Policy Brief

A vehicle to articulate development issues and foster dialogue

Can the Use of Behavioural Insights Help to Slow the Spread of the Coronavirus?[1] [2]

Summary: *With the current absence of medical treatment and vaccination, the unfolding coronavirus pandemic can only be brought under control by massive and rapid individual behaviour change such as handwashing, decreasing face touching, physical distancing, and public-spirited behaviour. However, decades of research in fields such as psychology and behavioural economics have shown that individuals are not always rational but instead, use mental shortcuts which affect how they perceive most aspects of the coronavirus pandemic. The limits to human rationality are further exacerbated under strenuous conditions, such as fear and will balance the perceived benefits of making contact against the perceived cost of the pandemic. When public health authorities are faced with pandemic outbreaks, the Achilles heel is a proper understanding and representation of "real" human behaviour in policies and interventions. Getting people to cooperate towards the goal of containment (self-imposed quarantines, washing hands, limiting travel and gatherings), reducing number of free-riders (hand-sneezers, employees going to work even if sick) to a minimum and avoiding extreme risk perceptions (panic and dismissal) is as important as closing schools and increasing the number of beds in intensive care. This policy brief argues that in order to prepare the Kenyan population most effectively, to help contain the coronavirus pandemic, and to reduce its widespread, behavioural insights should be integrated into the Kenya's public health response.*

1. Introduction

On 31st December 2019, the World Health Organization (WHO) was informed of a cluster of cases of pneumonia of unknown cause detected in Wuhan City, Hubei Province, Peoples' Republic of China. This was subsequently confirmed as an outbreak of a new type of coronavirus, 2019 novel Coronavirus (2019-nCOV) by the National Health Commission, Peoples' Republic of China and the WHO. COVID-19 being a novel virus and as the outbreak continues to evolve, research is ongoing to better understand its dynamics of transmission and improve case management among others. COVID-19 has the potential to cause many infections through human-to-human transmission and lead to a significant number of severe cases that could overwhelm the health care system, substantial deaths, and impact other socio-economic aspects of people's daily lives. However, if persons infected are detected in a timely manner and rigorous infection control measures are applied, the likelihood of sustained human-to-human transmission can be reduced.

As of 28th April 2020, the Coronavirus Worldometer shows that the number of infected cases globally was 3,085,123 with recorded 212,546 deaths, and 934,805 recovered patients[3]. In Kenya, the number of infected cases was 374 with 14 deaths and 124 recovered patients. Public health experts have consistently warned that the novel coronavirus outbreak presents a unique public health threat to the African continent. Gilbert, Pullano, Pinotti, et al. (2020) use two indicators to determine the capacity of countries to detect and respond to cases: preparedness, using the WHO International Health Regulations Monitoring and Evaluation Framework; and vulnerability, using the Infectious Disease Vulnerability Index. Based on their analysis, Egypt, Algeria, and South Africa had the highest importation risk, and a moderate to high capacity to respond to outbreaks. Nigeria, Ethiopia, Sudan, Angola, Tanzania, Ghana, and Kenya had moderate risk with variable capacity and high vulnerability.[4]

Furthermore, it is widely thought the economic fallout for the continent is likely to be severe and long-lasting. Many of its countries have a high dependence on commodity exports to China, relatively weak sovereign balance sheets, high debt burdens and volatile currencies, among numerous other external fragilities. The disease's negative impact on the world economy has already translated into a decline in demand for the primary products that Africa exports, such as oil from Angola and Nigeria and rare minerals from Democratic Republic of the Congo. The UN Economic Commission has revised its Africa growth forecast from 3.2% to 1.8% in the best-case scenario and a contraction of 2.6% in a worst case scenario as a result of the coronavirus pandemic.[5] Among other things, the decline is due to disruption of global supply chains and a crash in oil prices that will cost up to US$65 billion in export revenues.[6] Furthmore, tourism has been adversely affected, as international travelers stay home, hurting the economies of South Africa and Kenya, among others. Investors, confronted with a litany of unknowns about the disease and its consequences, are fleeing from emerging markets, at least for the time being.

Governments worldwide have mobilized to try to control the spread of the novel coronavirus, but the behaviour of individuals will be vital to their success. Although government lockdowns, curfews, ban on mass gatherings, testing, tracing, early self-isolation, seeking medical advice remotely unless symptoms are severe, and physical distancing are key, personal, rather than government action in most countries might be the most important issue.

