The Political Sociology of Voting Participation in Southern Africa: A Multilevel Study of Regional and Social Class Predictors in 11 Countries

Olof Reichenberg\textsuperscript{a} and Elvis Bisong Tambe\textsuperscript{b}

\textsuperscript{a}Department of Social Studies, Linneaus University, Växjö, Sweden; \textsuperscript{b}Department of Political Science, Linneaus University, Växjö, Sweden

**ABSTRACT**

Voting participation constitutes and legitimizes electoral democracy. However, research has been unable to predict and explain the lack of participation across political contexts. The present study aims to predict voting participation based on regional predictors using 11 countries from the Afrobarometer (2019). For the analysis, the study uses modern measurement models and Bayesian multilevel logit models (binary and categorical). The regional analysis suggests that a greater frequency of experiencing bribery predicts lower voting probabilities. Regions with citizens who are more highly educated predict lower voting probabilities for deciding not to vote. Regions with higher levels of skilled craft workers predict lower voting probabilities. Compared to those in the lower occupational social class, citizens in the higher occupational social class have a lower voting probability. The study concludes by offering implications for the relational approach to contentious politics and democratization.

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**Introduction**

Voting in elections constitutes and legitimizes electoral democracy (Weber 1978; Blais 2006). On election day, voters cast their votes and contribute to democracy. Citizens choose who will lead the country into wealth and provide welfare to its citizens. Whenever citizens abstain from voting, their behavior undermines electoral democracy.

A low voter turnout signals citizens’ discontent with the government’s rule\textsuperscript{1} (Tilly 2015) and a failure of democracy (Blais 2006). Thus, abstaining from voting indicates one of the single most efficient political actions for citizens to express displeasure with the government (McAdam and Tarrow 2010). Currently, African countries fight to stabilize democracies. In 2019, South African voting participation had dropped every year since the African National Congress came into power (The Economist 2021). Elections in Africa underscore the lack of stable democracies. In other African countries, such as Niger and Zimbabwe, citizens have protested against voting fraud and have engaged in post-election violence. Journalists and reporters claim that the low voter turnout and
protests express the citizens’ frustration (The Economist 2020). They claim that the government has failed to reduce youth unemployment, economic hardship, and corruption.

Previous research has centered on citizen- or country-level predictors of voting participation in Africa (Kuenzi and Lambright 2011; Tambe 2017, 2021). We note three types of explanations. First, country-level explanations focus on how weak institutions undermine political participation (Jackman and Miller 1995; Blais 2006), such as party system or mandatory voting (Kuenzi and Lambright 2007). Second, citizen-level explanations have focused on, for example, political psychological or demographic predictors (Kuenzi and Lambright 2011; Tambe 2017, 2021). Third, socioeconomic inequality explanations have focused on political participation at both the country and citizen level. One prominent socioeconomic explanation centers on “political resources” (Blais 2006). For example, researchers have emphasized (a) time plus money and (b) civic skills (Brady, Verba, and Schlozman 1995). Brady et al. (1995) propose political resources to explain the association between socioeconomic inequalities and voting.

However, we suggest that previous research has overlooked two problems (i.e., knowledge gaps). The first problem concerns that country explanations overlook regional institutions (Tilly 2007, 2015). We suggest that regional divisions may have greater significance due to (a) their history and (b) spatial organization (Tilly 2015). Regions provide citizens places to meet, organize, and mobilize discontent (Tilly 2000; McAdam, Tarrow, and Tilly 2009).

The second problem concerns that socioeconomic explanations overlook that socioeconomic inequalities differ from social class inequalities, such as class voting. Beyond the individual, we suggest that class voting depends on regional class mobilization based on skilled craft solidarity (Tilly 2007, 2015). We contend that skilled craft workers’ mobilization forms coalitions with students and those outside the labor force.

In this study, we make three theoretical contributions consisting of three (hypothetical) relational mechanisms based on the regional mobilization of discontent that stems from (1) bribery, (2) education, and (3) social class (Tilly 2000, 2015). Inspired by the political sociology of Tilly’s relational approach to contentious politics and democratization (hereafter: relational approach) (Tilly 2007, 2015), we argue that the three regional predictors contribute to a lower probability of voting participation in Africa.

**Purpose.** We aim to predict differences in voting probability in 11 countries in southern parts of Africa using the Afrobarometer. Our research questions follow.

1. To what extent do regional bribes predict voting probability in southern Africa?
2. To what extent does regional education predict voting probability in southern Africa?
3. To what extent does regional social class predict voting probability in southern Africa?

We structured the remainder of the text as follows. First, we justify why we focused on southern African rather than the entire sub-Saharan African region. Second, we outline our theoretical framework and corresponding predictions. Third, we describe our sample, variables, and strategy of analysis. Fourth, we report the study’s results based on exploratory and predictive analyses (measurement models and multilevel regression). Finally, we outline the conclusions with the study’s limitations.
**Context: why focus on Southern Africa?**

Most previous studies of voting behavior in African countries (Bratton, Mattes, and Gyimah-Boadi 2005; Kuenzi and Lambright 2011) treat Africa as a homogeneous region. However, we note that African countries differ by political and economic conditions.

