USAID
FROM THE AMERICAN PEOPLE

Networks and Information: An Impact Evaluation of Efforts to Increase Political Participation in Mozambique

May 2015

This publication was produced for review by the United States Agency for International Development. It was prepared by Pedro C. Vicente (Universidade Nova de Lisboa and Social Impact), Macartan Humphreys (Columbia University), and Daniel M. Sabet (Social Impact).

Networks and Information: An Impact Evaluation of Efforts to Increase Political Participation in Mozambique

DISCLAIMER

The authors' views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government. This document was submitted by Social Impact, Inc., to the United States Agency for International Development.

Project Number: AID-656-A-12-00001 ; Evaluation Mechanism Number: AID-OAA-M-13-00011

ACRONYMS

EGAP	Experiments in Governance and Politics
FRELIMO	Frente de Libertação de Moçambique (Mozambique Liberation Front)
GDP	Gross Domestic Product
IDEA	International Institute for Democracy and Electoral Assistance
IESE	Instituto de Estudios Superiores de la Empresa (International Graduate School of Management)
IREX	International Research and Exchange Board
MDM	Mozambique Democratic Movement
NGO	Non-Governmental Organization
OLS	Ordinary Least Squares
PPP	Purchasing Power Parity
STAE	Secretariado Técnico para a Administração das Eleições (Technical Secretariat for the Administration of Elections)
RENAMO	Resistência Nacional Moçambicana (Mozambican National Resistance)
SADC	Southern African Development Community
SMS	Short Messaging Service
USD	United States Dollars

CONTENTS

FIGURES

TABLES

EXECUTIVE SUMMARY

This impact evaluation explores the effects of two initiatives to increase low voter turnout and political participation in Mozambique. One of the possible explanations for Mozambique's low turnout and limited participation is insufficient information about political and public issues. In low information contexts, citizens may have weaker motivations to participate, or they may believe that decisions should be left to more informed citizens. Lack of information does appear to be a challenge in Mozambique, as there is a dearth of newspapers, and newspaper readership is extremely low. As such, this impact evaluation asks if distribution of a free newspaper with information about upcoming elections can increase voter turnout and other forms of political participation.

In addition, given the commonality and effectiveness of voter turnout drives in many countries, Mozambican turnout and other political participation could also be increased through more concerted mobilization efforts. New communication technology offers a low cost and previously unavailable mechanism to promote such participation. As a result, this evaluation asks if SMS campaigns can increase political participation, and, if they can, what type of SMS campaign is most effective.

By testing the independent effects of free newspaper distribution and SMS campaigns through a randomized control trial, this evaluation seeks to generate evidence to inform policy-makers, donors, and civil society organizations on the most effective ways to impact political behavior.

Testing the impact of the free @Verdade newspaper on political participation

To assess whether access to newspapers with information about upcoming elections increases voter turnout and political participation, the study examines the effects of a campaign in which a free, non-partisan newspaper called @Verdade was distributed to randomly selected households in the lead-up to elections in late November 2013. Researchers randomly selected 20 municipalities to receive the free newspaper intervention. Within each treatment municipality, polling locations (194 in total) were randomly selected into a treatment group (received the newspaper) and a control group (did not receive the newspaper). Figure1 shows the municipalities randomly selected to receive the free newspaper and Figure 2 shows an image of the front page of the paper. A panel survey was then conducted before and after the election with 1,523 randomly sampled individuals divided across these intervention and control areas.

Figure 1: Randomly selected municipalities

Figure 2: Front page of @Verdade

Testing the impact of SMS on political participation

To assess the independent effects of direct encouragements via SMS messaging, the study examined SMS encouragements sent to voters in the run-up to the municipal elections. Of particular interest was assessing what type of message would work best and whether the identity of the senders matters. To explore this question, this impact evaluation asks whether SMSs coming from specific individuals are more effective. If personal appeals matter, are individuals more receptive to appeals from people like them, such as someone of the same gender and in the same age group? This research was designed to provide answers to all of these questions by randomly dividing surveyed individuals across two dimensions.

The first dimension distinguishes between:

- **Control**: Respondents received no text messages.
- **Basic**: Respondents received regular texts that said "REMEMBER: Municipal elections are on November 20."
- **Neutral**: Others received regular personalized texts with a similar message that said, "My name is _____. I am a [male/female] participant in in a study on Mozambican politics in my [age group], and I would like to remind you that the municipal elections are on November 20."
- **Positive**: And a last group received regular enthusiastic, personalized texts stating, "My name is ___. I am a [male/female] participant in the study on Mozambican politics, in my [age group], AND I WILL VOTE ON THE NEXT MUNICIPAL ELECTIONS ON NOVEMBER 20. I WOULD LIKE YOU TO VOTE AS WELL!'

The second dimension distinguishes between:

- **Control**: Respondents received no text messages.
- **Similar networks**: Some of those receiving personalized messages received messages from individuals of the same age and gender.
- **Dissimilar networks**: The remainder of those receiving personalized messages received messages from individuals of a different age and gender.

All messages sent were sent on behalf of other consenting survey respondents and no deception was used as part of this messaging.

Measurement

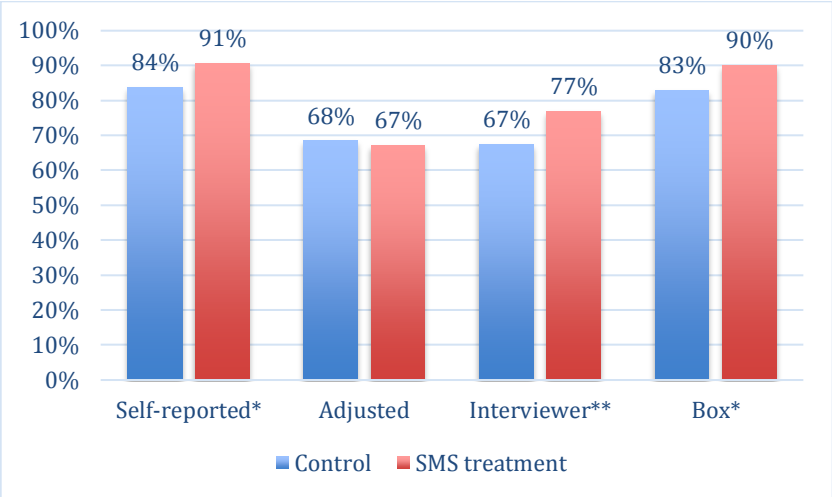
The effects of the newspaper and SMS interventions are measured through pre and post-election panel surveys and use of text message services by survey respondents. The design included several innovations to measure voter turnout in the post-election survey and minimize the tendency of respondents to over-report voting, including information-based and enumerator adjustments and the replication of the voting process through a survey-provided ballot box. In addition to voter turnout, the study also explored two other forms of political participation via text messaging. Survey respondents were encouraged to report electoral problems and to propose their policy priorities to the municipal president via a text messaging service.

Findings

The evaluation suggests the following findings:

- Those that received free newspapers were no more likely to vote or participate in other ways than those that did not. It should be noted that this result is based on survey results, and the evaluation team is still waiting for the public release of polling data disaggregated by polling station to be able to test the impact of free newspapers using the actual polling data.
- Figure 3 illustrates how those who received an SMS were more likely to vote, as measured by three of four measurements of voter turnout, than those that did not receive a message. Those receiving SMS messages were also more likely to send messages with a political participation content.

Figure 3: Percentage voting across the treatment and control groups measured through self-reports, adjusted by survey information about the electoral procedure, adjusted by the interviewer, and measured through a mock ballot.



Note: * p<.10, ** p<.05, ***p<.01

- Personalized SMSs were not more likely to influence voter turnout than non-personalized messages, but they might have encouraged recipients to participate politically through SMS.

- The positive, enthusiastic messages were no more likely than neutral messages to influence voter turnout or SMS political participation.
- Receiving an SMS from a similar individual was no more likely to correspond with turnout but might have encouraged FRELIMO voters to vote, who might have otherwise had incentives not to turnout because of an already expected victory. Male influence was positive for men, but mixed for women.

1. Introduction

Public participation in electoral politics is a cornerstone of democratic accountability (see Bentham, [1816] 1999). The primary tool for accountability in today's modern democracies is elections; however, electoral accountability can be undermined through a variety of mechanisms, including clientelism (Wantchekon, 2003), vote-buying (Vicente, 2014), and violence (Collier and Vicente, 2014). On an even more basic level, citizens often do not have adequate information to make informed choices, and low levels of political participation might also undermine electoral accountability.

This evaluation focuses on these latter challenges of inadequate information and low participation, and tests different approaches to increasing voter turnout and other forms of political participation by improving access to information through a free newspaper and through SMS messages promoting participation. The field experiment takes place in Mozambique during the November 2013 local elections. This is a particularly relevant study in a country like Mozambique, where turnout rates are comparatively low and where newspaper coverage is minimal. The previous presidential and parliamentary election of 2009 only attracted a turnout rate of 45 percent, an improvement from a low 36 percent in 2004, but still clearly below most countries in the region. Newspaper coverage in Mozambique is minimal as it is limited to a few national newspapers, each one printing less than 20 thousand copies per edition, with most distribution clustered in Maputo.

To answer if distribution of a free newspaper can increase voter turnout and political participation, a free, largely non-political and non-partisan newspaper called @Verdade was distributed to randomly selected households in the lead up to local elections in late November 2013. From among 53 total municipalities, the research team randomly selected 20 municipalities to receive the free newspaper intervention. Within each treatment municipality, polling locations (194 in total) were randomly selected into a treatment group (received the newspaper) and a control group (did not receive the newspaper). A panel survey was then conducted before and after the election with 1,523 randomly sampled individuals divided across these intervention and control areas.

To determine if SMS messages can mobilize people to participate, the survey respondents were randomly assigned to different groups, which either received simple reminders about the election, reminders about the election from peers, encouragements to vote from peers, or no message at all. Recognizing that an impersonal and informal form of communication might have limited influence, the evaluation also tests whether SMSs coming from specific individuals are more effective. The study goes a step further to test if individuals are more receptive to appeals from people like them, such as someone of the same gender and in the same age group (which is generally aligned with the concept of homophily).

In the evaluation report that follows, we first provide some contextual information about electoral accountability in Mozambique, and then lay out the theory and hypotheses that underlie the intervention and the field experiment. This is followed by a detailed explanation of the methodology underlying both the newspaper and SMS interventions as well as a discussion of how voter turnout and other forms for political participation are measured. The report then offers findings, conclusions, and recommendations.

