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Research Notes

"If we move, it moves with us:" Physical distancing in Africa during COVID-19

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A B S T R A C T

Health behaviors to prevent the spread of infectious diseases are often subject to collective action problems, and social norms can play an important role in inducing compliance. In this paper, we study knowledge, beliefs, and behavior related to one such practice during the COVID-19 pandemic – physical distancing – using an online survey of social media users in Kenya, Nigeria, and Uganda. We find that, while there is widespread knowledge that physical distancing reduces the spread of the virus, respondents underestimate their peers' support for policies designed to enforce physical distancing, expect others *not* to practice physical distancing, and do not maintain physical distance themselves. However, more than half of respondents wrote a message to encourage others to practice physical distancing. Findings from survey experiments suggest that making salient the social and material costs for not keeping physical distance were insufficient to encourage compliance, suggestive of the absence of a social norm of physical distancing at the time. Given the large gap between own attitudes and expectations of others' attitudes toward lockdown policies, we propose that providing information on the extent of public support for physical distancing in citizens' own words may encourage compliance in the future.

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1. Introduction

In response to the global COVID-19 pandemic, countries around the world implemented a series of public health policies designed to slow contagion. The ability of governments to enforce policies dictating individual behaviors such as physical distancing and mask wearing is limited, as it is impossible to constantly observe and enforce citizen behavior.[1] Since these behaviors protect not only the individual adopting them but also others around them, producing externalities, they are subject to a collective action problem. In the absence of consistent top-down enforcement of cooperative behavior, research suggests that norms can play an important role in solving collective action problems (Ostrom, 1998; Siegal, Siegal, & Bonnie, 2009).

This paper adds to the burgeoning literature examining how behavioral science can help explain and support responses to the pandemic (Van Bavel et al., 2020; Habersaat et al., 2020), by focusing on how social norms shape public health behavior. Social norms rely on second-order beliefs about peers' behaviors and attitudes (Bicchieri & Dimant, 2019). In the context of COVID-19, the social meaning of visible behaviors like physical distancing is rapidly changing (Sunstein, 2020), but a consensus of the "right" behavior is critical for norm development.

We examine whether a social norm around physical distancing existed in the early days of the COVID-19 pandemic in three African countries, and provide insights as to how such a norm could be created.[2] To do so, we conducted an online survey of 2,601 respondents from Kenya, Nigeria, and Uganda recruited through social media platforms April 13–15, 2020. This method enabled quick but also "contact-less" data collection, and allowed us to target relatively educated and urban respondents who are prime candidates for non-compliance based on volition rather than inability or lack of information.

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[1] However, recent research shows that policies such as mandatory mask wearing are much more effective at inducing compliance than voluntary mask wearing (Betsch et al., 2020).

[2] Mask wearing is subject to very similar social dynamics but was not as widely recommended as physical distancing at the time of the study.

We find that although there was widespread recognition among respondents that physical distancing slows the spread of the virus, the *practice* of physical distancing was generally low. Experimental evidence reveals that more than 40% of respondents did not follow physical distancing guidelines the day of the survey, and did not expect other community members to practice physical distancing, even when faced with social pressure to do so—suggesting the lack of a social norm. Our findings also reveal misperceptions about others' attitudes that could impede norm creation, namely that respondents *underestimate* their peers' support for physical distancing policies. Though neither social pressure nor material costs associated with breaking physical distancing resonated with respondents, a majority of respondents wrote a public note encouraging peers to practice physical distancing. Combining our results with findings from the social norms literature, we propose that citizens could take an active role in norm creation through public messaging and peer-to-peer communication (Medley, Kennedy, O'Reilly, & Sweat, 2009), a strategy which has been employed in past health crises and suggested in other contexts in the COVID-19 pandemic.[3]

