**Public Health and Public trust: Panel Data Evidence from the COVID-19 Pandemic in Kenya**

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**Abstract**

At the onset of the COVID-19 pandemic, governments around the world put in place various restrictions to contain the spread of the virus. The efficacy of such interventions was highly dependent on compliance by citizens. This study investigated the relationship between public trust and compliance with COVID-19 control measures in Kenya. The data used in the study was obtained from the Kenya COVID-19 rapid-response phone panel survey (RRPS) conducted between May 2020 and July 2022. The data were analyzed with mixed effects linear regression models. The study finds that respondents who expressed high trust in the government were much more likely to avoid groups of more than 10 people, wash hands more often and avoid physical contact compared to respondents who expressed low trust in the government. Furthermore, respondents who expressed higher levels of trust in the government were much more likely to support government preventative measures such as the mandatory wearing of masks in public, washing of hands, social distancing and getting vaccinated. The study shows that respondents who expressed high trust in the government were more likely to believe in COVID-19 misinformation and conspiracy theories. While only correlational, the findings of the study suggest that respondents who reported less compliance with control measures did not do so because of a lack of knowledge of COVID-19 but rather because of distrust in the government's ability to manage the pandemic. The findings of this study contribute to the growing body of literature on the pivotal role public trust plays in shaping compliance during health pandemics in low-middle-income countries.

**Introduction**

At the onset of the COVID-19 pandemic, governments across the world had to rely on their citizens to comply with recommended preventative measures to be able to contain the spread of the virus (Haug et al., 2020). The role of public trust in shaping compliance is an essential piece of the puzzle of managing a health crisis; citizens need to trust their government to act in their best interests in line with administering effective policies to manage a pandemic (Bangerter et al., 2012; Goldstein & Wiedemann, 2022; Gozgor, 2022; Liu et al., 2022). The perceived actions of political leaders and government authorities are often linked as a precursor to trust (Keele, 2007). A lack of trust in the government as a good actor undermines its ability to effectively police society as citizens are less incentivised to comply with government directives (Tyler, 2006). When the government was perceived as trustworthy, citizens were much more likely to comply with regulations and show support for government policies (Aktaş Güzel et al., 2019; Levi & Laura, 2000; Murphy, 2005).

Countries in which citizens reported high levels of trust in the president such as Ghana and Senegal (70 and 73 per cent respectively) were linked with higher levels of compliance and support for preventative measures. In contrast, governments in countries that recorded lower levels of trust in the president such as Malawi and Nigeria (45 and 35 per cent respectively) had lower levels of compliance with public safety measures (Hartwig & Hoffmann, 2021). A growing body of research has explored the role of public trust in shaping health compliance in African countries during health pandemics such as the Ebola Viral Disease study in Liberia (Blair et al., 2017) and the COVID-19 pandemic study in Uganda(Blair et al., 2017). Findings from both studies show a positive link between trust in the government and compliance with health measures. However, cross-sectional analyses on the relationship between trust in government and compliance with preventive measures may fail to consider the dynamic and temporal nature of both phenomena. Trust in government is a temporal phenomenon that changes over time as it is often correlated with the dynamic nature of the actions made by political actors and as such; methods that measure and analyze public trust must account for this (Keele, 2007).

This study seeks to explore the relationship between public trust and compliance with control measures during the COVID-19 pandemic. In line with this, the study posits the following research questions; (1) Do citizens who express higher levels of trust in the government more likely to comply with COVID-19 control measures and (2) Do citizens who express higher levels of trust in the government more likely to support the government's COVID-19 preventative measures? (3) Do citizens who express less trust in the government less knowledgeable about COVID-19?

**Context**

This study focuses on Kenya; according to the World Bank (2022) Kenya is a low-middle-income country with a population of over 50 million people. In the wake of the COVID-19 pandemic, the Kenyan government implemented several measures to prevent community transmission of COVID-19 (Chau, 2022; Shaw, 2020). The government imposed a nationwide dawn-to-dusk curfew; cessation of movement in and out of COVID-19 hotspots; closed all educational institutions; enforced mandatory washing of hands before entering public transport and public spaces, enforced social distancing and put restrictions on public gatherings (Shaw, 2020; Wangari et al., 2021).

**Methodology**

**Sample**

To analyze the relationship between public trust and compliance with COVID-19 guidelines in Kenya, the study takes advantage of the Kenya COVID-19 rapid-response phone survey (RRPS) for households conducted between May 2020 and July 2022. The survey was conducted by the World Bank in partnership with the Kenya National Bureau of Statistics and the University of California, Berkeley to track the socio-economic impacts of the COVID-19 pandemic in Kenya (Sinha, 2022). The dataset comprises two samples of Kenyan households - the first sample is a randomly drawn subset of all households that were part of the 2015/16 Kenya Integrated Household Budget Survey (KIHBS) and stratified by county and place of residence with the second sample obtained by randomly selecting active phone numbers created from the 2020 number frame produced by the Kenya Communications Authority.

The samples cover both urban and rural areas making them representative of the population of Kenya using mobile phones, which accounts for mobile connections equivalent to 98% of the total population (Sinha, 2022). This study uses responses recorded from Wave 1 to Wave 7, as questions regarding compliance with COVID are not asked in Wave 8 of the panel survey. According to the survey structure, 50% of the respondents in each wave were randomly assigned to respond to questions on trust in the government. The study limits its analysis to respondents who were selected to respond to survey questions on trust in the government.