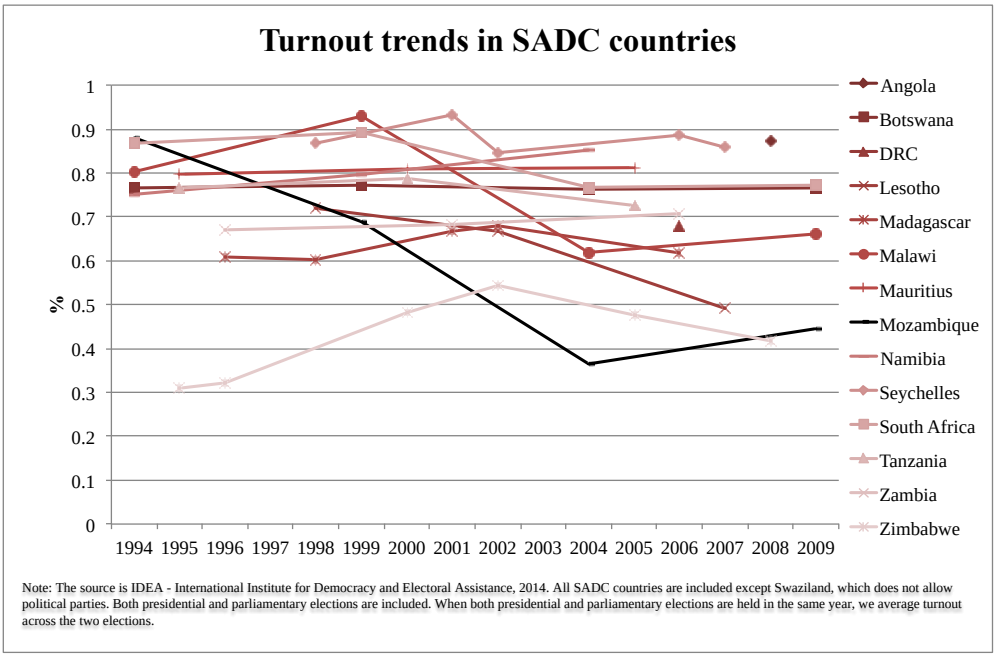
2. The Mozambique Context

Mozambique, a country with 25.2 million inhabitants, is one of the poorest countries in the world with GDP per capita of 982 USD (current, PPP) in 2012; it ranks 214 in 228 countries in terms of GDP per capita.[1] Despite recent natural resource discoveries and exploration, 81 percent of the population is directly dependent on agriculture, and official development aid accounted for 15 percent of GNI in 2012.[2]

Politically, Mozambique became independent from Portugal in 1975, after which the independent movement FRELIMO (Frente de Libertação de Moçambique) would come to lead a single-party, socialist regime. From 1977 to 1992, Mozambique suffered a devastating civil war, fought between FRELIMO and RENAMO (Resistência Nacional Moçambicana), the latter supported for many years by Apartheid South Africa and, in the context of the cold war, by the US. The civil war ended in 1992 with an agreement to hold multi-party elections.

Subsequent presidential and parliamentary elections were held in Mozambique in 1994, 1999, 2004, 2009, and 2014; however, FRELIMO and its sponsored presidential candidates have won all national elections, with RENAMO as the main contender. Under one party dominance, voter turnout decreased to just 36 percent in 2004. While turnout has since risen, as demonstrated in Figure 4, turnout in Mozambique remains below most countries in the region.

Figure 4: Turnout trends in SADC countries



Note: The source is IDEA - International Institute for Democracy and Electoral Assistance, 2014. All SADC countries are included except Swaziland, which does not allow political parties. Both presidential and parliamentary elections are included. When both presidential and parliamentary elections are held in the same year, we average turnout across the two elections.

[1] Data derived from the World Development Indicators, 2014.
[2] *Ibid.*

Options increased for voters in 2009, when the MDM (Movimento Democrático Moçambicano) was launched by the young mayor of Beira, Daviz Simango (a dissident from RENAMO) and became a viable third party, with sizable popularity among the urban electorate.

At the local level, municipal elections for president of the municipal council and for the municipal assembly were held in 1998, 2003, 2008, and 2013. Mozambican municipalities correspond to the largest cities of the country as well as to selected smaller towns. This maintains some degree of political representation at the level of the municipality for the provinces with smallest urban population. The number of municipalities has grown over time from 33 in 1998 to 53 in 2013. FRELIMO won all municipalities in 1998 (RENAMO boycotted these elections), lost five to RENAMO in 2003, lost just one to RENAMO in 2008, and lost four to MDM in 2013 (RENAMO boycotted these elections).

Despite, the presence of elections, democracy remains constrained in Mozambique, and Freedom House currently considers Mozambique a 'partly-free' country. Afrobarometer data (see Pereira et al., 2002, 2003) find relatively low levels of support for democracy, and characterize Mozambique as a 'democracy with problems.' Afrobarometer also reports that citizens display a clear resistance to proffer opinions about politics and difficulty in grasping the role of democracy in improving economic outcomes. With one party dominating elections, some voters might conclude that their vote or their participation does not matter. Such a calculus, however, produces a vicious cycle, as low turnout and participation undermine even existing limited means for accountability. This raises the question that is at the center of this field experiment: How does one encourage greater citizen engagement even within the existing political context?

3. Theory and Hypotheses

Two distinct bodies of research have focused on alternative motivations for political participation. One of these has focused on instrumental motivations for political participation. Rational actor models of politics have difficulties accounting for participation in large elections (Ferejohn and Fiorina 1974). Yet motivations are weaker still if voters have weak information; and indeed abstention may be an optimal strategy for uninformed voters even if voting is costless (Feddersen and Pesendorfer 1999). Simple logics suggest that greater information about politics will lead to greater turnout, though as we discuss below, the empirical record is more mixed.

A second body of work, developed largely in the context of U.S. elections, has focused more on *intrinsic* rationales, suggesting that engaging in politics is sensitive to social influence.[3] Under this logic, social pressure may produce large effects, and these effects may also be "contagious," moving through social networks.

[3] The role of social influence in influencing behavior has been studied in many different settings. See Conley and Udry (2010) for an example investigating the role of social learning in the diffusion of a new agricultural technology in Ghana.

The two sets of interventions we examine, relying on social messaging and information campaigns, address the intrinsic and instrumental rationales respectively. We review each of these in turn formulating our core expectations in the form of hypotheses.

Intrinsic Motivations

Get out the vote campaigns often seek to target intrinsic motivations to vote. Several studies have attempted to test the effectiveness of such drives and found somewhat contradictory results. For example, in the US context, Gerber and Green (2000) test whether phone calls, direct mail, or face-to-face appeals to vote are most effective in encouraging people to go to the polls. Interestingly, in their study, Gerber and Green (2000) find that only face-to-face appeals influence turnout. Such an approach obviously entails substantial human and financial resources, which raises the question of whether less resource intensive approaches can be effective? Dale and Strauss (2009) find some evidence to suggest so, as they test the effect of SMS reminders to vote in the US and find that text messages yield a 3 percentage-point increase in the likelihood of voting. SMS messaging is of course attractive in a resource scarce environment like Mozambique, where cell phone penetration is on the rise, and evidence from an earlier field experiment suggests that SMS messaging did successfully influence Mozambican voters to go to the polls (Aker, Collier, and Vicente, 2013). As such, our first hypothesis:

H1: Individuals who receive text messages will be more likely to politically participate.

However, we take seriously the previous findings that face-to-face communication has offered a consistently better explanation of participation than impersonal campaigns involving phones, mail, or even SMS (Addonizio, Green and Glaser, 2007; Gerber and Green, 2000). Green and Gerber (2004) contend that there is something about personal connections, or a social connectedness, that is fundamental to actually influencing behavior. The question then becomes if there is a way to create a sense of *social* connectedness through SMS: to mimic this sense of social connectedness through SMS services. Such a question is not outside of the realm of possibility with increasing reliance on technology in inter-personal communication. For example, it seems likely that a personal appeal from an actual person over SMS might be more effective at encouraging participation than an anonymous appeal from an unclear source. Such technology-based networks might be considered quasi-networks. As such, we hypothesize that:

H2: Reminders and encouragements from quasi-networks have a stronger impact on political participation than anonymous text messages.

If quasi or technology-based networks can have an influence, then some of the other findings regarding social embeddedness might also apply. Real world networks are not random, and a long-standing sociological tradition has found that people tend to interact with individuals who are like them, a principle known as homophily.[4] Homophily can occur across a variety of factors, but this research focuses on gender and age. For example, Marsden (1988) shows that people are more likely to discuss important matters with those of the same gender and of a similar age. More importantly for this discussion, Huckfeldt and Sprague (1995) found considerable gender segregation in discussions of politics. While these studies

[4] See McPherson, Smith-Lovin, and Cook (2001) for a review.

occurred outside of Mozambique, anecdotal evidence would suggest that the findings apply to Mozambique as well.

H3: Reminders and encouragements from similar gender and age quasi-networks (neutral and positive SMSs) have stronger effects on political participation than reminders and encouragements from dissimilar quasi-networks.

Who one feels comfortable talking about politics with might be different from who a respondent is likely to be influenced by. Given the traditional deference given to men and older respondents in Mozambique, it might be that study participants are more likely to be influenced by text messages coming from this group regardless of the study participant's own age and gender.

H4: Reminders and encouragements (neutral and positive SMSs) from men and older subjects have stronger effects on political participation than reminders and encouragements from women and younger subjects.

Messages need not only vary in the source of the message but also the content of the message. For example, in Gerber, Green, and Larimer's (2008) field experiment, the message that study participants received varied. These authors tested different types of incentives to vote and find that messages that apply social pressure produces the largest effect. Our field experiment tests whether appeals to vote from quasi-networks have a stronger effect than simple reminders about the upcoming vote.

H5: Encouragements from quasi-networks (positive SMSs) have a stronger impact on political participation than quasi-network reminders (neutral SMSs).

As suggested above, our research design also addresses another potential cause of low participation: the simple lack of information.

Instrumental motivations

Mattes and Shenga (2008) hypothesize that the very low levels of political accountability observed in Mozambique may be the result of deficient channels of information dissemination, which are exacerbated by poverty and low education. In fact, there is some evidence to suggest that increasing information to the electorate can alter political behavior. Ferraz and Finan (2008) find that increased information disseminated by radio in Brazil resulted in voters acting to remove corrupt politicians. Banerjee et al. (2011) document an increase in voter turnout after report cards giving information on candidate qualifications and legislator performance were distributed to voters in India. Aker, Collier, and Vicente (2013) find that the distribution of newspapers do increase voter turnout in Mozambique.

In an ideal scenario, greater information does not just increase participation, but higher participation in turn yields a response from public officials. Besley and Burgess (2002) show that exposure to newspapers is associated with an increase in government responsiveness to falls in food production and crop flood damages in India. In the context of community-driven development, the dissemination of information about health services produced impressive improvements in the quantity and quality of health in Uganda (Bjorkman and Svensson, 2009).

