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RELIGION, TRUST IN GOVERNMENT AND COVID-19 VACCINE ACCEPTANCE IN AFRICA

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Abstract. The development of vaccines to combat the COVID-19 pandemic brought a huge relief to governments, health workers, and citizens around the globe. However, some citizens are not willing to get vaccinated. Some researchers have attributed this vaccine hesitancy to religion and trust in the government handling the pandemic. This research aims to investigate the impact of these two factors on COVID-19 vaccine acceptance in Africa. We used data from round 8 of the Afrobarometer survey with a sample size of 6,057 participants. Means, proportions, standard deviations, and ordered logistic regressions were used in the analysis. The results show that Christians and members of other religions such as Hinduism and Hare Krishna were more likely to accept COVID-19 vaccines. In addition, the study found that people who hold some beliefs about the vaccines were less likely to get vaccinated. Finally, citizens who trust the government's handling of the pandemic were more willing to accept COVID-19 vaccination. Based on these findings, a number of religious health promotion measures are proposed.

Keywords: *Trust in government, religion, religious beliefs, vaccine acceptance, COVID-19.*

Rezumat. Dezvoltarea vaccinurilor pentru combaterea pandemiei de COVID-19 a adus o ușurare uriașă guvernelor, lucrătorilor din domeniul sănătății și cetățenilor din întreaga lume. Cu toate acestea, unii cetățeni nu sunt dispuși să se vaccineze. Unii cercetători au atribuit această ezitare la vaccin religiei și încrederii în guvernul care se ocupă de pandemie. Această cercetare își propune să investigheze impactul acestor doi factori asupra acceptării vaccinului COVID-19 în Africa. Am folosit datele din runda 8 a sondajului Afrobarometru cu un eșantion de 6.057 de participanți. În analiză au fost utilizate medii, proporții, abateri standard și regresii logistice ordonate. Rezultatele arată că creștinii și membrii altor religii, cum ar fi hinduismul și Hare Krishna, erau mai predispuși să accepte vaccinurile COVID-19. În plus, studiul a constatat că persoanele care au anumite convingeri despre vaccinuri au fost mai puțin dispuși să se vaccineze. În cele din urmă, cetățenii care au încredere în gestionarea de către guvern a pandemiei au fost mai dispuși să accepte vaccinarea COVID-19. Pe baza acestor constatări, sunt propuse o serie de măsuri de promovare a sănătății religioase.

Cuvinte cheie: *Încredere în guvern, religie, credințe religioase, acceptare a vaccinului, covid-19.*

1. Introduction

The 21st century has been ravaged by several epidemics, including swine flu, SARS, Ebola, and MERS. However, none have been more devastating than the novel coronavirus disease called COVID-19. This disease was first recorded in December 2019 in Hubei, China. Three months after the first recorded case, the World Health Organization (WHO) declared COVID-19 a global pandemic. The infection, hospitalization, and mortality rates of the disease have caused many countries to impose mandatory lockdowns and social distance measures [1].

The imposition of lockdowns and social distancing has had significant negative impacts on the health, economy, social life, education, and crime rate of many countries. In terms of health, COVID-19 has led to about seven million deaths globally [2]. Also, the disease has led to mental health conditions such as depression, anxiety, stress, frustration, sadness, anger, numbness, fear, loneliness, guilt, suicidal ideation, boredom, and avoidance behaviors [3-5]. Financially, this epidemic has led to a decline in gross domestic products (GDPs), a rise in unemployment, a high cost of living, and a widening wealth gap between the rich and the poor. Again, several countries are experiencing fiscal challenges because of external borrowing, huge debts, and low revenues from taxes [6,7]. The educational systems in various countries have also been impacted severely. The pandemic has led to increased absenteeism, school shutdowns, teacher shortages, offensive behavior among students, mental health problems among students, teachers, and parents, the loss of valuable instructional time, and declining academic achievements [8-11]. The impact of COVID-19 on crime cannot be understated. Crimes such as robbery, homicide, theft, burglary, and assault in major cities have plummeted, but domestic violence is on the rise [12-15].