**Variable Construction**

*Trust in Government*

To measure trust in government, six questions about the perceived capacity, satisfaction and general trustworthiness of the Kenyan government are used to build an additive index with values ranging from 0 to 6. Survey respondents are asked whether they trust the government to take care of its citizens on a 5-point scale ranging from strongly trust to strongly distrust. The responses are encoded as 1 for any respondent who 'strongly trusts' or 'somewhat trusts' the government and 0 for all the other responses. The respondents were asked on a 3-point scale to what extent they agree with the following statements: the government is trustworthy in the way it manages the COVID crisis, the government is willing to provide healthcare, the government is able to provide healthcare and the government is able to provide enough assistance. The responses are encoded as 1 for respondents who responded 'Agreed' and 0 for 'Neutral' and 'Disagree' responses. Respondents are also asked to respond with a yes or no to whether they are satisfied with the government's response to the crisis. The responses to this question are encoded as 1 for all respondents who responded with 'yes'. The encoded responses are added up to build a trust index with values ranging from 0 - least trust in government to 6 - most trust in government. The trust index is standardized to have mean 0 and unit standard deviation for ease of interpretability in the estimated coefficients.

*Compliance with COVID-19 control measures*

To measure compliance with COVID-19 guidelines, respondents were asked whether in the past week; they avoided handshakes, avoided groups of more than 10 and whether they washed hands more than they used to. The responses to the questions are coded as indicators of compliance with COVID-19 measures and aggregated into an additive index of compliance ranging from 0 to 3. The compliance index is standardized to have mean 0 and unit standard deviation for ease of interpretability in the estimated coefficients.

*Support for COVID-19 guidelines*

To measure support for COVID-19 government directives, respondents were asked whether they agree or disagree with the use of masks in public, washing hands or using hand sanitiser, social distancing and taking vaccinations to reduce the risk of contracting coronavirus. The preventative measures outlined above are in line with the Kenyan government's directives and campaign messaging that targeted citizens through the pandemic.

*COVID-19 Knowledge*

To measure knowledge about COVID-19, respondents were asked to confirm the truthfulness of statements relating to COVID-19 misconceptions and conspiracy theories. The responses to the statements are encoded as indicators of erroneous beliefs and aggregated into an additive erroneous belief index ranging from 0 to 9. The questions about knowledge of COVID-19 are introduced in January 2021 (Wave 4) of the panel study and as such analyses that involve this variable are limited to responses recorded between January 2021 (Wave 4) and March 2022 (Wave 7). The erroneous belief index is standardized to have mean 0 and unit standard deviation for ease of interpretability in the estimated coefficients.

*Control Variables*

Control variables include indicators for gender, above median education, age bracket (18 -30, 31-40, 41-50, 51-60 and 61 or more years of age), household size and head. To capture remoteness and general infrastructure, the study includes an indicator variable for whether the respondent lives in a

household located in an urban or rural area. The study also includes a binary variable to indicate whether an individual comes from a household with access to the internet. As this question is included in Wave 4 of the panel survey, this control variable is only included in the analysis that focuses on responses between Wave 4 and 7. To account for potential differences in compliance due to differences in income levels; a binary poverty proxy variable is created based on whether the respondent lives in a house in which the predominant floor material is earth/sand or dung. A binary indicator for whether an individual agrees that other people can be trusted is included as a control variable in the model specifications.

*Estimation*

The study applies mixed effects linear regression models to analyze outcomes taking into account possible correlations between repeated individual responses to the survey. Modelling the survey responses in the form of fixed effects and random effects accounts for the nesting of individuals in households which are further grouped into counties. The fixed effects modelled are the independent variables of interest and the random effects modelled are the clusters existing in the data - individual responses, households and counties. The general equation of the study takes the form:

$$y_{ihct} = \beta_0 + \beta_1 X_{ihct} + u_i + v_h + w_c + e_{ihct}$$

where, for individual $i$, in household $h$, in county $c$ during wave $t$, the dependent variable $y_{ihct}$ stands for the outcomes being analyzed; index of compliance with COVID-19 control measures, support for preventative measures and index of erroneous beliefs. $X_{ihct}$ includes all control variables specified above for every individual measurement in each wave $t$. $\beta_0$ and $\beta_1$ are fixed effects coefficients. $u_i$, $v_h$ and $w_c$ are random effects for the individual $i$ in household $h$ in county $c$. $e_{ihct}$ captures the residual errors.

# Results

## Descriptive statistics

## Table 1

*Descriptive Statistics*

|  | Mean | S.D. | N |
|---|---|---|---|
| **Trust in government** | | | |
| Trusts government to take care of its citizens | 0.70 | 0.46 | 19845 |
| Believes government is trustworthy in the way it manages the Covid crisis | 0.64 | 0.48 | 19845 |
| Satisfied with the government's response | 0.65 | 0.48 | 19774 |
| Believes government is willing to provide healthcare | 0.67 | 0.47 | 19845 |
| Believes government is able to provide healthcare | 0.69 | 0.46 | 19845 |
| Believes government is able to provide enough assistance | 0.46 | 0.50 | 19845 |
| **Compliance with COVID-19 control measures** | | | |
| Avoided groups more | 0.81 | 0.39 | 19845 |
| Avoided contact more | 0.94 | 0.25 | 19845 |
| Wash hands more | 0.91 | 0.28 | 19845 |
| **Support for COVID-19 preventative measures** | | | |
| Supports wearing of masks in public | 0.94 | 0.23 | 12617 |
| Supports washing of hands or using sanitizer | 0.93 | 0.26 | 12617 |
| Supports social distancing | 0.93 | 0.26 | 12617 |
| Supports vaccine | 0.74 | 0.44 | 12617 |
| **Knowledge about COVID-19** | | | |
| Believes lemon and alcohol can be used as sanitizers against Coronavirus | 0.43 | 0.49 | 12299 |