Still, the effects of information on participation are not consistent across contexts and may be complex. A study in the very different political and informational environment of the United States found that distribution of a free newspaper did not have an effect on political knowledge, stated opinions, or turnout, although it did lead to greater support for one of the political parties (Gerber, Karlan, and Bergan, 2009).

Banerjee et al. (2011) document an increase in voter turnout after report cards giving information on candidate qualifications and legislator performance were distributed to voters in India. Still, the effects of information on participation may be complex: Chong et al. (2011) provide information about candidate corruption in Mexico and observe an adverse effect, possibly resulting from a highlighting of the venality of politicians.

As such, this research tests the effect of the distribution of a free newspaper in a country with low newspaper coverage on political participation.

H6a: Newspaper distribution at the level of the polling location increases political participation in the elections.

Information and mobilization campaigns have been found to have considerable spillover effects beyond those directly targeted by or consuming a message (Nickerson, 2008; Gine and Mansuri, 2011). A similar experiment conducted in Mozambique found that both targeted individuals and untargeted individuals in treatment areas had the same probability of voting (Aker, Collier, and Vicente, 2013). As such, we test the following:

H6b: Targeted and untargeted subjects in treatment communities politically participate at similar rates.

While these hypotheses are fairly straightforward, there are several steps in the causal mechanism that would link a free newspaper to political behavior. First and foremost, households receiving the paper would have to read or at least skim the newspaper. Second, the paper would have to increase either the reader's interest in politics or knowledge of politics.

H7: Newspaper distribution at the level of the polling location increases electoral information and voters' ability to assess the previous mayor.

While not a central hypothesis, the experiment also tests if the way in which the newspaper was delivered influences outcomes.

H8: Distribution of the newspaper by enumerators and by @Verdade lead to similar effects on political participation.

Interactions

Intrinsic and instrumental motivations may also interact. If SMS messages and newspapers are each independently hypothesized to increase political participation, then one could expect that individuals who benefit from both treatments would be the most likely to politically participate. However, Fafchamps, Vaz, and Vicente (2013) found that individuals with stronger networks voted less often when faced with newspaper distribution during the 2009 presidential and parliamentary elections. Those authors

interpreted this negative interaction effect as free-riding, as more central individuals anticipate that voter turnout is going to increase as a result of voter education. This analysis tests two related hypotheses regarding the interaction between the SMS and newspaper treatments.

H9: Quasi-network reminders and encouragements (neutral and positive SMSs), relative to simple reminders (placebo SMSs), have a weaker effect for more informed subjects, as given by newspaper distribution.

H10: Encouragements from quasi-networks (positive SMSs), relative to simple quasi-network reminders (neutral SMSs), have a weaker effect for more informed subjects, as given by newspaper distribution.

4. Methodology

Evaluation Design

The experimental design and sampling were built around the distribution of the @Verdade newspaper, a free, weekly, general interest, privately owned, non-partisan newspaper that was created in 2008. Printed in South Africa, it has been distributed mainly in the Maputo city area and is Mozambique's highest circulation newspaper. @Verdade has a civic education social responsibility mandate focused on health and elections and was willing to collaborate with the research team in this initiative. The collaboration also included a consortium of eight Mozambican NGOs, named the Observatorio Eleitoral.[5]

There are 53 municipalities in Mozambique and 44 of them were accessible enough to receive the @Verdade newspaper, which is published in South Africa.[6] From among these 44 municipalities, we selected 22 municipalities to receive the newspaper intervention through a block randomization procedure by which pairs of municipalities were formed (based on geographical proximity and the results of the 2009 national elections) and randomly assigned to the beneficiary or control group.[7]

Within each of the 22 selected municipalities, we randomly selected 198 polling locations. Using a block randomization procedure, triplets of matching polling locations were randomly divided into three groups. 132 polling locations were selected for free newspapers distribution. In 66 of these locations, the newspapers were delivered by @Verdade personnel and in 66 additional locations they were delivered by enumerators. In the final 66 locations, no newspapers were delivered.

Within those locations selected to receive the newspaper, not all residents received the newspaper. Of eight households that were randomly sampled per polling station, four were targeted to receive the

[5] Observatorio Eleitoral, an organization blending the specific efforts of eight member Mozambican NGOs in the area of good electoral conduct and electoral observation, IREX, an international NGO devoted to media strengthening, and Parlamento Juvenil, a Mozambican movement focusing on youth rights, also supported this research project.

[6] Cell phone coverage is available in all municipalities of the country, so that was not a restriction when selecting our experimental locations.

[7] This selection procedure was implemented in view of the possibility of following an ambitious plan of distribution of the newspaper in @Verdade municipalities after the municipal elections. Our intention was to compare outcomes at the level of the municipality between the 22 treatment and the 22 control municipalities.

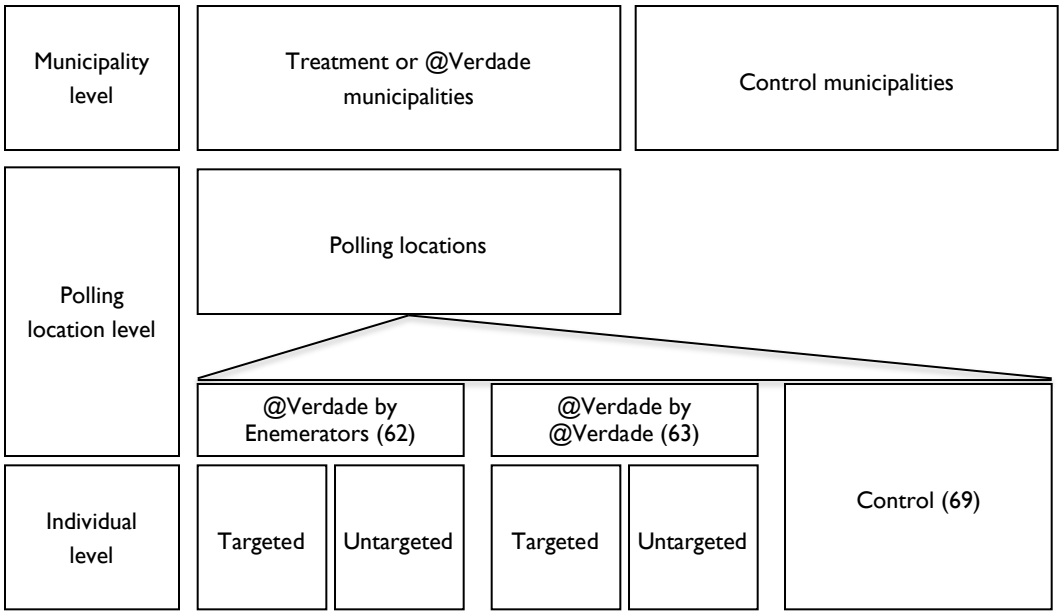
newspaper and four did not receive the newspaper. This allows us to test if there are spillover effects from the newspaper distribution (hypothesis 6b). Households selected to receive a newspaper each received the weekly editions in the lead-up to the election.

We faced substantial difficulties in surveying in Sofala province, which was the center of the violent occurrences sponsored by RENAMO supporters. As a result, we had to drop the municipalities of Beira and Dondo from the study. Local authorities denied authorization to conduct field work in these sites given the risk of violence. The corresponding polling locations had to be substituted by additional polling locations in other municipalities covered in the experiment. The final number of polling locations in the experiment is 194. Of these, 69 were control localities that received no newspapers, 62 localities received the free newspaper distributed by enumerators, and 63 received the free newspapers delivered by @Verdade personnel. Figure 5 shows the 20 municipalities that were covered in our experiment.

Figure 5: Experimental municipalities

As such, the newspaper aspect of the field experiment involves three levels of randomization: (1) in the assignment of 20 municipalities with @Verdade distribution; (2) in the assignment of 194 polling stations within these municipalities into three groups: (a) 69 control, (b) 63 distribution by @Verdade, and (c) 62 distribution by enumerators; and (3) in the assignment of households within each polling location to (a) targeted and (b) untargeted. This design is presented graphically in Figure 3.

Figure 6: Newspaper @Verdade treatment groups



In the 194 polling locations, we conducted two face-to-face surveys, one before the elections, and one after.[8] Sampling within each enumeration area followed a standard random walk procedure, whereby enumerators started from the center of the enumeration area, typically the polling location, and then sampled the *n*th houses along main routes. Selection of the household was conditional on the corresponding household having a cell phone available for receiving or sending SMSs. Moreover, enumerators selected a random adult member of the household, stratifying by gender. The baseline survey included 1,530 respondents, on average eight per enumeration area, and took place from mid-October to the first week of the electoral campaign in November. The post-election survey started in early December, after the results were announced. It sought to survey the same respondents, reaching 1,186 of them.[9]

In addition to being randomized into control and beneficiary households and polling stations for the purpose of the testing the newspaper related hypotheses, the 1,530 initial respondents, were also randomized into distinct groups to test the SMS related hypotheses. During the week before the elections, our set of experimental subjects was sent text messages, which varied across two dimensions: (1) the

[8] Four teams of enumerators working simultaneously undertook the fieldwork. The surveys were administered mainly using electronic handheld devices.
[9] This produced an attrition rate of 22.5 percent.

message and network information conveyed by the SMS and (2) the age and gender similarity between the "sender" and the recipient. Four different messages were conveyed by the SMS, including:

- Control: In the first group, some respondents received no message whatsoever.

- Placebo: In the second group, others received a reminder email that said "REMEMBER: Municipal elections are on November 20."

- Neutral: The third group received personalized messages that also reminded them of the elections: "My name is XXX [first name], I am a participant [gender] in the study on Mozambican politics, I am on my XXXs [age group], and I would like to remind you that the municipal elections are on November 20."

- Positive: The fourth group received personalized messages that not only reminded the recipient of the election but also encouraged them to vote stating: "My name is XXX [first name], I am a participant [gender] in the study on Mozambican politics, I am in my XXXs [age group], AND I WILL VOTE ON THE NEXT MUNICIPAL ELECTIONS ON NOVEMBER 20. I WOULD LIKE YOU TO VOTE AS WELL!

The second dimension of interest allowed the field experiment to test the impact of network homophily, or the tendency of individuals to associate with and be influenced by similar others. Specifically experimental subjects were assigned a message from either (a) a similar quasi-network or (b) a dissimilar quasi-network. Those in the similar quasi-network received a message from someone who was the same gender and in the same approximate age group. Those in the dissimilar quasi-network received a message from someone who was the opposite gender and a different age group. Because the messages were in Portuguese, it was not necessary to specifically state the gender of the message "sender" because gender identity was made clear by the both the name of the subject and the Portuguese language gender reference in the word 'participant'.[10] It is also important to note that all the messages were sent from a central SMS platform and the personalized messages were not actually sent by the people referred to in the message.

