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Education and electoral participation: Reported versus actual voting behaviour

Ivar Kolstad and Arne Wiig



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** Chr. Michelsen Institute, P.O. Box 6033, N-5892 Bergen, Norway. Phone: +47 47 93 81 22. Fax: +47 55 31 03 13. E-mail: ivar.kolstad@cmi.no

*** Chr. Michelsen Institute, P.O. Box 6033, N-5892 Bergen, Norway. Phone: +47 47 93 81 22. Fax: +47 55 31 03 13. E-mail: arne.wiig@cmi.no.

Contents

Abstract	1
1. Introduction	2
2. The data	2
3. Results	3
4. Concluding remarks.....	5
References	6
Appendix.....	6

Abstract

Using survey data of voters in Tanzania, this paper shows that while education does not affect self-reported voting in general elections, it increases actual voting. The less educated are more likely to claim to have voted without having done so, which may explain why previous studies of voting in developing countries fail to find an effect of education. We demonstrate the importance of this finding by using our survey data to generate predicted voting probabilities for the respondents to the 2012 Afrobarometer survey in Tanzania, and show that while mean self-reported voting does not differ much at different levels of education, the differences become significant when taking into account voting misrepresentation.

Keywords:

Voting, elections, participation, education, Tanzania

JEL codes:

C23, D72, F32, H11, H26

1. Introduction

While it is typically found that more educated citizens are more likely to vote in elections in developed countries, results for developing countries are much more mixed and several recent studies suggest that education does not increase electoral participation (Isaksson, 2014; Isaksson et al, 2014; Croke et al., 2015). A problem in many empirical studies from developing countries is, however, a reliance on survey measures of self-reported voting, which are known to over-estimate voting (Aker et al., 2013). For instance, while more than 80 per cent of the respondents to the 2012 Afrobarometer survey in Tanzania claim to have voted in the 2010 general election, the actual turnout was about 40 per cent of the voting age population. If misrepresentation of voting is systematically related to education, with less educated citizens more likely to claim to have voted without having done so, this creates a downward bias in estimates of the relationship between education and voting.

Using author collected survey data from Tanzania, we show that this is the case. We find education to be unrelated to self-reported voting, but be positively related to actual voting by our respondents, reflecting a greater prevalence of misreporting among those with less education. We show that our findings have substantial implications for studies using standard, nationally representative surveys to estimate the effect of education on voting, by generating predicted voting probabilities for the respondents to the 2012 Afrobarometer survey in Tanzania, demonstrating that these vary substantially across education levels, in contrast to self-reported voting.

2. The data

In February 2015, we conducted a survey of a representative sample of the 146 voters in Dar Es Salaam, the major city in Tanzania. A random sample of 12 polling stations from the 2010 general election was drawn, from each of which our local teams of enumerators commenced walking, selecting first the 5th household, and then every 10th household on their way, interviewing one randomly selected adult respondent in each household. This approach is similar to that of the Afrobarometer surveys, and common in poor countries where electoral rolls are not accessible. We collected data on voting behaviour, educational attainment and a large set of background variables.

Our main question on voting asked whether the respondent voted in the 2010 general election, but we also used a follow up multiple choice question where the respondent was asked what the ballot used in the elections looked like. For this follow up question, four options were given, of which only the second was correct (see the appendix for details). Our data hence allows us to distinguish respondents who have actually voted from those that merely claim to have voted. It is possible that those with low education have more trouble retaining information about the election and those with high education are better at educated guesswork. However, since we get actual participation rates close to the official turnout rates plus the expected proportion that manage to guess the correct answer to the follow up question, this would require a lot of successful guesswork on the part of the educated, which seems unlikely.

The left half of Table 1 presents summary statistics for our survey. While 72 per cent of the respondents claimed to have voted in the 2010 election, almost a third of these answered the follow up question wrongly. The proportion of our respondents that we can say actually voted is therefore about 50 per cent, very close to actual turnout rates of about 40 per cent in the election, plus the expected rate of lucky guesses (if 40 per cent of our sample actually voted, a quarter of the remaining 32 per

cent who claim to have voted can be expected to guess correctly on the follow up questions, i.e. about 8 per cent of the total sample).