| | | | |
|---|---|---|---|
| Believes Africans are immune to Coronavirus | 0.05 | 0.23 | 12594 |
| People can get coronavirus by spending time in a room with an infected person | 0.92 | 0.27 | 12610 |
| Believes coronavirus does not affect children | 0.04 | 0.19 | 12601 |
| Believes coronavirus cannot survive in warm weather | 0.17 | 0.37 | 12489 |
| Believes corona virus is just a common flu | 0.05 | 0.22 | 12579 |
| Believes taking alcohol can make one immune to contracting coronavirus | 0.06 | 0.23 | 12549 |
| Believes local herbs can be used to treat coronavirus patients | 0.11 | 0.31 | 12356 |
| Believes people with a strong immune system don't have to worry about corona | 0.14 | 0.34 | 12587 |

*Notes: Means and corresponding standard deviations and number of observations for key dependent and independent variables.*

Table 1 provides descriptive statistics for the categories of variables described above. Trust in government was above average, 70% of respondents reported trust in the Kenyan government to take care of its citizens and an additional 64% of respondents believed that the government is trustworthy in the way it manages COVID-19. Over two-thirds (67% and 69%) of respondents believed in the government's willingness and ability to provide healthcare to address the crisis. Only 49% believed that the government can provide enough assistance in response to the crisis. Overall, more than half (65%) of the respondents were satisfied with the government's response to the pandemic.

Overall compliance with COVID-19 control measures was high; over 90% of the respondents reported having washed their hands and avoided handshakes more while 81% reported having avoided groups of more than 10 in the past week. Support for recommended preventative measures was high but varied in one of the measures; 94% of respondents supported the wearing of public masks in public, 93%

supported washing of hands and 93% supported social distancing. Only 74% of respondents agreed that a vaccine reduces the risk of contracting COVID-19.

Belief in various COVID-19 misconceptions varied across the misconceptions with some of them being believed by a high percentage of the respondents. Over 90% of respondents believed that people could get coronavirus by spending time in a room with someone infected. Nearly half (43%) of respondents believed that lemon and alcohol can be used as sanitisers against COVID-19. More than 17% of respondents believed that coronavirus cannot survive in warm weather. 14% believed that people with a strong immune system don't have to worry about coronavirus and 11% believed that local herbs can be used to treat Coronavirus patients. The least believed misconceptions with only 5% of respondents believing in them were - taking alcohol can make one immune to the virus, Africans are immune to the virus and coronavirus does not affect children.

**Compliance with COVID-19 control measures and trust in government**

**Table 2**

*Compliance with COVID-19 control measures and trust in government*

|  | (1) | (2) |
|---|---|---|
| Trust in Government index | 0.0850[0.007] *** | 0.081[0.007] *** |
| Female | 0.0123[0.016] | 0.010[0.007] |
| Education above median | 0.0443[0.020] ** | 0.035[0.020] |
| Urban | 0.0241[0.0241]$^{+}$ | 0.021[0.017] |
| Poor | 0.0122[0.019] | 0.049[0.016] *** |
| Is head | 0.0281[0.019] | 0.027[0.020] |
| Trust People | 0.0368[0.026] | 0.036[0.026] |
| Household size | 0.0107[0.003] ** | 0.017[0.004] |
| Age 31-40 | 0.0131[0.020] | 0.005[0.022] |

| | | |
|---|---|---|
| Age 41-50 | 0.0064[0.022] | 0.001[0.024] |
| Age 51-60 | 0.0054[0.025] | -0.002[0.028] |
| Age 61 or above | | 0.016[0.030] |
| Constant | -0.1008[0.029] *** | -0.142[0.140] |
| County RE | N | Y |
| Household RE | N | Y |
| Individual RE | N | Y |
| Observations | 19845 | 19845 |

*Notes: Coefficients from OLS regressions. The dependent variable is a standardized additive index of compliance with COVID-19 control measures. The independent variable of interest is a standardized additive index of trust in government. Column 1 reports correlations with controls and without random effects. Column 2 reports correlations with controls and random fixed effects. +p < 0.1; \*p < 0.05; \*\*p < 0.01; \*\*\*p < 0.001*

Table 2 presents correlations between the index of trust in government and index of compliance with COVID-19 control measures over time. The correlation between trust and compliance is positive and statistically significant (p<.001). From Table 2, a one standard deviation increase in the trust in government index predicted a 0.8 standard deviation increase in the index of compliance with COVID-19 control measures. Compared to those with low trust in the government, respondents with more trust were substantively more likely to comply with the government's COVID-19 preventative measures throughout the pandemic. Across the model specifications, trust in government remains strongly positively correlated with compliance even after accounting for demographics, individual, household and county random effects. To further illustrate the significance of the correlation, Figure 1 below reports the predicted probability of compliance with specific COVID-19 control measures among respondents with the most trust (6 on the trust index) and least trust in the government (0 on the trust index). Compared to those with the least trust in government, those with the most trust were about 5 percentage points more likely to avoid groups of more than 10 people (82% vs 78%, p<0.0001); 4 percentage points more likely to wash

hands and use sanitisers (90% vs 94%, p < 0.0001); and about 2 percentage points more likely to avoid contact and physical handshakes (94% vs 92%, p<0.0001).