Overall, each experimental subject was assigned two quasi-networks of two individuals each, one similar quasi-network and one dissimilar quasi-network. Within each quasi-network, we divided messages across the four types of contents that we described above: control, placebo, neutral, and positive. The treatment assignment is summarized in Table 1, as a 3x3+1 design. Note that to maximize statistical power, we opted not to have the interaction of control messages corresponding to similar (dissimilar) quasi-networks and other types of contents corresponding to dissimilar (similar) quasi-networks.

[10] The original Portuguese versions of the three types of messages are the following. Reminder: *'LEMBRE-SE: As eleicoes municipais sao no dia 20 de Novembro.'*. Quasi-network reminder: *'O meu nome e XXX, sou XXX [um(a)] participante no estudo sobre politica Mocambicana, tenho idade nos XXXs, e gostaria de lembrar que as eleicoes municipais sao no dia 20 de Novembro.'* Quasi-network encouragement: *'O meu nome e XXX, sou XXX [um(a)] participante no estudo sobre politica Mocambicana, tenho idade nos XXXs, E VOU VOTAR NAS PROXIMAS ELEICOES MUNICIPAIS NO DIA 20 DE NOVEMBRO. GOSTAVA QUE VOTASSE TAMBEM!'*.

Table 1: SMS treatment groups

		dissimilar quasi-network			
		control	placebo	neutral	positive
similar quasi-network	control	130			
	placebo		129	127	129
	neutral		132	131	128
	positive		129	127	128

During each of the six days before the elections and the election day (starting on November 14 and ending on the November 20, 2013), each SMS treatment group received four messages, two corresponding to the similar quasi-network and two corresponding to the dissimilar quasi-network. In the case of network reminders or encouragements, the two messages corresponding to a given type of quasi-network were labeled as originating from the two different network members. On November 13, each SMS treatment group also received a set of three introductory messages. Reminder subjects received a contextual message three times ('You were interviewed for a study on Mozambican politics in the last 3 weeks. As mentioned then, we would like to send you messages relating to the elections of November 20.'). Subjects receiving neutral (network reminder) or positive (network encouragement) messages also received the message just described. However, they received it just once, and received two other messages containing background information to the quasi-network treatments, divided into procedure ('You were grouped with XXX [2 or 4] other people that we interviewed for our study. XXX ['These people are similar to you.' Or nothing] These individuals will share with you XXX ['information about' or 'whether they intend to vote in'] the municipal elections of November 20.') and purpose ('The objective of the messages sent by your group is to give you information about whether those people will vote, which may influence whether you vote on November 20.').

These SMS treatments were sent through an online platform, allowing the sending of bulk messages, designed on purpose for this experiment. It was linked to a shortcode that the newspaper @Verdade uses for receiving SMSs from readers. In that sense, experimental subjects could have associated the messages to an initiative by @Verdade.

The design confronted a number of serious challenges when put into practice. The original design sought to include inserts with information profiling the local candidates running in the upcoming elections and their respective policy proposals. However, RENAMO-led violence in central Mozambique prior to the balloting put the election in question and led candidates to delay talking to the media. As such, the local inserts were never developed. Moreover, the newspaper focused its attention more on the violence and less on the elections. As shown in Figure 7, the three editions that were distributed featured the conflict situation and limited supply of medications as main front-page themes.[11] Although political information was still reported, this shift in focus reduced our ability to test the effect of election-related information specifically on voter turnout.

[11] See the following video, for some coverage of newspaper distribution in this project: http://vimeo.com/85717778.

Figure 7: @Verdade front pages in the lead up to the election

Measurement

The dependent variables in this experiment include two types of variables: measurements of non-voting political behavior using SMS technology and measurements of voting. Regarding the former, in the lead up to the election we asked study participants to send text messages to @Verdade reporting electoral irregularities, and in the aftermath of the election, we asked these same respondents to text their public policy priorities to their newly elected representatives. Regarding measurements of voting, we first asked survey respondents if they had voted or not, but given concerns over biased responses, we used three additional adjusted measures of voting.

We begin by describing our two non-voting, behavioral measures of political participation. Experimental subjects were asked to send SMSs concerning the municipal elections to the newspaper shortcode included on hard copy flyers. We are able to identify the messages that were sent by each individual in our experiment by matching cell phone numbers. The sending of SMSs was costly in monetary terms: each SMS to the shortcode was priced at 3MT, i.e., close to 0.1USD. It was also costly in non-monetary terms, as senders had to spend some time/effort thinking about what to write and writing the message on their cell phone. Sending a text message, like other forms of political participation, therefore represents a costly action. This measurement of political behavior is also desirable in that it is an objective measurement that is not dependent on self-reported information recorded in a survey.

The first specific behavioral measure of political participation is use of an SMS hotline to report voter irregularities created by @Verdade and the research team. A leaflet explaining how the hotline system could be used was given individually to all experimental subjects during the baseline survey (See Figure 8). The leaflet included the shortcode to text to, examples of electoral problems, and the desired format for the report, including a label, polling location, and description of the problem. Each leaflet was printed on both sides of one page, with each side providing different SMS examples, one for the electoral campaign

(rioting), the other for the election-day (voting location moved). Experimental subjects were also sent SMS reminders about the existence of the hotline system.

Figure 8: Front and back of hotline leaflet provided to survey respondents

The second non-voting, behavioral measure of political participation was gathered through an SMS version of an "open letter." During the post-election survey, all respondents were invited to send SMSs proposing policy priorities to the newly elected mayors. Experimental subjects were promised that the contents of these messages would reach the corresponding mayors in person through @Verdade. As with the hotline, dissemination of the open letter was based on the distribution of a leaflet, which included two sides with two different examples of possible messages, shortcode, format of the message (including label), and sponsors. The leaflet is depicted in Figure 9. Experimental subjects were also sent SMS reminders about the existence of the open letter system.

Figure 9: Front and back of leaflets requesting "open letter" SMS proposals

For the regression analyses presented below we include four measures of non-voting behavior (1) whether or not subjects used the SMS hotline, whether or not they sent an "open letter" SMS, if they sent any SMS, and the total number of SMS messages sent.

There are several ways to measure voter turnout. The most desirable of which is using actual electoral returns, which this experiment was designed to use once these data are made publically available by the National Electoral Commission of Mozambique. In the absence of this information, we employ four survey based measures of voter turnout.

The first measure is self-reported turnout. Past post-election surveys in Mozambique have shown that there is a large social desirability bias affecting such measures as self-reported voting, which is consistently over reported.[12] This study is no exception as over 85 percent of respondents reported voting when voter turnout rates for the election were only 45 percent.

Anticipating this problem, the survey entailed a battery of questions testing respondents' knowledge about ballot station facts: these included how many ballot papers there were, whether there were photos on the ballot papers, how many ballot boxes there were, whether a finger was to be painted at the end of the voting, and which finger was to be painted at the end of the voting.[13] If the respondent reported voting and gave a wrong answer to any of the questions referred, we coded him or her as not voting in this adjusted measure of turnout.

The third measure of voting is a more subjective but less rigid assessment by the interviewer, who was asked to provide his or her judgment of whether or not the respondent actually voted.[14]

Finally, we asked our experimental subjects, during the submission of the post-election questionnaire, to replicate their voting at the municipal elections, by asking them to fill a copy of the ballot paper and by making available a transparent ballot box for vote insertion. Note that these transparent ballot boxes always had other ballot papers inside in order to help providing a sense of anonymity, despite the fact that experimental subjects were explicitly not told their replicated vote would be anonymous. Indeed, these ballot papers were marked, so that enumerators could identify each individual vote by experimental subjects. This exercise was primarily undertaken to provide a measure of for what party the respondent voted for (FRELIMO or MDM); however, because there were several individuals that reported voting but refused to vote in the replica ballot box, this offers another measure of voting. A photo of a replica ballot box is provided in Figure 10. We will employ below measures of voting for FRELIMO and MDM using the votes recorded in these ballot boxes.

---

[12] See for instance the report for Afrobarometer's 2008 (round 4) Mozambican survey

[13] Note that we prepared a measure of voter turnout on the basis of observing whether the fingers post-election survey respondents were inked. However, there were numerous complaints concerning the fact that the ink that was provided by the National Electoral Commission/STAE disappeared easily on the same day, allowing the possibility of voting more than once. We therefore decided not to use this measure.

[14] Apart from the questions that tested the respondent's knowledge about ballot station facts, the section on the details of the election-day experience included questions on: with whom the respondent went to vote; what the name of the polling location was, and how to get there; what the respondent did before and after voting; how long the respondent took to go from home to the polling location; what time the respondent voted; whether there was more than one ballot table in the polling locations; whether it was difficult to find the right ballot table; how long the respondent waited in line to vote; what happened when the respondent was waiting in line; how many people and who sat at the polling table; what happened when the respondent got to the polling table; whether the respondent could see anyone from the polling booth; whether ballot boxes were transparent and had different colors.

Figure 10: Mock-ballot box

To test if the newspaper led to an increase in interest in politics and knowledge of public affairs, the analysis also includes measurements for these variables. Respondents were asked about (1) their degree of interest in public affairs in general, on a subjective scale from 1 to 4 (not interested to very interested); (2) which elections happened on November 20, 2013; (3) knowledge of information about the municipal elections of 2013, on a subjective scale from 1 to 4 (not informed to very informed); (4) the degree of interest in the municipal elections of 2013, on a subjective scale from 1 to 4 (not interested to very interested); and (5) whether they had (individually) enough information to evaluate the performance of the previous mandate of the local mayor.

Estimation Strategy

In order to reduce an incentive towards data mining, we published a pre-analysis plan prior to endline data collection. This is available at the Experiments in Governance and Politics (EGAP) website.[15] The analysis of this paper follows the pre-analysis plan. Our empirical approach is based on estimating treatment effects on the variety of outcome variables, including objective measures of non-voting political participation, voter turnout, voting for the different candidates/parties, and information about the elections.

Our design allowed us to estimate average treatment effects in different ways. Most simply, the effect of interest (β) could be estimated through the specification:

$$Outcome_{l,i,post} = \alpha + \beta T_{l,i} + \varepsilon_{l,i,post}, \quad (1)$$

[15] http://e-gap.org/wp/wp-content/uploads/2013/06/20131117-VH-Mozambique.pdf.

where $Outcome$ is an outcome of interest, $l, i, post$ are identifiers for locations, individuals, and time - specifically, $post$ represents the post-election measurement -[16], and $T_{l,i}$ is a vector of dummy variables representing the treatments with value 1 for treated units.