To deal with the pandemic, global leaders and health professionals suggested that a vaccine would be the best solution. Therefore, scientists and pharmaceutical companies, with support from governments, invested their time and financial resources to develop effective and safe vaccines to help combat the pandemic [16,17]. On December 11, 2020, the U.S. Food and Drug Administration approved the first COVID-19 vaccines by Pfizer/BioNTech for persons 16 years and older [18]. The WHO also accepted the aforementioned vaccines for emergency use on December 31, 2020. Other vaccines such as Moderna, Novavax, and Johnson & Johnson's Janssen (J&J/Janssen) have also been approved for immunization against COVID-19.

After the vaccines were developed and accepted for treatment, several countries have been facing the problem of low vaccine acceptance. Statistics from the Our World in Data project at Oxford University show that about 69.2% of the global population, which is equivalent to 5.31 billion people, have received at least one dose of the vaccines. A breakdown of the data shows that 80% of the citizens in South America, the Asia-Pacific, the United States, and Canada have taken a dose of the vaccine. Also, 69% and 57% of people in Europe and the Middle East, respectively, have been vaccinated in part. The region with the lowest rate of vaccination is Africa, with only 26% of its population vaccinated [19].

Some scholars have attributed vaccine hesitation to religious beliefs and a lack of trust in the government [20-24]. For example, Lahav et al. [24] investigated the role of religion in COVID-19 vaccine acceptance in Israel and Japan and reported that participants who are extremely religious were less willing to accept vaccination. Trent et al. [23] investigated trust in the government and COVID-19 vaccine acceptance and found that the people of Melbourne who trust their government were more willing to receive the vaccine.

Although research has documented that trust in the government and religious beliefs are linked to COVID-19 vaccination acceptance, most of the available studies focus on Western and Asian countries. Few studies have been conducted on this topic in Africa [25-28]. The lack of sufficient studies on this topic in Africa is problematic for a number of reasons. First, studies in Africa have documented that most Africans do not trust their leaders when it comes to handling the pandemic. For example, according to Seydou [29], about 71% of Africans stated that COVID-19 relief packages were not distributed, 67% claimed that COVID-19 funds were mismanaged, 67% did not trust official statistics about the pandemic, and 68% believed that governments would make safe vaccines available to them. Second, studies have reported that 90% of individuals in Niger and Liberia claimed that prayers are more effective at protecting them from COVID-19 than vaccines. Third, research on the continent has found that COVID-19 vaccine acceptance is low [30,31]. For instance, Ackah et al. [31] found that the COVID-19 vaccine acceptance rate in Africa is 46%. Similarly, Hassen et al. [30] reported that vaccination acceptance for the coronavirus is at 50%. Fourth, all the investigations on the topic mostly used samples from a single country.

This study therefore aims to investigate the effect of trust in governments' handling of the pandemic and religious beliefs on coronavirus vaccination acceptance in Africa. This study will help fill the gap in the literature by using cross-national samples from five countries in sub-Saharan Africa to help improve our understanding of the role of government trust and religious beliefs in COVID-19 vaccine hesitancy. The study will test the following hypotheses:

H1: Religious affiliation will negatively affect COVID-19 vaccine acceptance.

H2: Religious beliefs will significantly reduce COVID-19 vaccine acceptance.

H3: Trust in governments' handling of COVID-19 will positively affect vaccine acceptance.

1.1 Trust in the Government and Vaccine Acceptance

Trust is the bedrock upon which societies are built. Trust in the government refers to the credence or assurance that citizens have in their elected officials or people in authority [32,33,71]. When citizens have trust in their governments, it ensures conformity to rules and regulations. Also, trust in the government could assist those in authority to accomplish desirable policy results [34,35].

Researchers have found that trust in the government is a key ingredient during crucial moments. This is because during such periods, citizens will be amenable to the measures proposed by the state [36,37]. For example, van der Weerd et al. [36] reported that confidence in the government was a significant predictor of the public's acceptance of health interventions. In a recent study, Mesch and Schwirian [37] found that citizens' willingness to accept Ebola vaccination was strongly predicted by trust in the governments' handling of the epidemic.