The success or failure of coronavirus pandemic interventions that aim to change behaviour hinge on people thinking, deciding and acting in a certain way. Thus, for interventions to work, it is critically important that they are designed in accordance with how people actually think, decide and act (Datta and Mullainathan, 2014). This is no less true for thirteen (13) behaviours important to reducing transmission of coronavirus as per the WHO advice. Some findings of the Behavioural Research Unit at the Economic and Social Research Institute in Dublin based on a review of over 100 scientific papers show seven areas where behavioural insights can make practical and strategic contributions to the battle against the coronavirus pandemic.[7]

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[3] https://www.worldometers.info/coronavirus/#countries (last updated: April 28th , 2020, 13:42 GMT). The analysis in this policy brief is based on data available as at 28th April 2020.

[4] Gilbert, M., Pullano, G., and Pinotti, F., et al. (2020) "Preparedness and vulnerability of African countries against importations of COVID-19: a modelling study," *Lancet* 2020; 395: 871–77.

[5] United Nations Economic Commision For Africa (17 April 2020). "COVID-19 in Africa: Protecting Lives and Economies," Available at https://www.uneca.org/sites/default/files/PublicationFiles/eca_covid_report_en_rev16april_5web.pdf

[6] United Nations Economic Commision For Africa (13 March 2020). "ECA estimates billions worth of losses in Africa due to COVID-19 impact," Available at https://www.uneca.org/stories/eca-estimates-billions-worth-losses-africa-due-covid-19-impact

[7] Pete Lunn, Cameron Belton, Ciarán Lavin, Féidhlim McGowan, Shane Timmons and Deirdre Robertson, (March, 2020) "Using behavioural science to help fight the coronavirus," ESRI Working Paper No. 656, Available at https://www.esri.ie/system/files/publications/WP656.pdf

Taking inputs from a combination of psychology, economics and neuroscience, behavioural insights incorporates the idea that people have behavioural biases when making decisions and that some of those behaviours can be changed. Bringing this more realistic knowledge into the design of public policies can make them more effective. Applying behavioural insights can support the design of more effective public policies, processes and services; it can improve organizational performance; and it can encourage, or "nudge," citizens to make decisions that are more in line with their self-declared interests -- such as handwashing, decreasing touching of the face, public-spirited behaviour, adhering to social norms, eating better, etc. (Thaler and Sunstein 2008).

Behavioural insights have been used in various scenarios, for example to get more people to sign up for government services, to encourage university enrollment, and to motivate people to use less energy in their homes. Experimentation with behavioural science in public policy and development work has been rapidly increasing – transforming the way governments operate and citizens engage. Recently, governments around the world have begun to apply the findings from behavioural science in an explicit and sustained way. A 2014 report noted that "51 countries have central state-led policy initiatives that have been influenced by the new behavioural sciences."[8] In particular, various governments have created dedicated behavioural science teams, including in the UK, United States (US), Germany, Australia, Canada and the Netherlands. In addition, the World Bank,[9] the European Commission[10] and United Nations[11] have launched major new initiatives to apply behavioural insights to policymaking.

To understand the public perceptions of risk, protective and preparedness behaviours, public trust, as well as knowledge after the COVID-19 outbreak in Germany, the University of Erfurt, Germany, and the COSMO group, a consortium set up for such research[12] administered a fifteen (15) minutes online survey each week, on 1,000 participants -- representative for age, gender and federal state to enable the government, journalists and health organizations to be aware of the psychological situation, implement adequate responses, correct misinformation and also facilitate behavioural change, whether with communication measures, policies or restrictions. The initiative aims to offer a rapid evaluation tool of what the public thinks and feels, including which fears are relevant, the prevalence of hoarding behaviour, discrimination and stigma, trust in information sources and trust in the government and the results are published in a weekly update for project partners, government officials and journalists registered with Science Media Centre Germany.

In the first two waves of the survey (3–4 March 2020 and 10–11 March 2020),[13] the results showed that although knowledge was high, important protection behaviours were very low, and risk perceptions were especially low among the elderly.[14] The results also showed that willingness to restrict one's everyday life, to flatten the curve

[8] Whitehead M, Jones R, Howell R, Lilley R, Pykett, J., (2014). *Nudging all over the World: Assessing the Global Impact of the Behavioural Sciences on Public Policy*, Economic and Social Research Council, Swindon.