We focus on sub-Saharan African countries for several reasons. First, relative to high-income contexts such as Western Europe and North America, there has been less research on the impact of COVID-19 and related health policies in low-income countries, and in sub-Saharan Africa in particular.[4] Existing work in these settings has focused on economic, rather than behavioral and attitudinal outcomes (Egger et al., 2021). Moreover, research reveals variation in the practice of physical distancing behaviors as well as in the predictors of compliance across countries, demonstrating that findings from one country may not apply to another (Becher, Stegmueller, Brouard, & Kerrouche, 2020). Second, the contexts in which we conduct the study are characterized by densely populated low-income areas where there is high potential for viral transmission inside and outside of households, and where much of the population lives on daily cash income from menial labor (Rosenthal et al., 2020). Lockdown policies implemented in many countries during the pandemic may be more costly in macroeconomic terms and result in larger welfare losses for those with lower incomes (von Carnap, Almås, Bold, Ghisolfi, & Sandefur, 2020), making strict top-down enforcement of physical distancing less feasible than in wealthier contexts, and thus placing even greater importance on voluntary compliance. Third, low-income countries have been less able to secure vaccines and medical treatments for their populations than high-income countries, both historically and during the current pandemic (Nkengasong, Ndembi, Tshangela, & Raji, 2020). As such, low-income countries may need to rely on behavioral measures longer than high-income countries.

2. Research design and data

We conducted an online survey with 2,601 adults in Kenya, Nigeria, and Uganda, between April 13 and 15, 2020.[5] We recruited the sample using Facebook ads (Hoffmann Pham, Rampazzo, & Rosenzweig, 2019) and through social networks on Twitter. Respondents were directed to a Qualtrics survey and provided with an incentive of approximately US$.50. In addition to the broad case selection factors noted above, we selected these specific countries

because they exhibited variation in COVID-19 case loads and policies at the time of the study.[6]

The survey was not designed to be representative, but rather captures a population of social media users that tends to be more urban, educated, wealthier, and more likely to be male than the general population (see Table 1) (Rosenzweig, Bergquist, Pham, Rampazzo, & Mildenberger, 2020).[7] This population is of particular interest for understanding behavior and beliefs about COVID-19 for several reasons. First, urban populations in these countries experienced greater initial exposure to the virus. Second, higher population density in these areas means that physical distancing is both more important to prevent the spread of the virus, but also more difficult and more costly for those living in urban as compared to rural areas. Finally, this sample is less likely to include individuals who are *unable* to comply with physical distancing, for example, due to living or working conditions. Consequently, it allows us to study behavioral responses among individuals for whom compliance with health directives is more likely to be feasible.[8]

The survey included the following sections: factual knowledge about COVID-19; respondents' own attitudes toward lockdown policies and their beliefs about others' attitudes; their own behavior and beliefs about others' behavior; and demographic characteristics. To measure respondents' own physical distancing behavior, which is likely subject to social desirability bias, we use a list experiment (Blair & Imai, 2012). We use a vignette experiment to measure expectations of *others'* physical distancing behavior. In this experiment, we examine the effect of making salient either the social or material costs associated with failing to practice physical distancing on respondents' expectations about others' behavior, as well as respondents' willingness to write a note encouraging fellow citizens to practice physical distancing.[9]

3. Results

3.1. Factual beliefs

Questions aimed at gauging factual knowledge about COVID-19 reveal relatively high rates of knowledge about contemporaneous case counts, as well as how COVID-19 is spread and which behaviors reduce the spread. Overall, 39% of respondents stated a number of confirmed COVID-19 cases that matched the exact range of cases reported in their respective country during the survey period, and 82% were correct with a 10% range (SI, Section 2). Most respondents indicated getting their information from social media (43%) or national television (19%) (SI, Fig. 4). More than three-quarters of respondents across all three countries correctly answered a set of true/false questions about COVID-19 (see SI, Fig. 2).

Particularly important for our questions of interest, knowledge of the importance of physical distancing is high. As illustrated in Fig. 1, a large majority of respondents—83% of Nigerian, 87% of Kenyan, and 89% of Ugandan respondents—report that "maintaining a distance of 1–2 meters from others" is a way to reduce the spread of the virus. The minority of respondents who do not think physical distancing is a preventive measure have slightly lower levels of education, are more likely to be unskilled laborers, and are less favorable toward a mandatory lockdown policy.[10] These patterns suggest that education and occupation may influence the

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[3] For example, Tagat et al. (2020) suggest a #SocialDistanceSelfie campaign to signal normative beliefs and empirical compliance with physical distancing norms.