First, African countries’ regime types range from democracies and electoral democracies to autocracies and authoritarian regimes (Dunn et al. 2019). Evidence suggests that countries across the different African regions, notably West, East, Central, North, and southern, have all gone through different paths in their transitions toward democratic consolidation (Tilly 2007). However, southern Africa represents a region that has made substantial progress and development toward democratic development. For instance, Freedom House considers nine sub-Saharan African countries as free. Four of the free countries belong to southern Africa (i.e., South Africa, Mauritius, Namibia, and Botswana), while the remaining countries (i.e., Lesotho, Madagascar, Malawi, Mozambique, Zambia, and Zimbabwe), apart from Swaziland, are considered as partly free.

Second, economic conditions differ across African countries (Dunn et al. 2019). Despite economic poverty, most southern African countries have experienced sustained economic growth in recent years, evident with higher urbanization and higher GDP per capita. Thus, the World Bank considers most southern African countries the richest in the continent. Because of the region’s sustained growth, a middle class has emerged (The Economist 2021). We suggest that middle-class growth has political consequences. Specifically, the growing middle class will make greater demands from the government (e.g., welfare policies).

**Theoretical framework**

We focus on the recent extension of relational approaches to contentious politics (Tilly and Tarrow 2015; McAdam and Tarrow 2010) and democratization (Tilly 2007, 2015). The approach was developed in reaction to political resource approaches and emphasizes bargaining with resources in political exchanges, that is, to mobilization as relational processes (McAdam et al. 2009).

Inspired by the relational approach (Tilly 2015, 2007), we outline our theoretical framework. We advance three hypothetical relational mechanisms (processes) (Tilly 2007, 2015). Citizens’ relations consist of rights and obligations expressed in, for example, encounters, contacts, and exchanges (Tilly 2007, 2015). In exchanges with the government, citizens will make claims for their rights, such as welfare and protection. Making claims implies bargaining/negotiations between citizens and the government locally (e.g., regions). However, governments vary in their capacity to meet citizens’ claims, such as offering welfare and protection (McAdam et al. 2009).

Occasionally, we suggest that abstaining from voting signals discontent (McAdam and Tarrow 2010; Tilly and Tarrow 2015). In Africa, elections and electoral campaigns tend to be contentious (including violent) (Tilly and Tarrow 2015; Runciman, Bekker, and Maggott 2019). Campaigners that challenge rulers often call supporters for voting boycotts to signal discontent (Runciman et al. 2019) (e.g., South Africa, Togo, Kenya, Cameroon, Central African Republic, Côte d’Ivoire, Congo, Zambia, and Tanzania).
“Staying home” constitutes a powerful tactic that minimizes state repression. Thus, not voting indicates a powerful tactic (i.e., “contentious repertoire” [Tilly and Tarrow 2015]) in African politics (Runciman et al. 2019), such as null-voting (Superti 2020).

Region indicates clustered exchanges that result in mobilizing discontent (Tilly 2000). For example, in South Africa, Paret (2018, 2020) finds that artisan workers (e.g., mine, metal) and students join forces to mobilize in their local community against the government. Similarly, Lockwood (2021) contends that mobilization spread due to regional coalitions (“brokering”) between classes in South Africa.

However, we agree that some citizens do not vote because of, for example, distance to the polling station. As we show in the detailed analysis, the hypothetical mechanisms differ. Instead, we contend that individual class differences and material poverty explain the polling station outcome.

**Regions as sites of clustered political relations**

Theories inspiring previous research begin with countries (Jackman and Miller 1995; Kuenzi and Lambright 2007). We contend that such approaches overlook the importance of sub-country units such as regions as sites for exchanges and contacts. By contrast, the country-level approach treats countries as being cohesive and neglects the regional clustering and dispersion (Tilly 2000, 2007; Fullerton and Borch 2008). Originally, political resource approaches claimed that mobilization occurred locally. Inspired by the relational approach, we contend that overlooking the regional implies overlooking how citizens’ relations cluster and undermine voting participation.

Citizens’ regional clustering indicates the frequency of contacts with fellow citizens and exchanges with (local) government officials. Compared to country divisions, citizens clustered in the same regions express greater similarities in experiences and behaviors due to proximity (Tilly 2000, 2007, 2015).

Regions allow citizens to mobilize, organize, voice grievances, diffuse discontent, and protest (Tilly 2007, 2015, 2000). First, citizens engage in frequent exchanges with the local government agencies. Second, citizens exchange with fellow citizens in the local community (Tilly 2007). Thus, we underscore that citizens react to local exchanges.

Elaborating on the relational approach (Tilly 2000), we focus on three regional voting participation mechanisms. First, we describe regional mobilization reactions to regional bribery. Second, we describe mobilization of discontent in regions with a large share of highly educated people. Third, we describe class voting and mobilization of discontent in regions with a greater share of skilled craft workers.

**Regional bribery and voting**

We suggest that the bribe experiences signal the violation of obligation between the government and the citizens (Tilly 2007; Della Porta and Vannucci 2012). Bribes include exchanges such as payments or gifts (e.g., housing and cars).

Previous studies suggest that corruption rather than bribes provokes protests (Monyake 2018). Quality of Governance (QoG) theory has inspired several studies of corruption. QoG suggests that the perception of corruption predicts voter turnouts...
(Rothstein and Teorell 2008). Citizens vote if the government operates efficiently. Nevertheless, researchers have found mixed results on corruption (Stockemer, LaMontagne, and Scruggs 2013). Initially, corruption mobilizes citizens to vote. However, after a while, citizens change their strategies not to vote (Kostadinova 2009). Others find that corruption reduces voter turnout only in countries with low or medium levels of corruption (Dahlberg and Solevid 2016). In the European context, QoG proposes similar predictions regarding regional corruption and voting (Sundström and Stockemer 2015).