With respect to COVID-19, research has shown that trust in the government is significant to ensure adherence to various precautionary measures, such as social distancing, wearing face masks, and curfews [38,39,40]. However, since the approval of COVID-19 vaccines, research has shown that some people are unwilling to get vaccinated. Such unwillingness on the part of some members of the public has led researchers to question whether trust in the government is involved. The few available studies on trust in the government and vaccine acceptance have found a strong association between the two [41-44]. For instance, Wynen et al. [41] examined trust in the government and vaccine acceptance

in Belgium. They found that respondents who have high trust in state officials were more likely to get vaccinated. Similarly, Oost et al. [42] found that government trust positively affected intentions to get vaccinated in Belgium. Trent et al. [43] examined vaccine hesitancy and trust in the government in five cities, namely, Sydney, Melbourne, London, New York City, and Phoenix. They found that participants in Melbourne who trust their leaders were willing to get vaccinated. On the other hand, respondents from Phoenix and New York who have faith in their government were not willing to get vaccinated.

Studies conducted on trust in the government and vaccine acceptance in Africa seem to confirm those from the rest of the world [25,45-48]. For example, in Ghana, Amo-Adjei et al. [25] found that mistrust in politicians was a key factor in vaccine hesitancy. Likewise, in South Africa, Engelbrecht et al. [45] found that individuals who distrust the government were 13 times more likely to reject vaccination.

1.2 Religion and COVID-19 Vaccine Acceptance

Most religions around the globe do not have specific restrictions against vaccination. However, several researchers have documented how religion influences decisions on vaccine acceptance or hesitancy. Studies have shown that when religious leaders participate in the promotion of vaccines, this leads to a high rate of acceptance among members of that religion. On the other hand, when leaders of religions make negative remarks about immunization, this increases vaccine hesitancy [49,50].

Research on the relationship between religion and vaccinations has focused on religious affiliation, religious attendance, and intra-religious beliefs. Studies on religious affiliation and vaccine acceptance have shown mixed results. Some studies found no significant association between the two [51-53]. Meanwhile, other scholars have found a significant association between the two. For example, Natan et al. [53] found that Jews are more likely to accept vaccines than Muslims. Also, Elliot and Farmer [55] reported that Muslims are more likely to be vaccinated than Buddhists. Within religious denominations, among the Christian community, Catholics have more confidence in immunization than Protestants and evangelicals [56]. Another study found that individuals who frequently attend religious services are less willing to get vaccinated [57].

Since the first COVID-19 vaccine was approved by the WHO in December 2021, some people have been hesitant to get vaccinated. A plethora of such individuals are health workers and religious people. Hence, researchers started investigating the relationship between religion and COVID-19 vaccine acceptance, focusing on religious affiliation and religious beliefs. The available research on religious affiliation and COVID-19 acceptance has produced mixed results. Some studies found no relationship between the two concepts [58], while others found a link between them [20,59,60-62]. For example, Corcoran et al. [20] found that Christian nationalists were less likely to accept the COVID-19 vaccines. Similarly, Harapan et al. [60] investigated COVID-19 vaccine hesitancy in Asia, Africa, and South America. They reported that being a Muslim was associated with low vaccine acceptance. In a recent study, Bojorquez [59] reported that Catholics were more likely to accept COVID-19 vaccines compared to other Christian groups and non-religious people. Likewise, in a study about COVID-19 vaccine booster hesitancy, Yadete et al. [72] found that Catholics were more likely to get vaccinated than those who are unaffiliated with any religion.

Scholars who examine religious beliefs and vaccine hesitancy have found a negative association between the two concepts [24,63-65]. For example, Lahav et al. [24] investigated

religious belief and COVID-19 vaccination in Israel and Japan. They found that individuals who uphold strong religious beliefs tended to mistrust COVID-19 immunization more than those who are less religious. Similarly, Ng et al. [63] explored the predictors of COVID-19 vaccination hesitance in Malaysia. They reported that respondents whose religious beliefs do not support vaccination are less likely to get the COVID-19 vaccine.

