

"If we move, it moves with us:"

Physical Distancing in Africa during COVID-19

Supplementary Information

May 31, 2020

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# 1 Sample

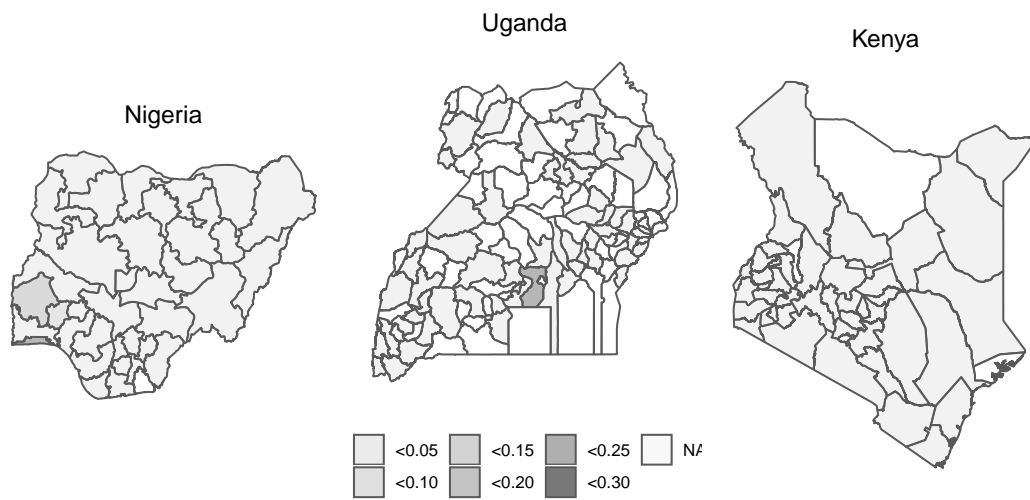


Figure 1: Share of Respondents in Survey by Administrative Unit (State - Nigeria, District - Uganda, County - Kenya)