Although we agree that QoG has predictive merits, we suggest that QoG neglects the relational (contacts, exchanges, etc.) aspect (Tilly 2007, 2015). In contrast to QoG, our argument emphasizes the regional shared experience of bribes and voting. Elaborating on the relational approach (Tilly 2000), we suggest that citizens react to bribes (e.g., encounters, contacts, and conversations) and that reactions to bribes cluster regionally. Regional bribery indicates that local institutions exist rivaling the government (Tilly 2007). Citizens’ transactions cluster to form local institutions that harm democracy. For example, when regional bribery works as (illegal) “taxation” (patronage) (Tilly 2007). Consequently, regional bribes signal the unfairness of citizens’ unequal treatment (Della Porta and Vannucci 2012; Tilly 2007). Thus, bribes violate the exchange between citizens and the government (Della Porta and Vannucci 2012; Tilly 2007). The bond of loyalty is undermined (Tilly 2007). Resentment toward the government for not delivering drives political action (Tilly 2007, 2015). Consequently, a government that accepts bribery signals that some citizens matter more than others, which undermines citizens’ loyalty (Tilly 2007). Citizens expect that all citizens should be treated equally: one person equals one vote (Tilly 2007).

Thus, we predict that the experience of bribes triggers discontent such as abstaining from voting regionally (Tilly and Tarrow 2015; Tilly 2007).

Hypothesis 1 (H1). A greater regional average of government bribes corresponds to lower voting probability.

Regional education and voting

Political resource approaches (Brady et al. 1995) claim that education supports voting participation. However, previous research teaches us that highly educated citizens have a lower probability of voting (Croke et al. 2016) but a greater probability of protest (Dahlum and Wig 2019).

Expanding on previous research, we focus on how regional education contributes to mobilizing discontent, such as not voting (Tilly 2000). We suggest that highly educated citizens mobilize political changes (Tilly 2015). The highly educated have a higher rate of participation in political protests. Evidence at the citizen level agrees (Dahlum and Wig 2019).

Thus, in Africa, highly educated citizens protest more than they do in Europe (Dahlum and Wig 2019). However, unlike Europe, the highly educated citizens vote at a lower rate in Africa (Croke et al. 2016). Expanding on previous research, our prediction concerns the regional level as we underscore the exchanges. Our mechanism centers on how the exchanges with the highly educated cluster and thus spread discontent.
First, the highly educated cultivate political discontent during their education. In Africa, students of diverse social categories have gained access to university-level education. Thus, universities offer students a place to meet, coordinate, and diffuse political knowledge (Tilly 2015). In addition, election boycotts have been a strategy of student movements (Paret 2020; Runciman et al. 2019). Such experiences shape the behaviors of highly educated citizens and their fellow citizens (Tilly 2015). Thus, when highly educated citizens cluster in a region, they contribute to spreading discontent (Lockwood 2021; Runciman et al. 2019; Tilly 2015).

Second, highly educated citizens react to the government’s unfulfilled obligations. Achieving a high level of education signals a commitment to the government. Thus, citizens react in discontent when the government fails to provide highly educated citizens with jobs, welfare, or equal treatment (Paret 2020). As highly educated people risk marginalization (unemployment, economic uncertainty), they find themselves aligned with the claims of the marginalized (Tilly 2015).

Hypothesis 2 (H2). A greater regional average of highly educated citizens corresponds to a lower voting probability.

However, the prediction does not negate political resource approaches. Political resource models have expanded on political resource mobilization models in social movement theory. Political resource mobilization emphasized education as a contributing driver of grievances or protest (Brady et al. 1995). Thus, the prediction could be reinterpreted as regional educational resources supporting the mobilization of discontent.

**Regional class voting**

Research on class voting and socioeconomic status has been dominated by studies in Western Europe (Evans 2000) and the United States (Rosenstone and Hansen 1993; Brady et al. 1995). Previous theories and research emphasize an association of socioeconomic status (Brady et al. 1995; Lijphart 1997) and voting. In the West, wealthy and middle-class voters have a higher probability of voting. However, we note that socioeconomic status (occupation, education, and income) captures occupational status, but not social class relations. Although subtle, class relations refer to citizens’ position on the labor market (occupation and employment contract), as opposed to the rewards from the labor market (income). Income can mediate class behavior but does not indicate class. For example, the association between class and voting persists when adjusting for income (Weakliem and Heath 1994).

Class voting continues to predict voting in Europe (Evans 2000). However, class voting has not been frequently studied in the context of southern Africa. In Europe, a consistent association between social class and voting exists (Evans 2000). The relation between workers and managers turned elections into an institutionalized class conflict. Although citizens vote by class at a declining rate, the lower classes continue to vote at a lower probability (Evans 2000). Thus, authors have suggested that class and voting participation represent a promising research direction (Evans 2000). Nevertheless, class voting emerged due to specific historical events. However, Western countries (i.e.,
Europe and the United States) have dominated the research, and we do not know whether the result generalizes.