Religious people are hesitant to receive the vaccines because of misinformation on the part of their leaders. For example, among Christians, congregants were told that the COVID-19 vaccines could lead to homosexual tendencies and mind control and that they were a mark of the devil [66,67]. Muslims have also been misinformed, believing that the vaccines contain pork and substances that are meant to make them sexually impotent [66-69]. A Greek Orthodox bishop also claimed that the vaccines are mixed with fetuses [66, 67]. For Hindus, some of their leaders are claiming that the vaccines are mixed with cow blood and meat [66,67,70].

2. Materials and Methods

2.1 Data

The data for this research emanates from round 8 of the Afrobarometer, an unbiased pan-African survey that offers accurate data on African perceptions of democracy, rule of law, and well-being. Eight rounds of the survey have been administered since 1999. The survey uses nationally representative samples and administers in-person interviews in the native language of the respondents in 34 countries. The survey produces a margin of error of ± 2 to ± 3 percentage points at a 95% confidence level. This study is based on data from five countries, namely, Gambia, Liberia, Mauritius, Senegal, and Togo. The data was collected between 2020 and 2021. The sample size used in this study is 6,057 respondents.

2.2 Variables

COVID-19 vaccine acceptance is the dependent variable in this study, answering the following question: "If a vaccine for COVID-19 becomes available and the government says it is safe, how likely are you to try to get vaccinated?" The responses were (1) very unlikely, (2) somewhat unlikely, (3) somewhat likely, (4) very likely.

This study used two independent variables: religion and trust in the government's handling of the pandemic. Religion was measured with two items: religious affiliation and religious beliefs about the vaccine. Religious affiliation was measured with the following item: "What is your religion, if any?" The responses were coded as follows: (0) No religious affiliation; (1) Christianity; (2) Islam; and (3) Other (traditional religion, Bahai, Hindu, and Hare Krishna). Religious belief about the vaccine was measured using the following item: "Do you think that prayer is more effective or less effective than a vaccine would be in preventing COVID-19 infection?" The responses include the following: (1) Much less effective; (2) Somewhat less effective; (3) About the same effectiveness; (4) Somewhat more effective; and (5) Much more effective.

Trust in the government's handling of the pandemic was measured using two items: (a) "How much do you trust the government to ensure that any vaccine for COVID-19 that is developed or offered to Liberian citizens is safe before it is used in this country?" and (b) "How much do you trust the official statistics provided by government on the number of infections and deaths due to the COVID-19 pandemic?" The following were the responses: (1) Not at all; (2) A little; (3) Some; and (4) A lot.

Previous studies have documented that sociodemographic variables such as gender, age, race, education, employment status, and residential setting are linked to vaccine acceptance. Hence, in this study, we controlled for the aforementioned variables [25, 45-47,66-69]. Gender (male, female), race (black, other) residential setting (rural, urban), and unemployment (employed, unemployed) were categorical variables. Age and educational attainment were continuous variables.

2.3 Method of Data Analysis

Data from this study was analyzed using both descriptive and inferential statistics. The analysis was done using STATA (version 16). We used descriptive statistics such as mean, standard deviation, and proportions to describe the data. Ordered logistic regression was used to determine the effect of religion and trust in the government on vaccine acceptance. Three regression models were estimated in this analysis. The first equation assessed the impact of religious affiliation on vaccine acceptance. The second equation examined the effect of religious belief on the willingness to get vaccinated. The third equation determined the influence of trust in the government on getting vaccinated.

3. Results

Table 1 presents the descriptive statistics of the variables used in this study. The results show that 50.25% of the respondents were males and that an overwhelming majority (86.99%) of them were black. Also, the average age of the participants was approximately 37 years, while the mean educational attainment is scored at 4 (some high school education). Likewise, the table reveals that 54.6% of the respondents were living in rural areas, and 63.07% were unemployed. Furthermore, majority (65.73%) of the respondents were Muslims, and the mean religious belief about the vaccine is scored at 3.8. More so, the mean trust in the government's ability to ensure vaccine safety is scored at 2, whereas the average trust in official COVID-19 statistics is scored at 2.17. Finally, the mean vaccine acceptance of the participants is scored at 2.15.