[4] This was particularly true at the start of the pandemic when the study was conducted.

[5] We limit analyses to the sample of 2,601 respondents who completed the survey. We observe less than 8% attrition throughout the survey, which is fairly low and expected given that respondents took the survey on mobile phones and it took on average 20 min to complete.

[6] At the time of the survey, Uganda had 55 registered cases of COVID-19 and was under nationwide lockdown, Nigeria had 343 to 407 cases with lockdown in some states, and Kenya had between 208 and 225 cases without any formal lockdown in place.

[7] Additional information about sampling and respondent characteristics can be found in the SI, Section 1.

[8] 13% of respondents report being able to continue their usual work from home.

[9] The survey instrument can be found in SI Section 8.

[10] See SI, Tables 1 and 2.

Table 1
Summary Statistics of Covariates.

	Kenya		Nigeria		Uganda	
	Mean	SD	Mean	SD	Mean	SD
Female	0.407	(0.492)	0.188	(0.390)	0.336	(0.473)
Age	26.866	(6.228)	26.971	(6.729)	26.747	(6.594)
Schooling level	7.770	(1.316)	8.147	(1.308)	8.261	(1.151)
Urban	0.720	(0.449)	0.798	(0.402)	0.810	(0.392)
Voted for incumbent past election	0.354	(0.479)	0.375	(0.484)	0.186	(0.390)
Copartisan	0.667	(0.482)	0.318	(0.469)	0.447	(0.501)
Religiosity	2.475	(1.138)	2.957	(1.109)	2.577	(1.146)
Religion – Catholic	0.299	(0.458)	0.187	(0.390)	0.263	(0.441)
Religion – Protestant	0.335	(0.472)	0.102	(0.302)	0.378	(0.485)
Religion – Evangelical	0.196	(0.397)	0.406	(0.491)	0.200	(0.400)
Religion – Muslim	0.041	(0.200)	0.256	(0.436)	0.077	(0.267)
Religion – Other	0.129	(0.336)	0.049	(0.216)	0.081	(0.273)
Occupation – Student	0.285	(0.452)	0.381	(0.486)	0.283	(0.451)
Occupation – Mid-level professional	0.118	(0.322)	0.103	(0.304)	0.087	(0.282)
Occupation – Upper-level professional	0.056	(0.231)	0.104	(0.306)	0.145	(0.352)
Occupation – Never employed	0.091	(0.288)	0.091	(0.287)	0.071	(0.258)
N	604		1491		506	
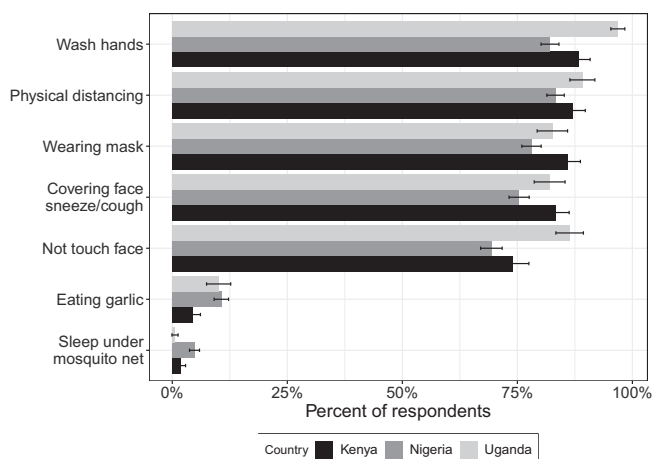
Fig. 1. Knowledge of Ways to Reduce the Spread of Coronavirus.

uptake of factual information and attitudes toward public health policies. Encouragingly, few respondents believe in rumors that were spread about false ways to avoid transmission, including eating garlic and sleeping under a mosquito net.[11]

3.2. Attitudes toward lockdown policy

Having demonstrated that there is widespread accurate information about COVID-19 and in particular, broad recognition of the importance of physical distancing, we next examine respondents' attitudes toward a policy designed to enforce physical distancing – mandatory lockdown. We examine both respondents' own support as well as their beliefs about others' support for mandatory lockdown policies. Given variation in the presence of government-mandated lockdown policies in Kenya, Nigeria, and Uganda these measures were hypothetical for some and concrete for others. At the time of the survey, Kenya was not experiencing a lockdown, Nigeria had a lockdown in some states, and Uganda had a national lockdown.[12] Lockdown policies were among the policies being considered by all governments.