## 2 Factual Knowledge

### 2.1 Responses to T/F Questions

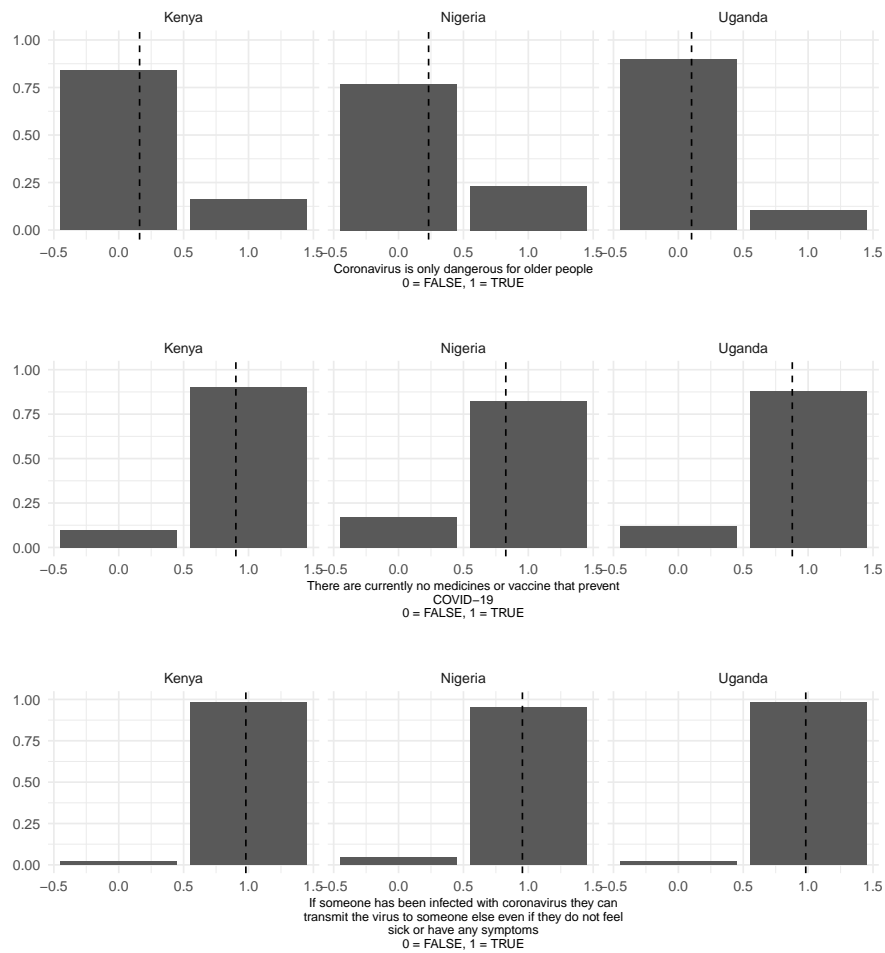


Figure 2: Responses to Factual Questions about SARS CoV-2 and COVID-19

## 2.2 Knowledge of Number of Registered COVID-19 Cases

We asked respondents to report, to the best of their knowledge, the number of registered cases in the respondent's country. A large share of respondents in each country reported a number of cases close to official data, suggesting they were aware of statistics related to the pandemic in real time.

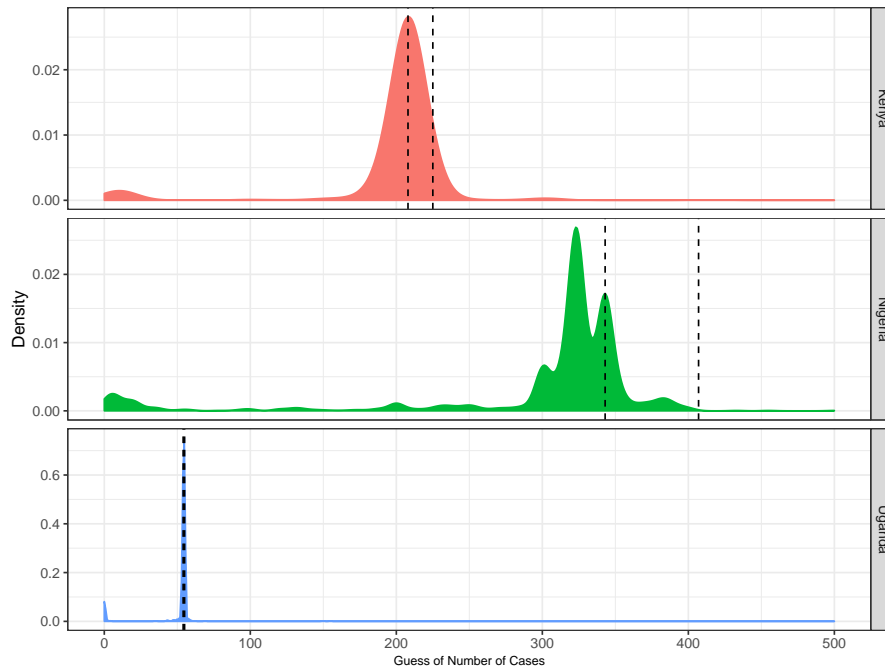


Figure 3: Reported Guess of Number of Cases Nationally. Dashed vertical lines represent the official number of cases reported at the start and end of survey in each study site.