In this setting, because of limited sample size, we add individual-level controls to compose our main specification. This is in line with Duflo et al. (2007), who argue that, although controls do not generally change the estimate for the average treatment effect, they can help explain the dependent variable, and therefore typically lower the standard error of the coefficient of interest. We then have the following core specification:

$$Outcome_{l,i,post} = \alpha + \theta X_i + \beta T_{l,i} + \varepsilon_{l,i,post}, \quad (2)$$

where X_i is a vector of individual (demographic) controls.

In some regressions, we are interested in interaction effects between different treatments, or between treatments and fundamental demographic characteristics like gender and age. For example, we explore of those who received both a newspaper and an SMS, who were more likely to participate politically. On those occasions, we include interaction terms between two treatments. The coefficient of interest would be δ.

$$Outcome_{l,i,post} = \alpha + \theta X_i + \beta T_{l,i}^{SMS} + \gamma T_{l,i}^{NEWS} + \delta T_{l,i}^{SMS}.T_{l,i}^{NEWS} + \varepsilon_{l,i,post}, \quad (3)$$

where $T_{l,i}^{SMS}$ and $T_{l,i}^{NEWS}$ are SMS and newspaper distribution treatments, respectively.

For ease of interpretation and transparency, we use OLS linear probability models for dichotomous dependent variables throughout the paper.[17] We cluster standard errors at the level of the enumeration area in all regressions.

5. Findings

Balance

Detailed tables in Annex A display means for the control group and differences between control and treatment groups in our experiment. Specifically, we contrast groups defined by the type of SMS received (placebo, neutral, or positive) by each type of quasi-network (similar and dissimilar), and groups defined by the location-level types of distribution of newspaper @Verdade (by enumerators and by @Verdade). The statistical significance of the differences is tested to assess comparability across the different groups.

[16] Note that, in the regressions shown in the paper, we focus on simple-difference regressions (instead of difference-in-differences), as we do not have available baseline data for the behavioral political participation measures and for the electoral behavior during the 2013 municipal elections – in fact, even if we had measures of behavior in the previous municipal elections, comparability cannot be guaranteed as candidates/parties were different.

[17] Some scholars would advocate using logistic regression models over linear probability models for dichotomous dependent variables; however, linear probability models are not necessarily worse than Probit or Logit at estimating marginal effects, when one does not know the true distribution of the data.

We document these results for a wide range of observable individual characteristics, as gathered during our baseline survey. These include basic demographics (gender, age, household size, marital status, schooling), religion, ethnicity, occupation, and assets owned by the household.

Overall, we observe few differences (at standard significance levels) between the treatment and control groups. In terms of basic demographics, religion, and ethnicity, we see no statistically significant differences across the different SMS comparison groups, and just one significant difference, for household size, when contrasting distribution of @Verdade by enumerators with the control group. In terms of occupation and asset ownership, we observe two significant differences for the neutral and similar quasi-network SMS group, on being a farmer and on owning a bike, one significant difference for the placebo and dissimilar quasi-network SMS group, on owning a bike, two differences for the neutral and dissimilar quasi-network SMS group, on being a farmer and owning a cell phone, and two differences for the groups defined by the distribution of newspaper @Verdade, one for owning a house (distribution by enumerators) and the other for owning land (distribution by @Verdade). We can summarize by stating that, for each treatment group considered, we have at most two statistically significant differences to the control in 27 characteristics, which is less than 10 percent. This is evidence that the randomization procedures were effective at isolating similar groups of respondents.

Annex A also provides a comprehensive description of our experimental sample. It is worth noting that the average respondent in the SMS control group was 32 years old. 95 percent of these individuals reported being literate. The main ethnicities represented were Macua (the dominant group in the North) and Changana (the dominant group in the South). 96 percent of the experimental households owned a cell phone.

SMS treatments

We now turn to our treatment effects. We start by analyzing the impact of the SMS treatments on our behavioral measures of political participation, on our measures of voter turnout, and on voting decisions as given by the pattern of voting in our replicated ballot box. Specifically, we test hypotheses H1 to H5 in our experiment, as described above.

Figures 11 and 12 are devoted to testing H1, i.e., that SMS treatments increased political participation. By political participation, we mean whether individuals voted, sent a hotline SMS, an open letter SMS, or any text message to the newspaper. We also consider the total number of text messages sent by individuals. In Annex B we present more detailed regression tables including models for each outcome variable. In the top panel of the tables in Annex B we first show regressions with no controls and then add individual controls in the bottom panel.[18]

Voter turnout is the central measure of political participation we adopt. In Figure 11, we explore the effect of SMS messages on four measures of voting, including the self-reported survey measure, our measure adjusting for knowledge of ballot station facts by our experimental subjects, the interviewer final assessment of whether the respondent voted, and whether individuals voted in our replicated ballot box.

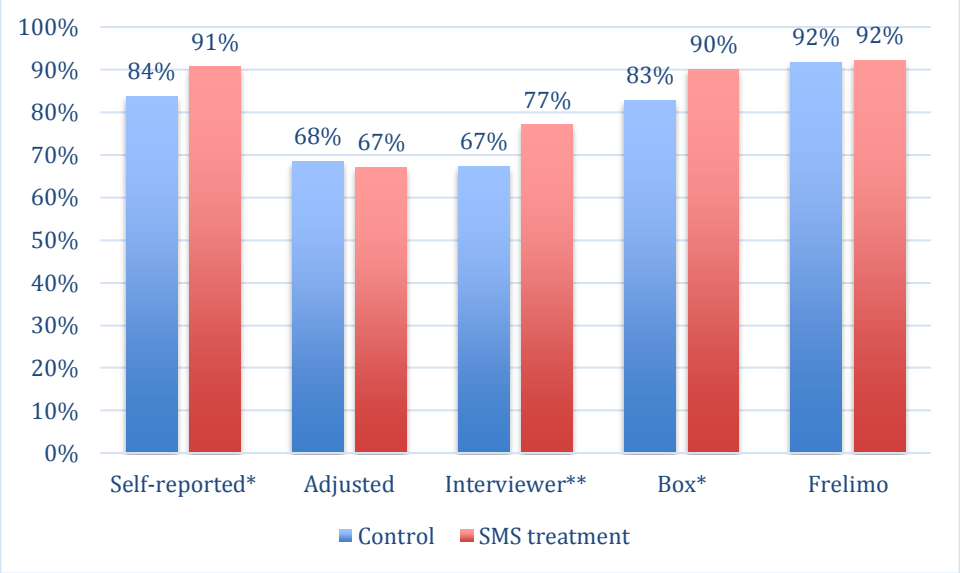
[18] These include basic demographics including gender, age, household size, marital status, and schooling.

We also check whether SMS treatments changed voting for FRELIMO candidates and MDM candidates. Our treatment effect contrasts the group including all individuals that were assigned an SMS treatment in our experiment with those in the control group who did not receive the SMS treatment.

Figure 11 shows that the SMS treatment had clear effects on three of the four voter turnout measures. These effects are positive and range between 6.8 and 7 (self-reported), 9.4 and 9.6 (interviewer assessment), and 6.9 and 7.2 percentage points (box). We do not observe a statistically significant effect for our adjusted measure of turnout. We observe no statistically significant differences in voting for FRELIMO and voting for MDM in the replicated voting procedure we adopted.

As discussed above in the measurement section, there are measurement trade-offs with all four of these measures of voter turnout. The insignificant differences for the adjusted measure causes us to temper our conclusion somewhat, but the analysis provides support to the hypothesis that SMSs lead to higher levels of voter turnout. Note that self-reported turnout in the SMS control group was 84 percent, which compares to 69 percent in the adjusted measure, 67 percent in the interviewer assessment, and 83 percent in the box measure. We can conclude that our adjustments to self-reports imply that our survey self-reported measure embeds a likely considerable over-estimation of turnout. We can also observe that 92 percent of the SMS control voters in our replicated procedure voted for FRELIMO, compared with 8 percent for MDM.

Figure 11: Hypothesis 1: Effect of receiving SMS messages on voter turnout

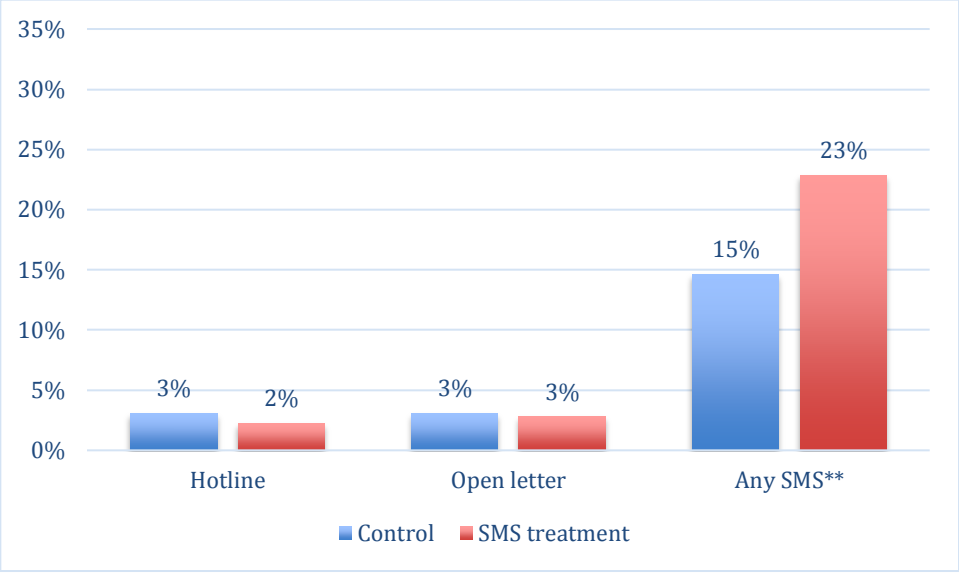


Note: * p<.10, ** p<.05, ***p<.01

As seen in Figure 12, those individuals in the treatment group were more likely to use the text messaging service than those in the control group: 23 percent of the treatment group sent a message compared with

15 percent of the control group. While it is not presented in the figure, treatment group participants also sent a larger number of texts: an average of .54 per person compared with .22 per person in the control group (see Annex B). In other words, the treatment effects are an increase in 7.7-8.2 percentage points in the probability of sending an SMS, statistically significant at the 5 percent level, and an increase in 0.3-0.33 in the number of messages sent, significant at the 1 percent level. Note that very few individuals in either the control or treatment groups sent a hotline message or an open letter expressly labeled as such. As evidenced by the third set of columns in Figure 12, however, individuals did use the text messaging service.

