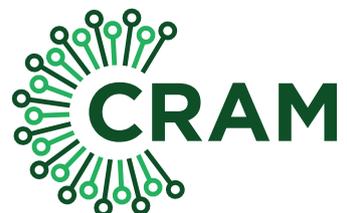
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# Role of Social Trust and Trust in Source of Information on Adherence to COVID-19 Regulations in South Africa: Evidence from NIDS-CRAM

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## Abstract

In response to the COVID-19 pandemic, numerous governments across the world recommended some preventive behaviour for their citizens, e.g. social distancing and wearing masks. The effectiveness of these recommendations depends on voluntary compliance by the public. Existing evidence on past epidemics shows that social trust, political trust and trust in sources of information underlie compliance with regulations. In this paper, we explore the role of social trust and trust in sources of information on compliance to COVID-19 preventative measures in South Africa. The analysis utilises logit models, data from waves of NIDS-CRAM and the 5th wave of NIDS survey. We find that very high levels of social trust are required to foster a positive association between social trust and the probability of compliance with COVID-19 regulations. Further, trust in local and international news predicts the probability of adherence to a higher range of preventative measures; wearing a mask, staying at home and washing/sanitising hands regularly. This is followed by trust in government information which is associated with a higher probability of wearing a mask and staying at home. Trust in social media and health workers are associated with a higher probability of wearing a mask and staying at home, respectively. Based on these findings, we suggest a need for measures to increase levels of social trust and trust in information sources in South Africa which assist the government to avert pandemics and natural disasters.

# Executive summary

The COVID-19 pandemic, is a global crisis that has led to emergency measures to stop the spread of the virus. During the first quarter of 2020, several governments across the world put in place national lockdown policies, and recommended radical changes in their citizens' behaviour. Examples of these are social distancing and wearing masks. Although there has been a temporal easing of the lockdown restrictions, these non-pharmaceutical interventions are still recommended as the vaccination program is still underway throughout the world. Evidence based on past epidemics such as Ebola and swine flu shows that some governments have been successful in containing them due to citizens' voluntary compliance to recommended behaviours and pharmaceutical solutions. This rests on public trust in the government's capability to handle the epidemic (political trust), citizen's trust in each other (social trust) and trust in sources of information among others. Notably, trust is a normative concept which refers to positive perceptions about the actions of an individual or an organisation. It is associated with principles of loyalty, fairness and care which are important for social cohesion, integration and stability. However, the diversity of individual perceptions presents a variation in the degree of trust within and across countries. This necessitates a localised understanding of individuals' trust and whether it predicts law abidance which helps to improve the efficacy of public policy.

Based on data from waves 1 - 4 of NIDS-CRAM and the 5th wave of NIDS conducted in 2017, this paper investigates the role of social trust and trust in sources of information on compliance to COVID-19 preventative measures in South Africa. Explicit focus is accorded to an understanding of the correlation between individuals' trust in citizens/trust in sources of information, and compliance with social distancing, staying at home, hand hygiene and wearing masks. We derive a social trust index using an equal weighting of individuals' responses to questions on level of trust in strangers, neighbours, other South Africans, people from own race, people from other race, other people known by the individual and relatives, in NIDS wave 5 data. The use of pre-COVID19 trust levels allows us to abstract from using a contemporaneous measure of trust that is likely to be confounded by people's experiences and perceptions during the pandemic. Two cut-off points of the social trust index are used to derive two social trust indicators; above average ('modest social trust') and greater than or equal to the 75th percentile ('high social trust'). Trust in sources of information is derived from wave 1 of NIDS-CRAM while responses to recommended preventative measures are obtained from waves 1 - 4. The analysis utilises descriptive statistics and maximum likelihood estimation methods.

We find that 'modest social trust' predicts abidance to only one of the four regulations, i.e. hand hygiene. Based on the second measure of social trust, we find that individuals with considerably high levels of social trust are more likely to adhere to hand hygiene, wearing of facemasks and social distancing relative to those with low levels of social trust. The probability of compliance with these regulations was 3 - 4 percent higher for high compared to low trust individuals. These findings indicate that considerably high levels of social trust are essential to realise a statistically significant effect on compliance with COVID-19 regulations in South Africa. We also find that trust in government information is associated with a higher probability of wearing a mask and staying at home. Trust in local and international news increases the probability of adherence to a higher range of preventative measures; wearing a mask, staying at home and washing/sanitising hands regularly. Trust in social media and health workers are associated with a higher probability of wearing a mask and staying at home, respectively. Overall, these results show that trust in various information sources is required for initiatives to reduce the transmission of COVID-19.

Our results suggest a need for measures to increase levels of social trust and trust in information sources in South Africa. This helps to build a coherent society where the public voluntarily abide by government policies such as COVID-19 regulations and measures to avert future pandemics and

natural disasters. Acknowledging that social trust is built over time, we propose medium to long-term recommendations to improve social trust in South Africa. First, as many economic activities are going back to 'normal' there is need for measures that uphold social responsibility and make citizens feel safe in public spaces. This includes stringent monitoring of adherence to COVID-regulations by both customers and service providers, for instance. In addition, given that many marginalised individuals were adversely affected by the pandemic, there is need for clear communication and subsequent implementation of interventions that assist them socially, financially and emotionally. This will foster social trust. Second, the government and its key stakeholders can focus on reducing income inequality as it spurs distrust among citizens, this can be complemented by measures that enhance egalitarian values in society. Third the government and the South African police in particular should consider strengthening of crime prevention measures as it is difficult for citizens to trust each other in a high crime environment. Fourth, practicing good governance and rooting out corruption at all levels of society is essential for building social trust in South Africa.