To measure individual preferences, respondents were asked to what extent they disagreed or agreed with the statement, "I support a mandatory lockdown policy by the government." Response options were a 5-point Likert scale from strongly disagree to strongly agree. To calculate the percent of respondents in each country that support the policy we tallied those who said they either "somewhat" or "strongly" agreed. Respondents were also asked to indicate their beliefs about how many of their peers support the same policy. The question read: "Out of 10 other people from [respondent's country] taking this survey, how many of them do you think support a mandatory lockdown policy? Please give us your best guess."

The data show that respondents *underestimate others' support for lockdown*—the percent of respondents reporting their own support was significantly higher, on average, than the *perceived* support of their peers.[13] In the full sample, 59% of our respondents agreed with a mandatory lockdown policy but thought only 48% of other respondents supported such a policy. This difference between the percent of respondents indicating they support lockdown policies and respondents' guesses as to the percent of others that support such policies is consistent across all countries and statistically significant in all cases (as shown in Fig. 2). The gap in beliefs is greatest among respondents currently living in a lockdown area, and was largest in Uganda. These results suggest that respondents had misinformed priors about others' support for this physical distancing policy. It is also the case that respondents' own attitudes are positively and significantly correlated with their perceptions of others' attitudes, which could indicate that beliefs about others' preferences may influence one's own preferences and behavior.[14]

It is unlikely that this gap in own attitudes and perceptions of others' attitudes is purely an artefact of survey response bias. If respondents inflate of their own reported support for a lockdown policy due to social desirability, we would expect to see greater support for these policies from respondents in places experiencing a lockdown. However, we find no significant difference in reported attitudes towards lockdown between states with and without a

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[11] These pieces of misinformation were taken from the World Health Organization (WHO) Myth Busters. Correct information was provided to respondents at the end of the survey.

[12] Nigerian states under lockdown at the time of the survey include Abuja FCT, Lagos, Ogun, Akwa Ibom, Kwara, Anambra, Niger, Ekiti, Delta, and Osun.

[13] We randomized the order of these questions such that half of the sample was first asked about their own attitudes and half of the sample was first asked to guess others' attitudes. The order of the questions did not influence responses, with the exception of the Uganda subset, where those who guessed others' beliefs first reported lower support for lockdown themselves (SI Table 14). In other words, there is no difference in own attitudes toward lockdown policy between respondents who were first asked about their own attitudes and respondents first asked about others' attitudes.

[14] See SI Table 14.
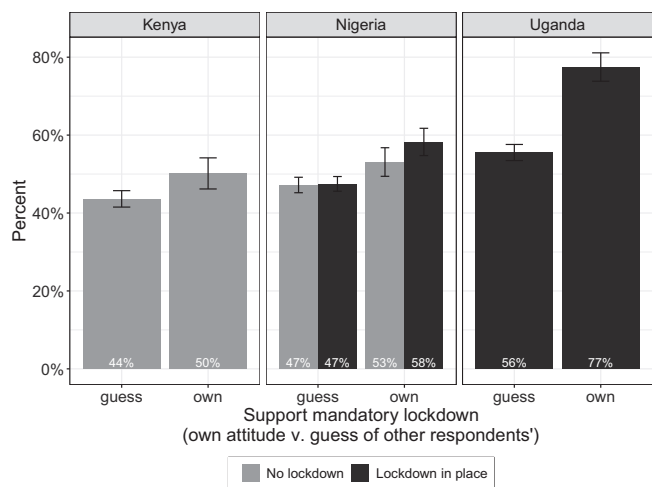
Fig. 2. Own attitudes and guesses as to other respondents' attitudes. *Note:* Bars represent averages with 95% confidence intervals. To calculate the percentage of respondents who support lockdown policy in each country we tallied respondents who either said they "somewhat agree" or "strongly agree" with a mandatory lockdown policy. In each country, and within lockdown statuses in Nigeria, the difference in means between own attitudes and guess of others' attitudes is statistically significant – as evidenced by the non-overlapping error bars representing 95% confidence intervals. We present details on differences and p-values in SI Table 9.

