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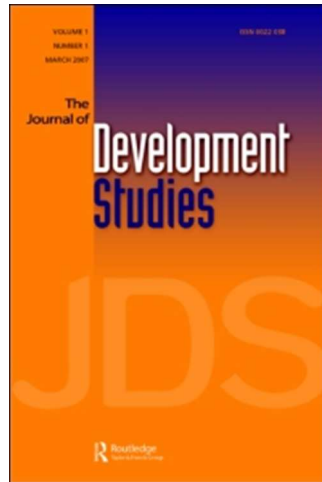
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**Understanding Education's Influence on Support for  
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# Understanding Education's Influence on Support for Democracy in Sub-Saharan Africa

## Abstract

*Is education consequential for popular endorsement of democracy in developing societies and, if so, what are the mechanisms that account for this influence? We investigate the micro-foundations of the education-democracy nexus using a survey of 18 sub-Saharan African countries. We demonstrate that educational level is the strongest influence on support for democracy and rejection of non-democratic alternatives via its impact on comprehension of, and attention to, politics. This is consistent with a cognitive interpretation of the effects of education on democratic values rather than one which treats education as a marker of economic resource inequalities.*

*Keywords* - education, sub-Saharan Africa, political attitudes, democracy.

## 1. INTRODUCTION

The debate over the ‘social requisites of democracy’, to use Lipset’s (1959) iconic phrase, has been central to discussions of democratization at both macro- and micro-levels for half a century. Yet the role of education as a social requisite remains unresolved. At the macro-level it appears that level of education and democracy are positively related, but it is not yet established whether this relationship is independent of the effects of economic development. Even in the most recent empirical disputes, some authors claim the impact of education on democracy is independent and important (Glaeser *et al.* 2007; Babbo and Coviello, 2007),<sup>1</sup> although there remain debates over whether the key factor is the size of the educational elite (Benavot 1996; Kurzman and Leahey 2004) or the level of education attained by the majority of the population (Castelló-Climont, 2007). Alternatively, others say that democracy can be explained by economic factors such as increases in GDP and equality (Boix and Stokes 2003), that education is significant but not as important as economic factors (Barro 1999; Przeworski *et al.* 2000), or that neither economic nor educational factors are causally related to the presence of democracy (Acemoglu *et al.* 2008).

At the micro-level, in contrast, though there have been many theoretical accounts of the role of modernization on democratic values there has been far less emphasis on an empirical analysis of the relative importance of education versus other economic and social factors in developing societies. Some of the earlier literature on modernization attributed an important role to education: It was a factor in Lipset’s (1959) thesis of the social pre-requisites of democracy, while Almond and Verba (1963) treated education as a major source of civic attitudes and support for democracy. Nonetheless, discussions of modernization including those by Lipset himself (1959; 1994), typically bundle together a range of influences – urbanization, industrialization, the growth of the middle class, education, affluence etc - without attributing any causal priority amongst them: “industrialization, urbanization, wealth and education are so closely interrelated to form one common factor” (Lipset 1959: 80). So although influential proponents of modernization theory have argued that education is important in promoting democratic values and thus facilitating the adoption and preservation of democratic practices in developing societies, the empirical evidence for its distinctive role is surprisingly thin.

1 In this paper we examine the micro-foundations of the relationship between education and democracy  
2 identified in the macro political economic studies. Our central focus is on the importance of education for  
3 pro-democracy attitudes in 18 Sub-Saharan African societies. We further examine how this relationship can  
4 be interpreted. Our thesis is that though its impact on attention to, and comprehension of politics, education  
5 increases support for democratic practices in developing societies to a greater degree than other social  
6 structural characteristics of those societies. In this sense we return to the tradition in the study of  
7 democratization that placed considerable emphasis on education as a facilitator of mass support for  
8 democracy (e.g. Inkeles 1983), but bring to bear detailed evidence on these effects and how they can be  
9 interpreted.  
10

11 Schooling is an area where interventions by international agencies can and have been made and it is  
12 important therefore to clarify its putative role in the process of mass endorsement of democratic procedures.  
13 Though it has been assumed that: 'Broad and equitable access to education is thus essential for sustained  
14 progress toward democracy, civic participation, and better governance (World Bank, 2001: 8), as yet there  
15 has been little systematic research evidence to support such claims in developing country contexts,  
16 particularly in sub-Saharan Africa (Hannum and Buchmann, 2005).  
17

18 We examine the importance of education compared with occupation, economic resources, urbanization and  
19 religious orientation using the third round of the Afrobarometer survey which covers a broad range of sub-  
20 Saharan African countries with varying social and institutional legacies, including levels of educational  
21 provision. In many of these countries there have been long periods of one-party/man rule and the  
22 introduction of democracy has in part at least been externally-driven. Therefore support for democracy is  
23 likely to have fragile foundations. The context is thus one where there is considerable scope for increases in  
24 educational provision and such increases could make a difference to levels of mass support for democracy  
25 and in turn to the stability of such democracy. We estimate general patterns of educational influence on  
26 support for democracy and then estimate models that test competing arguments that explain these effects.  
27 We demonstrate that not only does education far outweigh all other 'modernization' influences on  
28 democratic attitudes, but also that primary and higher levels of education impact on different aspects of  
29

1 democratic support. We further identify mechanisms of political attention and comprehension through  
2  
3 which education can influence democratic support.  
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## 9 **2. MODERNIZATION AND EDUCATION IN SUB-SAHARAN AFRICA**

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12 Modernization theories link mass educational expansion and rises in literacy levels with democratic  
13  
14 outcomes. In micro-level versions of modernization theory, schooling is expected to contribute to  
15  
16 heightened political awareness which, via mass media consumption, leads to demands for greater political  
17  
18 involvement – what Inkeles and Smith (1974) referred to as the inculcation of a more ‘modern’ outlook,  
19  
20 stressing participation in decision-making.<sup>2</sup> Through this process education strengthens democratic practices  
21  
22 and principles and “(m)odern schooling constitutes an important mechanism for the introduction and  
23  
24 consolidation of democratic political regimes” (Benavot 1996: 384). None the less, though there is  
25  
26 considerable evidence on the positive relationship between education and support for democracy in  
27  
28 developed countries with considerable experience of democracy, there has been little or no evidence that  
29  
30 establishes whether education is the prime-mover in developing societies or just one of many conditions  
31  
32 facilitating democratic orientations. Most empirical studies of education and its impact on individuals’  
33  
34 cognitive skills, political values and participation have been undertaken in the US or other ‘Western’  
35  
36 societies (Hyman and Wright, 1979; Bobo and Licari, 1989; Nie, Junn and Stehlik-Barry, 1996; Sullivan and  
37  
38 Transue, 1999). Evidence of this relationship has also emerged from transition societies in Eastern Europe  
39  
40 (Gibson, *et al.* 1992; Miller *et al.*, 1994; Reisinger *et al.*, 1994; Evans, 1995; Diamond, 1999; Rose, *et al.*  
41  
42 1999). In both of these contexts, universal secondary education has been, or is close to being, achieved and  
43  
44 the focus of research tends to be on the influence of intermediate and higher levels of education on popular  
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46 support for democratic transition.  
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55 Inferences derived from these studies are not easily transferable to the sub-Saharan African context.<sup>3</sup> Most  
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57 of the countries in the region have only achieved the status of being democratic since the 1990s as a result of  
58  
59 internal struggle and international pressure. African politics also has distinctive features of  
60  
‘neopatrimonialism’ – where authority derives from patronage, with the right to rule ascribed to the person