Further recommendations are based on our results for trust in information sources. First, the government should consider disseminating information about a pandemic through various media. Individuals trust different sources of information, hence using a variety of information sources increases chances for many citizens to comply with regulations. Second, there is need to improve public trust in government information sources to enhance citizens' compliance to a higher range of preventative measures. Third, we recommend the government to monitor the quality of information disseminated through social media and private sources during a pandemic. This can serve to reduce misinformation about the epidemic and improve public trust and hence adherence to public policy.

# 1. Introduction

The ongoing coronavirus outbreak prompted many governments across the world to prescribe numerous restrictions on citizens' behaviour (Larsen et al., 2020). For example, self-isolation, staying at home, frequent hand washing and wearing masks (WHO, 2020). These regulations are, however, difficult to enforce as they require voluntary compliance by the public (Larsen et al., 2020). Extant literature shows that political and social trust are important determinants of public compliance to government policies (Woelfert and Kunst, 2020; Bargain and Aminjonov, 2020; OECD, 2013). This includes trust in government authorities, citizens, science, and sources of information (Han et al., 2020; Bargain and Aminjonov, 2020; Pagliaro et al., 2021; Siebenhaar et al., 2020; Fridman et al., 2020). According to OECD (2013), trust is a normative concept which refers to positive perceptions about the actions of an individual or an organisation. It is associated with principles of loyalty, fairness and care which are important for social cohesion, integration and stability (Pagliaro et al., 2021; Woelfert and Kunst, 2020; Newton et al., 2018). Importantly, public and social trust helped some governments in developed and developing countries to control outbreaks such as Ebola, Swine Flu and earlier waves of COVID-19 (Siebenhaar et al., 2020; Han et al., 2020; Flückiger, 2019; Bargain and Aminjonov, 2020). This implies that public trust and cohesion are pertinent for collective survival amidst the coronavirus pandemic (Bargain and Aminjonov, 2020). However, the diversity of individual perceptions presents a variation in the degree of political and social trust within and across countries. Each country, therefore, needs to understand these concepts with respect to its citizens and whether they predict law abidance which helps to improve the efficacy of recommended behaviour.

The South African government introduced social distancing and strict health protocols in May 2020 (COGTA, 2020). These measures are still valid as the government strives to avert the transmission of COVID-19 and save lives. Currently (16 April 2021), 1 562 931 South Africans have contracted the virus, 53 571 COVID-19 deaths have been registered, while only 292 623 individuals out of a population of 55 million have been vaccinated ([sacoronavirus.co.za](http://sacoronavirus.co.za), 2021). While the vaccination programme is still in its early stages, some segment of the population has vaccine hesitancy which may lead to vaccine coverage below herd immunity (Meyer and Burnett, 2020). Against this background, it is vital for the public to continue upholding the prescribed non-pharmaceutical preventative measures. In line with international literature, this requires an understanding of the relationship between political and social trust / trust in information sources and voluntary compliance to COVID-19 regulations so as to inform public health policy responses.

Based on data from the South African National Income Dynamics Study Coronavirus Rapid Mobile Survey (NIDS-CRAM) and the 5th wave of the National Income Dynamics Study (NIDS), this paper investigates the role of public trust in compliance to COVID-19 preventative measures in South Africa. Explicit focus is accorded to an understanding of the correlation between individuals' self-reported trust in citizens and sources of information, and compliance with social distancing, staying at home, hand hygiene and wearing masks. Notably, the paper uses trust in government information sources as a proxy for political trust. It derives a social trust index from questions on individuals' level of trust in strangers, neighbours, other South Africans, people from own race, people from other race, other people and relatives available in the NIDS data for 2017. The use of pre COVID-19 social trust serves to ensure exogeneity of this variable to individuals' COVID-19 experiences. Trust in information sources and individual responses to recommended preventative measures are drawn from wave 1 and waves 1 - 4 of NIDS-CRAM, respectively. Thanks to the Southern Africa Labour and Development Research Unit (SALDRU) based at UCT's School of Economics for conducting these surveys.

The rest of the paper is structured as follows. Section 2 contextualises the study, section 3 discusses data and methodology, section 4 discusses the results and concludes.

## 2. Brief Review

The COVID-19 pandemic is a global crisis that has led to emergency measures to stop the spread of the virus. During the first quarter of 2020, several governments across the world put in place national lockdown policies, and recommended radical changes in their citizens' behaviour (Woelfert and Kunst, 2020; Bargain and Aminjonov, 2020; Han et al., 2020). This includes social distancing, staying at home, restrictions on social gatherings, and disease source control measures such as wearing masks and frequent hand washing, inter alia (WHO, 2020). Although there has been a temporal easing of the lockdown restrictions, these non-pharmaceutical interventions are still recommended as the vaccination program is still underway throughout the world. Also, the efficacy of the vaccines has not yet been fully confirmed (Pagliaro et al., 2021). Evidence based on past epidemics such as Ebola and swine flu shows that some governments have been successful in containing them due to citizens' voluntary compliance to recommended behaviours and pharmaceutical solutions (Han et al., 2020). This rests on public trust in the government's capability to handle the epidemic (political trust), citizen's trust in each other (social trust), trust in effectiveness of science and trust in the sources of information about the epidemic and its interventions. Political trust is critical due to its association with pro-social behaviour which yields cooperation and altruism in society (Han et al., 2020). Social trust is also significant in the COVID-19 era, for instance one's compliance with social distancing may be driven by the confidence that other citizens will also comply (Woelfert and Kunst, 2020). Further, the importance of having trustworthy sources of news cannot be overemphasised due to the current infodemic - virality of information and misinformation about COVID-19 (Depoux et al., 2020). While any sort of information about an epidemic can lead to anxiety, distress and information avoidance, reliable sources of news can partly reduce information avoidance and prompt some citizens to comply with regulated health behaviours (Siebenhaar et al., 2020). For example, trust in information disseminated by health authorities and the media led to abidance to preventive measures during the swine flu epidemic (Rubin et al., 2003 cited in Siebenhaar et al., 2020).