Table 1. Summary statistics

Variable	Author survey sample					Afrobarometer sample				
	Obs	Mean	Std. dev.	Min	Max	Obs	Mean	Std. dev.	Min	Max
Voted claimed	146	0.72	0.45	0	1	2146	0.81	0.39	0	1
Voted actual	146	0.50	0.50	0	1					
Age	146	39.51	14.17	23	76	2146	38.75	14.52	18	99
Male	146	0.49	0.50	0	1	2146	0.49	0.50	0	1
Household size	146	2.93	1.61	1	9	2146	3.53	2.06	1	19
No education	146	0.08	0.26	0	1	2146	0.23	0.42	0	1
Primary education	146	0.58	0.50	0	1	2146	0.65	0.48	0	1
Secondary education	146	0.25	0.43	0	1	2146	0.12	0.32	0	1
Tertiary education	146	0.10	0.30	0	1	2146	0.01	0.10	0	1
Catholic	146	0.23	0.42	0	1	2146	0.29	0.45	0	1
Protestant	146	0.16	0.37	0	1	2146	0.26	0.44	0	1
Muslim	146	0.61	0.49	0	1	2146	0.45	0.50	0	1

We use dummies for whether respondents claim to have voted, whether they actually voted, and whether they misrepresented their voting as dependent variables in our empirical analysis. The other rows in Table 1 show the explanatory variables we include in our main specifications. These include the age of the respondent (and its square), gender, three education dummies for completed primary, secondary and tertiary education (the group with no education is the excluded category), and dummies for religious affiliation.

Our main analysis includes variables that could also be generated from the 2012 Afrobarometer survey of Tanzania, since we want to use estimations from our survey data to predict probabilities that the respondents to the Afrobarometer actually voted, given that they claim to have voted. However, in additional estimations we have added further covariates, and results are essentially unchanged by adding marital status and headship status, income or asset ownership, occupation and polling station fixed effects (results available on request). The right half of Table 1 gives descriptive statistics for the Afrobarometer sample. A comparison of the two samples reveal that they are not too dissimilar, however, there are some differences reflecting the fact that our survey only included urban areas. We have therefore also performed our analysis of the Afrobarometer data using only respondents from Dar Es Salaam, and results are in essence the same (results available on request).

3. Results

The main results using our survey data are presented in Table 2. All presented results are from linear probability models with robust standard errors; in additional estimations we have used probit estimation, with very similar results (results available on request). The first column of the table shows results from the estimation using a dummy for whether respondents claim to have voted. As we can see, none of the education variables have any significant association with whether respondents claim to have voted. The results from the second column, where the dependent variable is the dummy for whether respondents actually voted, are markedly different. Here all the education variables have significantly positive coefficients, indicating that respondents with primary, secondary and tertiary education are significantly more likely to actually vote than respondents with no completed education. Point estimates for secondary and tertiary education are also larger than for primary education, but the differences are not statistically significant. The third column highlights the reason behind the difference between the effect of education on claims of voting and on actual voting. The estimation here is on the subsample that claim to have voted, using a dummy for whether they misrepresented their voting behaviour as the dependent variable. The results show that those that have completed some level of education are far less likely to misrepresent their behaviour, to say they have voted

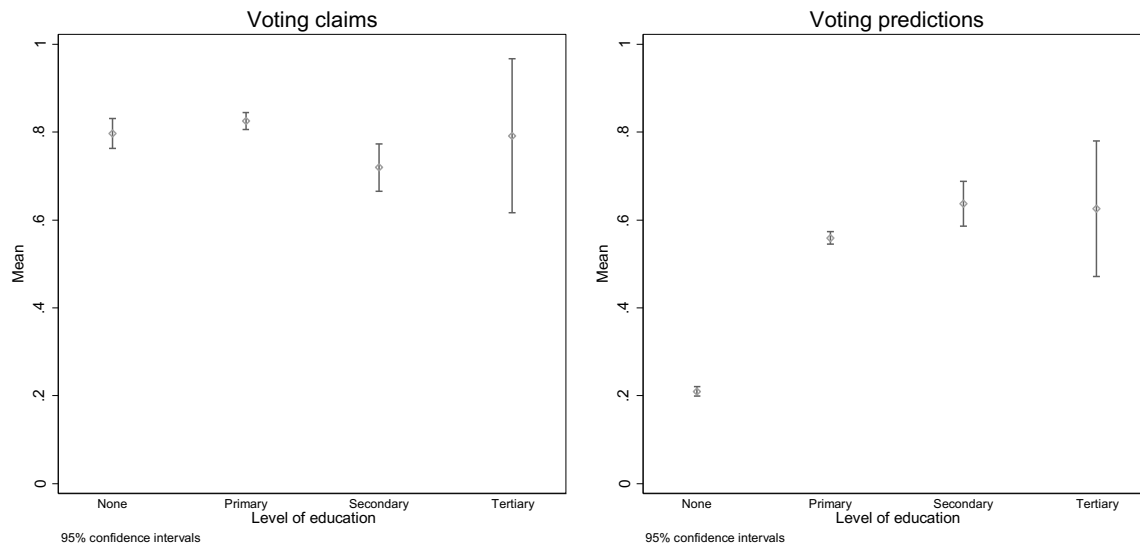
when they have not. The difference between those with secondary and primary education is statistically significant in this case ($p < .0702$).