Table 1

| Descriptive statistics of the variables in the study | | | | | |
|--|-----------------|------|---------|---------|------|
| Variables | Proportion/mean | SD | Minimum | Maximum | n |
| <u>Control variables</u> | | | | | |
| Gender | | | 0 | 1 | 5833 |
| <i>Male</i> | 50.25 | | | | |
| <i>Female</i> | 49.75 | | | | |
| Age | 36.8 | 14.5 | 18 | 115 | 5833 |
| Race | | | 0 | 1 | 5833 |
| <i>Black</i> | 86.99 | | | | |
| <i>Others</i> | 13.01 | | | | |
| Educational attainment | 3.7 | 2.4 | 0 | 9 | 5833 |
| Employment status | | | 0 | 1 | 5833 |
| <i>Unemployed</i> | 63.07 | | | | |
| <i>Employed</i> | 36.93 | | | | |
| Residential setting | | | 0 | 1 | 5833 |
| <i>Rural</i> | 54.6 | | | | |

Continuation Table 1

| | | | | | |
|------------------------------|-------|------|---|---|------|
| <i>Urban</i> | 45.4 | | | | |
| <u>Independent variable</u> | | | | | |
| Religious affiliations | | | 0 | 1 | 5833 |
| <i>No affiliation</i> | 0.65 | | | | |
| <i>Christianity</i> | 26.01 | | | | |
| <i>Islam</i> | 65.73 | | | | |
| <i>Others</i> | 7.61 | | | | |
| Religious belief | 3.8 | 1.3 | 1 | 5 | 5833 |
| Trust in government | | | | | |
| <i>Trust in government</i> | | | | | |
| <i>ensuring vaccines are</i> | | | | | |
| <i>safe</i> | 2 | 1.02 | 1 | 4 | 5833 |
| <i>Trust in government</i> | | | | | |
| <i>statistics on the</i> | | | | | |
| <i>pandemic</i> | 2.17 | 1.06 | 1 | 4 | 5833 |
| <u>Dependent variable</u> | | | | | |
| Vaccine Acceptance | 2.15 | 1.2 | 1 | 4 | 5833 |

Table 2 shows the effect of religion and trust in governments' handling of the COVID-19 pandemic on vaccine acceptance. The first hypothesis states that individuals who are affiliated with a religion are less likely to get vaccinated. To test this hypothesis, we regressed vaccine acceptance on religious affiliation while controlling for other variables in Model 1. The results from Model 1 show that being a Christian increases the ordered log-odds of accepting COVID-19 vaccines by 0.705 compared to being unaffiliated with any religion while holding other variables constant. Also, holding other variables constant, being affiliated with other religions (Hindu, traditional, Bahai, Hare Krishna) significantly increases the ordered log-odds of getting vaccinated by 1.18. The results in Model 1 imply that Christians and individuals in other religions are more likely to get vaccinated. This finding somewhat supports the position of past research reporting that Catholics are more likely to get vaccinated compared to non-religious people [59, 72].

Table 2

| Religion, Trust in Government and Vaccine acceptance | | | | | | | | |
|--|----------|-----------|----------|-----------|----------|-----------|--------|-------|
| Variables | Model 1 | | Model 2 | | Model 3 | | | |
| | <i>b</i> | <i>SE</i> | <i>b</i> | <i>SE</i> | <i>b</i> | <i>SE</i> | | |
| Gender | | | - | | | | | |
| (1=male) | 0.000 | 0.050 | 0.027 | 0.051 | 0.078 | 0.056 | | |
| Age | 0.005 | ** | 0.002 | 0.005 | ** | 0.002 | 0.000 | 0.002 |
| Race (1= | | | - | | | | | |
| Black) | -0.845 | *** | 0.086 | 0.893 | *** | 0.088 | -0.587 | *** |
| Educational | | | | | | | | |
| Attainment | 0.101 | *** | 0.011 | 0.087 | *** | 0.011 | 0.078 | *** |
| Employment | | | - | | | | | |
| Status | -0.121 | * | 0.053 | 0.118 | * | 0.053 | -0.144 | ** |