1 rather than the office. Moreover, despite progress in the region over the past decade, economic  
2 development continues to lag far behind, with GNP per capita only reaching around \$950 in 2007  
3 (UNESCO 2010).  
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7  
8 Education is also distinctive in this region. Compared with the contexts in which studies of the social  
9 underpinnings of democracy have usually been undertaken, educational attainment remains extremely low.  
10 Those in secondary school are around 34% of the school-aged population, with 6% at the tertiary level. This  
11 compares unfavourably with global averages of 66% and 26%, respectively (UNESCO 2010). These low  
12 levels of education are reflected in the Afrobarometer surveys, where only 40% of the sample has had access  
13 to post-primary schooling. Moreover, most of those of voting age received their education at a time when  
14 democracy was not in place. While more recently, with the abolition of primary school fees high on the  
15 agenda of political parties during election campaigns, the resultant massive increase in primary school  
16 enrolment has given rise to concerns for the quality of education. This gives rise to particular challenges for  
17 teaching with classes of over 100 pupils, and raises questions concerning what children are actually able to  
18 learn in school (Kadzamira and Rose, 2003, Stasavage, 2005a).  
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35 Partly in response to these concerns there is increasing attention to 'civic education' aimed at teaching about  
36 democratic practices and values (Finkel, 2003). The goal of this has been, more or less explicitly, to teach  
37 people how to support democracy as a political practice, to understand what democracy is, and to participate  
38 in the democratic process. Such education programs have often been undertaken with the financial support  
39 of international agencies. For example, concern for strengthening democracy has been central to USAID's  
40 mission from its outset (see Valverde, 1999) and is clearly evident in its 2005 Education Strategy which  
41 includes an opening quote from George W. Bush: 'Education is the foundation of democracy and  
42 development – in every culture, on every continent' (USAID, 2005: 1). The strategy paper cites Barro  
43 (1999) to stress that 'Education is a powerful tool to promote support for democracy and enhance civil  
44 liberties' (USAID, 2005: 3).  
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59 Despite the emphasis placed on education programmes in the quest to strengthen democratic support in the  
60 region there is, however, limited evidence on this relationship in sub-Saharan Africa. Bratton *et al.* (2005)'s

1 study covers many issues relating to political and economic reforms, with education being one of numerous  
2 factors considered in their analyses. They find (2005: 205) that 'education induces support for democracy,  
3 and it does so mainly at the expense of attachment to non-democratic alternatives'. Elsewhere, education  
4 appears as one of several indicators of cognitive awareness (Mattes and Bratton 2007). Most recently, an  
5 Afrobarometer Working Paper by Mattes and Mughogho (2009) provide evidence that education facilitates  
6 some aspects of democratic citizenship but not others, with higher education having more limited effects  
7 than might be expected. In general, there is clearly still much to examine with respect to education's role in  
8 democracy in the region.

### 21 **Is education a proxy for resources?**

23 In contrast to the idea that education works primarily through its impact on cognitive and motivational  
24 processes an alternative approach stresses instead its role as a marker for social inequalities. Thus Nie *et al.*  
25 (1996: 47) argue that education operates through two separate mechanisms: one of a cognitive nature,  
26 developing skills at the individual level, and the other of a positional character, allocating citizens to  
27 different positions in a social hierarchy. Indeed, it has long been suggested that 'not all schooling is  
28 education. Much of it is mere qualification-earning' (Dore, 1976: 11) which is not geared towards curiosity  
29 and critical reasoning. It has been further argued that education is an arena for the reproduction of social  
30 inequalities (Bowles and Gintis, 1976). These interpretations of the social functions of schooling counter the  
31 assumption in much of the education literature that schooling is an effective instrument for the generation of  
32 human capital through skills acquisition.

33 A related view is advanced by Inglehart and Welzel (2005: 37-38; see also Abramson and Inglehart, 1995)  
34 with particular reference to the relationship between education and political values. They claim that  
35 education's importance to a large degree derives from the fact that "Throughout the world, children from  
36 economically secure families are more likely to obtain higher education" (Inglehart and Welzel 2005: 37).  
37 This particular interpretation of education as a marker rather than a cause has been subject to criticism  
38 (Duch and Taylor 1993; De Graaf and Evans 1996) but is a potentially important perspective from which to



1 assess the importance or otherwise of schooling for political values. It implies to a substantial degree, that  
2  
3 education's effects are spurious.  
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### 9 **Specifying hypotheses**

10 Our expectation is that the effects of education on influencing democratic attitudes are more important than  
11  
12 has hitherto been recognized in the African context. We predict strong effects of level of schooling that are  
13  
14 not removed by controlling for possible confounds such as religion, age, gender, or even partisanship  
15  
16 (Hypothesis Ia). We also predict that because of its particularly pronounced impact on cognitive skills, the  
17  
18 effects of education should be considerably stronger than and should dominate those of other aspects of  
19  
20 modernization, such as social class and urbanization (Hypothesis Ib). In contrast, the generic version of  
21  
22 modernization theory predicts that a range of indicators – such as urbanization, the growth of the middle  
23  
24 class, affluence and access to media - would have substantial effects on support for democracy. In this  
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26 account education would not be privileged (Hypothesis II).  
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34 We also argue that education's effects can be interpreted through its impact on cognitive and motivational  
35  
36 attributes, facilitating attention to and comprehension of political choices. In contrast, the 'education as a  
37  
38 marker for inequality' argument states that even where education predicts political values its effects are not  
39  
40 derived so much from its impact on cognitive factors as through its status as a proxy for economic  
41  
42 inequalities. If our emphasis on the cognitive/motivational interpretation of education's effects is valid we  
43  
44 predict that controlling for differences in resources associated empirically with level of education should not  
45  
46 substantially reduce the coefficients for level of schooling on support for democracy (Hypothesis III). If,  
47  
48 however, the education as marker argument is valid we would expect that controlling for differences in  
49  
50 resources associated with educational level should substantially reduce the strength of education's effects on  
51  
52 support for democracy (Hypothesis IVa); and in consequence resource inequalities should have stronger net  
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54 effects on support for democracy than education (Hypothesis IVb).  
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We further test the cognitive/motivational interpretation of education's effects by introducing measures of  
'attention to politics' and 'political comprehension'. The inclusion of measures of the consumption of

1 political information, expressed interest in politics, and engagement in political debate, provides a test of  
2  
3 the role of political attention in mediating education's impact on democratic attitudes. We therefore  
4  
5 hypothesise that controlling for political attention substantially weakens education's effects (Hypothesis  
6  
7 Va). Similarly, the inclusion of measures of respondents' understanding of democracy and the political  
8  
9 system provides a test of political comprehension. We further hypothesise that political comprehension  
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11 should substantially attenuate the coefficients for levels of schooling on support for democracy (Hypothesis  
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15  
16 Vb).