**Figure 1**

*Predicted probabilities of compliance with COVID-19 control measures at low and high trust in government*
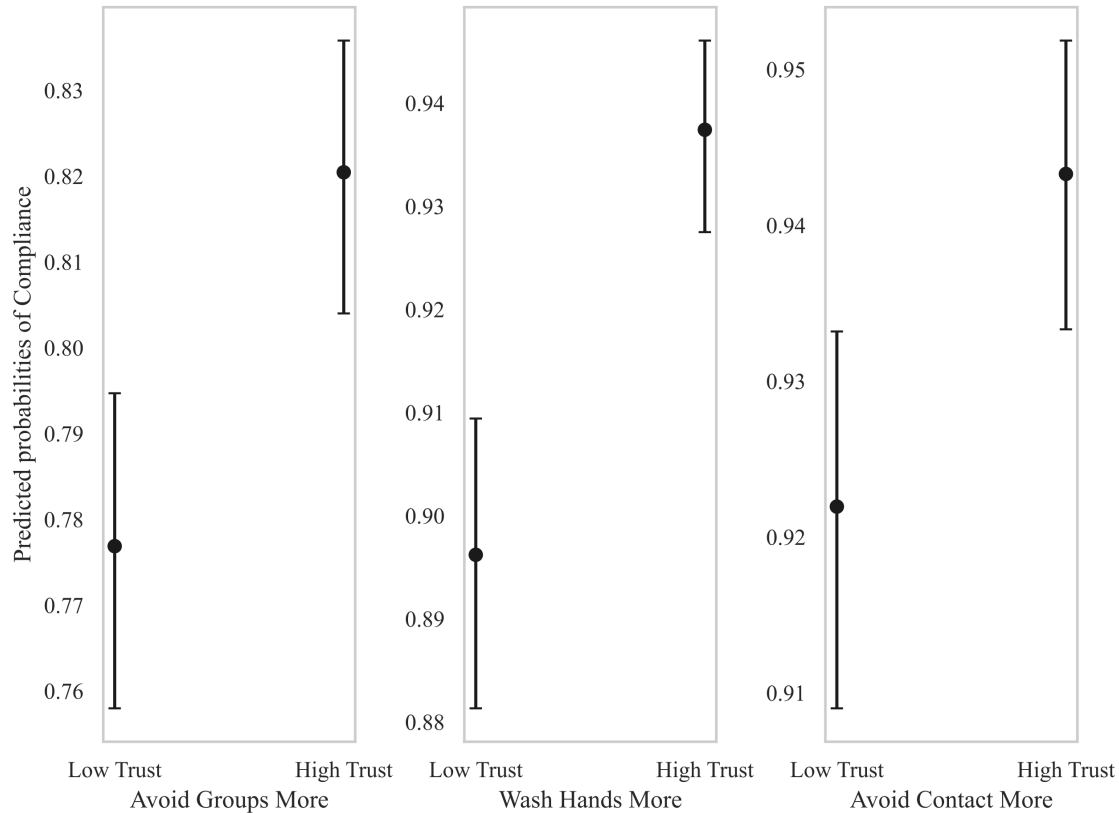


*Notes: Predicted probabilities from OLS regressions. The dependent variables are the three indicators of compliance; avoiding groups, washing hands and avoiding contact more often in the past week. The independent variable of interest is an additive index of trust in government. Squares and solid lines denote point estimates and 95% confidence intervals for respondents with 0 (low trust) and 6 on the additive index of trust (high trust) holding all controls at their means.*

**Support for COVID-19 government preventative measures and trust in government**

**Table 3**

*Support for COVID-19 preventative measures and trust in government*

|  | (1) | (2) |
| --- | --- | --- |
| Trust in Government index | 0.1762[0.009] *** | 0.175 [0.009] *** |
| Female | 0.0145 [0.017] | 0.009 [0.018] |
| Education above median | 0.0694 [0.025] * | 0.069 [0.025] |
| Urban | 0.0292[0.018] | 0.025 [0.025] |
| Poor | 0.0824[0.019] *** | 0.107[0.020] *** |
| Trust People | -0.4429[0.028] *** | -0.451[0.028] *** |
| Household size | -0.0428 [0.005] *** | -0.451 [-0.451] *** |
| Age 31-40 | 0.0073[0.024] | 0.007 [0.007] |
| Age 41-50 | 0.0086 [0.027] | 0.007 [0.007] |
| Age 51-60 | 0.0086 [0.031] | 0.003[0.032] |
| Age 61 or above | -0.0114[0.032] | -0.016[0.033] |
| Constant | 0.1233 [0.029] *** | 0.099[0.138] |
| County RE | N | Y |
| Household RE | N | Y |
| Individual RE | N | Y |
| Observations | 12617 | 12617 |

*Notes: Coefficients from OLS regressions. The dependent variable is a standardized additive index of support for COVID-19 preventative measures. The independent variable of interest is a standardized additive index of trust in government. Column 1 reports correlations with controls and without random*

*effects. Column 2 reports correlations with controls and random fixed effects. +p < 0.1; \*p < 0.05; \*\*p < 0.01; \*\*\*p < 0.001*

Table 3 presents correlations between trust in government index and support for COVID-19 government control measures index. The correlation between trust and support over time is positive and statistically significant (p<.001). From Table 3, a one standard deviation increase in the trust in government index predicted a 0.165 standard deviation increase in the index of compliance with COVID-19 control measures across the pandemic. Compared to those with the least trust in the government, those with the most trust were more likely to support government COVID-19 measures; social distancing, hand washing, wearing masks in public and getting vaccinated to reduce the risk of contracting coronavirus.