In contrast to Western countries, studies of developing countries find that wealthier people were less likely to report voting than the poor (Kasara and Suryanarayan 2015). Similarly, research in Africa, especially in several southern African countries, has found an inverse relationship between socioeconomic status and voting. Individual country studies from southern Africa agree. Wealthier Black South Africans voted at a lower rate than the poor (The Economist 2020). In Zambia, Resnick (2015) found that the middle class voted at a lower rate. However, with the growing middle class in southern Africa, we urge to reexamine how class influences citizens’ decisions to vote or abstain. Resnick (2015) and Kasara and Suryanarayan (2015) measure class in terms of income. In contrast to income, class centers on occupations and the employment contract (Evans 2000). Thus, we agree with the neo-Weberian approach to class voting in Europe. However, we disagree with the neo-Weberian approach (Evans 2000) on the mechanism. African class voting is based on exclusion (e.g., informal job sector, unemployment, financial insecurities) (Paret 2018; Scully 2016). Like many developing countries, Africa has considerable employment and financial insecurity leading to unequal treatment and thus exclusion (Scully 2016; Paret 2018). Exclusion created a marginalized class, for example, insiders/outsiders (Scully 2016; Paret 2018). A marginalized class that expresses discontent with the government for the lack of jobs or social security (Tilly 2007, 2015).

Hypothesis 3 (H3). Citizens in higher social classes will have a lower voting probability than those in lower social classes.

To underscore the relational aspect, we also argue for the regional importance of class (Tilly 2007, 2015). Previous studies have suggested that workers and students have protested in poor communities (Paret 2018, 2020). Thus, the poor do not necessarily express discontent, but workers and students within poor communities or regions do (Paret 2020; Runciman et al. 2019). However, the working class has considerable heterogeneity and can be divided (Paret 2018, 2020). The skilled and artisan (hereafter: skilled crafts) occupations constitute the upper working class, thus nicknamed the labor aristocracy. Examples include electrician, mechanic, machinist, metal worker, or skilled manufacturing worker. Consequently, skilled crafts constitute a small share of the working class compared to the unskilled workers (e.g., agricultural).

Crafts contribute to mobilization due to a skill-based “craft-solidarity” that signals an occupational community (or “trust networks”) (Tilly 2007, 2015). Craft-solidarity is protected by skill requirements and craft-controlled apprenticeships. However, we do not necessarily propose that individual skilled craft-solidarity reduces voting participation. We suggest that skilled craft workers find strength in their unions and workplaces as well as the local community or region together with students to signal discontent (Paret 2020; Runciman et al. 2019).

Thus, skilled craft relations often extend beyond the workplace (Runciman et al. 2019; Tilly 2015; Paret 2018). For example, the importance of the household in Africa allows for greater contacts among classes, for example, skilled crafts, housewives, and students (Scully 2016). However, we emphasize how local communities or regions also mobilize discontent among workers and students (Paret 2020, 2018; Lockwood 2021).
Consequently, skilled crafts form class collations work as a tactic (Tilly 2015; Paret 2020; Runciman et al. 2019). Economic insecurity has been pivotal in promoting the coalition tactic (Runciman et al. 2019; Paret 2018). Thus, we suggest that regions with strong skilled craft mobilization predict lower voting participation.

Hypothesis 4 (H4). A greater share of skilled craft occupation corresponds to a lower voting probability.

Our prediction does not invalidate the political resource approach. However, we consider our prediction a hypothetical explanation based on the relational approach to contentious politics.

**Method: sample, variables, and analysis**

We report the sample in the method section. Thereafter, we describe the variables used (i.e., outcome, predictors). Finally, we outline the strategies for data analysis.

**Sample and case selection**

The Afrobarometer surveys more than 30 countries (Afrobarometer 2019). From the seventh round conducted in 2019, we selected 11 countries in southern Africa: Botswana, Swaziland, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, South Africa, Zambia, and Zimbabwe. Our selection depended on substantive issues. To combine various countries, we needed to assess that they constituted a common population.

Although African countries share a history, we know that languages and cultural interpretations vary. To ensure comparability, researchers should test whether the measures have the same meaning. We found negligible or substantive bias when testing the measures of interest. Thus, we addressed the problem by combining countries with negligible bias. The southern African countries had similar interpretations of the measurements. We speculate that the southern countries share geopolitical and institutional histories that evolved over time.

The Afrobarometer has three advantages. First, the Afrobarometer collects data on attitudes, beliefs, behaviors, and status variables.

Second, the Afrobarometer uses a complex random sample that allows making inferences about the population. Specifically, the study uses a clustered, stratified, multistage, area probability sample. Thus, the investigators sample geographical units in several stages with a size proportionate to the population.

Third, the data have been coded geographically. The main disadvantage concerns the lack of a panel. Cross-sectional data can never draw conclusions about change.

**Variables**

In Table 1, we report the variables used, including the mean/proportions, standard deviations, and minimum and maximum values. In addition, we describe the variables in the subsequent paragraphs.
Outcome
We coded whether the participants voted in the last election as a binary outcome variable. The original variable contained multiple response options. We decided only to analyze those who did or did not vote. We discharged options such as “could not find the voting station” or “respondents being too young.”

We coded the reported votes as “1.” Next, we coded “decided not to vote,” “not having time to vote,” “being prevented from voting,” and “not registered for voting” as not voting (=0). Readers might question the coding. However, we suspect that voters’ statements for not voting may differ from the actual (a) behavior or (b) reason (Tilly 2015). Consequently, reported voting will have a measurement error due to, for example, memory bias (Fullerton and Borch 2008).

Predictors
Three questions measured experience of bribes. The questions asked whether the participant in the study believed that ordinary people pay bribes to avoid taxes, go to court, or register land. The scale ranged from 0 to 4.

The educational variable had the following levels: informal education, primary education, secondary education, and postsecondary education. We used postsecondary education as the reference category because the highly educated tend to vote at a higher rate. The individual predictor should be an important confounding variable (Brady et al. 1995).