[9] World Bank, *Global Insights Initiative*, Available at: www.worldbank.org/en/programs/gini

[10] European Commission Behavioural Research, Available
 at:http://ec.europa.eu/consumers/consumer_evidence/behavioural_research/index_en.htm

[11] Shankar, M. and Foster, L., (2016), *Behavioural Insights at the United Nations – Achieving Agenda 2030*, Available at https://www.undp.org/content/undp/en/home/librarypage/development-impact/behavioural-insights-at-the-united-nations--achieving-agenda-203.html

[12] Germany COVID-19 Snapshot MOnitoring (COSMO Germany) (3, March 2020) "Monitoring Knowledge, Risk Perceptions, Preventive Behaviours, and Public Trust in the Current Coronavirus Outbreak in Germany," Available at https://www.psycharchives.org/handle/20.500.12034/2386

[13] Betsch, C., (27 March 2020)., "How Behavioural Science Data Helps Mitigate the COVID-19 Crisis," Available at https://www.nature.com/articles/s41562-020-0866-1

[14] Authorities can act upon that knowledge to protect this susceptible yet still complacent group.

and lower the burden for the health system, was high. However, when the motivation was to protect vulnerable others, the willingness to restrict one's everyday life was even higher.[15]

In a quest of bringing behavioural insights to the heart of national coronavirus pandemic response, the WHO Regional Office for Europe has adapted the COSMO study protocol and questionnaire, and now offers support to its Member States to collect such data to give authorities solid evidence for supporting the public to help mitigate the spread of the coronavirus.[16] This policy brief defines behavioural insights, provides evidence for efficacy of behavioural science in fighting the coronavirus pandemic and makes a case for using behavioural science interventions to fight the coronavirus pandemic in Kenya.

2. What are Behavioural Insights?

Behavioural insights refer to the "use of findings from behavioural science to understand how people behave in practice," drawing on scientific findings from behavioural economics, cognitive science and psychology and methods from experimental psychology (Hallsworth et al, 2016:10; World Bank, 2017; OECD, 2017a:3). Applying behavioural insights involves the inductive use of experiment and observation to identify patterns of behaviour, challenge established assumptions of rational behaviour, and use the findings to inform policies (OECD, 2017a:16).

Flanagan and Tanner (2016:7) highlight that behavioural insights has focused on addressing "cognitive idiosyncrasies such as loss aversion, procrastination, and confirmation bias that prevent people from optimizing". They explain that behaviour change interventions that apply behavioural insights tend to manipulate psychological or social factors involved in decision-making processes. This can involve "setting defaults, simplifying information, emphasizing social norms, leveraging interpersonal interactions and social support or pressure, and so forth" (Flanagan and Tanner, 2016:8). Behavioural insights have been used across public services to generate low cost interventions to improve service outcomes. The approach is based on the idea that interventions aimed at encouraging people to make better choices for themselves and society will be more successful if they are based on insights from behavioural science.

With very little money upfront, people change their behaviour in order to produce better outcomes for themselves and society. This helps manage demand for public services, decreasing the cost of providing them. There are many examples where, incorporating behavioural insights led to better implementation of programmes, helping resolve last mile challenges and reaching the most marginalized. A project in Kenya sought to encourage the chlorination of water to prevent deaths from diarrhea. Public education campaigns to encourage people to add chlorine to their water had been tried but had not yielded results. Removing behavioural barriers, that prevented people from taking the action, resulted in success. Chlorine dispensers were set up at the same location where people were already picking up their water. This simple intervention increased the presence of chlorine in people's water by 53%.[17]

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[15] This is very important as communicating the social norm is a key strategy in health communication. The finding shows that such behavioural data can improve the pandemic response: knowing that most people are restricting themselves to protect others takes away the burdening question of "Am I the only fool who does this?" It can create much-needed solidarity at a time when all may suffer from the non-health-related side effects of the crisis.

[16] http://www.euro.who.int/en/health-topics/health-emergencies/coronavirus-covid-19/novel-coronavirus-2019-ncov-technical-guidance/who-tool-for-behavioural-insights-on-covid-19

[17] Kremer, M., Leino, J., Miguel, E., and Zwane, A. (2011). "Spring Cleaning: Rural Water Impacts, Valuation, and Institutions," *The Quarterly Journal of Economics*, 126(1), 145–205.