### 21 3. DATA AND MEASUREMENT

24 The Afrobarometer surveys are the most comprehensive datasets of their kind undertaken in the African  
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26 context. The 2005 third wave of the Afrobarometer survey used here is composed of 18 nationally  
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28 representative, multi-stage cluster, stratified random sample of households producing interviews with 1200-  
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30 2400 eligible voters, 18 years and older in each country.<sup>4</sup> We use the weighted data which sets all country  
31  
32 samples to N = 1200.

#### 39 Measuring democratic attitudes

42 The Afrobarometer survey allows us to examine support for democracy using not only a question which  
43  
44 establishes whether a person considers democracy always to be the best form of government but also further  
45  
46 questions identifying those who reject alternative regimes – including one-party 'democracy', military  
47  
48 control, and presidential autocracy:  
49

51  
52 *Support for democracy.* Although a sizable minority of sub-Saharan Africans in the sample fail to endorse  
53  
54 democracy unconditionally (including those of the view that in some circumstances, a non-democratic  
55  
56 government can be preferable or that it makes no difference, or express no opinion), there is substantial  
57  
58 agreement (67%) with the statement that democracy is preferable to any other form of government.  
59  
60

1 *Rejection of non-democratic alternatives.* We also examine responses to several questions that probe  
2  
3 respondents approval of decision-making procedures associated with democracy. The phrasing of these  
4  
5 questions deliberately avoids the use of word 'democracy' and, in the survey, preceded the above question in  
6  
7 relation to support for democracy. This allows a more nuanced assessment of whether, instead, respondents  
8  
9 reject practices inconsistent with a democratic system. The variable used in the analysis aggregates  
10  
11 responses that indicate clear rejection of three key alternatives to democracy: army, presidential and one-  
12  
13 party rule. It therefore produces a scale ranging from 0, where none of these are rejected, to three, where all  
14  
15 are. This measure provides greater differentiation in responses, with 9.6% of the sample not rejecting any of  
16  
17 the alternatives, 12.5% rejecting one of the alternatives, 25.2% rejecting two of the alternatives, and 52.8%  
18  
19 rejecting all three.  
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## 28 **Measuring education**

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31 Educational attainment is often measured by years of schooling (Smith 1995). However, the comparative  
32  
33 study of education has increasingly moved away from relying on years of education as a measure of  
34  
35 educational attainment (Braun and Müller 1997). Breen and Jonsson (2005) point to the problems of  
36  
37 neglecting the conception that most actors have of education as a series of transitions between levels. Thus  
38  
39 in continuous metric regression models, variation in the coefficients resulting from one unit changes in the  
40  
41 independent variable do not correspond with a real qualitative difference in the educational credentials of the  
42  
43 individual, since the latter are primarily a result of levels and transitions completed. The continuous metric  
44  
45 of the years of schooling variable imposes a linear form on changes that occur only at specific points in an  
46  
47 educational trajectory. Bratton *et al* (2005) go some way to dealing with this problem by using relevant  
48  
49 institutional transitions (no formal education, primary, secondary and post-secondary education) as the  
50  
51 measure of education but these are modeled as a 4-point, scaled variable. This modeling procedure obscures  
52  
53 non-linear effects, constrains different one unit changes to be equivalent and does not provide information  
54  
55 on the specific effects of different schooling levels - the consequences of the provision of which is of  
56  
57 particular concern to national governments and international agencies. In our analysis, therefore, the effects  
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60

1 of respondents' education are estimated by comparing the effects of five levels of attainment: some  
2 primary, primary completed, secondary, and post-secondary with no formal education (see Table 1).<sup>5</sup> This  
3  
4 enables us to focus on the distinctive consequences of these different levels of educational experience.  
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## 10 11 **Control variables**

12  
13 The choice of control variables is guided by theoretical considerations and the findings of previous research  
14  
15 (see, for example, Hyman and Wright, 1979; Nie et al, 1996; Diamond, 1999; Bratton *et al.* 2005; Evans and  
16  
17 Rose, 2007). Our aim is to include those socio-demographic attributes that could, independently of  
18  
19 educational level, cause citizens to have a more or less supportive attitude towards democracy. These  
20  
21 attributes are in part those identified in modernization accounts of democratic development and also those  
22  
23 that have been proposed more specifically in sub-Saharan Africa.  
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28  
29 Firstly, we might expect that there could be a generational and gender influence on support for democracy.  
30  
31 Younger people who have more experience of democracy and exposure to democratic propaganda, and have  
32  
33 grown up in an era when democracy is more commonplace, might be expected to be more supportive. In  
34  
35 addition, given that women in the region tend to continue to play traditional roles while men have greater  
36  
37 spatial and occupational mobility, males could be anticipated to benefit more from the modernizing  
38  
39 influences of democracy and therefore be more supportive.  
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43  
44 We can also expect there to be a relationship between age, gender and educational level, which is indeed the  
45  
46 case (Table 2). For example, amongst respondents aged above 45, only 6.1% have had post-secondary  
47  
48 education. However, amongst those 25-34 this figure rises to 11.3%.<sup>6</sup> Conversely, amongst those 25-34,  
49  
50 only 15.5% report no education at all, whereas this figure is 35.9% for those aged over 45. It is also true that  
51  
52 males are considerably more likely to have received post-secondary education (10.7% for males, compared  
53  
54 with 7.0% for females).  
55  
56

57  
58 We also consider whether respondents are part of the dominant language group in their country. Minorities  
59  
60 can be expected to have greater concerns about representation in democracies compared with majority

1 language speakers. Support for the ruling party/president is also likely to be associated with satisfaction  
2  
3  
4 with levels of political representation and, therefore, more support for democracy as a form of decision-  
5  
6 making.  
7

8  
9 Finally, it is difficult to discuss the social factors conditioning support for democracy in developing societies  
10  
11 without taking note of a recent influential argument concerning the influence of Islamic religion on the  
12  
13 emergence of such preferences. Huntington's (1996) notion of 'the clash of civilizations' and the supposed  
14  
15 incompatibility between Islam and democracy generated considerable fervor. Recent empirical literature  
16  
17 produces divided opinions on whether being a Muslim/living in a Muslim country influences support for  
18  
19 democracy. Most studies look at the country/regional (e.g. Norris and Inglehart 2004), rather than individual  
20  
21 level, with very little research into the consequences of being a Muslim in sub-Saharan Africa. An exception  
22  
23 is Bratton (2003), which finds that Muslims are generally not less supportive of democracy and the more  
24  
25 frequently they attend a mosque, the more likely they are to support democracy (2003; see also Tessler 2002  
26  
27 for evidence from Arab states). Where there is 'any hesitancy about supporting democracy among the  
28  
29 African Muslims we interviewed [it] is due more to deficits of formal education and other attributes of  
30  
31 modernization than to the influence of religious attachments' (2003: 494). We would therefore expect that  
32  
33 with education included in our models, Muslims should be no less supportive of democracy than Christians  
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35 or other religious groups.  
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42 As controls we thus include indicators of age, gender, party support, language group, religion, and frequency  
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44 of religious service attendance (a scale from never (1) to more than once a week (6)).  
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51 Table 1 here  
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## 56 **Indicators of modernization and access to resources**