Bargain and Aminjonov (2020) provide specific evidence on whether confidence in authorities prior to the COVID-19 global pandemic affects compliance to lockdown policies in Europe. The latter is measured by changes in human mobility. The study is cognisant that European countries enforced suppression methods which varied from strict to mild degrees of severity. It utilises three data sources: COVID-19 mobility reports from Google, trust data from the European Social Survey and policy stringency from the Oxford COVID-19 Government Response Tracker. The analysis applies graphical and difference-in-difference estimation methods around the time of lockdown announcements, and the daily intensity of policy stringency as a more continuous source of variation in treatment, both over time and across countries. Results show a decline in mobility around mid-March 2020 that was significantly stronger in high rather than low trust regions. This indicates that regions which had higher levels of trust in policy makers prior to the crisis had better compliance to national health policies. The level of compliance was stronger for non-necessary activities (recreation, work and transport) compared to going to essential activities such as the drugstore. Further, the effect of trust on compliance tended to increase with the degree of stringency of suppression methods. Thus, trust is a key determinant of citizens' compliance with public health interventions in the context of a global pandemic (Bargain and Aminjonov, 2020).

Han et al. (2020) extend on the findings in Bargain and Aminjonov (2020) using a sample of 23 countries. These comprise Argentina, Australia, Brazil, Canada, France, Germany, Greece, Indonesia, Italy, Japan, Netherlands, Philippines, Romania, Russia, Saudi Arabia, Serbia, South Africa, South Korea, Spain, Turkey, the United Kingdom, Ukraine, and the United States of America (US). The analysis utilised cross-sectional data from the web-based PsyCorona Survey on COVID-19. Results based on specification curve analysis present a robust relationship between trust and personal preventive behaviour. Particularly, a higher level of trust in government regarding COVID-19 control was significantly correlated with higher compliance in handwashing, avoiding crowded places and self-isolation. These results raise a requirement for communication strategies that enhance trust in government's ability to handle COVID-19.

The OECD (2013) notes that trust in government occurs at two echelons: political and social levels

and these tend to influence each other, although the relationship varies with context. This has prompted other studies to analyse the role of social trust on compliance to COVID-19 regulations. As an example, Woelfert and Kunst (2020) investigate the association between political and social trust and compliance with social distancing measures. Social trust pertains to one's trust in most people that one encounters in life whether they are familiar or not and whether they are different from oneself or not (Woelfert and Kunst, 2020; Newton et al., 2018). Using data for the United Kingdom, Woelfert and Kunst (2020) show that social trust can have either a negative or a positive relationship with compliance to social distancing. Rationale for the negative relationship rests on the observation that high trust individuals are more likely to be extroverted with large social networks while the opposite applies to distrusting individuals. Social distancing would therefore be resisted by high trust individuals due to its potential disruptive effects on their social lives (Delhey, 2014; Woelfert and Kunst, 2020). As for the positive association, it stems from the viewpoint that social trust is aligned with cooperative and altruistic behaviour (Delhey, 2014; Woelfert and Kunst 2020). In this case "compliance with public health policies can be interpreted as a form of altruistic practice for the common good (Uslaner, 2002; Delhey, 2014)", (Woelfert and Kunst, 2020). In addition to the positive correlation between altruistic behaviour and willingness to engage in prescribed public health behaviours, Pagliaro et al. (2021) noted that individuals who recognised moral principles of fairness and care (vs. loyalty and authority), were more inclined to report trust in science. This implies that communication strategies for public health interventions should be tailored to reflect broader moral codes of a country. For instance, where trust in science matters the most, there is a need to fight conspiracy theories shrouding COVID-19 and its preventative measures.

In this era, there are several sources of news, and some of them present a risk of spreading misinformation about COVID-19 (Siebenhaar et al., 2020; Depoux et al., 2020). This is concerning as individuals' inability to find reliable sources of information may cause distress which affects behavioural responses to COVID-19 regulations. To substantiate this, Siebenhaar et al. (2020) investigate the linkage between trust in information sources, distress by information, information avoidance, and compliance with preventive measures. The study is based on data for 1059 participants from 16 German states. It utilises an average trust rating of all information sources used by an individual: news channels' websites, social media, television, internet search engines, friends and family, newspaper, health authorities, primary care physician. Also a battery of questions were used to generate a distress by information subscale of the Cyberchondria Severity Scale-15, one self-generated item on information overload, the adapted Information Avoidance Scale and a 13 item index of compliance with health behaviours. Findings from multiple linear regression analyses show a negative relationship between trust in information and information avoidance. A lower level of information avoidance significantly predicts better compliance with preventive measures. This shows the importance of trustworthy sources of information during pandemics, as they reduce distress by information and information avoidance which is necessary for compliance with prescribed behaviours.

