

# Health and the democratic dividend in Sub-Saharan Africa: are democracies better at managing the HIV/AIDS epidemic?

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## ABSTRACT

The democratic dividend theory states that democracies should provide socio-economic benefits to their citizens. Scholars suggest that the legitimacy of African democracies is partly dependent on this dividend. Following this theory, democracies should handle the HIV/AIDS epidemic better than non-democracies because of their higher level of accountability. A cross-national analysis is conducted to investigate how a country's level of democracy is associated with respondents' knowledge of HIV/AIDS and the provision of HIV-testing places. The relationships between both democracy and HIV-knowledge, and the provision of HIV-testing places are non-significant. This can have implications for how citizens view their regimes' legitimacy.

## Keywords

Democracy, HIV/AIDS, Sub-Saharan Africa, Democratic Dividend.

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## INTRODUCTION

The fights against the HIV/AIDS epidemic has been one of Africa's greatest leadership challenges. Is there a difference amongst different regimes in handling the HIV/AIDS epidemic? Sub-Saharan Africa, the region that has been hardest hit by the epidemic, has a great variety of different regime types (UN AIDS, 2018). While decolonization and democratization started during the 1950s, most African countries became authoritarian during the 1960s. During the 1990s, re-democratization started off (Bratton, Mattes, Gyimah-Boadi, 2005; Bratton & Van der Walle, 1997; Cheeseman, 2015). The legitimacy of Africa's current democracies is partly dependent on the ability to provide a 'democratic dividend' to their citizens: the benefits that come with democracy due to the incentives the government faces (Ake, 1993; Bratton, Mattes, Gyimah-Boadi, 2005; Cheeseman, 2015; Masaki & Van de Walle, 2014). From the perspective of a democratic dividend, one can expect a relationship between democracy and such beneficial HIV/AIDS policies. If this relationship is not found, one could not only question the health policies in Sub-Saharan Africa, but also the legitimacy of new African democracies. Focusing on this, this paper does not only analyze the relationship between democracy and HIV/AIDS policies in Africa, but also questions whether current African democracies are able to provide a democratic dividend. The research question this paper therefore addresses is whether democracies are better at handling the HIV/AIDS epidemic than non-democracies.

## SECTIONS

The paper proceeds as follows. Section 1 discusses the related literature and sets out the hypotheses. Section 2 explains the methodology and the data. Section 3 presents the empirical results and finally, section 4 concludes the paper.

## THEORETICAL FRAMEWORK

The main thought of the accountability theory is that democracies have higher government accountability than non-democracies. Regimes are accountable if the citizens can punish their leaders when they do not act in their best interest (Przeworski and Cheibub, 1999). If the government satisfies its citizens it stays in office, if it does not, it will get punished. Due to this principal-agent relationship, democracy should enforce a level of accountability. This leads to democracies having a higher level of accountability than non-democracies. One could argue that democracies, with a higher level of accountability, would implement more effective HIV/AIDS awareness policies than non-democracies.

*I) Due to the enlarged level of accountability, citizens in democracies have a higher knowledge of HIV/AIDS than citizens in non-democratic countries.*

Moreover, accountability has to do with the provision of public goods. Research has shown that overall, democracies provide more public goods than autocracies, due to the demand of the electorate (Besley & Kudamatsu, 2006; Deacon, 2009; Rosenzweig, 2015; Wigley & Akkoyunlu-Wigley, 2011). Furthermore, more electoral competition will lead to a higher provision of public goods, regardless of countries' GDP per capita and the democratic level of elections (Rosenzweig, 2015). The difference in institutional context between democracies and non-democracies will result in variance considering the provision of public goods

*II) Democratic countries will provide more HIV/AIDS-testing facilities than non-democratic countries.*

The relationship between democracy and health has been researched before, but results differ (Franco, Álvarez-Dardet, & Ruiz, 2004; Ross, 2006; Safaei, 2006; Van der Windt & Vadoros, 2017). Most research, however, has only been conducted with country-level variables. Furthermore, the relationship between democracy and the AIDS epidemic has only be researched in the focus of one-country cases or worldwide coverage (Justesen, 2012; Marsaudon & Thuillez, in press). This paper will fill this gap by conducting a cross-national analysis and combining data from individual health surveys with country-specific measures, focusing specifically on the HIV/AIDS epidemic in Sub-Saharan Africa.