## 2.3 Source of Information

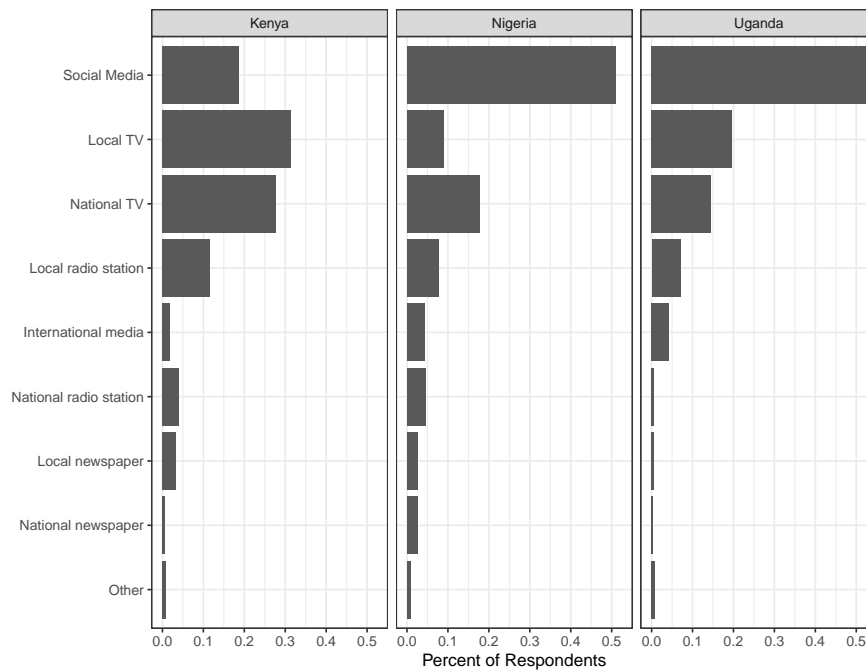


Figure 4: Main sources of information about COVID-19

### 3 Main Results

#### 3.1 Difference in Means Estimates

Table 1: Difference in Means Estimates for T1 (Social Pressure)

Sample	Outcome		
	Y1: Expected Behavior (1)	Y2: Message Writing (2)	Y3: Externality Content (3)
Pooled	-0.087 (0.053)	-0.006 (0.026)	0.014 (0.029)
Kenya	-0.313* (0.126)	-0.306* (0.127)	-0.536** (0.174)
Nigeria	-0.02 (0.083)	-0.017 (0.084)	0.126 (0.121)
Uganda	-0.006 (0.159)	-0.021 (0.16)	-0.153 (0.203)

Note: \*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$

Table 2: Difference in Means Estimates for T2 (Material Cost)

Sample	Outcome		
	Y1: Expected Behavior (1)	Y2: Message Writing (2)	Y3: Externality Content (3)
Pooled	-0.009 (0.026)	-0.009 (0.026)	0.015 (0.03)
Kenya	-0.14 (0.127)	-0.14 (0.127)	-0.302 (0.179)
Nigeria	-0.031 (0.087)	-0.031 (0.087)	0.161 (0.121)
Uganda	0.261 (0.157)	0.261 (0.157)	0.183 (0.202)

Note: \*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$

### 3.2 Lin Estimates

Table 3: Covariate Adjusted Lin Estimates

Sample	Condition	Outcome		
		Y1: Expected Behavior (1)	Y2: Message Writing (2)	Y3: Externality Content (3)
Pooled	T1	-0.071 (0.048)	-0.012 (0.024)	0.001 (0.026)
	T2	0 (0.048)	0.002 (0.024)	0.013 (0.027)
	$R^2$	0.03	0.046	0.048
	Adj. $R^2$	0.014 (0.048)	0.03 (0.024)	0.017 (0.027)
	N	2588	2580	1389
Kenya	T1	-0.216* (0.096)	-0.011 (0.05)	0.056 (0.053)
	T2	-0.122	-0.021	0.102
	$R^2$	0.09	0.11	0.104
	Adj. $R^2$	0.034	0.056	-0.005
	N	2588	2580	1389
Nigeria	T1	-0.022 (0.063)	-0.031 (0.032)	-0.032 (0.034)
	T2	-0.032 (0.098)	0.018 (0.049)	-0.016 (0.059)
	$R^2$	0.041	0.04	0.051
	Adj. $R^2$	0.016	0.015	0
	N	2588	2580	1389
Uganda	T1	-0.039 (0.109)	0.058 (0.05)	0.044 (0.065)
	T2	0.199	0.005	-0.004
	$R^2$	0.112	0.143	0.127
	Adj. $R^2$	0.046	0.08	0.02
	N	511	510	322