lockdown policy in Nigeria.[15] Given this was an anonymous online survey, we also expect attitudinal questions such as support for lockdown to be less sensitive to social desirability compared to in-person surveys.[16] Finally, it is worth noting that this gap in beliefs has been documented in settings beyond our study (Mahumane, Riddell IV, Rosenblat, & Yang, 2020).

3.3. Physical distancing behavior

Next we examine the extent to which respondents practice physical distancing and expect others to do so. Since measuring behavior may be subject to social desirability bias, especially those behaviors mandated by government, we employ a list experiment as an alternative to directly asking sensitive questions.[17] Respondents are randomized into two groups. The control group sees a list of four innocuous items. The treatment group also sees a fifth "sensitive" item, in this case: "came within 2 meters of someone from outside my household." Respondents reported how many of the items in the list they did that day. The list experiment allows us to determine the proportion of the sample who failed to maintain physical distance.

Table 2 reports means for the control and treatment groups in each country. The difference-in-means estimates demonstrate that

between 37 and 46% of our sample across the three countries came within two meters of someone outside their household, indicating that in practice, many respondents were not adhering to physical distancing.[18] It is worth noting, however, that this measure does not allow us to determine whether failure to practice physical distancing was a result of respondents' inability or unwillingness to do so. We do find that areas under lockdown in Nigeria exhibited higher rates of physical distancing, suggesting that top-down enforcement may have been effective in this context (SI, Table 16).

In order to measure beliefs about others' distancing behavior, we conduct a vignette experiment. In the vignette scenario, a hypothetical man needs to decide whether or not to practice physical distancing in an everyday situation. We vary whether the man is aware of reputational costs (social pressure), government fining (material costs) associated with not practicing physical distancing, or neither. We show the vignette message for each condition in Table 3.

Following this information, respondents are asked how likely they think it is that the man will go eat at his cousin's house—in other words, that he will not practice physical distancing. Then, respondents are asked whether they would like to write an anonymous note to fellow citizens to encourage physical distancing, which would be posted publicly online. Whether or not they write a message is a behavioral measure of support for physical distancing, while the content of the message allows us to examine what types of appeals citizens make to one another.

As shown in Fig. 3, across all three conditions, we find that the majority of respondents report that it is either somewhat or extremely *likely* that the man in the vignette will go eat with his cousin. In the pooled sample, we do not find any treatment effects of highlighting either material or social costs on responses.[19] One explanation for these null results is that the vignette was too abstract. Specifically, the social and material costs may not have resonated with respondents who did not experience these in their own lives.

While our data suggest that a large proportion of respondents did not maintain physical distance themselves and even more do not expect other individuals to do so, we do find that respondents are willing to take action to encourage others to adhere to physical distancing. About half of respondents (54%) took the opportunity in the survey to write a message to their co-nationals encouraging them to practice physical distancing.[20] Writing, though not financially costly, does require time and effort. On average, messages were 19 words long.

We code messages into four types: those that mention an appeal to the collective good, discuss externalities, appeal to civic duty, and contain religious content. To do so, we use a random sample of 10% of the messages written and manually create the library of terms for coding the messages. We then code the full set of messages using these terms.[21]

Table 4 shows the distribution of messages across these types, which are not mutually exclusive. The first column displays the share of messages that mention collective terms, such as "us", "we" and "ourselves" demonstrating respondents' focus on the importance of maintaining physical distancing for the common good. The majority of messages in all countries include collective terms, with a minority invoking civic duty or religious sentiments.