## DATA AND METHODOLOGY

As mentioned before, in this paper, a cross-national analysis will be conducted with country-level and individual-level variables. The quantitative analysis covers thirty-two African countries and will make use of multilevel logistic regression models. The individual-level variables are derived from the Demographic and Health Surveys (DHS), which involves data on HIV/AIDS-related knowledge, attitudes and behavior and HIV prevalence (DHS, n.d.-b). Sampling occurs in multiple stages, variations in sampling probabilities are corrected via weights (DHS, 2018; DHS, n.d.-a). The surveys used in this analysis, are the most recent standard DHS survey for each country conducted between 2008 and 2017<sup>1</sup>. All country-specific datasets – country-specific men and women – are merged together in one Sub-Saharan DHS dataset with a total of 675,834 respondents<sup>2</sup>

The first hypothesis concerns the relationship between democracy and the knowledge of HIV/AIDS. The dependent variable is called ‘*Ever heard of AIDS?*’. Respondents are asked if they have ever heard of the disease AIDS. The answer options to the question are ‘yes’ (1) and ‘no’ (0), which makes the variable dichotomous. Therefore, a logistic regression analysis is chosen. The independent variable is the Freedom House Index, one year prior to the conducted survey, which is derived from the Freedom House website (2018). The Freedom House Index combines political rights and civil rights. The average rate measures the democratic level of countries on a scale of 1 (most democratic) to 7 (least democratic). Within the rating, three different levels of democracy can be distinguished: Free (0 – 2.5), Partly Free (3.0 – 5.0) and Not Free (5.5 – 7.0).

The second hypothesis focuses on the relationship between democracy and the provision of services. The used dependent variable is ‘*Do you know a place for a HIV test?*’, which is again a dichotomous variable with answer options ‘yes’ (1) and ‘no’ (0). This question is only asked to respondents who have already heard of AIDS. In each DHS survey, the respondent is asked whether they know a place where they can get an HIV test. These facilities could be private places or public places.

The variable ‘*Do you know a place for a HIV test?*’ does not measure the absolute number of provided testing places, but whether the respondent knows any facilities. Therefore, the variable ‘*Knowledge of HIV*’ will be included in this analysis too. This variable is based on nine different variables which are focused on the transmission of HIV and include the following questions: ‘Can you get HIV by mosquito bites (1), sharing food (2) or witchcraft (3)’, ‘Can HIV be transmitted during pregnancy (4), delivery (5) or breastfeeding (6)’ and ‘Can you reduce the chance of getting HIV by not having sexual intercourse at all (7), using a condom every time you have sex (8) or having just one uninfected sexual partner (9)’. The answers to these questions are recoded in the ‘right’ answer (1) and ‘wrong’ answer (0). The variable ‘*Knowledge of HIV*’ takes an average of these answers, because not all nine questions are asked in each survey. The more ‘right’ answers a respondent gives, the higher the average score is and the more knowledge the respondent has on HIV/AIDS transmission. By including this variable, the dependent variable can be controlled for a respondent’s overall

knowledge of HIV. In this way, ‘*Do you know a place for a HIV test?*’ measures the actual provision of HIV-testing facilities better.

All analyses include a number of control variables. These are divided into country-specific variables and individual variables. There are four country-specific control variables: HIV prevalence of the total population, the population of each country in natural log, the land area in natural log and GNI per capita (PPP, current international \$) in natural log (World Bank Indicators, n.d.). There are eight individual control variables: gender, age, place of living, literacy, marital status, number of sexual partners, educational level and religion.