*Note:* Estimates are taken from our linear models interacting covariates with treatment conditions (see Lin (2013)) for each subset of the data. Covariates include age, gender, education level, religiosity, occupation, self-reported urban/rural location, a dummy for whether the respondent voted for the incumbent in previous election or is copartisan with incumbent's party, a dummy for whether respondent under lockdown policy. The pooled results include country fixed effects. \*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$



## 4 Attitudes Toward Lockdown

Table 4 presents correlates of respondents' attitudes towards lockdown policies. We restrict the sample to those respondents who were randomly asked to report their beliefs about other's attitudes toward the lockdown before their own. Results suggest there is a significant correlation between reported attitudes about lockdown and belief about other's attitudes. We find similar results when we include all respondents, regardless of the question randomization order.

We also find that trust in the Ministry of Health and on the media correlates with more support for lockdown policies in

Table 4: Predicting own lockdown attitudes among respondents first asked to guess about others' attitudes

	Attitude Toward Lockdown			
	Pooled (1)	Kenya (2)	Nigeria (3)	Uganda (4)
Guess Lockdown Attitudes	0.206*** (0.013)	0.218*** (0.034)	0.212*** (0.017)	0.177*** (0.036)
Trust in President		0.295** (0.137)		0.213 (0.163)
Trust in Ministry of Health	0.191*** (0.043)	-0.076 (0.164)	0.205*** (0.054)	0.100 (0.169)
Trust in media	0.180*** (0.045)	0.173 (0.143)	0.188*** (0.058)	0.245** (0.113)
Voted incumbent	-0.043 (0.074)	-0.033 (0.195)	-0.018 (0.094)	-0.058 (0.224)
Primary source - Social media	-0.051 (0.071)	-0.309 (0.236)	0.066 (0.090)	-0.028 (0.167)
Under lockdown			0.035 (0.087)	
Believe cure exists	-0.076 (0.093)	-0.422 (0.309)	-0.082 (0.113)	0.118 (0.233)
Urban	-0.051 (0.082)	-0.079 (0.202)	0.027 (0.109)	-0.145 (0.210)
Female	0.077 (0.075)	0.049 (0.185)	0.182* (0.109)	-0.063 (0.176)
Age	0.004 (0.005)	-0.004 (0.015)	0.009 (0.007)	-0.004 (0.017)
Schooling	0.063** (0.026)	0.030 (0.072)	0.089** (0.036)	0.069 (0.075)
Religion - Catholic	-0.039 (0.191)	-0.439 (0.384)	0.405 (0.327)	0.254 (0.389)
Religion - Protestant	0.068 (0.191)	-0.344 (0.373)	0.587* (0.343)	0.248 (0.386)
Religion - Evangelical	-0.078 (0.188)	-0.626 (0.389)	0.422 (0.316)	0.287 (0.402)
Religion - Muslim	-0.186 (0.200)	-0.143 (0.551)	0.256 (0.322)	0.138 (0.483)
Religion - Hindu	0.421 (0.624)	-0.505 (0.854)	2.392** (1.214)	
Religion - Animist	0.038 (0.485)	-0.393 (0.707)	0.024 (0.875)	
Religion - Other	-0.138 (0.258)	-0.613 (0.637)	0.343 (0.384)	0.525 (0.640)
Nigeria	0.341*** (0.095)			
Uganda	0.373*** (0.106)			
(Intercept)	-2.081*** (0.314)	-1.120 (0.820)	-2.744*** (0.448)	-2.095** (0.873)
Observations	1,296	226	728	212
R <sup>2</sup>	0.263	0.216	0.295	0.230
Adjusted R <sup>2</sup>	0.252	0.148	0.277	0.167

Note:

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01

## 5 Behavior

Table 5: Physical Distancing List Experiment, by Country

Country	lockdown	Control	Treatment	Diff	p-value
Kenya	0.000	1.971	2.431	0.459	0.000
Nigeria	0.000	2.205	2.662	0.457	0.000
Nigeria	1.000	2.384	2.676	0.292	0.000
Uganda	1.000	1.948	2.379	0.431	0.000

## 6 Power calculation

### 6.1 Design Declaration

Using R package *DeclareDesign*, we simulate a parsimonious version of our design design with sample size  $N$  with binary draws of the potential outcomes. These binary draws are independent for each treatment condition, and are drawn from from a cumulative distribution function of with  $\mu = 0 \forall Z \in C, T1, T2$  and standard deviations given by *latent\_sds* plus an additional probability defined *outcome\_means*. Importantly, we do not account for block- or country-level correlation in outcomes, and assume sample size for each study site is the same.