To measure occupational social class, we used the 12 occupations. We also used a dummy variable (1/0) for self-employment. We focused on the occupation (skill
requirement) and self-employment employment (employment relation) (Breen 2005; Evans 2000). Employment relations capture citizens’ capacity to make claims on the market (Tilly 2015). Thus, we coded occupations based on the neo-Weberian class schema (Evans 2000) of six classes (Manza and Brooks 1999):

- **The professionals:** middle (e.g., teacher, nurse, mid-level government officer) and upper (e.g., banker/finance, doctor, lawyer, engineer, accountant, professor, senior-level government), including security services.
- **The managers:** including supervisors and forepersons.
- **Self-employed:** or “owners”—anyone self-employed including agricultural workers.
- **Routine:** clerical, secretarial, and retail.
- **Skilled:** skilled or artisan (craft) occupations (e.g., electrician, mechanic), machinist, or skilled manufacturing worker.
- **Unskilled:** unskilled occupations (e.g., cleaner, laborer, domestic help, unskilled manufacturing worker), traders, and agricultural workers who are not self-employed.
- **NILF:** citizens not in the labor force, such as students, housewives/homeworkers, or those who have never had a job. This is used as a reference category. We refer to this class as the marginalized class.

Finally, we aggregated regional variables by computing the regional proportion of highly educated and regional skilled craft workers. For the regional experience of bribes, we computed the regional average.

In the Afrobarometer, regions refer to the geographical units of the respective countries, that is, the main subnational unit of nation (regions). The number of regions and sample size vary by country due to administrative boarders. The average region sample size for our subset was 118.3.

**Adjusting predictors**

We measured political trust with ordinal questions (0 to 4) about trust in the president, army, local government councilor, or police.

We used three questions to measure political contacts. Each question ranged from 0 to 4. The participants reported whether they had contacted a local government councilor, an MP, or an official government agency.

Next, we adjusted for economic poverty. Because we lacked a direct measurement of income, we used economic poverty as a substitute (Brady et al. 1995). We used five binary questions that measured lack of food, water, cooking fuel, medical care, and money.

Age adjusted for differences across the life course. Age indicates life phases and generational differences (e.g., exposure to democratic education). Political scientists have claimed that voting behaviors develop with age. We used the categorical age variable to reduce the risk of misspecifying the relationship (e.g., nonlinear).

For economic remittance, we used an ordinal variable measuring frequency of receipt. We decided to standardize the variable by subtracting the mean and dividing it by the standard deviation.
In addition, we attempted to adjust for *national identity* and *religion*. However, we found no associations and therefore dropped the two predictors out of the final model.

**Measurement**

To measure trust in the government, contacts with politicians, economic poverty, and experience of bribes, we estimated a graded response model (GRM) with imputation. GRM estimates the person’s capacity based on a latent variable. We used classical estimators and Bayesian GRM. Similar to confirmatory factor analysis, GRM represents a theory-driven model (Rizopoulos 2006). GRM assesses the extent to which the proposed model fits with the data. The GRM allows each question to have different contributions and thus mitigates measurement error. Compared to the principal component analysis, GRM offers a validity advantage of representing a latent variable (Rizopoulos 2006). We used the estimated latent variables as predictors in our regression models. To test whether the measurements conformed to one dimension, we used exploratory factor analysis before the GRM and inspected the Eigenvalues. We conducted the estimations with the psych and ltm packages (Rizopoulos 2006). Thereafter, we estimated the Bayesian version with Stan (Carpenter et al. 2017) based on the code in Luo and Jiao (2018) with minor modifications. The results of the classic and Bayesian GRMs agreed.

**Data analysis**

Again, we focused on a predictive model, not a causal model (Gelman, Hill, and Vehtari 2020). To model our outcome variable, we conducted a multilevel logistic regression. Thus, we assumed a Bernoulli distribution (Gelman et al. 2020). However, we wanted to interpret our outcome in probabilities meaningfully. Any logit coefficient close to 1 can be divided by 4 to obtain the approximate predicted difference in probability (“the divide by four rule”) (Gelman et al. 2020). Alternatively, the values can be computed by taking the partial derivative.

We conducted a Bayesian analysis (Congdon 2019). We assumed that the coefficients had a weakly informative prior distribution. We assigned a prior mean of zero and a standard deviation of 2.5. We used the same priors for quantitative and binary predictors. For the intercept, we used student t prior of 3 degrees of freedom, location of zero, and a scale of 2.5 (i.e., default in brms-package [Bürkner 2017]). Likewise, for the standard deviation of the intercept (i.e., square root of the variance component), we again used a half student $t$ of 3 degrees of freedom, location of zero, and a scale of 2.5 (again default in brms-package [Bürkner 2017]).

Skeptical readers should note that with a large sample size, the data dominate over the priors and thus the estimates will resemble maximum likelihood. However, adding no information to the model can lead to convergence problems (Gelman et al. 2020).

We attempted to fit a three-level model; however, the model never converged (a too-low effective sample size). The two-level model fit well. We also reported a Bayesian multilevel categorical logit (i.e., multinomial) to improve the understanding by assuming a categorical distribution.
Bayesian analysis allows us to fit complex models such as the multilevel multicategory logit (Bürkner 2017). Next, Bayesian analysis simplifies the interpretation of uncertainty (Congdon 2019). We include posterior predictive checks in the supplementary file. Concisely, posterior predictive checks compare the estimated model to the data based on simulated replications.