Fridman et al. (2020) further show that public trust in information sources and its relation to compliance with COVID-19 regulations varies across information sources. The study considers three types of information sources: government information sources (e.g., the US Centers for Disease Control and Prevention), private sources (e.g., FOX and CNN), and social networks (e.g., Facebook and Twitter). It shows that government information sources were most trusted by the public, and they exhibited a positive correlation with compliance to social distancing behaviours. This highlights the role of government in disseminating accurate and easily accessible information about COVID-19. On the contrary, trust in private sources and social networks was negatively associated with social distancing. This champions for policy makers to monitor the quality of information disseminated by private sources and social networks during a pandemic (Fridman et al., 2020). Remarkably, trust in information source tends to vary by demographic group and geographic location. In this regard, the relationship between social trust and compliance to public polices remains an empirical issue which requires localised evidence.

### 3. Methodology

To identify the role of social trust on compliance with COVID-19 regulations, we first present some descriptive statistics highlighting COVID-19 compliance patterns and social trust in South Africa. This is followed by an estimation of the following (pooled) logit model:

$$Compliance_{it} = x'_{it}\beta + \gamma social\ trust_i + u_{it} \quad (1)$$

where  $compliance_{it} = 1$  if an individual  $i$  adheres to a given regulation at time  $t$  and 0 otherwise. The regulations considered herein are regular washing/sanitising of hands, wearing a facemask, social distancing and staying at home.  $x_i$  is a vector of individual characteristics (i.e. age, gender, marital status, race, education, health status, labour market status, household characteristics and location). **Social trust** is an indicator variable taking the value of 1 if an individual has high levels of social trust and 0 otherwise and  $u_{it}$  is an error term assumed to follow a logistic distribution. To identify individuals with high social trust, we first compute a social trust index as follows:

$$Social\ trust\ index = \sum_{j=1}^J R_j, \quad j \in [1, 2, \dots, J]$$

Where  $R_j$  denotes the 'score' to the  $j^{th}$  social trust variable (i.e. self-reported trust in strangers, neighbours, other South Africans, people from own race, people from other race, other people known and relatives). *Table A.1* in the appendix presents further details on the social trust variables. Using the social trust index, we then classify individuals as having low or high trust in two ways. First, we categorise individuals as having high trust if their social trust index is above the average value and low trust if it is below average. Accordingly, the social trust variable in equation (1) takes a value of 1 for high trust individuals and 0 for low trust individuals. Second, we generate another indicator variable that captures individuals with considerably high levels of social trust. This trust variable takes the value of 1 if an individual's social trust index is greater than or equal to the 75th percentile and 0 otherwise. Notably, these trust variables are time invariant as they are based on pre-COVID19 information. The use of a pre-COVID19 trust levels allows us to abstract from using a contemporaneous measure of trust that is likely to be confounded by people's experiences and perceptions during the pandemic.

To identify the influence of trust in information sources, we estimate another (pooled) logit model specified as follows:

$$Compliance_{it} = x'_{it}\beta + \sum_k \delta_k \cdot inftrust_{ik} + u_{it} \quad (2)$$

where **compliance** and  $x_{it}$  are as previously defined, **inftrust** is a set of five indicator variables capturing whether an individual reported trusting COVID-19 information from the following sources – government, local/international news, health workers and social media (reference group: community leaders/family). We measure trust in information source based on information collected in the first wave of NIDS-CRAM. In the analysis, trust in information source is also a time invariant variable. Admittedly, trust in information source can vary over time depending on one's experiences. In this study, we cannot fully exploit these changes as trust in information sources is only collected at the beginning of the NIDS-CRAM surveys.

Equations (1) and (2) are estimated using the method of maximum likelihood. To complement the model coefficients, we compute marginal effects of each covariate evaluated at the average value. Notably, our logit models do not exploit the panel structure of the dataset due to high persistence in our outcome variables over time as well as the time-invariant nature of our trust variables. In addition, difference-in-difference type approaches cannot be exploited as the data at hand lacks information on pre-COVID19 behaviours on the compliance variables such as hand hygiene. Acknowledging the potential problem of serial correlation within clusters due to the panel structure of the dataset, we compute robust standard errors clustered at individual level. All estimations are weighted using the balanced panel person weights provided in the data.