Figure 2 reports the predicted probability of support for specific COVID-19 control measures among respondents with the most trust (6 on the trust index) and least trust in the government (0 on the trust index). Compared to those with the least trust in government, those with the most trust were approximately 5 percentage points more likely to support wearing masks in public (93% vs 98%, p < 0.0001); 5 percentage points more likely to support washing hands or using sanitizer (97% vs 92%, p < 0.0001); and about 5 percentage points more likely to support social distancing (82% vs 60%, p<0.0001) measures put in place by the Kenyan government to reduce the risk of contracting coronavirus. In contrast, support for vaccinations was relatively lower than support for other control interventions but remained significantly higher in respondents who reported high trust in the government. Respondents with high trust were 8 percentage points more likely to support getting vaccinated to reduce the risk of contracting coronavirus (84% vs 76%, p<0.0001) as compared to respondents with low trust.

**Figure 2**

*Predicted probabilities of support for COVID-19 preventative measures at low and high trust in government*
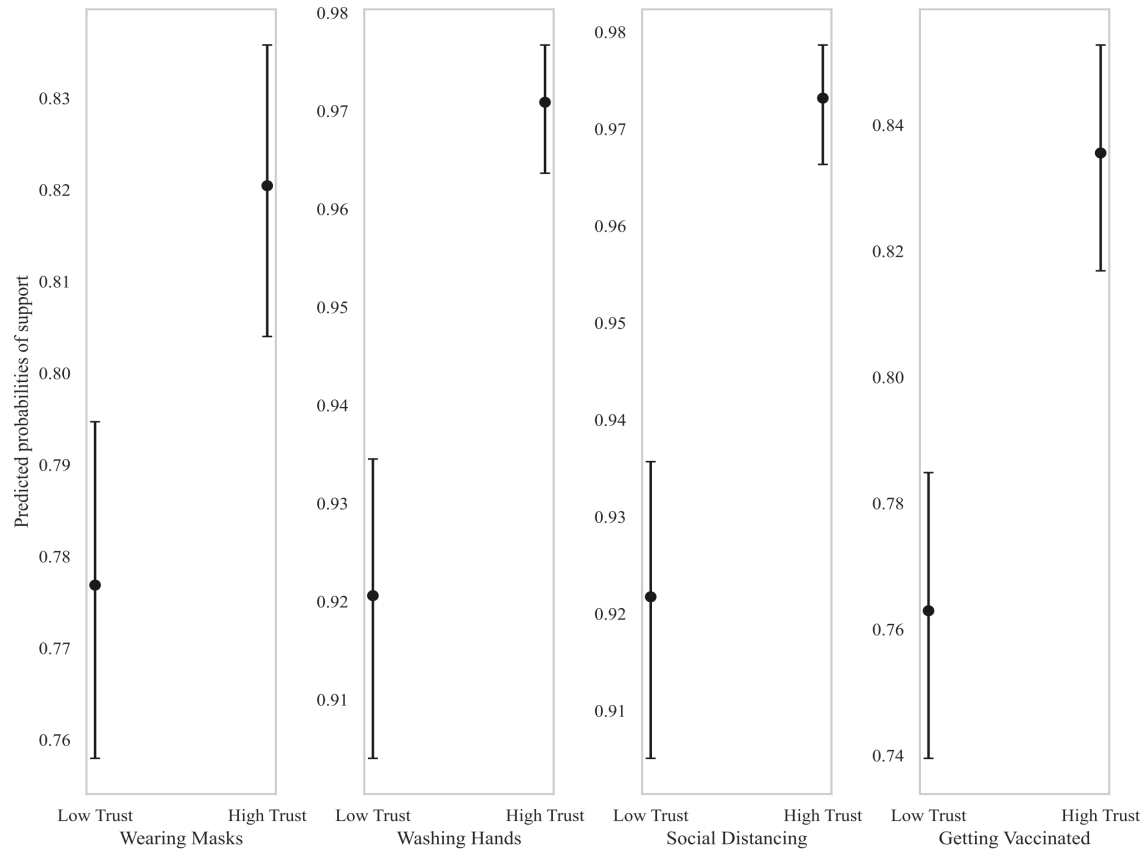


*Notes:. The dependent variables are the four indicators of support for preventative measures. The independent variable of interest is an additive index of trust in government. Squares and solid lines denote point estimates and 95% confidence intervals for respondents with 0 (low trust) and 6 on the additive index of trust (high trust) holding all controls at their means.*

**Knowledge about COVID-19 and trust in government**

**Table 4**

*Knowledge about COVID-19 and trust in government*

|  | (1) | (2) |
|---|---|---|
| Trust in Government index | 0.2059 [0.039] *** | 0.186[0.009] *** |
| Female | 0.0250[0.019] | 0.026 [0.020] |
| Education above median | -0.1058[0.025] * | -0.099 [0.025] *** |
| Urban | -0.0091[0.018] | -0.001[0.019] |
| Poor | -0.0797[0.019] *** | -0.101 [0.020] *** |
| Has Internet | 0.1769[0.018] *** | 0.176[0.019] *** |
| Trust People | -0.2362[0.028] *** | -0.451[0.028] *** |
| Household size | -0.0428 [0.005] *** | -0.000[0.005] |
| Age 31-40 | -0.0148[0.024] | -0.021[0.025] |
| Age 41-50 | -0.0003[0.027] | -0.011[0.028] |
| Age 51-60 | -0.0023[0.031] | -0.012 [0.033] |
| Age 61 or above | -0.0463[0.033] | -0.048[0.035] |
| Constant | -0.1042 [0.039] ** | -0.087 [0.044] ** |
| County RE | N | Y |
| Household RE | N | Y |
| Individual RE | N | Y |
| Observations | 11956 | 11956 |