All analyses were conducted in R (RC Team 2013) and the graphs with ggplot2 (Wickham 2016). We used the brms package (Bürkner 2017), which is a wrapper for Stan (Carpenter et al. 2017) for regressions.

Finally, to simplify the interpretation we computed the $z$ score (subtracted the mean, divided by the standard deviation) for all quantitative predictors (indicted with “$z$”). To mitigate non-linearity and leverage, we used logit transformation prior to standardization for regional education. For graphs, we used the original quantitative scale.

**Missing data**

For the binary logit model, we also conducted multiple imputation (five data sets) with the mice package (Van Buuren 2018). The multiple imputations indicated the same results (provided in a supplementary file).

**Results**

First, we report the exploratory data analysis. Second, we report the multilevel binary regression. Third, we report the multilevel categorical regression (i.e., multinominal). Finally, we indicate standard deviations with “SD.”

**Exploratory analysis of voting**

Here, we report a graphical analysis for social class and regional predictors. In the end, we also report a linear regression for the aggregated data.

In Figure 1, we report voting by social class and individual experience of bribery. For the bar chart, we graphed the voter turnout (proportions) by class. We have preliminary support for our prediction about occupational social class. Citizens who hold a higher occupational social class (managers, professionals, and self-employed) vote at a higher proportion. Citizens within the marginal occupational social class (unemployed, housewives, and students) abstain from voting. Similarly, the intermediate and highly educated vote at a lower rate than those with lower education levels.

The y axis for the box plots represents the citizen bribery variable. We note that citizens who do not vote have a greater experience of bribes. The pattern between bribery and voting extends beyond the individual. The scatter plots indicate a negative association between regional bribery experience, regional share of workers, and regional share of the highly educated. We also added a simple regression line.

We fitted a Bayesian linear regression on the regional average with logit voting as the outcome. The regression indicated a negative relationship between regional voting and regional bribe experience. For example, one SD higher regional experience of bribes corresponded to $0.19(C.I. = [-0.30 : -0.08])$ lower logits of regional voting, on average, adjusting for the other predictors. We also noted a negative association between the
regional share of skilled craft workers and regional voting share. Thus, one additional SD in share of skilled craft workers corresponded to an average difference of $-0.17 (C.I. = [-0.30 : -0.04])$ logits in regional voting, adjusting for the other predictors. Regions with more highly educated had a negative association with regional voting ($-0.15, C.I. = [-0.28 : -0.02]$). The magnitude seems substantive with a low to moderate fit ($R^2 = 0.24, C.I. = [0.13 : 0.34]$). Thus, the result supports our predictions (H2, H1, H4).

In summary, we find support for our predictions. Next, we continue with the predictive analysis.

**Multilevel binary regression analysis of voting**

Here, we report the multilevel logistic regression. We organized the analysis into three parts. First, we report the averaged estimates. Second, we report the estimated probabilities. Third, we report the average partial derivatives.
In Table 2, we report the logit regression. Quantitative predictors have been centered at the mean and divided by the standard deviation simplified the interpretation. Along with averaged coefficients, we report the 95% credibility intervals (i.e., percentiles). Dividing the coefficients by 4, we obtain the approximate difference in estimated probabilities (for quantitative predictors). However, we generally focused on the sign when working with logit coefficients, which suggests that we have a class-voting association (H3).

However, the division emerged between the marginalized class (NILF). On average, the professional class had higher likelihoods of voting compared to the marginalized class. Similarly, the unskilled workers (e.g., traders or agricultural) had greater likelihood of voting than the marginalized NILF. Consequently, the class relation matters. We also note that greater experience of bribery corresponded to a lower likelihood of voting on the citizen level.

First, the class association became more dominant at the citizen level. Compared to NILF, self-employed people had a greater likelihood of voting. Next, compared to NILF, routine workers and unskilled workers had a greater likelihood of voting.

Second, we see how regional clustering matters for predicting voting. Regions with a greater average of bribery experience had a lower likelihood of voting. Using the divide-by-four rule (Gelman et al. 2020), one SD regional bribery corresponded to an approximate predicted difference of −5.5 percentage points at the middle of voting distribution. Similarly, greater regional share of skilled craft workers corresponded to a greater likelihood of voting. Using the divide-by-four rule (Gelman et al. 2020), we found an approximate predicted difference of −6 percentage points at the middle of distribution. Regions with a greater share of highly educated people had a lower likelihood of voting.

**Table 2. Logit coefficients for voting. Data: Afrobarometer.**

| Predictors        | Estimate | l-95% CI | u-95% CI |
|-------------------|----------|----------|----------|
| Intercept         | 0.37     | 0.17     | 0.58     |
| Female            | 0.03     | −0.07    | 0.14     |
| Informal schooling| −0.05    | −0.29    | 0.20     |
| Primary schooling | 0.07     | −0.13    | 0.26     |
| Secondary school  | 0.10     | −0.06    | 0.26     |
| Age: 26–35        | 0.77     | 0.64     | 0.90     |
| Age: 36–45        | 1.20     | 1.04     | 1.36     |
| Age: 46–55        | 1.47     | 1.28     | 1.66     |
| Age: 56–65        | 1.61     | 1.38     | 1.84     |
| Age: Over 65      | 1.76     | 1.49     | 2.04     |
| Material poverty  | −0.02    | −0.07    | 0.04     |
| Remittance (z)    | −0.13    | −0.18    | −0.08    |
| Political contact (z) | 0.23 | 0.17 | 0.28 |
| Trust (z)         | 0.19     | 0.14     | 0.24     |
| Bribe (z)         | −0.07    | −0.12    | −0.01    |
| Unskilled         | 0.22     | 0.05     | 0.38     |
| Skilled           | 0.22     | −0.01    | 0.45     |
| Routine           | 0.26     | 0.01     | 0.51     |
| Self-employed     | 0.25     | 0.11     | 0.40     |
| Managers          | 0.21     | −0.16    | 0.61     |
| Professionals     | 0.25     | 0.05     | 0.44     |
| Regional bribe (z)| −0.22    | −0.33    | −0.12    |
| Regional highly educated (z)| −0.10 | −0.21 | 0.01 |
| Regional workers (z)| −0.24 | −0.38 | −0.12 |
| SD (Intercept)    | 0.50     | 0.41     | 0.61     |
but the uncertainty seemed rather high. Again, the result supports our predictions (H1, H3, and H4), but with uncertainty around regional share of education, that is, H2.