## 4. Data and descriptive statistics

### 4.1. Data

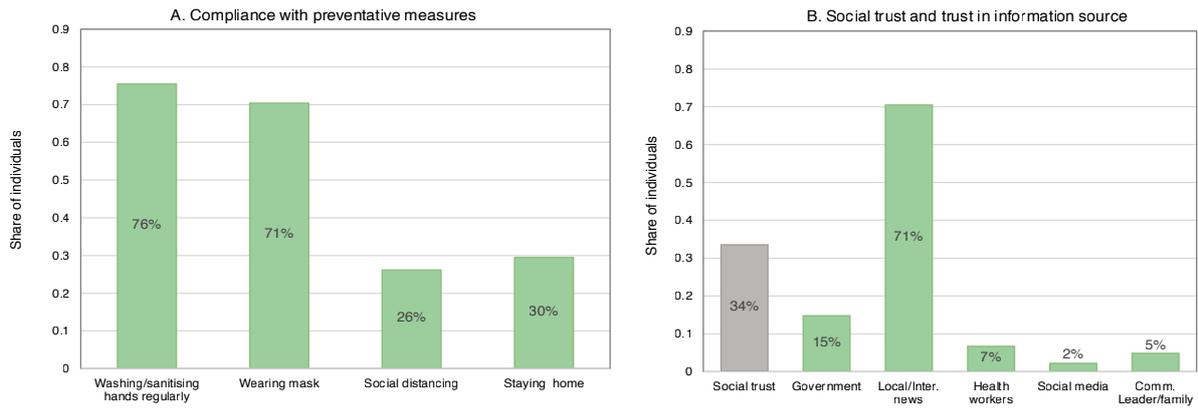
This study uses data from wave 1 (May/June, 2020) to wave 4 (February/March, 2021) of the National Income Dynamics Study Coronavirus Rapid Mobile Survey (NIDS-CRAM) as well as the 5th wave of the NIDS survey conducted in 2017. These surveys collect information on a wide range of household and individual characteristics (e.g. demographics, labour market status, education, health and location). The NIDS-CRAM survey is designed to collect information on various issues relating to the COVID-19 pandemic. However, it does not collect information on social trust. For the present analysis, we draw social trust information from the NIDS wave 5 dataset that can be linked to NIDS-CRAM using the unique person identifier variable common in both datasets. We first construct the NIDS-CRAM panel dataset and then link it to the NIDS wave 5 dataset via the person identifier variable.

Our outcome variables capture compliance with COVID-19 regulations (i.e. washing/sanitising hands regularly, wearing a facemask, social distancing, and staying at home). These are binary variables taking the value of 1 if a person complies with the regulation and 0 otherwise. Our key covariates in this analysis are social trust and trust in information source which are self-reported. While our approach is conventional, we acknowledge that the self-reported measures of trust are potentially reported with some bias. Given the scarcity of data on trust in South Africa that can be used to check the robustness of our analysis, the results of this study should be considered in light of this limitation. The additional covariates used in this study are age, gender, race, education, marital status, household characteristics, lockdown level and location. We clean the data by dropping individuals with missing information on the variables used in the study and restrict the panel data to individuals present in all four waves of the NIDS-CRAM. This data cleaning process leaves us with a balanced panel consisting of 1,705 individuals with 6,820 observations. *Table A.2* in the appendix, presents descriptive statistics on the sample composition. Our sample mostly consists of females (60 percent), Africans (79 percent) with an average age is 39 years. A considerable share (40 percent) has incomplete secondary education while matric and tertiary education have 23 percent each. About one-fifth report having chronic conditions and 79 percent have access to piped water and reside in a house/flat. Most individuals live in urban areas (75 percent), Gauteng (20 percent) and the Eastern Cape (16 percent) provinces.

### 4.2. Descriptive statistics: Compliance and trust

*Figure 1A* shows the level of compliance with COVID-19 regulations while *Table 1* presents descriptive statistics on compliance and trust which are disaggregated by demographic characteristics. We find considerably high levels of compliance in washing/sanitising hands regularly (76 percent) and wearing of facial masks (71 percent). There was limited compliance with social distancing and staying at home, 26 percent practiced social distancing while 30 percent stayed at home. Regarding social trust, over a third of South Africans have high levels of social trust (*Figure 1B*). For trust in information source, we find that the most trusted COVID-19 information source was local and international news that was trusted by 71 percent of South Africans. The second most trusted information source was government (15 percent) followed by health workers (7 percent) and community leaders/family (5 percent). The least trusted information source was social media (2 percent).

**Figure 1: Levels of compliance with COVID-19 regulations and trust**



We explore levels of compliance by demographic groups in *Table 1*. Females have higher compliance rates in washing/sanitising hands regularly and wearing of facial masks compared to males, while the opposite applies to social distancing. Compliance is much higher among Indian/Asians followed by Africans, coloureds and whites, respectively. On average, individuals with matric education have higher compliance rates across regulations closely followed by those with tertiary education. We also observe a slightly higher compliance rate in social distancing among individuals in urban compared to those in rural areas.

**Table 1: Level of compliance with regulation across groups**

	Compliance with regulations			
	Washing/sanitising hands regularly	Wearing mask	Social distancing	Staying home
Overall	0.76	0.71	0.26	0.30
<b>Sex</b>				
Female	0.77	0.70	0.21	0.33
Male	0.71	0.68	0.25	0.32
<b>Race</b>				
African	0.77	0.70	0.23	0.33
Coloured	0.64	0.67	0.20	0.31
Indian/Asian	0.84	0.76	0.26	0.48
White	0.61	0.66	0.27	0.24
<b>Education</b>				
No schooling	0.59	0.63	0.12	0.34
Primary	0.73	0.69	0.15	0.39
Incomplete sec.	0.72	0.66	0.21	0.33
Matric	0.80	0.72	0.26	0.32
Tertiary	0.76	0.73	0.29	0.30
<b>Rural/Urban</b>				
Rural	0.75	0.69	0.20	0.33
Urban	0.75	0.69	0.24	0.33

**Notes:** All statistics are weighted by balanced panel weights.

Table 2 presents statistics on social trust and trust in information sources by demographic group. We find that men report higher levels of social trust compared to women. Whites have a higher share of individuals with high levels of social trust followed by Indians/Asians. Africans have the least proportion of individuals with high levels of social trust. Further, the proportion of individuals with high social trust increases with level of education. Mixed results are observed for rural than urban areas, depending on the definition of high social trust.