Continuation Table 2

| | | | | | | | | | | |
|---|--------|-----|-------|-------|-------|-------|--------|--------|----|-------|
| Residential setting (1 = Urban) | -0.329 | *** | 0.051 | - | 0.320 | *** | 0.051 | -0.177 | ** | 0.056 |
| Religious affiliation (Reference: No affiliation) | | | | | | | | | | |
| Christianity | 0.705 | * | 0.298 | 0.682 | * | 0.306 | 0.584 | | | 0.339 |
| Islam | 0.474 | | 0.295 | 0.371 | | 0.304 | 0.309 | | | 0.337 |
| Others | 1.180 | *** | 0.311 | 0.851 | ** | 0.321 | 0.458 | | | 0.354 |
| Religious belief about vaccine | | | | - | | | | | | |
| Trust in Government | | | | 0.292 | *** | 0.019 | -0.122 | *** | | 0.021 |
| Trust in official statistics | | | | | | | 0.318 | *** | | 0.029 |
| Trust in the safety of vaccines | | | | | | | 1.382 | *** | | 0.035 |
| Intercept 1 | | | | | | | 2.653 | | | 0.379 |
| Intercept 2 | | | | | | | 3.638 | | | 0.381 |
| Intercept 3 | | | | | | | 5.290 | | | 0.385 |
| Pseudo R ² | 0.036 | | | 0.052 | | | 0.230 | | | |

*p < 0.05, **p < 0.01, ***p < 0.001

The second hypothesis states that religious beliefs will reduce COVID-19 vaccine acceptance. We tested this hypothesis by regressing vaccine acceptance on religious belief. Model 2 presents the results from the regression analysis. The results show that an increase in religious beliefs reduces the ordered log-odds of getting vaccinated by 0.292 while holding other factors constant. This means that individuals who hold religious beliefs about the COVID-19 vaccines are less likely to get vaccinated. This finding affirms the conclusion of earlier scholars [24, 63-65].

The final hypothesis states that trust in the government's handling of the pandemic will positively predict vaccine acceptance. We tested the hypothesis by regressing the latter factor on the former. The results from the regression analysis are depicted in Model 3 and indicate that increased trust in government statistics on the pandemic increases the ordered log-odds of vaccine acceptance by 0.318 while holding other variables constant. Also, controlling for other variables, increased trust in the government ensuring the safety of vaccines administered to citizens increases the ordered log-odds of getting vaccinated by 1.382. The results imply that trust in the government's handling of the pandemic significantly increases COVID-19 vaccine acceptance. These outcomes confirm the findings of earlier researchers [25, 45-47].

Aside from religion and trust in the government predicting vaccine acceptance, some demographic variables consistently predicted vaccine acceptance. The results show that being black, being employed, and living in an urban area significantly reduced the ordered log-odds of getting vaccinated by 0.587, 0.144, and 0.177, respectively. Lastly, an increase in educational attainment significantly increased the ordered log-odds of vaccine acceptance by 0.078.

4. Discussion

Previous investigations had found that religious affiliation and beliefs significantly impact COVID-19 vaccine acceptance. In addition, scholars have documented that trust in the government significantly influences people's decisions to get vaccinated. Nonetheless, few researchers have explored this topic in Africa. This study aims to examine the effect of religion and trust in the government's handling of the pandemic on COVID-19 vaccine acceptance. We used data from round 8 of the Afrobarometer survey and involved five countries, namely, Gambia, Liberia, Mauritius, Senegal, and Togo. The sample size of 5,833 respondents was used in this research. The data was analyzed using STATA (version 16), and some noteworthy results emerged from the study.