We then focus our power analysis on the ATE of T1. We vary *outcome\_means* by simulating different values of treatment effect ranging from 2.5% to 20% in increments of 2.5%. We also consider different variances of our latent variable in *latent\_sds* used to draw binary potential outcomes of under T1 between .5-2 standard deviations. And ultimately, we vary our sample size between 1200 and 2100. Assuming the simple data-generating process defined above, we are able to observe how well powered we are to detect a given effect under different variance levels for our treatment-level distribution of latent treatment outcomes and for different sample sizes. Below is a sample of the table showing a sample of the designs, along with bootstrap estimates of power of our estimate under each design.

N	outcome_means	latent_sds	estimand_label	estimator_label	mean_estimate	sd_estimate
1200	c(0, 0, 0)	c(1, 0.5, 1)	ate_Y_T1_C	DIM (Z_T1 - Z_C)	-0.01	0.03
1500	c(0, 0, 0)	c(1, 0.5, 1)	ate_Y_T1_C	DIM (Z_T1 - Z_C)	-0.01	0.00
1800	c(0, 0, 0)	c(1, 0.5, 1)	ate_Y_T1_C	DIM (Z_T1 - Z_C)	0.02	0.00
2100	c(0, 0, 0)	c(1, 0.5, 1)	ate_Y_T1_C	DIM (Z_T1 - Z_C)	0.02	0.00
1200	c(0, 0.025, 0)	c(1, 0.5, 1)	ate_Y_T1_C	DIM (Z_T1 - Z_C)	0.06	0.02
1500	c(0, 0.025, 0)	c(1, 0.5, 1)	ate_Y_T1_C	DIM (Z_T1 - Z_C)	0.00	0.05