Behavioural insights also show that people are motivated by what their peers are doing. In the UK, simply making a social comparison, telling people how their energy use compared with that of their neighbours led to a significant reduction in energy consumption.[18] In China, to promote greater awareness in an e-waste recycling project, people were sent messages such as, "Join the 250,000 people who are helping to preserve our planet by e-cycling.[19]

> *Behavioural insights aim at improving the welfare of citizens and consumers through policies and regulations that are formed based on empirically-tested results, derived using sound experimental methods. Behavioural insights is one discipline in a family of three, the others being behavioural sciences and behavioural economics, which mix traditional economic strategies with insights from psychology, cognitive science and other social sciences to discover the many "irrational" factors that influence decision making.* (Lunn, 2014; OECD, 2016).[20]

Behavioural insights' is the collective term for empirically grounded knowledge based on cognitive psychology, behavioral sciences and the social sciences about how people behave and make choices. Behavioral insights are applied to better understand, and predict, human decision-making (Anderson and Stamoulis, 2006; Behavioural Insights Team, 2017). Insights from behavioural research tell us that individuals typically make decisions based only in part on economic rationales, acting to the best of their knowledge and influenced by norms or emotional responses (Kahneman, 2013). Several underpinning principles have been shown to be important for explaining decision-making and choice. These include thinking automatically (Kahneman, 2013), the use of mental models, and thinking socially (World Bank, 2015). The application of behavioural insights in the field of public policy has gained significant traction over the past few years, both nationally and in international organisations. A study by Lourenço, Almeida, and Troussard (2016) commissioned by the European Union, identified over 200 initiatives in 32 countries of public policies related to behavioural perspectives.[21]

3. How Can Governments Use Behavioural Insights to Fight the Coronavirus Pandemic?

A review of advice from the WHO suggests 13 behaviours important to reducing transmission of coronavirus (Table 1.1).[22] [23.] Table 1.1 shows that with the current absence of medical treatment and vaccination, the unfolding coronavirus pandemic can only be brought under control by massive and rapid individual behaviour change such as handwashing, decreasing face touching, physical distancing, and public-spirited behaviour. However, decades of research in fields such as psychology and behavioural economics have shown that individuals are not always rational but instead, use mental shortcuts which affect how they perceive most aspects of the coronavirus pandemic. The limits to human rationality are further exacerbated under strenuous

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[18] Dolan, P., & Metcalfe, R. (2013). "Neighbors, Knowledge, and Nuggets: Two Natural Field Experiments on the Role of Incentives on Energy Conservation," *CEP Discussion Paper No 1222*, http://cep.lse.ac.uk/pubs/download/dp1222.pdf; Allcott, H. (2011). "Social Norms and Energy Conservation," *Journal of Public Economics*, 95(9): 1082-95.

[19] Ferraro, P., & Price, M. (2013). "Using Nonpecuniary Strategies to Influence Behaviour: Evidence from a Large-Scale Field Experiment," The Review of Economics and Statistics, 95(1), 64-73; Muchnik, L., Aral, S., and Taylor, S. (2013). "Social Influence Bias: A Randomized Experiment," *Science*, 341(6146):647-51.

[20] Quoted in OECD, (2017). *Behavioural Insights and Public Policy: Lessons from Around the World*, available at http://dx.doi.org/10.1787/9789264270480-en

[21] There is a growing body of literature on the influence of behavioural insights in the context of development interventions in low income settings, e.g. for programs focusing on agriculture (Duflo et al., 2011; Liu and Huang, 2013; Verschoor, D'Exelle, and Perez- Viana, 2016), improving the quality of education (Benhassine et al, 2015), encouraging individual saving (Karlan et al, 2016), providing access to electricity (Lee, Miguel, and Wolfram, 2016) and improving health outcomes (Hallsworth et al, 2016).

[22] https://www.who.int/emergencies/diseases/novel-coronavirus-2019/advice-for-public

[23] https://www.healthline.com/health/coronavirus-prevention#Tips-for-prevention

conditions, such as fear and will balance the perceived benefits of making contact against the perceived cost of the pandemic. When public health authorities are faced with pandemic outbreaks, the Achilles heel is a proper understanding and representation of "real" human behaviour in policies and interventions. Getting people to cooperate towards the goal of containment (self-imposed quarantines, washing hands, limiting travel and gatherings), reducing number of free-riders (hand-sneezers, employees going to work even if sick) to a minimum and avoiding extreme risk perceptions (panic and dismissal) is as important as closing schools and increasing the number of beds in intensive care.