To interpret the results, we turn to estimated probabilities. In Figure 2, we graph the estimated probabilities for voting. To aid the interpretation, we added a reference line at 0.5 and 95% credibility intervals.

Regions with a higher level of bribery experiences had a lower predicted probability to vote. The pattern supports our argument that the regional experience of bribery triggers a response among citizens. As expected, highly educated citizens contributed to lower predicted probabilities to vote. This means that highly educated citizens signal discontent with the government. Regions with more skilled craft workers had a lower predicted probability to vote (H4).

In Table 3, we report the average partial derivatives (APDs) in the predicted probabilities. The derivative indicates the instant rate of changes for a small change in the predictors and thus the magnitude.
Readers may interpret the result on a probability scale. For example, one additional SD in regional bribery corresponded to roughly a reduction of three percentage points in the voting, on average, after adjustment. Likewise, one SD in share of regional skilled craft workers corresponded to roughly a reduction of three percentage points in the probability of voting.

**Multilevel categorical regression analysis of voting**

Thus far, we have used a binary outcome variable. However, the original outcome had several options. Therefore, we refitted the model using a multilevel categorical regression (i.e., multinomial) for a nuanced interpretation of the results and to assess the sensitivity of the outcome measurement. We focus on predicted probabilities but do not report derivatives in probability terms because these can be tricky to interpret. Coefficients have been placed in the supplementary file (with “voting” as the reference category).

In Figure 3, we report the estimated probability. Registration may also be a relevant issue to understand how class matters at the citizen level. The marginalized class (NILF) registered at a lower predicted probability than the predicted probability of voting in several classes (skilled, routine, professionals, and self-employed). For example, the marginalized class (NILF) had a greater chance of responding not registering than responding voting, compared to the routine class. Thus, the marginalized class (NILF) signals discontent by avoiding to register. However, others struggle to find the polling station.

Regional experiences of bribes relate to multiple outcomes. First, a greater regional experience of bribes corresponded to a lower predicted probability of voting. Second, a greater regional experience of bribes corresponded to a greater predicted probability of deciding to not vote. Third, greater regional experience of bribes corresponded to a greater predicted probability of not finding the time to vote or being prevented from voting. Thus, the regional experience of bribery had a substantial relation to discontent.

The regional share of the highly educated had a lower predicted probability of voting. Specifically, regions with more highly educated people had a greater predicted probability of deciding not to vote \((\hat{\beta} \approx 0.17, CI = [0.03, 0.32])\).

The regional share of skilled craft workers had a lower predicted probability of voting. Specifically, two outcomes relate to the skilled craft regional share of workers. First, regions with a greater share of skilled craft workers had a greater predicted probability of deciding not to vote. Second, regions with a greater share of skilled craft workers had a greater predicted probability of not registering to vote.

Fitting the model with multiple outcome categories has some advantages. For example, we note that citizens with higher reported economic poverty also struggled to find voting stations compared to voting \((\hat{\beta} \approx 0.32, C.I. = [0.08 : 0.56])\).

### Table 3. Average partial derivatives for voting. Data: Afrobarometer.

| Predictors                | Estimate | l.CI  | u.CI  |
|---------------------------|----------|-------|-------|
| Regional bribe \((z)\)    | -0.03    | -0.06 | -0.01 |
| Regional highly educated \((z)\) | -0.01    | -0.04 | 0     |
| Regional workers \((z)\)  | -0.03    | -0.06 | -0.01 |
Discussion

The vote share of a country indicates the political legitimacy of governments (Blais 2006; Weber 1978). Thus, a low voter turnout undermines democracy and signals its citizens’ discontent (Tilly 2007). Nevertheless, explaining and predicting voting participation has focused on country-level predictors at the expense of regional predictors. Therefore, we predicted voting participation in 11 countries using the Afrobarometer (2019) with multilevel and measurement models.

Our conclusions follow:

1. Greater regional averages of experiences of bribes lowers the probability of voting (H1). Thus, the importance of bribery extends beyond the individual’s experience.
2. Regions with more highly educated citizens have lower predicted probabilities of deciding not to vote (H2).
3. Strong regional skilled craft mobilization contributes to lower predicted probabilities of voting (H4). In addition, citizens with a lower social class have a lower predicted probability of voting compared to citizens with a higher social class (H3).

Overall, the results support our predictions (H1 and H3) for the relational approach to contentious politics and democracy (Tilly 2007, 2015). However, we underscore how that seems more reliable for the decision not to vote (H2). Specifically, we make three theoretical contributions to the political sociology of voting participation based on three regional mobilization mechanisms (McAdam et al. 2009).