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59 The presence of an urban population and a middle class of professional and managerial white collar workers  
60  
is a key component of modernization theories of democratic development. These attributes can be expected

1 to correlate with education and therefore provide possible alternative explanations for the relationship  
2  
3 between education and support for democracy. In the sample, urban residence and occupation have a  
4 particularly strong relationship with education, as would be expected (Table 2).  
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10  
11 Table 2 here  
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18 Given that in countries in sub-Saharan Africa occupationally-based class distinctions do not necessarily  
19 identify important inequalities in the distribution of resources, we also employ alternative resource  
20 indicators namely access to water, cooking fuel and basic sustenance. For example, of those who report  
21 always going without food, 4.6% have post-primary schooling, compared with 32.9% of those who report  
22 always experiencing deficiencies.  
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### 33 **Attention to politics**

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35 Our next set of measures index respondent characteristics that are likely to be highly influenced by level of  
36 education. First, we include three variables associated with frequency of media consumption – including  
37 radio, television and newspapers. Each of these is presented on a five-point scale, ranging from never to  
38 every day. These are included separately as they are seen to have different characteristics, with access in part  
39 influenced by supply-side constraints. Radio access is commonplace in both urban and rural communities in  
40 sub-Saharan Africa with as many as one in four people having a radio and others having access through  
41 group listening. Access to TV is less prevalent, with an estimated 1 in 14 having access to a television set  
42 (UN ICT Task Force, 2002). The distribution of newspapers is unlikely to reach many non-urban areas so  
43 again is less accessible and as a regular purchase requires disposable income. Importantly, access to  
44 information from newspapers requires individuals to be literate. In this sense radio is more accessible and  
45 less resource dependent as a source of political information. As further measures of attention to politics we  
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1 measure whether respondents indicate that they are very interested in politics and how frequently they  
2  
3 discuss political issues (frequently, occasionally or never).  
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### 9 **Comprehension of politics**

10  
11 Finally, we include indicators of respondents' comprehension of politics. We measure this in two ways:

12  
13 *Understanding of democracy:* This question asked in the survey asked about the understanding of the term  
14  
15 'democracy' in English in the first instance, and then translated the term into indigenous languages where  
16  
17 the respondent did not understand initially. The effects of providing an explanation of democracy in English  
18  
19 or indigenous language are similar. We therefore treat those respondents who said they knew what  
20  
21 democracy meant but then said 'don't know' on probing as not understanding the meaning of the term  
22  
23 'democracy'.  
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30 *Political knowledge:* An indicator of political knowledge is constructed through aggregating whether  
31  
32 respondents give correct answers to six questions: the name of their MP, local government councilor, the  
33  
34 Deputy President, the political party with the most seats, and the length of Presidential term limits. This  
35  
36 creates a scale of zero (incorrect answers to all questions) to six.  
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## 43 **4. ANALYSIS**

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45 Preliminary analysis indicates there is an association between educational level and preference for  
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47 democracy and rejection of non-democratic alternatives across the region. This pro-democratic endorsement  
48  
49 increases monotonically across different levels of schooling and is found in all countries in our dataset.  
50  
51 None of the 360 combinations (2 dependent variables x 18 countries x 10 comparisons between categories of  
52  
53 education) indicate a significant negative association between the two indicators of pro-democratic attitudes  
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55 and increasing levels of education.<sup>7</sup> Our primary interest therefore is in the general patterns of association  
56  
57 for the 18 countries as a whole. For this purpose, we use fixed effects models that control for differences in  
58  
59 levels of all variables between countries.<sup>8</sup>  
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## Preference for democracy

Table 3 presents the analysis of support for democracy. We start by estimating the effect of levels of schooling on support for democracy in Model 1. This indicates that each stage of educational attainment provides a highly significant increment to democratic support. The pattern of effects is broadly linear, with each level of schooling significantly more positive than the one before, even the 'some primary' category has a substantial and significant impact relative to no education.

In Model 2 we introduce socio-demographic and political attributes that could, independently of educational level, cause citizens to have a more or less supportive attitude towards democracy and which need to be controlled for a rigorous test of education's effects. Several of these are significant in their impact on democratic support – ruling party supporters, men, majority language speakers, and Muslims are all more supportive than their reference categories. Young people are distinctive in their lack of support relative to all others. The gender effect is particularly substantial. Muslims, as Bratton (2003) found in some of his analyses are not less, but more likely to support democracy. Remarkably, however, the coefficients for levels of education remain untouched by the inclusion of these significant effects. Education is clearly more important than any other factor and is not affected by their presence in the model, consistent with Hypothesis Ia.

Table 3 here

In model 3 we introduce attributes identified in modernization accounts of democratic development (class, urban-rural residence) and also those that are relevant indicators of resource inequalities in the sub-Saharan African context (lack of food, water and cooking fuel). Urban residence and social class have a strong relationship with education, while the more specific resource indicators have moderate associations (see Table 2).



1 We find that urban, non-manual, adequately resourced respondents are more likely to support democracy  
2  
3 than are those in rural areas, manual workers/farmers, and those with deficiencies of food and cooking fuel  
4  
5 (though reporting having gone without water is not significant). Some of these effects – particularly those  
6  
7 for class position – are reasonably strong, but they are dwarfed by those for education. The latter's  
8  
9 coefficients show a modest decline once other aspects of modernization and resources are included, but their  
10  
11 magnitude is still of a different order to those observed for other variables in the analysis. The dominance of  
12  
13 the effects of education relative to other resource and demographic indicators is illustrated in Figure 1,  
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15 which presents predicted probabilities taken from Model 3.  
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24 Figure 1 here  
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29 Consistent with Hypothesis III, not only is education vastly more consequential than the other modernization  
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31 or resource indicators, but it is not substantially weakened by their inclusion, thus also disconfirming  
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33 Hypotheses IVa and IVb.  
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37 So far we have not considered respondent characteristics such as political attention or political  
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39 comprehension, which we have argued can provide mechanisms through which education works - so that to  
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41 include them in our initial models would inappropriately obscure the influence of education. The first step in  
42  
43 estimating these mediating effects is shown in model 4 in which we introduce indicators of media  
44  
45 consumption and political interest and discussion. We can see that all of these variables have the predicted  
46  
47 positive effects on democratic support.<sup>9</sup> The effects of education are weakened, though they are still strong.  
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51 There is some evidence here of mediation consistent with Hypothesis Va.  
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54 Finally Model 5 includes political comprehension operationalised through measures of democratic  
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56 understanding and knowledge of politics. We expect the inclusion of these measures to heavily reduce the  
57  
58 size of the education parameters, whereas there is no reason for other indicators, such as class and resources,  
59  
60 to be so strongly affected. As can be seen by comparing the education coefficients in Models 3, 4 and 5, the  
effect of including understanding of democracy in the model is to massively reduce education's direct