Disaggregating by demographic group, we find that the most trusted COVID-19 information source was local and international news followed by government, health workers and community leaders/family and lastly social media. This ranking is consistent across sex, location and among Africans and Coloureds. Among whites, we find social media ranks third in place of health workers. We find more trust in local/international news across all education levels followed by government information, health workers, community leaders/family and social media, respectively. An exception is among those with no schooling where 14 percent trusted in social media compared to 4-5 percent observed for other education levels.

**Table 2: Descriptive statistics - social trust and trust in information source**

	Social trust		Trust in information source				
	High Social Trust (above average)	High Social Trust (above 75th perc.)	Gvt	Local/ Inter. news	Health workers	Social media	Community leaders/family
	Prop.	Prop.	Prop.	Prop.	Prop.	Prop.	Prop.
Overall	0.54	0.38	0.15	0.71	0.07	0.02	0.05
<b>Sex</b>							
Female	0.50	0.33	0.14	0.71	0.09	0.02	0.05
Male	0.59	0.45	0.17	0.71	0.04	0.04	0.05
<b>Race</b>							
African	0.47	0.31	0.14	0.71	0.08	0.02	0.06
Coloured	0.68	0.49	0.20	0.72	0.04	0.01	0.03
Indian/Asian	0.91	0.86	0.14	0.86	0.00	0.00	0.00
White	0.97	0.93	0.20	0.60	0.03	0.12	0.05
<b>Education</b>							
No schooling	0.43	0.25	0.06	0.71	0.07	0.02	0.14
Primary	0.45	0.28	0.12	0.75	0.08	0.00	0.05
Incomplete sec.	0.50	0.32	0.13	0.71	0.08	0.02	0.05
Matric	0.58	0.43	0.17	0.68	0.08	0.02	0.04
Tertiary	0.61	0.49	0.18	0.69	0.03	0.05	0.05
<b>Rural/Urban</b>							
Rural	0.54	0.35	0.11	0.72	0.07	0.02	0.07
Urban	0.53	0.39	0.16	0.70	0.07	0.03	0.04

**Notes:** All statistics are weighted by balanced panel weights.

We also explore changes over time in compliance as well as the raw differential in compliance levels between those with high and low levels of social trust, based on the 75th percentile cut-off

definition. Findings show that the share of individuals who practiced social distancing and stayed at home decreased over time from the May/June 2020 levels (Figure 2A). The decline in staying at home is consistent with the relaxation of regulations over time, while the decline in social distancing gives some indication of compliance fatigue. Wearing of masks and regular washing/sanitising of hands increased over time. However, this tapered off at high levels of compliance (80 percent).

**Figure 2: Compliance with COVID-19 preventative measures over time**

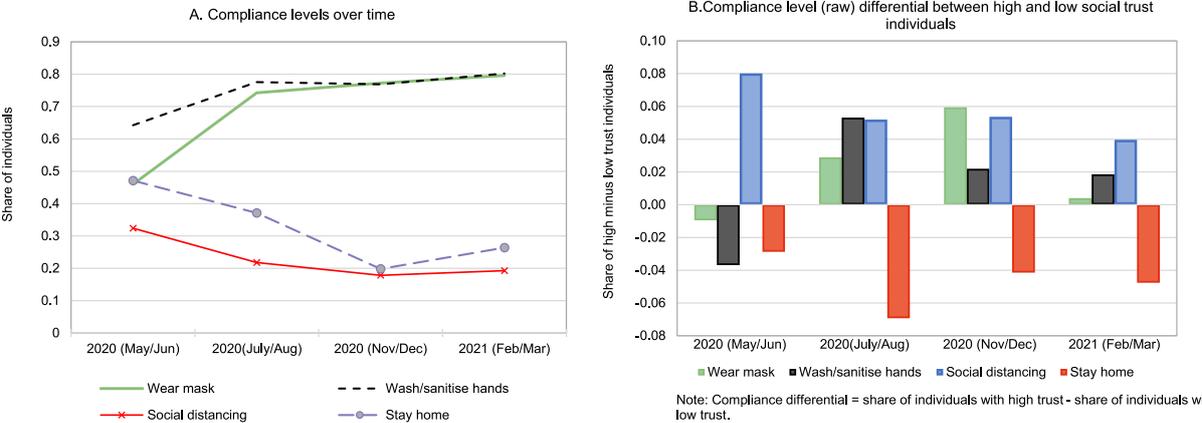


Figure 2B shows that in the early phases of the pandemic (May/June 2020), individuals with considerably high levels of trust tended to wear masks, wash/sanitise hands regularly and stay at home less compared to those with low social trust. However, higher levels of social distancing are evident among those with high social trust. Over time, we find a consistent pattern characterised by less compliance with the staying at home requirement among those with high compared to low social trust. However, this is by higher levels of compliance in wearing of facial masks, washing/sanitising hands regularly and social distancing.

## 5. Regression Results

Table 3 presents estimates (coefficients and marginal effects) on social and information trust variables obtained from equations (1) and (2). Panel A is based on two specifications of the social trust variable; the first specification uses a social trust indicator that takes a value of 1 when an individual's social trust index is above average and 0 otherwise. The second uses a social trust indicator which takes a value of 1 when an individual's social trust index is greater than or equal to the 75th percentile and 0 otherwise. In panel B, we present results of trust in information sources.