*Notes: Coefficients from OLS regressions. The dependent variable is a standardized additive index of erroneous beliefs. The independent variable of interest is a standardized additive index of trust in government. Column 1 reports correlations with controls and without random effects. Column 2 reports correlations with controls and random fixed effects. $+p < 0.1$; $*p < 0.05$; $**p < 0.01$; $***p < 0.001$*

Table 4 above presents correlations between the index of erroneous beliefs in COVID-19 misconceptions and trust in government index. Across all specifications, the correlation between the erroneous beliefs index and trust in government is positive and statistically significant (p<.001). From Table 4, a one standard deviation increase in trust in the government index predicted a 0.2 standard deviation increase in the index of erroneous beliefs. Compared to those with the least trust in government, those with the most trust were more likely to believe in COVID-19 misconceptions indicating less knowledge of COVID-19.

## Discussion

**Trust in government and compliance and support for COVID-19 control measures**

**Figure 3**

*Compliance with COVID-19 guidelines additive index, trust in government index and the daily number of new confirmed COVID-19 cases between May 2020 and December 2021*
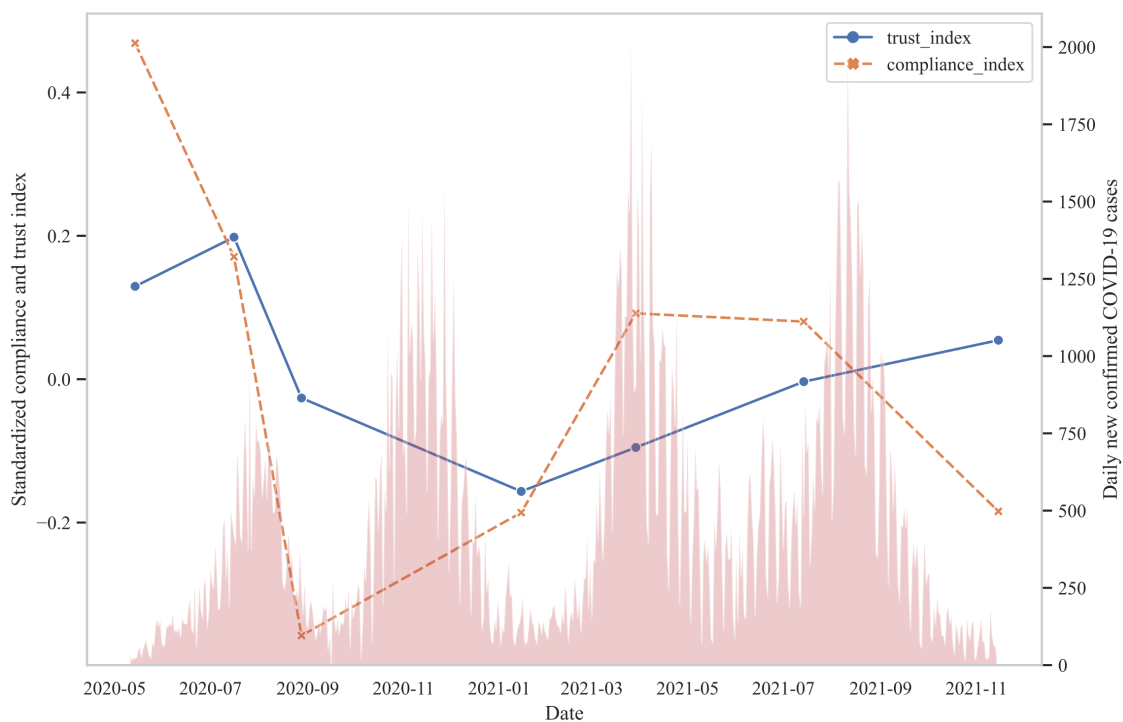


As shown in Figure 3 above, compliance with COVID-19 guidelines and trust in the Kenyan government varied through the different waves of the pandemic. Compliance with COVID-19 guidelines

was highest in Wave 1 of the panel survey conducted between May 2020 and July 2020. During the first

month of the pandemic, the Kenyan president directed the police to enforce COVID-19 guidelines, media

reports have shown widespread cases of police excesses and brutality in enforcing the guidelines possibly

explaining high levels of compliance amongst Kenyan citizens (Aljazeera, 2020a; Gregory, 2020; Mutahi

& Wanjiru, 2020). High levels of trust in the government is observed in the initial phase of the pandemic

correlating to a possible occurrence of the 'rally-round-the-flag' effect proposed by John Mueller (1970); a

short-term surge in support for political actors in events described as international, dramatic and shortly

focused - features that describe the COVID-19 pandemic. In the initial phase of the pandemic, Kenyans

were faced with uncertainty and turned towards the government and various political actors to provide

information and implement control measures to protect them from a possible threat (Albertson &

Gadarian, 2015). Subsequently, levels of trust indicators in government were particularly high during the

early phase of the pandemic similar to the UK, France, Germany and the US where country leaders

central to the government's response to the pandemic received record-high satisfaction ratings in the first

few months of the pandemic (Jennings, 2020). Jennings (2020) notes that as events unravel and other

political dynamics take hold, citizens will reassess the government's response to the pandemic and the