1 effects, thus giving support to Hypothesis Vb. While political comprehension also substantially reduces  
2 gender effects and the difference between young people and others, this is to a considerably lesser degree  
3 than the effect on education. Similarly, the coefficients for social class are only moderately attenuated while  
4 those for resource deficiencies not at all. Perhaps unsurprisingly those who support the current governing  
5 party remain more likely to support democracy, as do Muslims.  
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### 16 **Rejection of non-democratic alternatives**

17 We employ the same modeling procedure with respect to our second dependent variable. In Table 4 we  
18 present the analysis of respondents' rejection of non-democratic alternatives to electoral democracy. As  
19 these responses form a four point scale we use OLS estimation rather than logit.<sup>10</sup>  
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30 Table 4 here  
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36 The first Model again presents the effects of education alone. As in Table 3, we see a similar pattern to that  
37 observed for the support for democracy measure. Each extra level of completed education – primary,  
38 secondary, post-secondary – is consequential for respondents' tendency to reject alternative non-democratic  
39 forms of government when compared with no formal education. These strong, linear education effects are  
40 also of very similar magnitude, in terms of the ratio of coefficient to standard error, to those for support for  
41 democracy.  
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50 Turning to Model 2, which includes demographics and ruling party support, we again find no signs of  
51 attenuation: the education parameters remain clearly significant and of similar magnitude to Model 1.  
52 Younger people are less likely to reject non-democratic alternatives, as are majority language speakers and  
53 women. Those who attend religious services are more likely to do so. Support for the ruling party/president  
54 and being Muslim does not increase rejection of non-democratic alternatives.  
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1 In Model 3 we include class, urban residence, and resource deficiencies. There is some but only a very  
2 modest amount of attenuation of the education parameters, less so than in the case of support for democracy.  
3  
4 The significant effects for young people, majority language speakers, religious service attendance and  
5  
6 gender are unaffected.  
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10  
11 Though urban residence has significant effects, social class has only a very weak effect, for farmers versus  
12 non-manual workers. Resource deficiencies with respect to food and cooking fuel have similar negative  
13 effects in Model 3 to those obtained with support for democracy. In general, however, this analysis provides  
14 strong confirmation of the dominance of education's effects over other modernization variables and  
15 indicators of resource inequalities.  
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23 Model 4 introduces variables for media consumption and political discussion/interest. These are all  
24 significant and noticeably attenuate all of the education parameters as in the equivalent model in Table 3.  
25  
26 The effects of the other significant variables are not affected with the exception, as before, of urban  
27 residence and food deprivation. In Model 5, we see further substantial attenuation of education parameters  
28 though not to quite the degree observed in Table 3 – the residual effects of education are significant at all  
29 levels including 'some primary'. This more than likely relates to the less obvious link between  
30 understanding democracy and rejecting non-democratic alternatives, than between both understanding and  
31 supporting democracy.  
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43 The general message of the two sets of models is that education is by far the strongest social factor  
44 explaining democratic attitudes – whether measured as explicit support or the rejection of alternatives - and  
45 these effects increase in a linear form as levels of education attained increase. Other effects are not only  
46 weaker but less consistent across the two outcome measures of democratic attitudes. Gender is the strongest  
47 other influence – women are less pro-democratic in their attitudes – though, as with education, this  
48 difference is much attenuated by political comprehension. Age has a very specific effect – being young is  
49 negatively associated with democratic support – and is again heavily attenuated by political comprehension.  
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51 Religion, religious service attendance, ruling party/presidential support, and language had effects on one or  
52 other of the outcome measures, but were not consistent across both. Modernization indicators were generally  
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1 relatively consistent in their effects - though social class was marginal for the non-democratic alternatives  
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4 measure. However, these were far weaker than education.  
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7 In summary, not only was the effect of education far stronger than the effects of other demographic or  
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9 modernization indicators, but these indicators did not seriously attenuate the impact of education. By  
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11 comparison, political comprehension had a powerful attenuating effect as did, to some degree, political  
12  
13 attention. The extent to which different theoretical indicators attenuate the effects of education is illustrated  
14  
15 in Figure 2, which presents the predicted likelihood of supporting democracy by level of education in the  
16  
17 five different models: Model 1 presents the effects of education without controls, Model 2 controls only for  
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19 demographics, Model 3 also controls for modernization indicators, Model 4 includes political interest and  
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21 discussion, and Model 5 further controls for political comprehension.  
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29 Figure 2 here  
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35 Controlling for modernization indicators removes the pronounced higher education effect, leaving a more  
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37 linear pattern of increments in support for democracy deriving from education. Controlling for attention to  
38  
39 politics and comprehension effectively reduces education's effects so that only trivial differences between  
40  
41 educational levels remain. These findings are consistent with our argument that education works primarily  
42  
43 through its impact on cognitive and motivational attributes and not because it is a marker for economic  
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45 resource inequalities.  
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## 52 5. CONCLUSIONS 53 54

55 Modernization is a process involving the interplay of various aspects of social change. Many discussions of  
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57 its effects on social attitudes do not seek to specify what aspects are most important. In this paper we have  
58  
59 distinguished the various components of modernization and focused on the one factor that our results  
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indicate really matters: education. Level of education strongly predicts mass endorsement of democratic

1 procedures as well as rejection of commonplace non-democratic alternatives. Education dominates the  
2  
3 other social influences on democratic support examined in our analysis.  
4