## EMPIRICAL RESULTS

The results of the multi-level regression analysis of the first hypothesis are summarized in table 1: Model 1. Model 1 shows that the respondent’s knowledge of AIDS is not affected by an increase in the Freedom House Index. This confirms the null hypothesis of no effect. Therefore, this result does not support hypothesis I. The intra-class correlation is 0.2485, which means that 24.85% of the remaining variance can be explained by differences between countries.

Most of the country-level variables do not have a significant effect on the dependent variable. Only the HIV prevalence rate has a positive significant effect on the awareness of the respondent; if the percentage of HIV prevalence increases with one unit, odds of ‘*Ever heard of AIDS*’ are 1.063 times higher. On the individual level, all variables have a significant result.

The results of the multi-level regression analysis of the second hypothesis are summarized in table 1: Model 2. If the Freedom House Index increases with one unit, the odds of ‘*Know a place to get HIV test*’ are not affected. This means that there is no relationship between democracy and the provision of HIV testing facilities. Therefore, the null hypothesis cannot be rejected, and the result does not support hypothesis II. The intra-class correlation is 0.2836, which means that 28.36% of the remaining variance can be explained by differences between countries.

On the country-level, only the HIV prevalence rate has a significant effect; if the HIV prevalence rate goes up with one unit, the odds of ‘*Know a place to get HIV test*’ are 1.120 times higher. On the individual level, almost all variables have a significant effect. Notably, there is a non-significant relationship of literacy and gender on the respondent’s knowledge of a HIV testing place. This differs from the results in Model 1.

## CONCLUSION

During the same period, (re-)democratization and the HIV/AIDS epidemic were on the rise in Sub-Saharan Africa. Both phenomena have strongly affected the region but the relationship between them has faced little research. In the light of the democratic dividend theory, this paper contributed to addressing this gap with a multi-level cross-national research focused on democracy and press freedom and their effects on citizens’ knowledge of HIV/AIDS and the provision of HIV-testing facilities.

<sup>1</sup> All datasets are free downloadable after registration at DHS: <https://dhsprogram.com/data/new-user-registration.cfm>

<sup>2</sup> The dataset contains more women (462,070) than men (213,764). Therefore, the weights are corrected, resulting in men and women having an equal influence (DHS, 2018).

**Table 1. Multi-level regression analysis on Hypothesis I and II**

|   | Model 1             | Model 2             |
|---|---------------------|---------------------|
| Intercept                                   | 3.195<br>(4.211)    | 0.000<br>(5.001)    |
| Freedom House<br>(One year prior to survey) | 1.068<br>(0.096)    | 1.025<br>(0.113)    |
| <i>Country-level variables</i>              |                     |                     |
| Population<br>(Natural Log)                 | 1.309<br>(0.249)    | 1.709<br>(0.316)    |
| Land Area<br>(Natural Log)                  | 0.700<br>(0.195)    | 0.738<br>(0.242)    |
| GNI per capita, PPP<br>(Natural Log)        | 1.006<br>(0.279)    | 1.112<br>(0.320)    |
| HIV prevalence (%)                          | 1.063*<br>(0.025)   | 1.120**<br>(0.033)  |
| <i>Individual-level variables</i>           |                     |                     |
| Age   | 1.032***<br>(0.002) | 1.020***<br>(0.002) |
| Education in years                          | 1.203***<br>(0.019) | 1.164***<br>(0.009) |
| Religion (Ref. Not religious)               | 1.603**<br>(0.147)  | 1.433***<br>(0.096) |
| Gender (Ref. Male)                          | 0.724**<br>(0.103)  | 1.185<br>(0.088)    |
| Marital Status (Ref. Not married)           | 2.045***<br>(0.063) | 1.880***<br>(0.079) |
| Literacy (Ref. Can't read)                  | 1.949***<br>(0.071) | 1.067<br>(0.041)    |
| Place of residence (Ref. Urban)             | 0.387***<br>(0.116) | 0.584***<br>(0.056) |
| Number of sexual partners<br>(excl. spouse) | 1.866**<br>(0.204)  | 1.348**<br>(0.067)  |
| Knowledge of HIV transmission               |                     | 4.329***<br>(0.109) |
| Residual Variance                           | 3.290 <sup>a</sup>  | 3.290 <sup>a</sup>  |
| Intercept Variance                          | 1.088               | 1.303               |
| ICC (%)                                     | 24.85%              | 28.36%              |

Note: Multi-Level Logistic Regression odds ratio coefficients with standard errors between brackets.