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[15] See SI Table 11, column 1. We might also expect reporting bias to manifest in other survey questions. With this in mind, we identified respondents who refused to answer another potentially sensitive question—who they voted for in the last presidential election. We conjecture that those who refused to answer the vote choice question may be particularly susceptible to social desirability bias regarding support for a government policy, perhaps because they fear repercussions for not supporting it. As we show in SI Table 11, there is no significant difference in support for lockdown among those who refused to answer the vote choice question.

[16] It is also worth noting that respondents had the option to skip/refuse to answer particular questions, and could have done so with this question if they did not feel comfortable answering it. In fact, only 15 respondents (about 0.6% of the sample) refused to report their support for a lockdown policy.

[17] The trade-off of employing the list experiment design to measure sensitive behavior among our sample is that we are not able to identify which individuals practiced physical distancing and which did not. We are therefore unable to provide a satisfactory test of the relationship between belief about how likely others are to physically distance and own distancing practice. We discuss this point in greater detail in SI Section 6.1.1.

[18] Our samples across both experimental conditions are balanced along pretreatment covariates. See Section 3 of the SI for more details.

[19] In the SI, Section 4, Tables 6–8 present estimates using the five-point outcome variable regarding the hypothetical man's likelihood of dining out as an outcome. SI Section 4 discusses the treatment effect of the social pressure treatment we find only in Kenya.

[20] We did not observe treatment effects of social or material costs to failing to physical distance on message writing behavior.

[21] We pre-registered analyzing whether messages focus on an appeal to the collective.

Table 2
Physical Distancing List Experiment, by Country.

Country	Control	Treatment	Diff	p-value
Kenya	1.974	2.433	0.460	0.000
Nigeria	2.313	2.687	0.374	0.000
Uganda	1.961	2.329	0.368	0.000

Table 3
Vignette Treatment Conditions and Text.

Condition	Vignette Text
Control	"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."
Social Pressure	"…He knows his friends and neighbors have been pressuring each other not to socialize outside of their household."
Material Cost	"…He knows the government has been fining people for leaving their house to socialize."
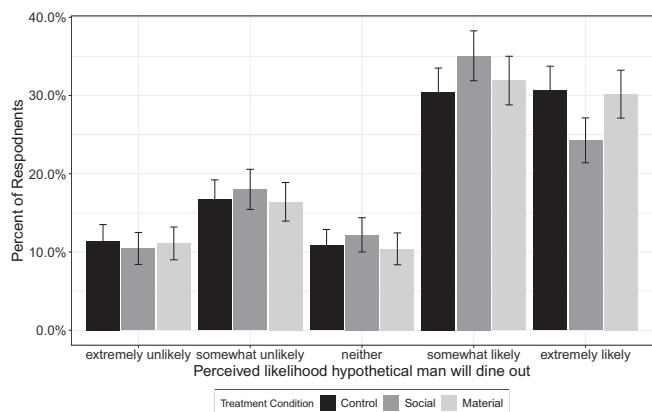
Fig. 3. Beliefs' about others' physical distancing behavior.

The second column shows the percent of messages that mention externalities, including words such as "together" and "one another." Table 5 shows examples of messages by type. The fact that many respondents made appeals to the collective good, and working together, suggests that this may be a type of message that is particularly likely to resonate with the public.

4. Discussion and conclusion

Physical distancing is a health behavior that slows the spread of COVID-19, but one that, like other health behaviors such as immunization and mask wearing, is subject to a collective action problem. In this paper we have examined knowledge and beliefs about physical distancing in the early months of the pandemic in three African countries with a goal of understanding whether social norms influenced behavior, why this might not be the case, and to provide insights into how a norm might be created. Respondents in Kenya, Nigeria, and Uganda reported high levels of factual

Table 5
Examples of Messages by Type.