Using the social trust indicator based on the average cut-off, we find that individuals with social trust above average were more likely to wash/sanitise their hands regularly compared to those with social trust below average. For wearing a mask and social distancing, we find positive but statistically insignificant effects. Lack of significant effects also applies to staying at home. Thus, the probability of compliance with wearing masks, social distancing and staying at home was of the same order among individuals with social trust levels that are above and below average.

**Table 3: Logit estimates - role of social trust on compliance with COVID-19 regulations**

	Wash/sanitise hands		Wear mask		Social distance		Stay home	
<b>Panel A: Social trust</b>								
<b>I-(Social trust index &gt; average)</b>								
Coefficient	0.18	(0.11)*	0.06	(0.10)	0.12	(0.12)	-0.05	(0.10)
Marginal effect	0.03	(0.02)*	0.01	(0.02)	0.02	(0.02)	-0.01	(0.02)
<b>I-(Social trust index ≥75th percentile)</b>								
Coefficient	0.29	(0.11)**	0.17	(0.10)*	0.28	(0.13)**	-0.23	(0.10)**
Marginal effect	0.05	(0.02)**	0.03	(0.02)*	0.05	(0.02)**	-0.05	(0.02)**
<b>Panel B: Trust information source</b>								
<b>Government</b>								
Coefficient	0.15	(0.16)	0.26	(0.15)*	0.17	(0.16)	0.36	(0.15)**
Marginal effect	0.03	(0.03)	0.05	(0.03)*	0.03	(0.03)	0.08	(0.03)**
<b>Local/inter. news</b>								
Coefficient	0.24	(0.13)*	0.29	(0.12)**	-0.08	(0.13)	0.40	(0.13)***
Marginal effect	0.04	(0.02)*	0.06	(0.03)**	-0.01	(0.02)	0.09	(0.03)***
<b>Social media</b>								
Coefficient	0.20	(0.29)	0.45	(0.25)*	0.20	(0.30)	0.40	(0.27)
Marginal effect	0.04	(0.05)	0.09	(0.05)*	0.03	(0.05)	0.09	(0.06)
<b>Health workers</b>								
Coefficient	0.11	(0.18)	-0.03	(0.17)	-0.05	(0.18)	0.46	(0.17)***
Marginal effect	0.02	(0.03)	-0.01	(0.03)	-0.01	(0.03)	0.10	(0.04)***

**Notes:** Robust and clustered standard errors in brackets. Significance level: \*\*\*=1%, \*\*=5%, \*=10%. All estimations control for sex, age, race, education level, labour market status, having chronic conditions, access to piped water, lockdown level, type of dwelling, number of children and the elderly in the household, urban and province dummies. Reference group for information trust is information from community leaders/family.

Categorisation of individuals based on average levels of social trust lumps together individuals with modest and high levels of trust. To address this, we further explore the role of social trust using a second trust indicator variable that captures individuals with considerably high levels of trust i.e. individuals with a social trust index greater than or equal to the 75th percentile. Results from this exercise are presented in the third and fourth rows of *Table 3*. We find that those with considerably high levels of social trust were more likely to wash/sanitise hands regularly compared to their counterparts with low levels of social trust. The probability of compliance with this preventative measure was higher by 5 percent among high social trust individuals. This positive and statistically significant link between high levels of social trust and compliance with COVID-19 regulations extends to wearing facemasks and social distancing. The probability of wearing mask was 3 percent higher among high social trust relative to low social trust individuals, while that for social distancing was 5 percent higher. On the contrary, individuals with high social trust were less likely to stay at home compared to those with low levels of trust. In general, our findings suggest that social trust has statistically significant effects on compliance with COVID-19 regulations at very high rather than low levels.

We also find that trust in government information is associated with a higher probability of wearing a mask and staying at home relative to trust in community leaders/ family. However, no statistically significant relationship is found for washing/sanitising hands and social distancing. Trust in local and international news is associated with a higher probability of compliance with COVID-19 regulations when compared to trust in community leaders/ family, with the exception of social distancing. Results also show that trust in social media is positively correlated with the probability of wearing a mask while trust in information from health workers has a positive and statistically significant effect on the likelihood of staying at home. Overall, trust in local/international news has an influence on the probability of compliance with a higher range of preventative measures. This is closely followed by trust in government information.

## 6. Conclusion and Policy Recommendations

Trust in fellow citizens and sources of information underpins the success of government policies to control a pandemic due to its intricate link with voluntary compliance to prescribed behaviour. However, the level of trust varies across countries due to diversity of individual preferences. This solicits a country specific understanding of the relation between public trust and compliance to personal preventive behaviour in the COVID-era. In this paper, we explored the role of social trust and trust in sources of information on compliance to COVID-19 preventative measures in South Africa. The regulations include social distancing, staying at home, hand hygiene and wearing masks. Social trust is derived from individuals' level of trust in strangers, neighbours, other South Africans, own race, other race and relatives. Particularly, two indicators for the level of social trust are used in the paper: 'above average of the social trust index' and 'high social trust; greater than or equal to the 75th percentile of the social trust index'. Trust in sources of information on COVID-19 considers government information, local or international news, health workers, social media and community leaders/ family. The analysis utilises logit models and data from waves of NIDS-CRAM and the 5th wave of NIDS data.