'rally-round-the-flag' effects begin to fade away. A notable decline in trust in the government was

observed in Wave 4 of the panel survey conducted between January and March 2021. In December 2020,

a month before the Wave 4 survey was conducted, Kenyan doctors working in government hospitals went

on a nationwide strike over inadequate benefits and lack of protective equipment while treating COVID-

19 patients (Aljazeera, 2020b; Yusuf, 2020). Many Kenyans depend on public hospitals to be able to

access healthcare services; the doctor's strike highlighted the government's failure in guaranteeing access

to quality healthcare for its citizens and a possible effect was the notable drop in trust levels in the

government during this period (Ong'ayo et al., 2019). There were reported incidents of corruption

practices by multiple state agencies in managing funds directed to the pandemic and procurement of

medical supplies (Mawish, 2020; Rasna, 2021). Reports on mismanagement and embezzlement of

COVID-19 response funds appeared after the onset of the pandemic possibly contributing to the decline in the index of trust in the government after the first two panel surveys.

Despite the varying levels of compliance and trust indices, the study finds that Kenyans who expressed higher levels of trust in the government were much more likely to support the government's control interventions and further comply with preventative measures. Respondents who expressed high trust in the government were much more likely to avoid groups of more than 10 people, wash hands more often and avoid physical contact as compared to respondents who expressed low trust in the government throughout the panel survey. Respondents who expressed trust in the government were much more likely to support government preventative measures such as the mandatory wearing of masks in public, washing of hands, social distancing and getting vaccinated as compared to those with distrust in the government. While considering the dynamic and temporal nature of trust throughout the COVID-19 pandemic; this study exemplifies the pivotal role public trust plays in shaping health outcomes during a pandemic. Citizens who perceive the government as being trustworthy in its ability and willingness to manage the pandemic are much more likely to comply with control measures and support government interventions. The findings of this study contribute to existing literature (Bodas & Peleg, 2021; Chua et al., 2021; Pak et al., 2021) on the positive relationship between public trust in government and compliance with health directives, specifically taking into account varying measures of trust over time during the COVID-19 pandemic.

**COVID-19 knowledge and Trust in government**

Respondents who expressed higher levels of trust in government could possibly be more knowledgeable about COVID-19 and as such the relationship between trust in government and compliance could potentially be a spurious correlation. To account for this possibility, the study explores the relationship between knowledge of COVID-19 and trust in government; do people who express higher levels of trust in government more knowledgeable and as such more likely to comply with the preventative measures? The findings of the study show that respondents who expressed high trust in the government were more likely to believe in COVID-19 misinformation and conspiracy theories as

compared to those with less trust demonstrating less knowledge of COVID-19. In March 2020, Kenya recorded its first COVID-19 case; there was a conspiracy theory that the government had 'manufactured' the case to prove that COVID-19 exists and to attract donor funding (Wahiga, 2020). Previous studies on vaccine hesitancy and vaccine refusal suggest that people who expressed less trust in the government and the integrity of health agencies were more susceptible to conspiracy theories and erroneous beliefs (Salmon et al., 2015; Smith et al., 2006).

The correlation between compliance and trust in government does not appear to be a result of a lack of knowledge on COVID-19 amongst less trusting respondents, contrarily, respondents who expressed distrust in the government were less likely to believe in misinformation claims and conspiracy theories. While only correlational, the findings suggest that respondents who reported less compliance with COVID-19 guidelines did not do so because of a lack of knowledge of COVID-19 but rather because of distrust in the government's ability to manage the pandemic, findings similar to studies on the Ebola Virus Disease epidemic (Blair et al., 2017) in Liberia and the COVID-19 pandemic in Uganda (Blair et al., 2022).

**Limitations**

The study is not without limitations. As with any study that relies on self-reported data, responses to questions on indicators of trust, support and compliance are subject to the social desirability bias. It is possible that respondents over-reported compliance with government preventative measures. As the survey was conducted in the buildup to the Kenyan 2022 General Election, the country was in a polarized political state (Sambuli, n.d.). It is possible that those who supported the current government at that time reported higher trust in the government while those in opposition reported lower trust in the government.

**Conclusion**

As the world grappled with the adverse effects of the COVID-19 outbreak, governments put in place various control interventions and preventative measures to manage the pandemic. The efficacy of such efforts was heavily dependent on compliance by citizens. Previous studies have shown a significant positive relationship between compliance with health directives and public trust in the government; citizens who expressed trust in the government's willingness and ability to manage a health crisis are much more likely to comply with control measures. However, such studies have largely focused on cross-sectional analyses which may fail to consider the temporal and dynamic nature of trust and compliance. In line with this, this study explores the relationship between trust in the government and compliance with health guidelines overtime during the COVID-19 pandemic in Kenya using panel survey data.