5  
6 These conclusions hold even though the estimation procedure we have adopted has provided a demanding  
7  
8 test of the robustness of education's effects, as it controls for many social factors that are associated with  
9  
10 both education and attitudes towards democracy. Some of these factors, such as urban residence and gender,  
11  
12 will have influenced the levels of education obtained by respondents while others, such as class position and  
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14 resources, are likely to have resulted at least in part from having attained a certain level of education. The  
15  
16 former set of influences may well influence attitudes to democracy in part through their influence upon the  
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18 level of education obtained. Similarly, the latter set of influences will have in part been conditioned by prior  
19  
20 education attainment, and may also partly reflect that formative experience. By controlling for the  
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22 relationship between these confounding factors and education, we are doubtless under-estimating the  
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24 contribution of education to the explanation of democratic attitudes. We can be confident, therefore, that the  
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26 resulting estimates of education's effects are conservative.  
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33 In addition to these robustness tests we have provided evidence of the mechanisms through which  
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35 education's consequences can be understood. These findings have theoretical importance as they indicate  
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37 that education's effects cannot simply be reduced to economic resource inequalities that are inevitably  
38  
39 correlated with access to schooling but are plausibly interpreted as cognitive and motivational attributes  
40  
41 related to experience of education. Thus education effects are in part mediated via mechanisms such as  
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43 increased attention to politics and, most substantially, comprehension of politics. This is so even though  
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45 schooling for the vast majority of our respondents will have been undertaken in a non-democratic setting and  
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47 without civic education in the school curriculum. As a tool of intervention for the promotion of democratic  
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49 cultures, education *per se*, would thus seem to represent a good investment - especially as it is effective even  
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51 when provided at only relatively elementary levels. Thus primary schooling has a strong positive effect on  
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53 support for democracy and the rejection of non-democratic alternatives. A positive effect, though somewhat  
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55 weaker, is even found when primary schooling is only partly completed.  
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1 Inevitably, there are qualifications to the inference we can draw from this study. One concerns whether  
2 the effects of education generalise to other aspects of democratic culture. The recent Afrobarometer  
3 Working Paper by Mattes and Mughogho (2009) indicates that education has a more limited effect on  
4 indicators of political orientations broadly defined, such as trust in others, and some indicators of political  
5 participation. The reasons why education does not have such strong effects in these areas remains a topic for  
6 further research. It is also possible that the relationship between educational experience and attention to/  
7 comprehension of politics is further influenced by factors such as the networks formed in the educational  
8 process, type of school attended (whether private, religious or state schools), or unmeasured selection biases.  
9 Additional research is thus required to identify some of the more intricate mechanisms underlying  
10 education's impact on democratic attitudes.  
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25 These qualifications notwithstanding, however, we believe we have shown that education is special in at  
26 least two ways with respect to understanding the social influences on democratic attitudes. First, education is  
27 important because of the sheer magnitude of its effects compared with other social indicators highlighted by  
28 previous research as influential, including social class or religion. Almost half a century after Almond and  
29 Verba's path-breaking comparative analysis we can confirm that "the uneducated man or the man with  
30 limited education is a different political actor from the man who has achieved a higher level of education."  
31 (1963: 315). Second, education is a key vehicle for external intervention in a region where democracies are  
32 not stable and where education is still not available to many, thus leaving considerable room for growth at  
33 even relatively basic levels of provision.  
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47 Contrary to the modernization approach of authors such as Lipset and Inglehart, our results can be taken to  
48 suggest that the contribution of education in promoting democracy is to some degree independent of other  
49 aspects of development. As a consequence, intervention in educational institutions and levels of educational  
50 enrolment can *ceteris paribus* enhance the possibility of democratic consolidation. To this end, the national  
51 governments, and international agencies for whom democratic consolidation is a stated goal, could usefully  
52 focus on providing more children with the opportunity to experience formal schooling. The greatest  
53 aggregate gains in support for democracy are likely to be obtained by increasing the proportion of the  
54 population who complete primary education, which currently is still beyond the reach of the majority of  
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1 children in sub-Saharan Africa. But both secondary and post-secondary education provide further  
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3 substantial increments in endorsement of democracy and rejection of non-democratic alternatives, so that  
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5 large gains in mass support for democracy might also be made with further expansion at those levels.  
6  
7 Moreover, if the converse positive effects of democracy on educational provision itself are taken into  
8  
9 account (Stasavage 2005b), there is the possibility of a virtuous cycle in which education can provide a basis  
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11 of support for democracy which, in turn, can increase access to higher levels of education. This cycle can  
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13 reinforce the social foundations of democratic practices in a region in which there remains a clear need for  
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15 the consolidation of non-repressive governments.  
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## Tables

Table 1 *Descriptive statistics for independent variables*

	Coding	Range	Mean	Standard deviation
Gender	Male (0); Female (1)	0-1	.50	.500
Language group	Other (0); Majority (1)	0-1	.50	.500
Religious service attendance	Never (1) to more than once a week (6)	1-6	4.16	1.633
Party support	Other (0); Ruling (1)	0-1	.40	.489
Residence	Rural (0); Urban (1)	0-1	.35	.476
Gone without food in the last year	From never (0) to always (4)	0-4	1.14	1.264
Gone without water .....	From never (0) to always (4)	0-4	1.16	1.389
Gone without cooking fuel .....	From never (0) to always (4)	0-4	.917	1.221
Radio	From never (0) to every day (4)	0-4	3.09	1.320
TV	From never (0) to every day (4)	0-4	1.67	1.730
Newspaper	From never (0) to every day (4)	0-4	1.12	1.444
Interest in politics	Other (0) very interested (1)	0-1	.377	.4889
Understand democracy	No/don't know (0) Yes (1)	0-1	.74	.436
Knowledge of politics	See text	0-6	2.48	1.689

		No.	%
Education	No education*	4321	20.7
	Some primary	4390	21.0
	Primary completed	3417	16.3
	Secondary	6925	33.1
	Post-secondary	1852	8.9
Age	18-24	5595	26.8
	25-34	5993	28.7
	35-44	4057	19.4
	45 and above*	5259	25.2
Occupation	Non-manual*	2691	12.9
	Manual workers	5649	27.0
	Farmers	6794	32.5
	Other	5771	27.6
Religion	Christian*	14564	69.7
	Muslim	4094	19.6
	Other	2246	10.7
Discuss politics	Frequently	4794	22.9
	Sometimes	9428	45.1
	Never*	6683	32.0

\* Reference group

N = 20,904

Table 2: Relationships between education and other independent variables

	None %	Some primary %	Complete primary %	Secondary %	Post- secondary %
<b>Age</b>					
18-24	11.4	16.5	14.1	49.7	8.4
25-34	15.5	18.8	18.3	36.1	11.3
35-44	21.4	22.1	19.3	27.8	9.4
45 and above	35.9	27.5	14.3	16.2	6.1
<b>Language</b>					
Majority language	20.9	23.3	14.8	33.6	7.4
Other	20.4	18.7	17.9	32.7	10.4
<b>Gender</b>					
Female	23.9	21.4	16.5	31.2	7.0
Male	17.5	20.6	16.2	35.0	10.7
<b>Religion</b>					
Muslim	47.9	17.0	11.1	18.1	6.0
Christian	12.0	22.1	18.5	37.5	9.9
Other	27.5	21.3	12.0	32.0	7.2
<b>Party support</b>					
Ruling party	16.3	22.5	20.3	33.2	7.7
Other	23.6	20.0	13.7	33.1	9.6
<b>Occupation</b>					
Non-manual workers	4.8	8.0	9.8	40.3	37.0
Manual workers	18.4	21.0	17.9	37.4	5.2
Farmers	30.6	29.9	20.6	17.5	1.4
Others	18.6	16.6	12.8	43.9	8.1
<b>Residence</b>					
Urban	12.8	14.0	13.1	43.3	16.8
Rural	24.8	24.7	18.0	27.7	4.7
<b>Interest in politics</b>					
Interested	18.6	20.1	17.7	32.9	10.8
Other	21.9	21.6	15.5	33.3	7.7
<b>Understand democracy</b>					
Yes	17.1	18.5	15.0	37.9	11.5
No	31.1	28.3	20.3	19.1	1.3
<b>Discuss politics</b>					
Frequently	15.9	17.5	18.6	35.3	12.7
Sometimes	17.9	20.0	15.7	36.2	10.2
Never	28.0	25.0	15.6	27.2	4.6
<b>Pearson's R</b>					
Religious service attendance	.086**				
Gone without food	-.196**				
Gone without water	-.148**				
Gone without cooking fuel	-.123**				
Frequency of radio consumption	.215**				
Frequency of Newspaper consumption	.488**				
Frequency of TV consumption	.369**				
Political knowledge	.343**				