Approaching the containment of the coronavirus pandemic with behavioural insights can lead to better interventions to change individual behaviour.[24] Such interventions are typically called "nudges,"[25] an idea first popularised by Thaler and Sunstein (2008). "Nudging" uses insights about people's mental processes to change behaviour through coaxing and positive assertion. Rather than forcing people to do things, nudging tweaks the environments in which people make choices - - for example this has been demonstrated in the UK, where people have been told to hum happy birthday twice over from start to finish while washing their hands to stop the spread of coronavirus.[26] [27] This ensures that people wash hands for longer than they might be in the habit of. Rather than dictating a minimum number of twenty (20) seconds a hand wash should last; the length of happy birthday is much easier to remember and therefore to apply. Ease can also play on people's tendency to be action-orientated, meaning that it can feel a lot more comfortable for people to do 'something' in the case of uncertainty, rather than sitting tight.[28] [29]

 At the forefront of bringing behavioural insights to the heart of Ireland Department of Health's coronavirus pandemic response, the Behavioural Research Unit at the Economic and Social Research Institute in Dublin reviewed over 100 scientific papers[30] and summarizes useful evidence from behavioural science for fighting the coronavirus pandemic. According to the study, hand-washing, face touching, physical distancing/social distancing, public-spirited behavior, undesirable behaviours, crisis communication, and risk perceptions are the areas behavioural science can contribute to stemming the spread of coronavirus:

  i. **Hand hygiene/hand washing:** Based on research to improve hand hygiene in healthcare, there is strong evidence that education and awareness are not enough[31] but putting hand sanitizers and colourful signage in central locations such as beyond doors, canteen entrances, the middle of entrance halls and

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[24] Michie, S., (28 February 2020). "Behavioural Science Must be at the Heart of the Public Health Response to COVID-19," Available at https://blogs.bmj.com/bmj/2020/02/28/behavioural-science-must-be-at-the-heart-of-the-public-health-response-to-covid-19/

[25] Cass R. Sunstein, (2014) "Nudging: A Very Short Guide," Available at https://dash.harvard.edu/bitstream/handle/1/16205305/shortguide9_22.pdf?sequence=4&isAllowed=y

[26] Exton, J. (6 March 2020). "Coronavirus and the Behavioural Science of Hand-Washing," Available at https://think.ing.com/articles/the-behavioural-science-of-hand-washing/

[27] The UK health secretary Matt Hancock has suggested that in order to prevent the spread of coronavirus, people should wash their hands while singing Happy Birthday – twice, though – in order to ensure the operation lasts the recommended twenty (20) seconds, https://www.theguardian.com/world/shortcuts/2020/mar/04/cleaning-up-the-best-20-second-songs-to-wash-your-hands-to

[28] Another example of a "nudge" in response to coronavirus using funny alternative "handshake (Elbow-bumps and footshakes: the new coronavirus etiquette, https://www.theguardian.com/world/2020/mar/03/elbow-bumps-and-footshakes-the-new-coronavirus-etiquette

[29] These strategies emphasize the need for good hygiene and create memorable rules of thumb which encourage people to participate.

[30] Pete Lunn, Cameron Belton, Ciarán Lavin, Féidhlim McGowan, Shane Timmons and Deirdre Robertson, (March, 2020) "Using behavioural science to help fight the coronavirus," *ESRI Working Paper No. 656*, Available at https://www.esri.ie/system/files/publications/WP656.pdf

[31] Edwards, R., Charani, E., Sevdalis, N., Alexandrou, B., Sibley, E., Mullett, D., Loveday, H. P., Drumright, L.N., and Holmes, A. (2012)." Optimisation of Infection Prevention and Control in Acute Health Care by Use of Behaviour Change: A Systematic Review," *The Lancet Infectious Diseases*, 12:318–29, Available at https://doi.org/10.1016/S1473-3099(11)70283-3

lift lobbies increases their use to a considerable extent.[32] Furthmore, signaling/reminding that their use is an expected norm can have further benefits through direct but polite questions -- for example, asking "have you used the hand sanitizer?" as patients or visitors arrive -- are a simple way to communicate these norms. Messaging on loss aversion to get people to wash their hands such as, "by not washing your hands, you could lose elderly or vulnerable members of your community" may also have lasting effects for society if it helps build new habits of washing hands. Loss aversion is an important concept associated with prospect theory and is encapsulated in the expression "losses loom larger than gains" (Kahneman and Tversky, 1979).[33] It is thought that the pain of losing is psychologically about twice as powerful as the pleasure of gaining.

ii. **Face touching:** There is no concrete evidence in decreasing face touching.[34] [35] Instead, the study and other studies[36] recommend replacing face touching with alternatives such as using a sleeve or tissue), rather than simply discouraging it.