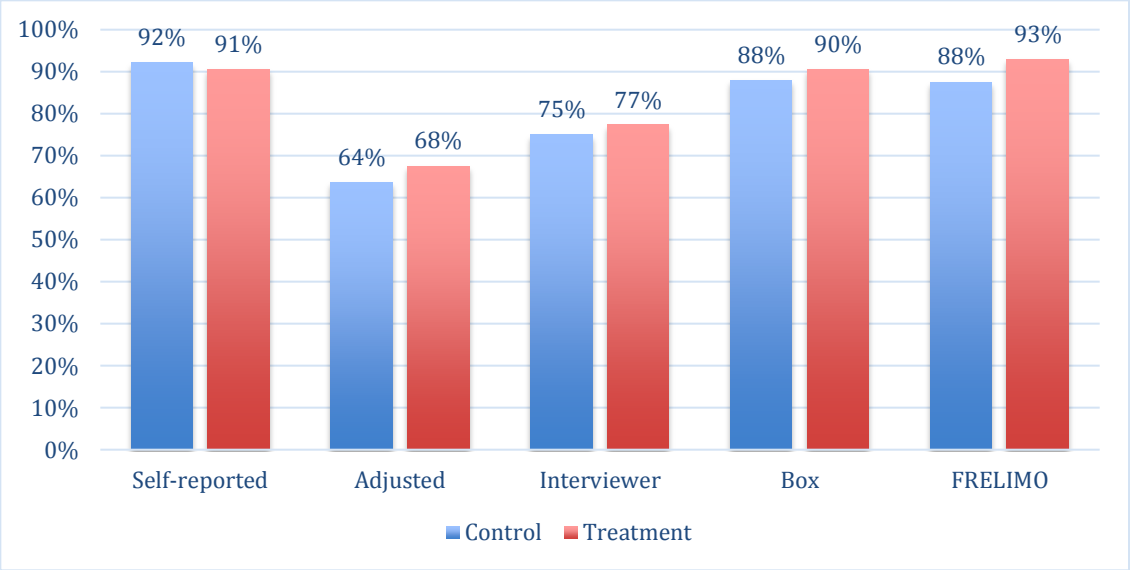
Figure 12: Effect of receiving SMS messages on non-voting political participation



Note: * p<.10, ** p<.05, ***p<.01

In Figures 13 and 14, we analyze H2, i.e., that neutral and positive SMSs (reminders and encouragements) from quasi-networks have a stronger impact on participation than anonymous SMSs (simple reminders). We analyze the same outcome variables as before. The treatment variable is defined by assigning value 1 to all groups except the pure control and the placebo (from both similar and dissimilar quasi-network dimensions) groups, and 0 to the placebo group. Note that the regressions we employ here are conditional on having been assigned an SMS treatment group and as such represent a smaller sample size (see Annex B). As shown in Figure 13, while we tend to observe slightly higher turnout and slightly higher support for FRELIMO among those who received messages from quasi-networks than those receiving anonymous texts, these differences are not statistically significant.

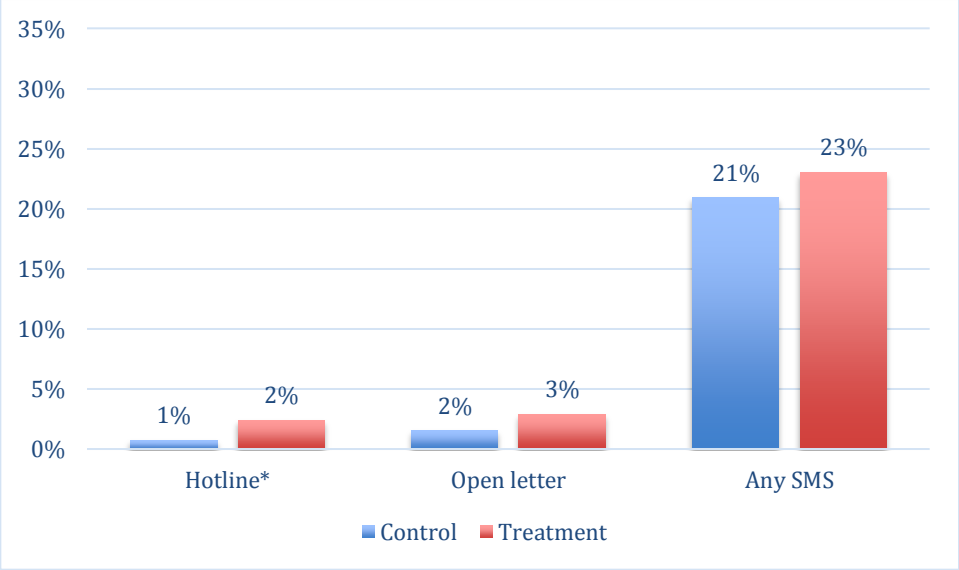
Figure 13: Hypothesis 2: SMSs from quasi networks have a stronger impact on vote



Note: * p<.10, ** p<.05, ***p<.01

In Figure 14, we observe statistically significant positive effects on the sending of a hotline message: this is a 1.6 percentage-point higher probability of sending a hotline SMS, significant at the 10 percent level without controls. We also find a positive impact on the number of SMSs that was sent by experimental subjects: between 0.2-0.21 more messages, significant at the 10 percent level. However, we do not find any other statistically significant effects. We therefore conclude that there is some evidence that reminders and encouragements by quasi-networks, on top of the effect of placebo SMSs, were able to increase some dimensions of political participation.

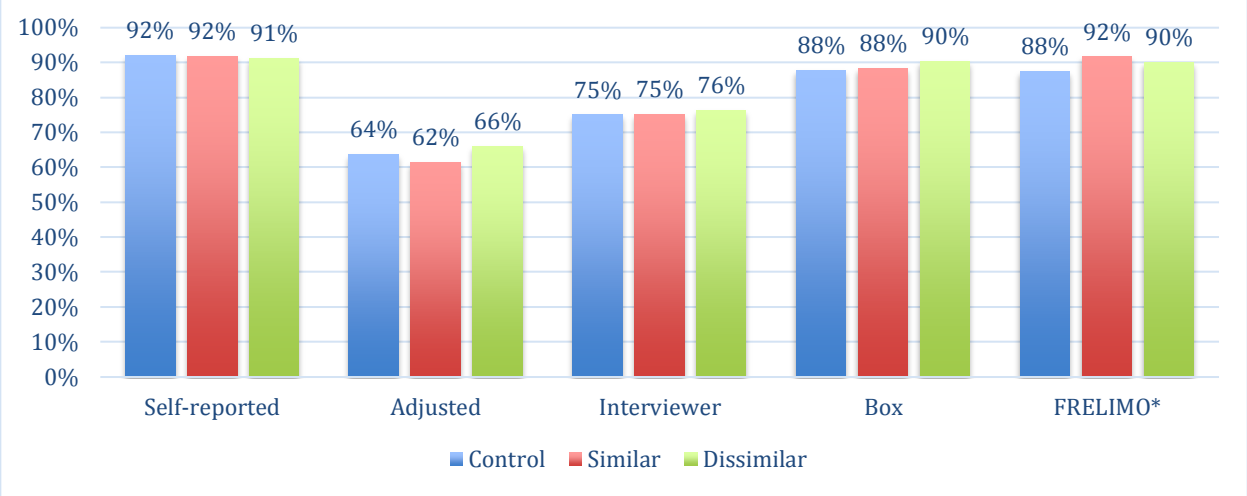
Figure 14: Hypothesis 2: SMSs from quasi networks have a stronger impact on SMS political participation



Note: * p<.10, ** p<.05, ***p<.01

We now turn to exploring the effects of network characteristics, in the context of the SMSs labeled as originating from quasi-networks, on the same set of outcomes we have been analyzing. Figures 15 and 16 test H3, which states that neutral reminder and positive encouragement SMSs from *similar* quasi-networks have stronger effects than neutral and positive SMSs from *dissimilar* quasi-networks. This is our homophily hypothesis. We regress our outcomes on two dummy variables for neutral or positive messages coming from similar quasi-networks, and neutral or positive messages coming from dissimilar quasi-networks. The value 0 on both dummies is also assigned to placebo messages. We find that similar or dissimilar network characteristics have no effect on voter turnout, although individuals receiving SMSs from similar networks were somewhat more likely to vote for FRELIMO (See Figure 15).

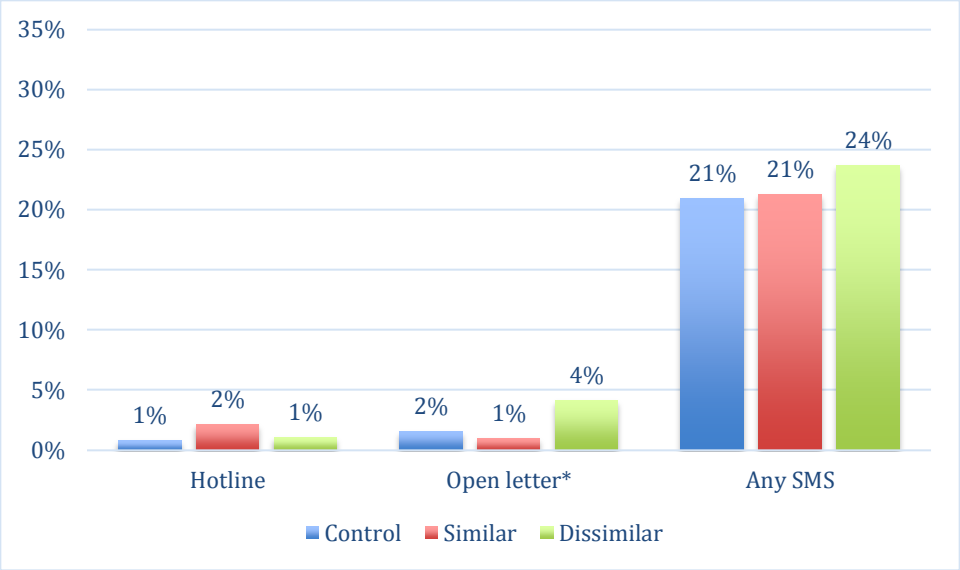
Figure 15: Hypothesis 3: SMSs from similar networks have a stronger effect on voter turnout than SMSs from dissimilar networks



Note: * p<.10, ** p<.05, ***p<.01

Figure 16 presents findings of the effects of similar and dissimilar quasi-networks on SMS political participation. Surprisingly, we find a positive effect of *dissimilar* networks on the sending of an open letter message. The size of this effect is 2.6 percentage points; it is significant at the 1 percent level, and it is statistically different from the effect of similar networks, which is close to zero. We conclude that H4 is not supported by the evidence, and that similar quasi-networks do not have a positive effect on participation.