Table 3. *Logit models of support for democracy (country fixed effects)*

		Model 1	Model 2	Model 3	Model 4	Model 5
Intercept		-.218**	.213*	.838**	.741**	-.189
		(.073)	(.100)	(.122)	(.131)	(.145)
Education (ref. = none)	Some primary	.341**	.333**	.281**	.212**	.030
		(.048)	(.049)	(.049)	(.050)	(.056)
	Primary	.709**	.715**	.622**	.485**	.152*
		(.053)	(.055)	(.056)	(.057)	(.065)
	Secondary	1.167**	1.227**	1.060**	.850**	.273**
		(.047)	(.051)	(.054)	(.056)	(.063)
	Post-secondary	1.614**	1.620**	1.291**	.976**	.274**
		(.071)	(.074)	(.081)	(.085)	(.093)
Age (ref. = 45 upwards)	18-24	-	-.281**	-.258**	-.254**	-.067
			(.045)	(.047)	(.048)	(.053)
	25-34	-	-.066	-.077	-.082	-.002
			(.044)	(.044)	(.045)	(.049)
	35-44	-	.030	.018	.003	.026
			(.047)	(.047)	(.048)	(.053)
Gender	female	-	-.439**	-.438**	-.334**	-.080*
			(.031)	(.032)	(.033)	(.037)
Language group	Majority language	-	.088*	.069	.049	-.037
			(.036)	(.036)	(.036)	(.040)
Religion (ref. =Christian)	Muslim	-	.199**	.172**	.162**	.178**
			(.058)	(.058)	(.059)	(.065)
	Other	-	-.052	-.034	-.004	.013
			(.349)	(.056)	(.057)	(.063)
Religious service attendance		-	.010	.007	-.001	-.015
			(.011)	(.011)	(.011)	(.012)
Party support	Ruling party	-	.332**	.342**	.271**	.224**
			(.034)	(.034)	(.035)	(.039)
Residence	Urban	-	-	.113**	.031	-.007
				(.037)	(.039)	(.043)
Occup. (ref.=nonmanual)	Manual	-	-	-.192**	-.139*	-.061
				(.061)	(.061)	(.066)
	Farmers	-	-	-.402**	-.320**	-.194**
				(.062)	(.063)	(.068)
	Other	-	-	-.338**	-.256**	-.163*
				(.062)	(.062)	(.067)
Gone without food		-	-	-.073**	-.049**	-.033*
				(.014)	(.014)	(.016)
Gone without water		-	-	.002	.005	.001
				(.012)	(.012)	(.014)
Gone without cooking fuel		-	-	-.030*	-.030*	-.038*
				(.014)	(.014)	(.015)
Radio		-	-	-	.116**	.056**
					(.013)	(.014)
TV		-	-	-	.032*	.018
					(.013)	(.014)
Newspaper		-	-	-	.046**	-.007
					(.015)	(.016)
Interest in politics	Very interested	-	-	-	.134**	.101*
					(.036)	(.040)
Discuss politics	Frequently	-	-	-	.448**	.273**
					(.048)	(.053)
	Occasionally	-	-	-	.024	-.022
					(.044)	(.048)
Understand democracy		-	-	-	-	2.278**
						(.045)
Knowledge of politics		-	-	-	-	.102**
						(.014)
<i>N.</i>		20,904	20,904	20,904	20,904	20,904
<i>Pseudo R</i> <sup>2</sup>		.12	.15	.15	.18	.35

\*\* significant at 1%

\* significant at 5%

Table 4. OLS models for rejection of alternatives to democracy (country fixed effects)

		Model 1	Model 2	Model 3	Model 4	Model 5
Intercept		2.253**	2.331**	2.437**	2.422**	2.325**
		(.032)	(.042)	(.050)	(.053)	(.053)
Education (ref. = none)	Some primary	.151**	.140**	.119**	.095**	.055**
		(.020)	(.020)	(.020)	(.020)	(.020)
	Primary	.310**	.293**	.259**	.209**	.132**
		(.022)	(.023)	(.023)	(.023)	(.023)
	Secondary	.464**	.454**	.399**	.313**	.191**
		(.019)	(.020)	(.021)	(.022)	(.022)
	Post-secondary	.615**	.579**	.488**	.357**	.210**
		(.026)	(.027)	(.030)	(.031)	(.031)
Age (ref. = 45 upwards)	18-24	-	-.068**	-.060**	-.061**	-.018
			(.018)	(.019)	(.019)	(.019)
	25-34	-	.008	.005	.002	.020
			(.018)	(.018)	(.018)	(.018)
	35-44	-	.001	-.001	-.007	-.003
			(.019)	(.019)	(.019)	(.019)
Gender	female	-	-.148**	-.145**	-.107**	-.055**
			(.013)	(.013)	(.013)	(.013)
Language group	Majority language	-	-.059**	-.067**	-.072**	-.086**
			(.015)	(.015)	(.014)	(.014)
Religion (ref. =Christian)	Muslim	-	.018	.008	.008	-.006
			(.022)	(.022)	(.022)	(.022)
	Other	-	-.026	-.023	-.011	-.011
			(.023)	(.023)	(.023)	(.023)
Religious service attendance		-	.021**	.020**	.018**	.017**
			(.004)	(.004)	(.004)	(.004)
Party support	Ruling party	-	-.012	.017	-.008	-.031*
			(.014)	(.014)	(.014)	(.014)
Residence	Urban	-	-	.096**	.052**	.054**
				(.015)	(.016)	(.016)
Occup. (ref.=nonmanual)	Manual	-	-	.017	.039	.057*
				(.023)	(.023)	(.022)
	Farmers	-	-	-.035	.001	.029
				(.023)	(.024)	(.023)
	Other	-	-	-.053*	-.021	.002
				(.023)	(.023)	(.023)
Gone without food		-	-	-.019**	-.010*	-.008
				(.006)	(.006)	(.006)
Gone without water		-	-	.004	.005	.005
				(.005)	(.005)	(.005)
Gone without cooking fuel		-	-	-.022**	-.022**	-.022**
				(.006)	(.006)	(.006)
Radio		-	-	-	.019**	.005
					(.005)	(.005)
TV		-	-	-	.022**	.018**
					(.005)	(.018)
Newspaper		-	-	-	.031**	.023**
					(.006)	(.006)
Interest in politics	Very interested	-	-	-	.039**	.027*
					(.014)	(.014)
Discuss politics	Frequently	-	-	-	.169**	.123**
					(.019)	(.019)
	Occasionally	-	-	-	.015	.004
					(.017)	(.017)
Understand democracy		-	-	-	-	.218**
						(.016)
Knowledge of politics		-	-	-	-	.065**
						(.005)
<i>N.</i>		20,904	20,904	20,904	20,904	20,904
<i>R</i> <sup>2</sup>		.15	.16	.16	.17	.19