Results show that individuals with 'above average' social trust were more likely to wash/sanitise their hands regularly compared to those with a relatively lower level of social trust. Nonetheless, the 'above average' level of social trust was not a significant predictor of individuals' compliance with wearing a mask, staying at home and social distancing. Using the second measure of social trust, we find that individuals with considerably high levels of social trust were 3-5 percent more likely to adhere to hand hygiene, wearing facemasks and social distancing when compared to those with low levels of social trust. The opposite applies to staying at home as individuals with high social trust were less likely to stay at home compared to those with low levels of trust. These results suggest that considerably high levels of social trust are required for citizens to comply with COVID-19 regulations in South Africa.

We also find that trust in government information is associated with a higher probability of wearing a mask and staying at home relative to trust in community leaders/family. When compared to government information, trust in local and international news has a positive and statistically significant effect on a higher range of preventative measures; wearing a mask, staying at home and washing/sanitising hands regularly. Trust in social media and health workers are associated with a higher probability of wearing a mask and staying at home, respectively. This implies that fostering trust in various sources of information is important for the success of initiatives to reduce the transmission of COVID-19.

Our results suggest a need for measures to increase levels of social trust and trust in information sources in South Africa. This helps to build a coherent society where the public voluntarily abide by government policies such as COVID-19 regulations and measures to avert future pandemics and natural disasters. Acknowledging that social trust is built over time, we propose medium to long-term recommendations to improve social trust in South Africa. First, as many economic activities are going back to "normal" there is need for measures that uphold social responsibility and make citizens feel safe in public spaces. This includes stringent monitoring of adherence to COVID-

regulations by both customers and service providers, for instance. In addition, given that many marginalised individuals were adversely affected by the pandemic, there is need for communications on clear and achievable interventions to assist them socially, financially and emotionally. There is also need for communications that instil a sense of hope rather than fear. This will foster social trust. Second, the government and its key stakeholders can focus on reducing income inequality as it spurs distrust among citizens, this can be complemented by measures that enhance egalitarian values in society. Third, the government and the South African police in particular should consider strengthening of crime prevention measures as it is difficult for citizens to trust each other in a high crime environment. Fourth, practicing good governance and rooting out corruption at all levels of society is essential for building social trust in South Africa.

Further recommendations stem from our results for trust in information sources. First, the government should consider disseminating information about a pandemic through various media. Individuals trust different sources of information, hence using a variety of information sources increases chances for many citizens to comply with regulations. Second, there is a need to improve public trust in government information sources to enhance citizens' compliance to a higher range of preventative measures. Given that trust in government information is likely to be highly correlated with trust in government, there is need for the South African government to improve citizen's trust in its systems and institutions. This can partly be achieved through citizen engagement, transparency and accountability in government operations. Third, the government should consider monitoring the quality of information about a pandemic that is disseminated by social media and private sources.

This study has some limitations. First, we use self-reported measures of trust. While reliance on self-reported measures is conventional, we acknowledge the possibility of reporting bias. Consequently, the results of this study should be considered in light of this limitation. Second, trust measures are treated as time invariant as they are measured in one time-period. This potentially reduces the precision of our estimates. In addition, the present analysis does not account for individual unobserved heterogeneity which may shape both trust and compliance outcomes. Future studies can benefit from addressing these issues as more data becomes available.

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## Appendix

**Table A1: Social Trust index components**

Trust	Question	Codes
Stranger	Likelihood of a stranger returning wallet containing R250	1 (not likely) to 3 (very likely)
Neighbour	Likelihood of neighbour returning wallet containing R250	1 (not likely) to 3 (very likely)
Other South Africans	How much do you trust other South Africans on a score of 1 to 8	1 (extremely little) to 8 (a great deal)
Own race	How much do you trust people from your race group?	1 (not at all) to 4 (I trust them a lot)
Other race	How much do you trust people from other race groups?	1 (not at all) to 4 (I trust them a lot)
Relatives	How much do you trust your relatives	1 (not at all) to 4 (I trust them a lot)
Other people	How much do you trust other people you know	1 (not at all) to 4 (I trust them a lot)
Social Trust index		7 to 30

**Table A.2: Sample composition description**

	Mean	SE.
Female	0.598	(0.006)
Age	39.39	(0.172)
African	0.793	(0.005)
Coloured	0.138	(0.004)
Indian/Asian	0.018	(0.002)
White	0.051	(0.003)
No schooling	0.019	(0.002)
Primary	0.128	(0.004)
Incomplete secondary	0.396	(0.006)
Matric	0.228	(0.005)
Tertiary	0.228	(0.005)
Employed	0.456	(0.006)
Economically inactive	0.199	(0.199)
Unemployed	0.345	(0.006)
Chronic illness	0.219	(0.005)
House/flat (dwelling type)	0.790	(0.005)
Piped water access	0.791	(0.005)
Number of children <7	1.036	(0.013)
Number of adults >60	0.437	(0.009)
Urban	0.749	(0.005)
Western Cape	0.139	(0.004)

Eastern Cape	0.156	(0.004)
Northern Cape	0.043	(0.002)
Free State	0.065	(0.003)
KwaZulu Natal	0.142	(0.004)
North West	0.050	(0.003)
Mpumalanga	0.100	(0.004)
Limpopo	0.109	(0.004)
Gauteng	0.195	(0.005)
2020 (May/June)	0.250	(0.005)
2020(July/Aug)	0.250	(0.005)
2020 (Nov/Dec)	0.250	(0.005)
2021 (Feb/Mar)	0.250	(0.005)
<b>N (obs)</b>		<b>6,820</b>
<b>N (individuals)</b>		<b>1,705</b>

For further information please see [cramsurvey.org](https://www.cramsurvey.org)