Model 1: Dependent variable is 'Ever heard of AIDS' with the reference category: No.

Model 2: Dependent variable is 'Do you know a place for a HIV test?' with the reference category: No.

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

<sup>a</sup>  $\frac{p^2}{3}$  (Snijders & Bosker, 1999)

The cross-national analyses showed that neither the relationship between democracy and HIV knowledge, nor the relationship between democracy and the provision of HIV-testing is significant. These results lead to an important question: does democracy bring any merits regarding HIV/AIDS? According to this analysis, this is not the case. Both the respondent's knowledge of HIV/AIDS and the provision of HIV-testing facilities are not affected by democracy. The level of democracy therefore does not appear to influence HIV/AIDS policies. In this case, one could question the public healthcare policies in democratic Sub-

Saharan African countries and, in line with the democratic dividend theory, the legitimacy of the regimes as well.

A possible explanation for the non-result lies with the electorate. Indeed, do they actually demand more HIV/AIDS policies? To be able to reject the legitimacy of the democratic regimes in Sub-Saharan Africa, this should be examined. Taboos and stigmas regarding the illness still play a part in the continent (Hess & McKinney, 2007; Mbonu, Van Den Borne, & De Vries, 2009). According to previous research, the ideas of AIDS being associated with certain ethnicities, religious beliefs, immoral sexual behavior and being an illness fabricated by the West are still present in the contemporary Sub-Saharan African countries (Hess & McKinney, 2007; Mbonu et al., 2009). These stigmas lead to discrimination of those carrying HIV and denial of the illness (Mbonu et al., 2009). Therefore, the electorate could be less demanding for HIV/AIDS policies, even when living in a full democracy. More research on public healthcare is necessary to be able to reject the legitimacy of the democratic regimes in Sub-Saharan Africa.

Another explanation for the non-result could lie with health care pluralism in Sub-Saharan Africa. Not only modern medicines are used to treat HIV/AIDS, but traditional healers and medicines as well (Helman, 2007). In African countries, traditional and religious healers are often the first source of medicine for HIV/AIDS victims and therefore, they have an important role in controlling the disease (Helman, 2007; Moshabela, Pronyk, Williams, Schneider, & Lurie, 2010). These kinds of treatment should be taken into account. Even if governments implement modern medicine policies, infected people could choose to see a traditional doctor first (Moshabela et al., 2010). Therefore, in future research, it is recommendable to add the use of traditional medicine in the regression analysis.

However, this analysis is only focused on a small part of the African healthcare system, it is remarkable that democracies do not bring any improvement regarding HIV/AIDS policies. According to the existing theories, democracies should bring an increase in living conditions (Cheeseman, 2015). Providing HIV-related information and HIV-testing facilities is an important part of fighting the epidemic (World Health Organization, 2019). The improvement of living conditions is apparently not the case concerning HIV/AIDS policies. Further research should reveal what exactly is the cause of this lack of effect. Moreover, research should be conducted to ascertain whether the lack of a relationship only occurs in Sub-Saharan Africa, or whether this is a more global phenomenon.

## ROLE OF THE STUDENT

Demi van de Nes is an undergraduate student Political Science: International Relations and Organizations at Leiden University. During the conduction of this research project, she was participating in the course *Practicing Democracy in Contemporary Africa*. Van de Nes combined the topic of the course with her interest in global health, specifically the HIV/AIDS epidemic. The merging of country-specific and individual data, the design of the final dataset, the processing and analyzation of the results, and the writing of the report are all done by Van de Nes. During her project, Van de Nes was supervised by Dr. L. Demarest, who offered her literature underlying the basis of the theoretical framework.

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