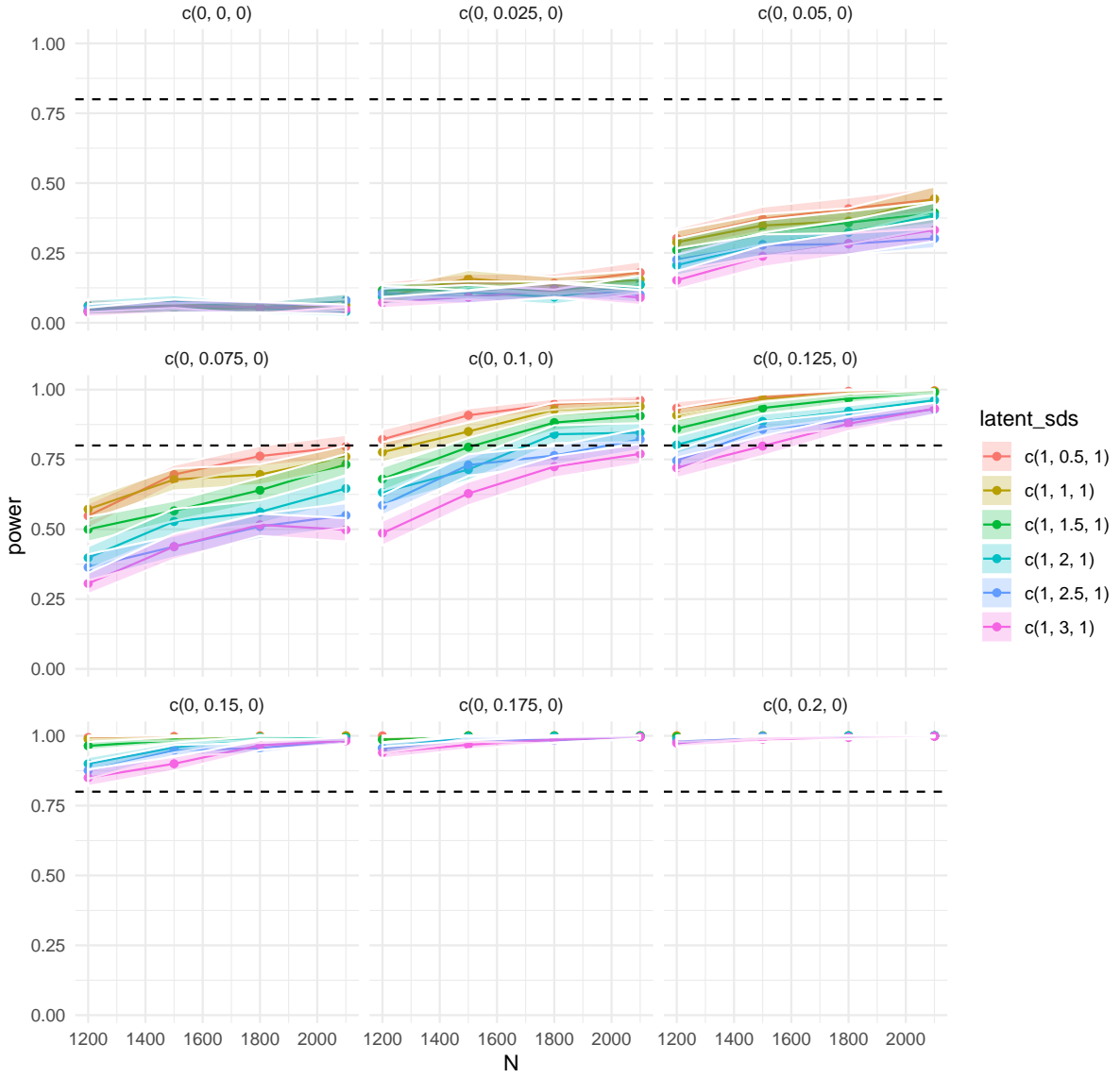


Figure 5: Power analysis under different assumptions about the average treatment effect of the social message (T1) and different variance around potential outcomes under that treatment condition. We observe we are well powered under most scenarios to observe an effect size of 10% or above with a sample size of 1800 or greater.

## 7 Survey Instrument

Q1 In which country do you currently live? - Selected Choice

Q2 In which zone/county/region do you currently live?

Q3 In which state/sub-county/district do you currently live?

Q4 In which parish do you live?

Q5 Do you live in a mostly urban or mostly rural area?

Q6 Which of the following is TRUE for you? (Select all that apply)

Q7 If you are worried you had/have COVID-19, which of the following is true for you? (select all that apply) - Selected Choice

Q8 Were you successful in being tested? - Selected Choice

Q9 True or False: Coronavirus is only dangerous for older people

Q10 True or False: There are currently no medicines or vaccine that prevent coronavirus

Q11 True or False: If someone has been infected with coronavirus they can transmit the virus to someone else even if they do not feel sick or have any symptoms

Q12 Which of the following behaviors help reduce the spread of coronavirus? (Select all that apply)

Q13 If someone thinks they have COVID-19, what should they do? (Select all that apply) - Selected Choice

Q14 As of today, how many COVID-19 cases do you think have been confirmed in [QID43-ChoiceGroup-SelectedChoices]?

Q15 What is the main way you get information about COVID-19? - Selected Choice

Q16 To the best of your knowledge, which of these is available in [QID43-ChoiceGroup-SelectedChoices]? (Select all that apply)

Q17 How much do you trust the President to be willing and able to handle the COVID-19 outbreak in [Field-country]?