\*\* significant at 1%

\* significant at 5%



Figure 1: Predicted probabilities – support for democracy (taken from model 3)

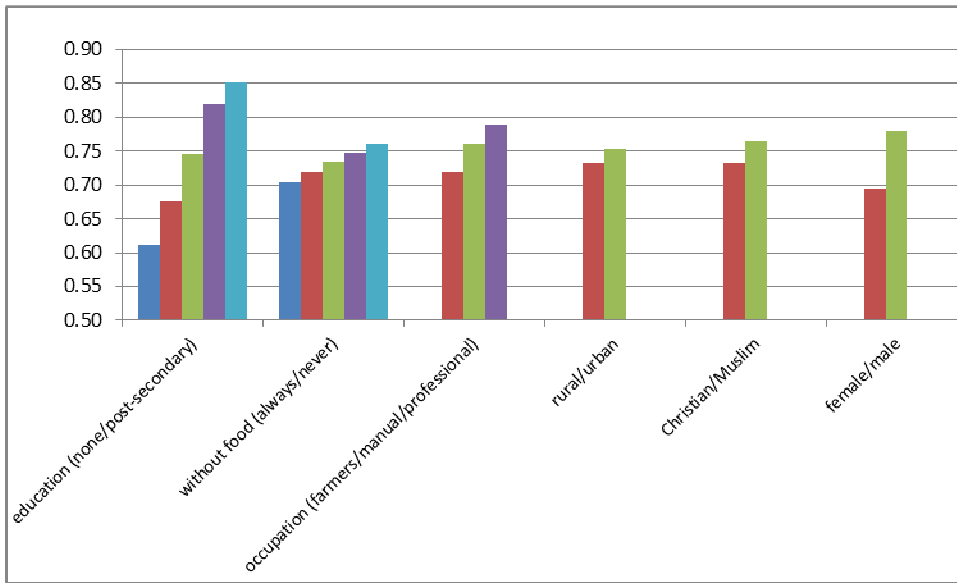
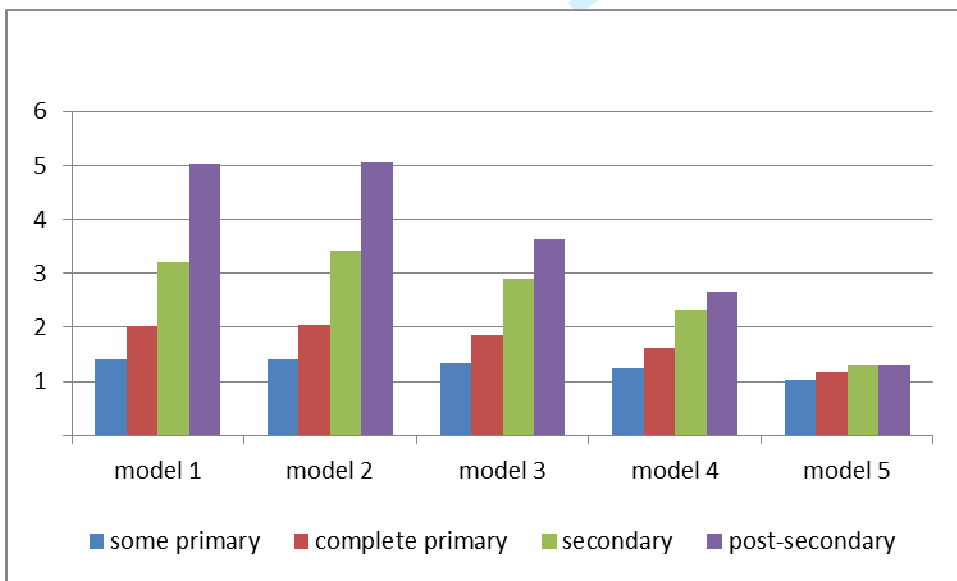


Figure 2: Predicted odds of supporting democracy by education level



## Endnotes

<sup>1</sup> Glaeser *et al.* (2007) present evidence linking education with socialization and therefore build a model where education fosters democracy by shaping incentives for joining political participation.

<sup>2</sup> Modernization theories have taken various forms. Here we are primarily concerned with the approach examining 'individual modernization' (e.g. Inkeles and Smith, 1974; Inglehart and Welzel, 2005).

<sup>3</sup> A recent study of the impact of schooling on democratic attitudes in Malawi provides evidence of a strong relationship between educational level and support for democracy (Evans and Rose 2007) although this does not examine the mechanisms through which education impacts on democratic attitudes.

<sup>4</sup> The eighteen countries are: Benin, Botswana, Cape Verde, Ghana, Kenya, Lesotho, Madagascar, Malawi, Mali, Mozambique, Namibia, Nigeria, Senegal, South Africa, Tanzania, Uganda, Zambia, Zimbabwe. See [www.afrobarometer.org](http://www.afrobarometer.org) for further information on the surveys and sample design.

<sup>5</sup> The dataset also contains a response category referring to informal education. This includes 4.4% of respondents, the majority of whom are Muslims, which suggests that it is probably composed mainly of pupils at madrasahs. We estimated models with 'informal education' distinguished from 'no education' but found no significance differences.

<sup>6</sup> The proportion of those aged 18-25 with post-primary education is lower (8.4%), probably because some of this age group are still in secondary school (half of this age group have achieved this level of education).

<sup>7</sup> One of our initial hypotheses was that the impact of education on democracy would be stronger in Anglophone compared with Francophone and Lusophone countries because of the difference in their colonial inheritance. Interaction between effects of education on measures of support for democracy and type of colonial inheritance proved not to be significant.

<sup>8</sup> We carried out extensive checks on the robustness of estimates to case selection. We found no evidence that our estimates were substantially affected by outliers.

<sup>9</sup> It is possible that there is variation across and within countries with regard to the political content found in mass media. There is no reason to think that this would change the *general* pattern of substantive findings regarding the strength of education effects reported here, although it could be a useful area for further research.

<sup>10</sup> Ordered Probit can also be used for analyzing such coarsely scaled dependent variables, but these models bring in further assumptions of their own. The advantage of OLS is its robustness to violations of its assumptions and general interpretability.