Figure 16: Hypothesis 3: SMSs from similar networks have a stronger effect on SMS political participation than SMSs from dissimilar networks



Note: * p<.10, ** p<.05, ***p<.01

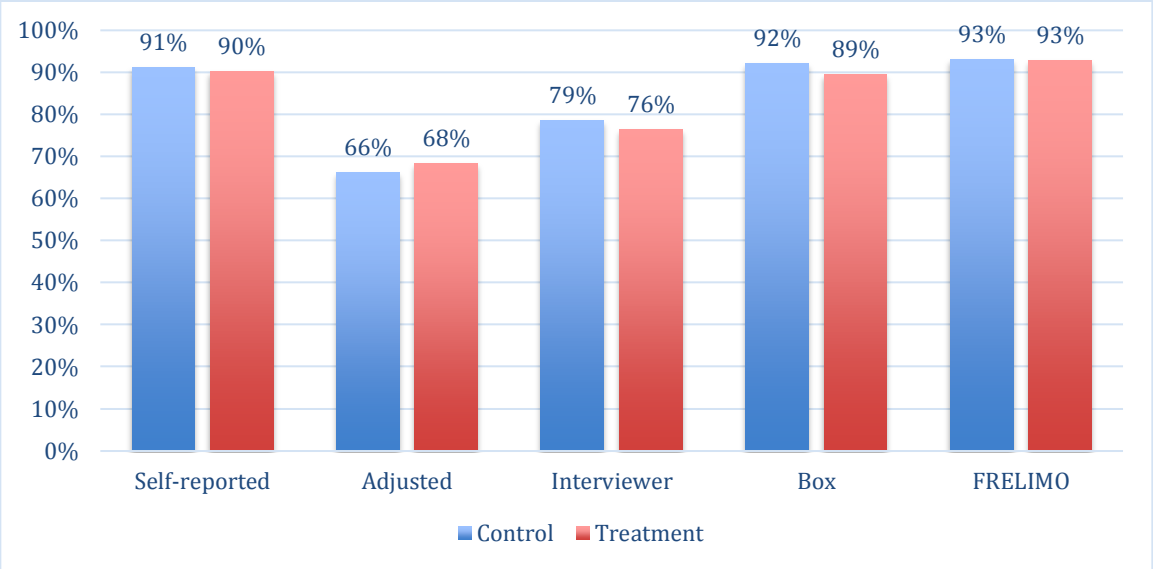
Our last network related hypothesis is H4, which posits that neutral and positive SMSs (reminders and encouragements) from men and older subjects will have stronger effects than neutral and positive SMSs from women and younger experimental subjects. We test this hypothesis by employing the two dummy variables we constructed before, i.e., for neutral and positive SMSs coming from similar quasi-networks, and for neutral and positive SMSs coming from dissimilar quasi-networks, while considering placebo SMSs as well (assigned value 0). We then interact the two dummy variables with a gender dummy or an age dummy, while still controlling for all mentioned variables in isolation. Following H4, we expect that both the interaction of similar and male and the interaction of dissimilar and female are positive. Analogously, we expect that both the interaction of similar and old and the interaction of dissimilar and young are positive. Regression tables are presented in Annex B. Below, we describe the findings from this statistical analysis, beginning with messages from males and then moving on to messages from older respondents.

We observe that male subjects seem to be influencing peers to send more messages: both interaction coefficients are positive and statistically significant at the 10 percent level. Moreover, the test that the sum of the two coefficients is larger than zero shows that male subjects also influence their peers in terms of increasing the probability of sending an SMS to the newspaper – the null of no effect can be rejected with 95-96 percent probability. We also find a positive effect on voter turnout of neutral or positive messages originating from males on males, between 8-12 percentage points. However the effect of males on female turnout is negative for all measures of turnout (but it is only significant for the interviewer assessment). We also have some evidence that males influence females, through neutral and positive messages, to vote more for FRELIMO and less for MDM (significant at the 10 percent level in the regressions with controls).

The patterns relating to age are less clear, as most interaction coefficients are not statistically significant. However, we can report a negative effect of old subjects on the turnout of young subjects (significant at the 10 percent level in the regression without controls). We can also document that old subjects seem to influence old peers, through neutral and positive messages, to vote more for FRELIMO and less for MDM (significant at the 10 percent level). We conclude that we have some evidence in favor of H5, especially concerning gender, as males positively influence the political participation of other males. Moreover, males and older subjects seem to be driving their peers to vote for FRELIMO.

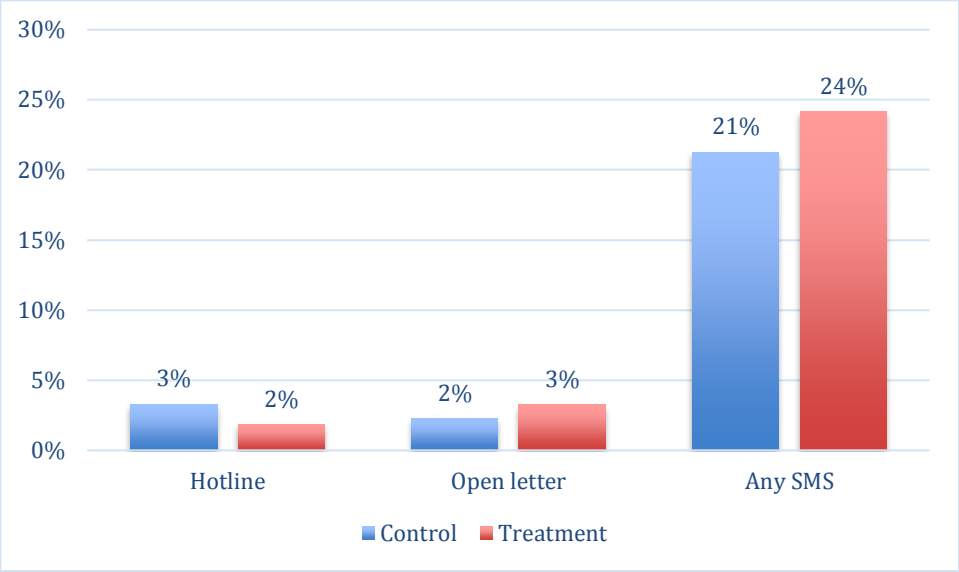
Having explored the effects of quasi-networks, Figures 17 and 18 test H5, i.e., that positive encouragement SMSs have a stronger impact on participation than SMSs reminders. Here, the treatment variable is given value 1 in case the individual was assigned a positive set of messages by quasi-networks (either similar or dissimilar dimensions). The value 0 is given to all groups that were assigned neutral reminder messages and is limited to messages from quasi-networks. Note that the regressions we employ here are conditional on having been assigned messages labeled as coming from quasi-network treatment groups. We find no statistically significant effects of positive encouragement over neutral reminder SMSs. The exception is a negative effect on the sending of a hotline message, significant at the 10 percent level when employing controls. We conclude that H3 is not supported by the evidence and that positive encouragements do not have a stronger effect on participation.

Figure 17: Hypothesis 5: Positive encouragement SMSs have a stronger impact on voter turnout than reminder SMSs



Note: * p<.10, ** p<.05, ***p<.01

Figure 18: Hypothesis 5: Encouragement SMSs have a stronger impact on SMS political participation than reminder SMSs



Note: * p<.10, ** p<.05, ***p<.01

Overall, we conclude that some SMS interventions we study in this paper modified aspects of the voter participation in the municipal elections of November 2013. Specifically, on average, the SMSs that were sent increased SMS political participation and the turnout of voters as given by our measures. There is some evidence that neutral and positive messages labeled as coming from peers (compared to placebo messages) were effective at increasing SMS political participation. However, there is no evidence that positive messages from peers (compared to neutral messages) changed political behavior. We did not find much evidence in favor of positive influence by similar peers (homophily): the exception is that similar networks influence voters to vote for FRELIMO. We identified the same pattern of vote changes when analyzing the influence of males and old subjects on their peers. In addition, males positively influence the level of political participation of other males.

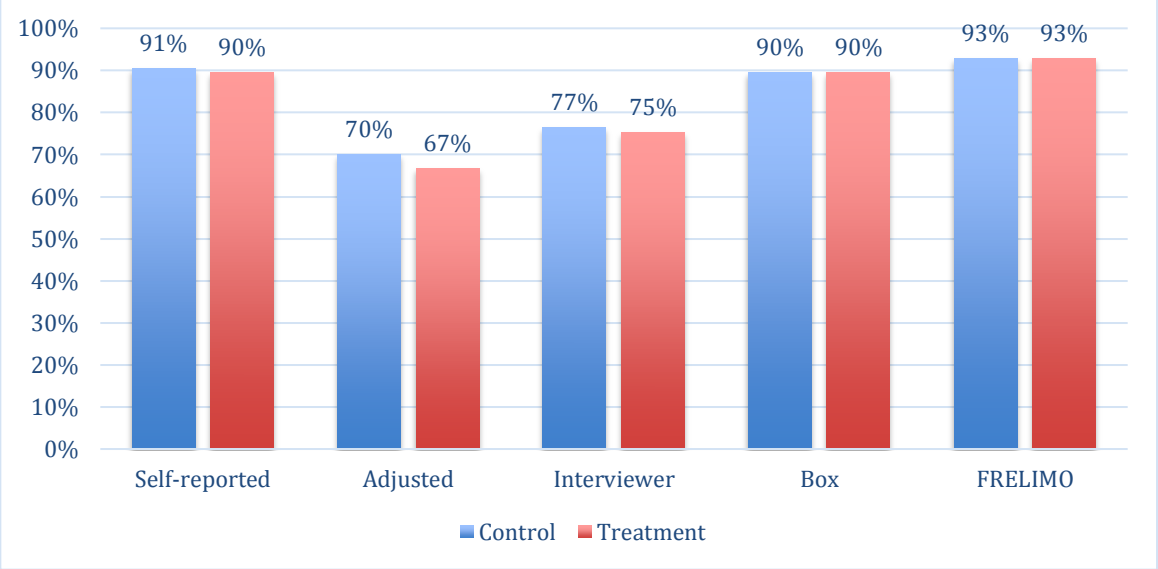
Information treatments

We now analyze the impact of the information treatments, as given by the distribution of newspaper @Verdade. We assess impact on the same variables as before, i.e., our behavioral measures of political participation, our measures of voter turnout, and our measures of voting for the different parties in the replicated ballot box. We also look at the effects of newspaper distribution on survey measures of information about and interest in the elections. Specifically, we test hypotheses H6 to H8, as stated above.