Our first theoretical contribution concerns the regional clustering of bribery and voting. Similarly, previous research has examined corruption and voting (Sundström and Stockemer 2015; Stockemer et al. 2013) but neglect the regional importance of bribes. Going beyond individual citizens helps us to examine the mechanisms of regional mobilization the relational approach proposes (Tilly 2007, 2015; McAdam et al. 2009). Regional bribes undermine the loyalty between citizens and government (Della Porta and Vannucci 2012; Tilly 2007). Regional rule undermines the government’s rule. Citizens react to unequal treatment as a violation of their rights.9

For our second theoretical contribution, we indicate the importance of the regional share of highly educated citizens. Whereas previous research emphasizes the individual importance of education for deciding to vote (Croke et al. 2016), we contribute by pinpointing the regional importance. We consider the result as a logical extension of the relational approach. Citizens mobilize with the spread of higher education. Citizens mobilized discontent in the regional exchanges with the highly educated (Tilly 2015). Thus, we show that the regions with a large share of highly educated citizens have a lower probability of deciding to vote.

Our third theoretical contribution concerns the importance of social class and voting participation. Thus, we break from the “political resource” approach (Kasara and Suryanarayan 2015; Resnick 2015; Brady et al. 1995; Kuenzi and Lambright 2011). Although class voting has dominated in Europe (Evans 2000; Weäkliem and Heath 1994), we find that the scope extends to the African context with a twist. We demonstrate the importance of regional skilled craft workers. Regions with a strong skilled craft organization contribute to solidarity and discontent (Tilly 2007). Regions with more skilled craft workers react because of the government’s incapacity to include them (Tilly 2007, 2015), for example, due to economic/employment insecurity (Scully 2016; Paret 2018). However, solidarity goes beyond class division and into class coalitions with other citizens (Tilly 2007, 2015) such as students, housewives, and other labor market outsiders (Scully 2016; Paret 2018).

Thus, we find that theories of class voting need contextualization. We theorize that the households (Scully 2016), communities, or regions (Runciman et al. 2020; Paret 2020; Lockwood 2021; Paret 2018; Tilly 2015) offer a site for classes to meet (e.g., crafts, students, and housewives). Regional mobilization explains why the divide does not exist between workers and professionals, but between those marginalized (NILF) from the labor market and the higher classes (Runciman et al. 2020; Paret 2020).

For the theoretical implication, we show how the relational approach to contentious politics (McAdam and Tarrow 2010; Tilly and Tarrow 2015) and democratization (Tilly
predicts voting participation. By emphasizing regions (Tilly 2000), we diverge from the dominant focus on country predictors in previous research and theories (Blais 2006). Regions indicate a geographical location for clustered exchanges between citizens (Tilly and Tarrow 2015; Tilly 2015).

The relational approach aims to bring relation processes into politician resources. Thus, we agree that political resources (Brady et al. 1995) matter; however, we need to attend to local relational mobilization mechanisms (Tilly and Tarrow 2015).

**Limitations**

We contend that limitations help the readers to better comprehend the scope of our conclusions. The first limitation concerns omitted variable bias. For example, our analysis does not account for national institutions, for example, mandatory voting (Kuenzi and Lambright 2007). Furthermore, we adjusted for poverty, but not income (Resnick 2015; Kuenzi and Lambright 2011). Nevertheless, to change the sign and magnitude requires a large omitted variable bias (Clarke 2009). Thus, omitted variables bias is less of a concern in predictive modeling. The second limitation concerns the lack of panel data. Third, reported voting tends to be biased, for example, due to measurement and/or selection bias. Respondents may over- or under-report their voting in fear of sanctions (Adida et al. 2019). As a check, we estimated a binary model (not reported) with dummies for the respondent’s honesty, but this did not alter our results or conclusions. Combining voting and registration into a selection model might reduce the problems (Fullerton and Borch 2008). Consequently, we urge caution in interpreting our results.

Finally, country comparability may not suffice and checking regional comparability may be an important part of in future research.

**Notes**

1. By government we mean the state organization of control and coercion with a territorial space. This includes politicians as well as courts, police, and so on.
2. We define institutions as rules or conventions that emerge from relations
3. We use artisan and craft interchangeably.
4. Class voting refers to the association between class and voting behaviors or preferences (Evans 2000).
5. We distinguish between socioeconomic status and class.
6. Technically, we conducted a Differential Item Function test (Choi, Gibbons, and Crane 2011) and found a considerable difference in measures of magnitude.
7. Before the estimation we imputed missing values with the missRanger package based on random forests.
8. 0 and 1 remapped into 0.025 and 0.975 (Fox 2015).
9. However, our results do not rule out QoG (Rothstein and Teorell 2008; Sundström and Stockemer 2015).

**Notes on contributors**

Elvis Bisong Tambe is Senior Lecturer in Political Science at Linnaeus University, Sweden. His research interests lie in the field of political behavior, political participation, public opinion, voting, and electoral processes, with a focus on new and emerging democracies. He is author of
Electoral Participation in Newly Consolidated Democracies: Turnout in Africa, Latin America, East Asia and Post-Communist Europe (Routledge, 2021).

Olof Reichenberg is an Associate Senior Lecturer at Linnaeus University in the Department of Social Studies. Substantively, Reichenberg focuses on the sociology of labor markets, the sociology of education, political sociology, and quantitative social science data analysis.

ORCID

Olof Reichenberg http://orcid.org/0000-0002-8712-5978

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