iii. **Physical distancing/social distancing:** One of the measures taken in fighting the virus is to restrict social contact to prevent people with symptoms from spreading the disease to others.[37] The study based on a review of 24 studies on people who have been quarantined during previous infectious diseases outbreak notes that this could have a negative psychological impact on people's well-being, making them feel lonely and depressed up to three years later.[38] [39] The study recommends that authorities need to supply and advertise additional mental health services, including support lines and advice, for people who go through isolation. The WHO [40] and many national health services, such as the UK's National Health Service,[41] have recommendations to help cope, which include keeping in contact with others via phone or online, exercising if you feel well enough and maintaining a routine.[42] Furthermore, key terms should be framed and chosen wisely. Social distancing is one of the key terms used and implemented in order to ease the transmission of COVID-19. Some scientists suggest that the message of keeping a social distance could pose negative psychological impacts on people's well-being, causing them to feel loneliness and stress. The suggestion is that this term should be reframed to "physical distancing"[43] – on the one hand, as it reminds people to keep a physical

[32] Anita Huis, Theo van Achterberg, Marijn de Bruin, Richard Grol, Lisette Schoonhoven, and Marlies Hulsche, (2012)" A systematic Review of Hand Hygiene Improvement Strategies: a Behavioural Approach," Available at https://implementationscience.biomedcentral.com/articles/10.1186/1748-5908-7-92

[33] Kahneman, D., and Tversky, A., (1979). "Prospect Theory: An Analysis of Decision under Risk," *Econometrica*, 47(2): 263-91, Available at https://www.uzh.ch/cmsssl/suz/dam/jcr:00000000-64a0-5b1c-0000-00003b7ec704/10.05-kahneman-tversky-79.pdf

[34] Nicas, M., and Best, D. (2008). "A study Quantifying the Hand-to-Face Contact Rate and its Potential Application to Predicting Respiratory Tract Infection," *Journal of Occupational and Environmental Hygiene*, 5:347–52, Available at https://doi.org/10.1080/15459620802003896

[35] Kwok, Y. L. A., Gralton, J., and McLaws, M.-L. (2015). "Face Touching: A Frequent Habit that Has Implications for Hand Hygiene," *American Journal of Infection Control*, 43, 112–114, Available at https://doi.org/10.1016/j.ajic.2014.10.015

[36] The Behavioural Insights Team (5 March, 2020) "How to Stop Touching Our Faces in the Wake of the Coronavirus," https://www.bi.team/blogs/how-to-stop-touching-our-faces-in-the-wake-of-the-coronavirus/

[37] Day, T., Park, A., Madras, N., Gumel, A., and Wu, J. (2006). "When is Quarantine a Useful Control Strategy for Emerging Infectious Diseases?". *American Journal of Epidemiology*, 163(5): 479-85, Available at https://doi.org/10.1093/aje/kwj056

[38] Holt-Lunstad, J., Smith, T. B., Baker, M., Harris, T., and Stephenson, D. (2015). "Loneliness and Social Isolation as Risk Factors for Mortality, "*Perspectives on Psychological Science,* 10(2):227–37, Available at https://doi.org/10.1177/1745691614568352

[39] Brooks, S. K., Webster, R. K., Smith, L. E., Woodland, L., Wessely, S., Greenberg, N., and Rubin, G. J. (2020)."The Psychological Impact of Quarantine and How to Reduce It: Rapid Review of the Evidence," *The Lancet,* 395 (10227): 912-20 *Available at* https://doi.org/10.1016/S0140-6736(20)30460-8

[40] https://www.who.int/docs/default-source/coronaviruse/mental-health-considerations.pdf

[41] https://www.nhs.uk/oneyou/every-mind-matters/coronavirus-covid-19-staying-at-home-tips

[42] https://www.thelancet.com/pdfs/journals/lancet/PIIS0140-6736(20)30547-X.pdf

[43] https://medium.com/@brevityandwit/10-ways-inclusive-leaders-can-mitigate-bias-when-communicating-about-coronavirus-f644f6ec5310

distance, while on the other hand they can still interact with each other socially (e.g. using online platforms).[44]