First, we found that Christians and individuals affiliated with other religions (Hindu, Hare Krishna, traditional, Buddhist) were more likely to accept COVID-19 vaccines. These results mean that our first hypothesis was not supported. The findings confirm the results from earlier researchers who had reported a positive association between religious affiliation and getting vaccinated against COVID-19 [59,72].

Second, the study found that religious beliefs about the vaccine significantly reduced one's willingness to get vaccinated. This finding supports our second hypothesis, which states that religious beliefs will negatively affect COVID-19 vaccine acceptance. The findings also confirm the conclusion of previous researchers who documented that individuals who uphold strong religious beliefs or belong to religions that have a negative view of immunization are less likely to accept COVID-19 vaccines [24, 63-65].

Lastly, the study found that individuals who trust the government's handling of the epidemic were more likely to accept COVID-19 vaccines. Therefore, our third hypothesis, which states that trust in governments' handling of COVID-19 will positively predict vaccine acceptance, was supported. This finding also confirms those of earlier investigations on this topic [41-43].

The findings from this study have implications for theory and policy. Theoretically, this research makes three significant contributions to the literature on COVID-19 vaccine acceptance. First, the study contributes to the literature in terms of the effect of religious affiliation on vaccine acceptance. Previous studies on this subject have mostly produced inconsistent results. This study contributes to the literature by affirming that Christians and members of other religious groups are more likely to get vaccinated than non-religious individuals. Second, the study contributes to the literature on religious beliefs and the willingness to be vaccinated. Past studies on the topic have found an inverse relationship between the two concepts [24, 63-65]. This study adds to the literature by using samples from Africa to support the conclusions of previous research. Third, the findings from this investigation add to the literature on trust in the government and vaccine hesitancy. Prior investigations found a strong positive association between citizens' trust in the country's

leadership and the decision to get vaccinated [25, 41-47]. This study contributes to the literature by affirming the findings of earlier researchers.

With respect to policy, the findings from this research are useful to stakeholders in the health sector. The study found that religious belief about the vaccine reduces the likelihood of people getting vaccinated. It is crucial for stakeholders in the health sector to team up with the leaders of various religious institutions to educate them and promote vaccine acceptance. Studies have documented that when religious leaders are involved in public health promotions, members of the religion tend to comply [73,74]. In addition, the study found that trust in the government positively predicts vaccine acceptance. However, studies on the African continent have reported that the citizens do not trust their governments' handling of the pandemic [29]. Therefore, it is important for people in the government at all levels to be sincere with the citizens so as to win their trust.

Notwithstanding the contributions of the study to the literature, there are a few limitations. First, the study used samples from five countries in Africa, most of them in West Africa, which could affect the results; hence, one has to take care when making generalizations from this study. Future researchers should endeavor to include more countries in their studies that will encompass samples from North, Eastern, Central, and Southern Africa. Second, religious belief was measured with only one item. There are multiple beliefs in various religions that have been shown to affect vaccine acceptance, including prohibitions and information on the composition of the vaccines. Subsequent researchers should endeavor to measure religious beliefs using multiple items. Third, the study used cross-sectional data, which implies that we cannot establish cause and effect. Also, we cannot examine the effect of trust in the government and religion on vaccine acceptance over time. This is also vulnerable to response bias [75]. Future researchers should attempt to use longitudinal data to investigate this topic.

5. Conclusions

This study investigated the effect of religion and trust in the government on vaccine acceptance in Africa. We found that Christians and members of other religions (Hindu, Hare Krishna, Buddhist, and traditionalist) were more likely to accept COVID-19 vaccines than non-religious people. Also, we found that religious beliefs about the vaccine significantly reduced the possibility of vaccine acceptance. Finally, we found that trust in the government positively influenced decisions to accept the vaccine. This research demonstrates the need for religious leaders to involve themselves in the education about and promotion of the COVID-19 vaccines to help prevent the spread of the disease. The research also underlies how sincerity on the part of governments is crucial in influencing citizens to get vaccinated.

Conflicts of Interest: The author declares no conflict of interest.

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