The study shows that citizens who expressed higher levels of trust in government were much more likely to comply with COVID-19 guidelines and show support for government preventative measures during the different phases of the pandemic. Citizens who expressed lower levels of trust in the government were less likely to believe in COVID-19 misconceptions and conspiracy theories indicating that compliance with control measures is not an artefact of knowledge of COVID-19 but rather trust in the government. The findings of this study contribute to the growing body of literature on the pivotal role public trust plays in shaping health compliance. Overall, findings from the study provide a framework for how to promote policy compliance during health pandemics in low-middle-income countries

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**Appendix A: Summary Statistics**

**Table A.1: Descriptive Statistics for Control Variables**

|                        | Mean  | S.D.  | N     |
| ---------------------- | ----- | ----- | ----- |
| Female                 | 0.54  | 0.50  | 19845 |
| Above Median Education | 0.17  | 0.38  | 19845 |
| Poor                   | 0.38  | 0.49  | 19845 |
| Urban                  | 0.53  | 0.50  | 19845 |
| Age                    | 40.47 | 13.73 | 19845 |
| Is head                | 0.74  | 0.44  | 19845 |
| Trust People           | 0.08  | 0.27  | 19845 |
| Household size         | 3.60  | 2.22  | 19845 |
| Has Internet           | 0.56  | 0.50  | 12616 |

**Table A.2: Compliance and support at high and low trust in government**

|  | Most Trust | Least Trust | Difference | *p*-value |
|---|---|---|---|---|
| **Compliance with control measures** |  |  |  |  |
| Avoids groups more | 0.78 | 0.82 | 0.044 | 0.000 |
| Washes hands more | 0.90 | 0.94 | 0.041 | 0.000 |
| Avoids contact more | 0.92 | 0.94 | 0.022 | 0.000 |
| **Support for preventative measures** |  |  |  |  |
| Supports wearing masks | 0.92 | 0.97 | 0.050 | 0.000 |
| Supports washing hands | 0.92 | 0.97 | 0.050 | 0.000 |
| Supports social distancing | 0.92 | 0.97 | 0.050 | 0.000 |
| Supports getting vaccinated | 0.76 | 0.84 | 0.070 | 0.000 |

*Notes: Predicted probabilities from OLS regressions at high and low trust in government (6 and 0 on the additive index, respectively) with all controls held at their means. Controls include gender, education, poor, age, trust people, household size, urban.*

**Appendix B: Validation of Assumptions of OLS regression of Standardized Erroneous Belief Index**

**Figure B1: KDE Plot of Model Residuals**

KDE Plot of Standarduzed Erroneous Beliefs Residuals (Blue) and Normal Distribution (Black)
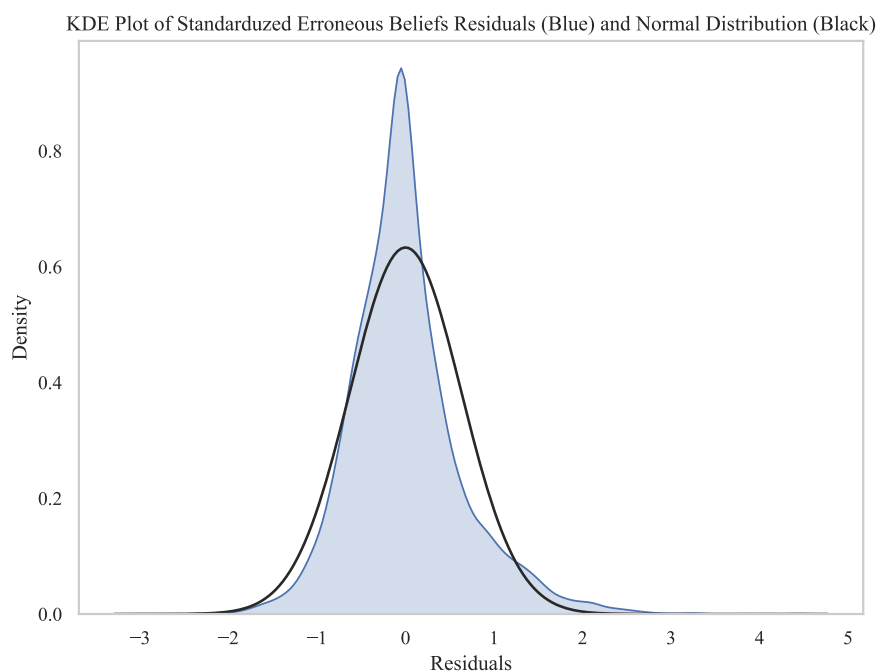
**Figure B2: Q-Q Plot of OLS Regression Model Residuals**

Q-Q Plot
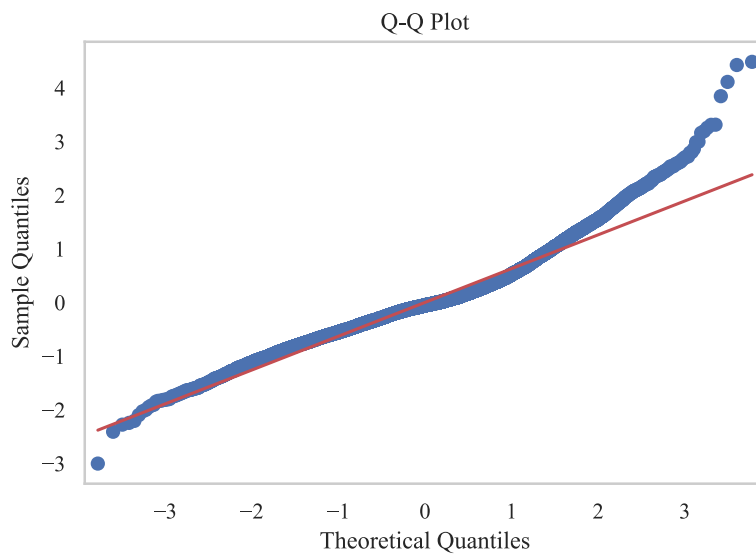
**Appendix C: Code and Data Resources**

Data resources and code used in the analysis can be found in this anonymized repository - https://anonymous.4open.science/r/stats-summative-E768