Table 2. Main results from author survey sample, linear probability models

	Regression 1	Regression 2	Regression 3
<i>Dependent variable</i>	<i>Voted claimed</i>	<i>Voted actual</i>	<i>Misrepresentation</i>
Age	0.043*** (0.01)	0.054*** (0.02)	-0.023 (0.02)
Age squared	-0.000** (0.00)	-0.001** (0.00)	0.000 (0.00)
Male	-0.010 (0.09)	0.041 (0.11)	-0.059 (0.10)
Household size	0.021 (0.02)	0.017 (0.02)	-0.004 (0.02)
Primary education	0.126 (0.12)	0.385** (0.13)	-0.405** (0.17)
Secondary education	-0.003 (0.13)	0.457** (0.16)	-0.634*** (0.15)
Tertiary education	0.061 (0.29)	0.438* (0.23)	-0.536*** (0.17)
Catholic	0.061 (0.12)	0.109 (0.09)	-0.061 (0.07)
Protestant	-0.028 (0.16)	0.022 (0.14)	-0.046 (0.11)
Constant	-0.497 (0.32)	-1.222** (0.46)	1.286* (0.59)
r^2	0.182	0.129	0.138
N	146	146	105

*Note: Standard errors clustered by polling station in parentheses, *** indicates significance at the 1% level, ** at 5%, * at 10%.*

Our results hence show a systematic pattern in misreporting of past voting behaviour, which influences estimates of the effect of education on voting. An implication of this is that using standard, nationally representative surveys of voting behaviour may be associated with substantial bias. To demonstrate that this is the case, we use regressions on our smaller survey sample to generate predicted voting probabilities for the respondents to the 2012 Afrobarometer survey for Tanzania, given their background characteristics. In this case, we ran a probit regression with the above specification to keep predicted values between 0 and 1, and used the resulting estimates to produce predicted voting probabilities for the Afrobarometer respondents. Since it would not be all that meaningful to use these predicted probabilities in regressions, we have calculated the unconditional means of the voting probabilities across the four different education levels. The results are shown in Figure 1.

Figure 1. Claimed and predicted voting by education group using Afrobarometer sample

The left hand panel of Figure 1 shows the means of claimed voting in the Afrobarometer sample, and the 95 per cent confidence interval, across the four levels of education. The means for all groups are between 0.72 and 0.83, and higher for the groups with no or primary education than for those with secondary or tertiary. The means for the primary education group is even significantly higher than for the secondary education one ($p < .0003$, one-sided t-test), suggesting decreasing voting towards the higher end of education. However, the predicted voting probabilities shown in the right hand panel of Figure 1 paints a quite different picture. This essentially shows means corrected for misrepresentation of voting in the four education groups. Mean predicted voting for those with secondary education is significantly higher than for those with none or primary education ($p < .0000$ and $p < .0022$, respectively, in one-sided t-tests). Correcting for voting misrepresentation, there is therefore substantial shift in levels of voting by education group, suggesting an increasing association with education rather than a decreasing one. We note that mean predicted voting across all respondents in the Afrobarometer survey is 49 per cent, much closer to the actual turnout in the 2010 election than the mean voting claim of 81 per cent.

4. Concluding remarks

This paper has shown that misreporting of voting is systematically related to respondents' education levels, creating a downward bias in estimates of effects of education on electoral participation. While our results show that the less educated are more likely to say they have voted when they have not, our data does not really tell us much about the reasons for this. One possibility could be social desirability bias increasing in the relative social distance to the enumerators conducting the interviews. Our results suggest that education may be more important for political participation in a developing country context than previous studies suggest, and is consistent with recent findings of effects of voter information and education campaigns (Aker et al., 2013). While we have focused on education, the unreliability of self-reported voting as a proxy for actual voting in standard surveys, could also affect estimates of results of other potential determinants of voting.

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Appendix

Follow up question on voting (English translation)

What did the ballots look like?

1. Only the name of the candidate was on the ballot.
2. The name of the candidate with the photo and the name of the party were on the ballot.
3. The name of the candidate with the photo were on the ballot.
4. The name of the candidate and the name of the party were on the ballot.

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