iv. **Motivating helpful behaviour**: Although older people and people with underlying conditions face much greater risks than younger and healthier people,[45] the wellbeing of those most at risk depends not only on their own behaviour but also on the behaviour of others[46]. There is strong evidence for strategies that promote co-operation when actions that benefit the individual may not necessarily benefit the wider group therefore,[47] [48] effective communication[49] is vital. Priming people to make decisions to care for others/promoting group identity[50] using language like "we are in this together" will make public-spirited action more likely, as will polite disapproval[51] of undesirable behaviours (e.g., failing to cover coughs or sneezes, or avoiding self-isolation at the first genuine sign of symptoms and panic buying). Conceptual priming is a technique and process applied in psychology that engages people in a task or exposes them to stimuli. The prime consists of meanings (e.g. words) that activate associated memories. Experiments show that highlighting the sacrifices of others [52] encourages helping. Furthermore, a rapidly growing body of evidence directly testing COVID-19 communications shows that highlighting the risks to others [53]and prosocial appeals[54] to avoid "spreading" the virus are likely to be more effective than simply providing advice or messages on how to avoid "getting" the virus. Social norm messaging to help people practice social distancing such as, "You are the only one of your friends who is not working from home," may also have lasting effects on are also effective to signaling appropriate habits and are classed as expectations or rules within a group of people (Dolan et al., 2010).

v. **Communicating crisis information**: There is need to balance reporting on the latest levels of the pandemic to avoid inciting unnecessary fear[55] [56] and on actions people can and should take to combat it Messages with too much fear-inducing information can cause unnecessary anxiety and stress. Behavioural science research shows that when people are overwhelmed with choices, they might end up acting as usual and, hence maintaining the status quo.[57] To mitigate these undesired effects, key messages should be combined with simple and clear steps of how to behave in the desired way, e.g., "walk or bike instead of taking public transport whenever you can." Speed, honesty and credibility are

[44] Gunnarsson, E., and Stua, G., (22 March 2020). "How Behavioural Science Insights Can Help Tackle COVID-19," Available at https://ramboll.com/ingenuity/how-behavioural-insights-can-help-tackle-covid-19

[45] Sohrabi, C., Alsafi, Z., O'Neill, N., Khan, M., Kerwan, A., Al-Jabir, A., and Agha, R. (2020). "World Health Organization declares Global Emergency: A review of the 2019 Novel Coronavirus (COVID-19), *International Journal of Surgery*, published online at https://doi.org/10.1016/j.ijsu.2020.02.034

[46]https://blogs.bmj.com/bmj/2020/03/04/abraar-karan-control-covid19-outbreak-young-healthy-patients-should-avoid-emergency-room/

[47]Ledyard, O. (1995). Public goods: some experimental results. In J. Kagel and A. Roth (Eds.), *Handbook of Experimental Economics*, Princeton: Princeton University Press (Chap. 2).

[48] Chaudhuri, A. (2011). "Sustaining Cooperation in Laboratory Public Goods Experiments: A Selective Survey of the Literature," *Experimental Economics*, 14, 47-83, Available at https://doi.org/10.1007/s10683-010-9257-1

[49] Zelmer,J (2003). "Linear Public Goods Experiments: A Meta-Analysis," *Experimental Economics*,6: 99–310, Available at https://link.springer.com/article/10.1023/A:1026277420119

[50] Chauduri, A., (2010). "Sustaining Cooperation in Laboratory Public Goods Experiments: A Selective Survey of the Literature," *Experimental Economics*, 14: 47–83, Available at https://link.springer.com/article/10.1007%2Fs10683-010-9257-1

[51] Masclet, David, Charles Noussair, Steven Tucker and Marie-Claire Villeval, (2003). "Monetary and Nonmonetary Punishment in the Voluntary Contributions Mechanism, " *American Economic Review*,93(1):366-80, Available at https://www.aeaweb.org/articles/pdf/doi/10.1257/000282803321455359

[52] Timmons, S., Gubbins, F., Almeida, T., and Byrne, M., J., R., (2019). "Imagined Alternatives to Episodic Memories of Morally Good Acts," Available at 10.1080/17439760.2019.1689410

[53] Lavina, (April 2020). "Motivating Social Distancing During the Covid-19 Pandemic: An Online Experiment," *ESRI Working Paper No. 658,* Available at https://www.esri.ie/system/files/publications/wp658.pdf

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important in communication. Furthermore, practitioners should acknowledge their own uncertainty and empathy[58] for the difficulties people will face during the crisis, while stressing the usefulness of individual actions in order to balance the anxiety people will hold with optimism.[59]

vi. **Risk perceptions***: Risk perceptions are easily biased. Highlighting a single case or using emotive language will raise biases. Risk is probably best communicated through numbers, with ranges to describe uncertainty, emphasizing that numbers in the middle are more likely. Stating a maximum, for instance, "up to X thousand", will exacerbate the bias. It is therefore important for government and authorities to communicate the risks surrounding COVID-19 to the public as faithfully as possible for the public to base their decisions and to build trust in the government thus enhancing social cohesion. The issue is important because there is good evidence from meta-analyses to suggest that risk perception does drive behavioural responses, both in general[60] and in relation to health behaviours such as vaccination.[61] Thus, the focus should be on giving information about what is known. Government authorities should try to be as concrete as possible and consider translating statistics into something more relatable, e.g., instead of presenting the mortality rate of the coronavirus pandemic, the focus instead could be on how many people survive.