- Q18 How much do you trust the Ministry of Health to be willing and able to handle the COVID-19 outbreak in [Field-country]?
- Q19 How much do you trust the Federal Ministry of Health to be willing and able to handle the COVID-19 outbreak in [Field-country]?
- Q20 How much do you trust health workers to be willing and able to handle the COVID-19 outbreak in [Field-country]?
- Q21 How much do you trust the media (radio, TV, newspapers) to be willing and able to report on a COVID-19 outbreak in [Field-country]?
- Q22 How many of the following five activities did you do today? Called a friend/family member  
Listened to the radio Exercised for at least 30 minutes Came within 2 meters of someone outside of your household Sent someone mobile money
- Q23 How many of the following four activities did you do today? Called a friend/family member  
Listened to the radio Exercised for at least 30 minutes Sent someone mobile money
- Q24 What is the maximum number of weeks you could remain in lockdown without it severely affecting your ability to feed your household?
- Q25 Please indicate how strongly you personally disagree or agree with the following statement.  
"I support a mandatory lockdown policy by government."
- Q26 Now we would like to ask you about how you think other people taking this survey in [Field-country] feel. How many people taking this survey, out of 10, do you think support a mandatory lockdown policy? Please give us your best guess.
- Q27 Please indicate how strongly you personally disagree or agree with the following statement.  
"My health will be badly affected if I get COVID-19."
- Q28 Please indicate how strongly you personally disagree or agree with the following statement.  
"My economic livelihood will be badly affected by the spread of COVID-19 in [Field-country]."
- Q29 Which one of the following issues are you most concerned about regarding COVID-19? -  
Selected Choice

Q30 If you are concerned about the impact of COVID-19 on politics in [Field-country], what is your main concern? - Selected Choice

Q31 Please indicate how strongly you personally disagree or agree with the following statement.  
"The health of my family and friends will be badly affected if they get COVID-19."

Q32 Please indicate how strongly you personally disagree or agree with the following statement.  
"The economic livelihood of my friends and family will be badly affected by the spread of COVID-19 in [Field-country]."

Q33 Which one of the following issues is your family and friends most concerned about regarding COVID-19? - Selected Choice

Q34 If your friends and family are concerned about the impact of COVID-19 on politics in [Field-country], what is their main concern? - Selected Choice

Q35 Which one of the following issues is your online social media contacts (Facebook, Twitter, Instagram, Whatsapp) most concerned about regarding COVID-19? - Selected Choice

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Q36 VIGNETTE: Block randomization by country into equal thirds

Q36.A Imagine a man who lives in a community like yours is invited for a meal at his cousin's house down the street. Both he and his cousin feel healthy. How unlikely or likely do you think it is that this man will go eat at his cousin's house?

Q36.B Imagine a man who lives in a community like yours is invited for a meal at his cousin's house down the street. Both he and his cousin feel healthy. He knows his friends and neighbors have been pressuring each other not to socialize outside of their household. How unlikely or likely do you think it is that this man will go eat at his cousin's house?

Q36.C Imagine a man who lives in a community like yours is invited for a meal at his cousin's house down the street. Both he and his cousin feel healthy. He knows the government has been fining people for leaving their house to socialize. How unlikely or likely do you think it is that this man will go eat at his cousin's house?

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Q37 The research team is collecting messages to post on a publicly available website. Would you like to write an anonymous message to other citizens in [Field-country] to encourage physical distancing between members of different households?

- Q38 Please write your message about physical distancing in the box below.
- Q39 In the past two weeks, which of the following is true for you? (Select all that apply)
- Q40 The last time you received money from abroad, how much did you receive?
- Q41 The last time you sent money to someone within [Field-country], how much did you send?
- Q42 The last time you received money from someone within [Field-country], how much did you receive?
- Q43 Finally, we would like to ask you a few questions about yourself. What is your gender?
- Q44 How old are you?
- Q45 What is your highest level of education?
- Q46 What is your main occupation? - Selected Choice
- Q47 In the most recent presidential elections, which candidate did you vote for, if any?
- Q48 Do you feel close to any particular political party?
- Q49 Which party is that?
- Q50 What is your religion, if any? - Selected Choice
- Q51 Aside from weddings and funerals, how often do you generally attend religious services?
- Q52 What is your ethnic community, cultural group, or tribe? - Selected Choice
- Q53 Do you have any questions or comments for us about the survey?
- Q54 Clicked on WHO link
- Q55 Clicked on WHO phone number