Message Type	Message examples
Collective	"Hi guys, COVID19 is real, our lives comes before anything else, follow the ministry of health guidelines on combating this pandemic. Keep the social distancing, keep indoors, cover your mouth with mouth guards and sanitize your hands frequently. Stay Safe."
Externality	"Please my fellow ugandans let's fight this covid 19 together by practicing social distancing and following the guidelines of the ministry of health. Together as one" "If all the eggs are in the same basket, they break together. So, please lets keep the distance, it will save more than one life. Thanks."
Civic duty	"Fellow Nigerian COVID-19 is a serious threat to humanity, and our health workers are trying their best to keep us safe, we must play our part as a citizen, ensure social distancing if you must meet people, wash ur hand regularly and please stay indoor to be safe, better days will return."
Religious	"Am a Muslim by religion. I ask fellow muslims to practice social distancing and ask Allah to protect other people with out covid en cure those with insha Allah. And reduce its strength." "Be strong about this disease and trust God."

knowledge about COVID-19, indicating that, at least among relatively urban populations, accurate information about the pandemic was quickly disseminated and absorbed. Respondents were also mostly favorable toward lockdown policies at this stage in the pandemic, when there were few but quickly rising numbers of cases in the region.

However, despite high levels of factual knowledge and the recognition that physical distancing reduces the spread of COVID-19, nearly 40% of respondents indirectly reported that they had come within 2 meters of someone outside their household that day. Respondents also underestimated others' support for lockdown policies, and generally did not expect others to practice physical distancing. Together, these beliefs suggest that a social norm around physical distancing did not exist among respondents in our sample at the time of the survey.

Given the importance of norms in shaping public health behavior, it is useful to ask how a norm *could* be created. As norms are supported by shared beliefs (Bicchieri & Cristina, 2014), an important first step in creating a new norm is to create common knowledge that there is support for the (new) behavior, in this case, physical distancing. Our work shows that individuals underestimate support for physical distancing policies, a finding replicated elsewhere during the COVID-19 pandemic (Mahumane et al., 2020). Providing credible information about public opinion—in particular, that there is widespread support for physical distancing—may be a fruitful direction to encourage compliance with this public health behavior. Correcting beliefs about others' preferences is likely necessary but not sufficient to generate a new norm, since individuals must also believe that others will *practice* the behavior.

Our finding that a majority of individuals are eager to encourage fellow citizens to practice physical distancing suggests that peer-to-peer communication may be one avenue through which to share knowledge about others' beliefs and that this communication may itself change expectations about others' behavior. Peer-

Table 4
Percentage of Messages by Coded Content.

	Collective	Externalities	Civic	Religious	Share Wrote	Total Respondents
Pooled	0.32	0.203	0.039	0.03	0.54	2601
Kenya	0.276	0.217	0.025	0.028	0.54	604
Nigeria	0.278	0.162	0.039	0.024	0.51	1491
Uganda	0.462	0.284	0.053	0.047	0.63	506

to-peer communication has been used to promote health behaviors to prevent the spread of HIV/AIDS in sub-Saharan Africa (Green, Halperin, Nantulya, & Hogle, 2006; Medley et al., 2009). More generally, research has shown how social networks and social contagion shape health behavior (Smith & Kirsten, 2008), even in online settings (Centola, 2010). In light of this work and our findings, we propose that using peers to provide information about normative beliefs is worth exploring in the case of COVID-19 and other behaviors that are subject to collective action problems. The public can play an active role in encouraging compliance with health policies, and this strategy may be especially useful where top-down enforcement of behavior is limited.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Acknowledgement

Appendix A. Supplementary data

Supplementary data associated with this article can be found, in the online version, at https://doi.org/10.1016/j.worlddev.2020.105379.

References

Becher, M., Stegmueller, D., Brouard, S. & Kerrouche, E. (2020). "Comparative experimental evidence on compliance with social distancing during the COVID-19 pandemic." Working Paper..

Betsch, C., Korn, L., Sprengholz, P., Felgendreff, L., Eitze, S., Schmid, P., & Böhm, R. (2020). Social and behavioral consequences of mask policies during the COVID-19 pandemic. In *Proceedings of the National Academy of Sciences* (pp. 21851–21853).

Bicchieri, C. & Dimant, E. (2019). "Nudging with care: the risks and benefits of social information." Public choice pp. 1–22..