4. **Conclusion and Policy Implications**

Fighting the spread of the coronavirus pandemic requires contributions from multiple sciences. Theory and methods from behavioural science can play their part. Although rapid pre-testing of behavioural science recommendations through high quality experiments will be important to maximize their benefit, the analysis in this policy brief shows that in order to prepare the Kenyan population most effectively, to help contain the coronavirus pandemic, and to reduce its widespread, behavioural science should be integrated into the Kenya's public health response. The key policy recommendations are:

i. Improving hand hygiene by combining awareness campaigns with sanitizers that stand out and polite signals/reminders that their use is an expected norm. Messaging on loss aversion to get people to wash their hands such as, "by not washing your hands, you could lose elderly or vulnerable members of your community" may also have lasting effects for society if it helps build new habits of washing hands as people dislike losses more than they like gains of an equivalent amount (Kahneman and Tversky, 1979).

ii. Discouraging face touching is unlikely to be enough – alter the physical and social environments to change behaviour, for example by creating new norms for replacement behaviours such as face touching with a sleeve or having tissues readily available.

iii. Helping people engage with social networks remotely and maintain a routine are likely to help address the negative psychological effects of isolation, supported by additional mental health supports.

iv. Emphasizing the collective nature of the problem people face and highlight the risks to those most vulnerable to promote helpful behaviour – but not allowing undesirable behaviour go unchecked

v. Social norm messaging to help people practice physical distancing such as, "You are the only one of your friends who is not working from home." Social norms signal appropriate habits and are classed as

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expectations or rules within a group of people (Dolan *et al.*, 2010). Social norms messaging can influence behaviour because individuals take their cues from what others do and use their perceptions of norms as a standard against which to compare their own behaviours (Clapp and McDonnell, 2000). The operation of social norms is at least partly conscious: conformity may be a deliberate strategy, since individuals may obtain pleasure from choosing to behave like everyone else – even though this choice may not be maximising overall utility.

vi.   Priming people to make decisions to care for others by using phrases or words such as "we are in this together, let us unite, we are one, together we stand." Conceptual priming is a technique and process applied in psychology that engages people in a task or exposes them to stimuli. The prime consists of meanings (e.g. words) that activate associated memories.

vii.   .Balancing the anxiety people will hold with optimism over the effectiveness of individual actions in addressing the spread of the coronavirus. In an emergency such as the coronavirus pandemic - - when people have a limited or inhibited capacity to think and react – communications designed to subconsciously prompt critical changes in behaviour can ultimately be life-saving.

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Table 1.1: Behaviours Important to Reducing Transmission of Coronavirus

Group of behaviours	Behaviour
Hand hygiene	1. Wash your hands regularly with soap and water for at least 20 seconds
	2. Always wash hands: - After coughing or sneezing - After touching nose or mouth - After caring for the sick - Before, during and after food preparation - Before eating - After using the toilet - After handling animals or animal waste
	3. If soap and water are not available, use an alcohol-based hand sanitizer. This is particularly important after taking public transport.
Surface hygiene	4. Clean and disinfect frequently touched objects and surfaces with alcohol-based disinfectants.
Respiratory	5. Cover mouth and nose with a flexed elbow or tissue when sneezing or coughing.
	6. Immediately dispose of tissue into a closed bin after coughing or sneezing.
Touching	7. Do not touch your eyes, nose or mouth with unwashed hands.
Self-quarantine	8. If symptomatic or otherwise advised to, stay at home for 14 days.
Physical distancing/ Social distancing	9. If not caring for a symptomatic person, avoid contact and proximity. Maintain distance between yourself and other people particularly those who are coughing, sneezing or having fever.
Health care	10. If experiencing a fever, cough and difficulty breathing seek early medical help and describe previous travel history to the healthcare professionals.
	11. If recently arrived from specified countries within 14 days, self-quarantine for 14 days
Personal protective equipment	12. If caring for someone who has been diagnosed, wear facemasks, eye protection and gloves.
Food safety	13. Avoid eating raw or uncooked animal products. Handle raw milk, milk, or animal organs in such a way to avoid cross-contamination with other foods.