Bicchieri, C., & Mercier, H. (2014). Norms and beliefs: How change occurs. In *The complexity of social norms* (pp. 37–54). Springer.

Blair, G., & Imai, K. (2012). Statistical analysis of list experiments. *Political Analysis, 20*(1), 47–77.

Centola, D. (2010). The spread of behavior in an online social network experiment. *Science, 329*(5996), 1194–1197.

Egger, Dennis, Miguel, Edward, Warren, Shana, Shenoy, Ashish, Collins, Elliot, Karlan, Dean, & Vernot, Corey (2021). Falling living standards during the COVID-19 crisis: Quantitative evidence from nine developing countries. *Science Advances, 7*(6), 1–12. https://doi.org/10.1126/sciadv.abe0997.

Green, E. C., Halperin, D. T., Nantulya, V., & Hogle, J. A. (2006). Uganda's HIV prevention success: The role of sexual behavior change and the national response. *AIDS and Behavior, 10*(4), 335–346.

Habersaat, K. B., Betsch, C., Danchin, M., Sunstein, C. R., Böhm, R., Falk, A., Brewer, N. T., Omer, S. d. B., Scherzer, M., Sah, S., et al. (2020). Ten considerations for effectively managing the COVID-19 transition. *Nature Human Behaviour, 4*(7), 677–687.

Hoffmann Pham, K., Rampazzo, F., & Rosenzweig, L. R. (2019). "Online Surveys and Digital Demography in the Developing World: Facebook Users in Kenya." arXiv preprint arXiv:1910.03448..

Mahumane, A., Riddell IV, J., Rosenblat, T., & Yang, D. (2020). Combating COVID-19 in Mozambique..

Medley, A., Kennedy, C., O'Reilly, K., & Sweat, M. (2009). Effectiveness of peer education interventions for HIV prevention in developing countries: a systematic review and meta-analysis. *AIDS Education and Prevention, 21*(3), 181–206.

Nkengasong, J. N., Ndembi, N., Tshangela, A., & Raji, T. (2020). "COVID-19 vaccines: how to ensure Africa has access."..

Ostrom, E. (1998). A Behavioral Approach to the Rational Choice Theory of Collective Action: Presidential address, American Political Science Association, 1997. *American Political Science Review, 92*(1), 1–22.

Rosenthal, P. J., Breman, J. G., Djimde, A. A., John, C. C., Kamya, M. R., Leke, R. G. F., Moeti, M. R., Nkengasong, J., & Bausch, D. G. (2020). COVID-19: Shining the light on Africa. *The American Journal of Tropical Medicine and Hygiene, 102*(6), 1145.

Rosenzweig, L. R., Bergquist, P., Pham, K. H., Rampazzo, F., & Mildenberger, M. (2020). "Survey sampling in the Global South using Facebook advertisements.". URL osf.io/preprints/socarxiv/dka8f..

Siegal, G., Siegal, N., & Bonnie, R. J. (2009). An account of collective actions in public health. *American Journal of Public Health, 99*(9), 1583–1587.

Smith, K. P., & Christakis, N. A. (2008). Social networks and health. *Annual Review Sociology, 34*, 405–429.

Sunstein, C. R. (2020). Social and behavioral consequences of mask policies during the COVID-19 pandemic. *Journal of Behavioral Economics for Policy, 4*(5–8).

Tagat, A., Kapoor, H., et al. (2020). Go Corona Go! Cultural beliefs and social norms in India during COVID-19. *Journal of Behavioral Economics for Policy, 4*(S), 9–15.

Van Bavel, J. J., Baicker, K., Boggio, P. S., Capraro, V., Cichocka, A., Cikara, M., et al. (2020). Using social and behavioural science to support COVID-19 pandemic response. Nature Human Behaviour pp. 1–12..

von Carnap, T., Almås, I., Bold, T., Ghisolfi, S., & Sandefur, J. (2020). The macroeconomics of pandemics in developing countries: an application to uganda. COVID Economics Vetted and Real-Time Papers Issue 27, CEPR pp. 104–122..