Figures 19 and 20 show location-level treatment effects of newspaper distribution on the same political participation outcomes. These results correspond to testing H6a, i.e., that newspaper distribution at the level of the polling location increases participation in the elections. Our treatment variable takes value 1

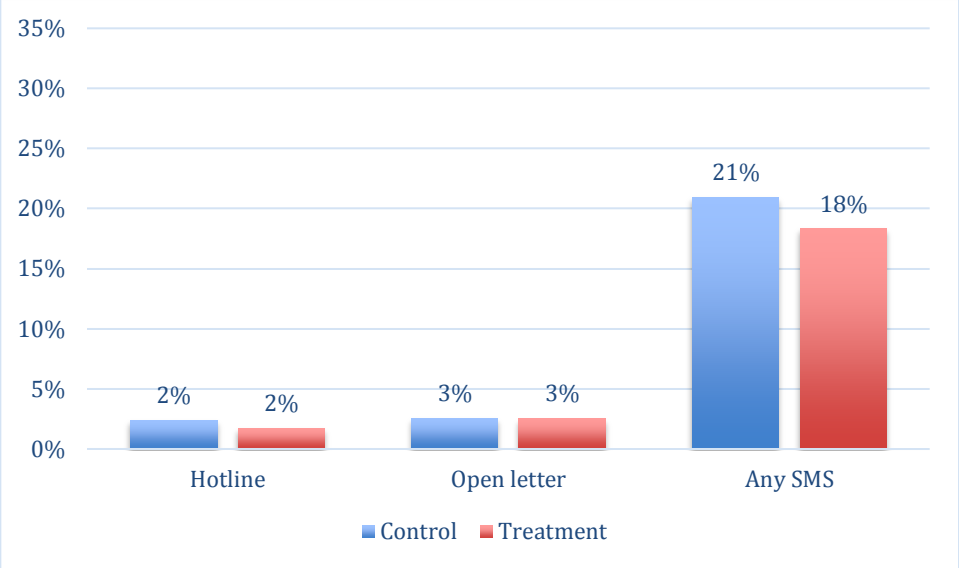
for experimental subjects belonging to locations that had newspaper distribution before the municipal elections, irrespective of the type of distribution they had (by enumerators or by @Verdade), or whether they were targeted or untargeted by the distribution of the newspaper. It takes value 0 for individuals belonging to control locations. We employ specifications without and with individual controls, following specifications (1) and (2) respectively. We find no statistically significant effects at all. Moreover, almost all point estimates of treatment effects on behavioral SMS political participation and on voter turnout are negative, even though typically small and far from statistical significance. We also do not observe any induced change in the pattern of voting for the parties. We can clearly conclude that H6a does not have support in our data and that the newspaper did not influence political participation. It is important to note, however, that the news focus on the political violence rather than the local elections likely undermined any potential effect that the newspaper might have had.

Figure 19: Hypothesis 6a: Newspaper distribution increases voter turnout



Note: * p<.10, ** p<.05, ***p<.01

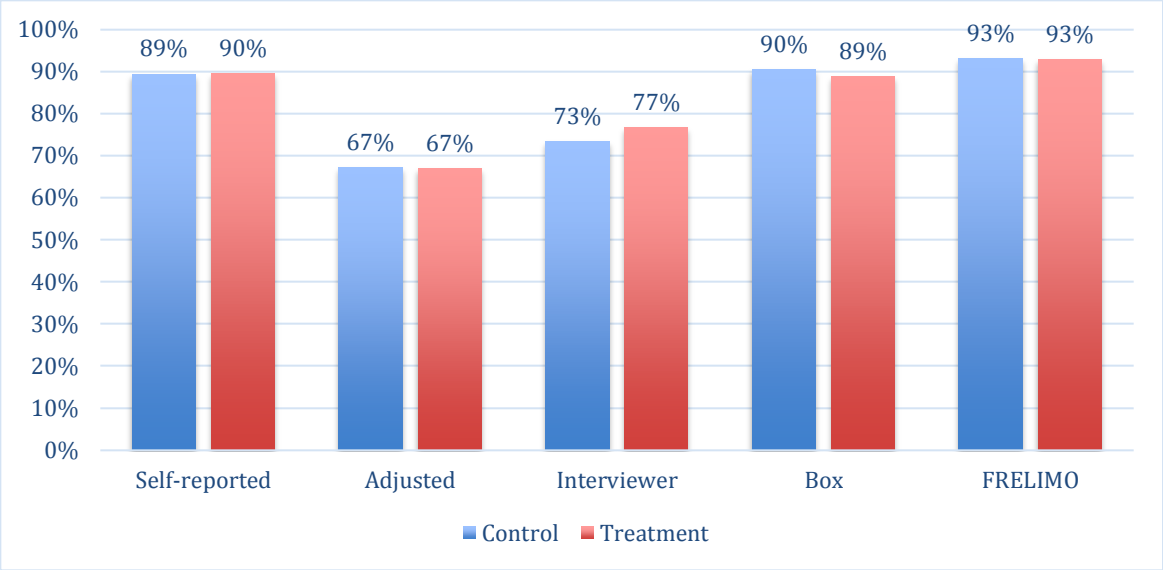
Figure 20: Hypothesis 6a: Newspaper distribution increases SMS political participation



Note: * p<.10, ** p<.05, ***p<.01

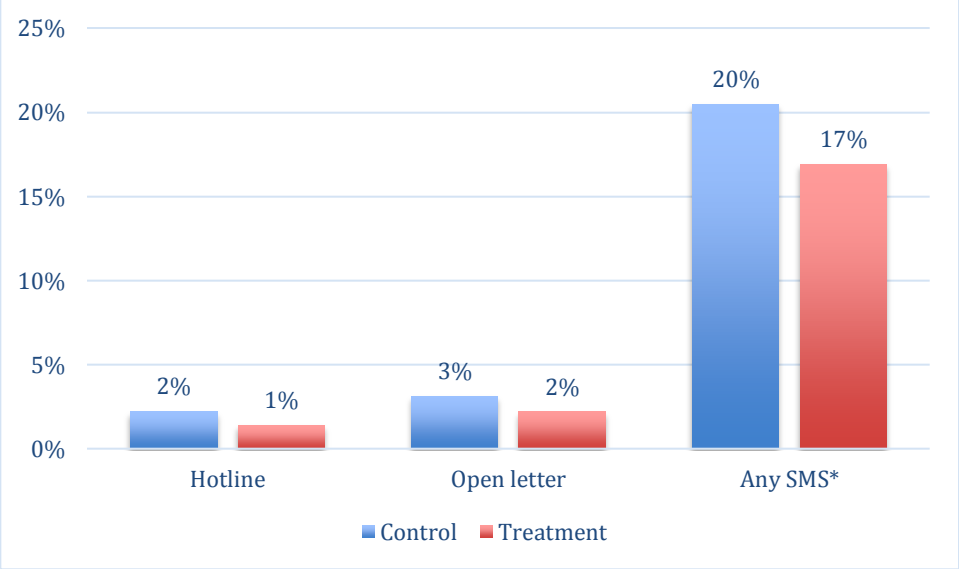
Figures 21 and 22 test H6b, i.e., that targeted and untargeted subjects within treatment areas participate in the elections at similar rates. The treatment variable takes value 1 for targeted respondents and value 0 for untargeted respondents. All regressions are limited to individuals in treatment locations, independently of the type of distribution of the newspaper they had (by enumerators or by @Verdade). We do not find much evidence in favor of a difference between targeted and untargeted individuals in terms of their political behavior. The exceptions are negative effects for the sending of SMSs (for whether a message was sent and number of messages sent) only when individual controls are employed, significant at the 10 percent level. Qualitatively, these exceptions are in line with the negative point estimates found for H6a, which indicated the possibility of a negative effect of newspaper distribution. We conclude that H6b seems to be true overall, even though there is some evidence of a negative effect of individual newspaper distribution.

Figure 21: Hypothesis 6b: Targeted and untargeted subjects within treatment areas participate in the elections at similar rates



Note: * p<.10, ** p<.05, ***p<.01

Figure 22: Hypothesis 6b: Targeted and untargeted subjects within treatment areas SMS politically participate at similar rates

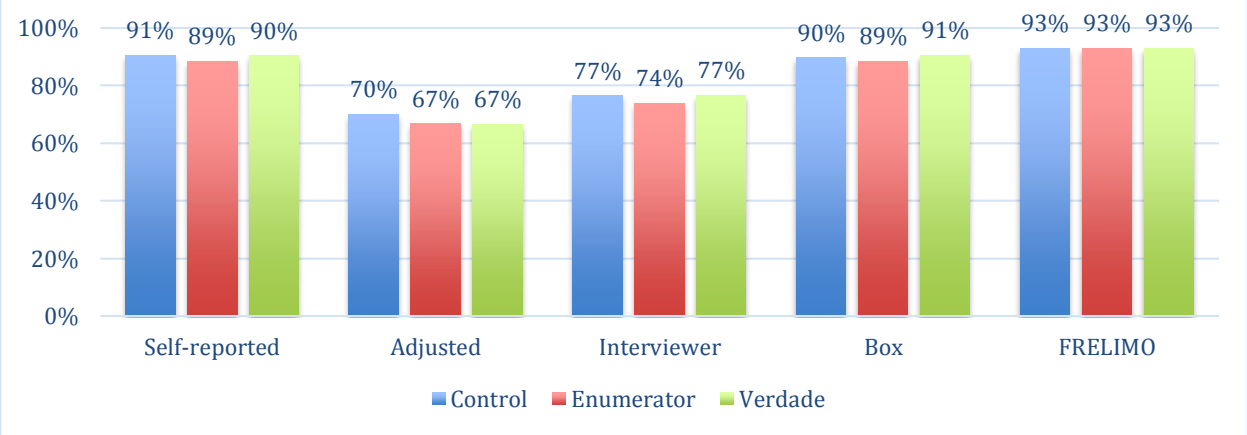


Note: * p<.10, ** p<.05, ***p<.01

Hypothesis 7 posits that newspaper distribution at the level of the polling location increases information about elections and voters' ability to assess the previous mayor. As in the test of Hypothesis 6a, treatment is defined as the location-level distribution of the newspaper with no distinction between types of distribution (by enumerators or by @Verdade). Our outcomes are survey measures of interest in public affairs, knowledge of the municipal elections, the degree of information about the municipal elections, interest in the municipal elections, and whether the respondent felt he/she had enough information about the previous mayor mandate. These variables are ordinal (interest in public affairs, information about election, interest in election) on a 1 to 4 scale, or binary (know election, information about mayor) variables. Regression results are presented in Annex B. We do not find evidence of an impact of location-level distribution of the newspaper on these information and interest outcomes. All point estimates are below the corresponding standard errors. We therefore cannot find support for H7 that newspaper distribution increases information about elections and voters' ability to assess their representatives. Again, these null findings could be driven by @Verdade's lack of election coverage.

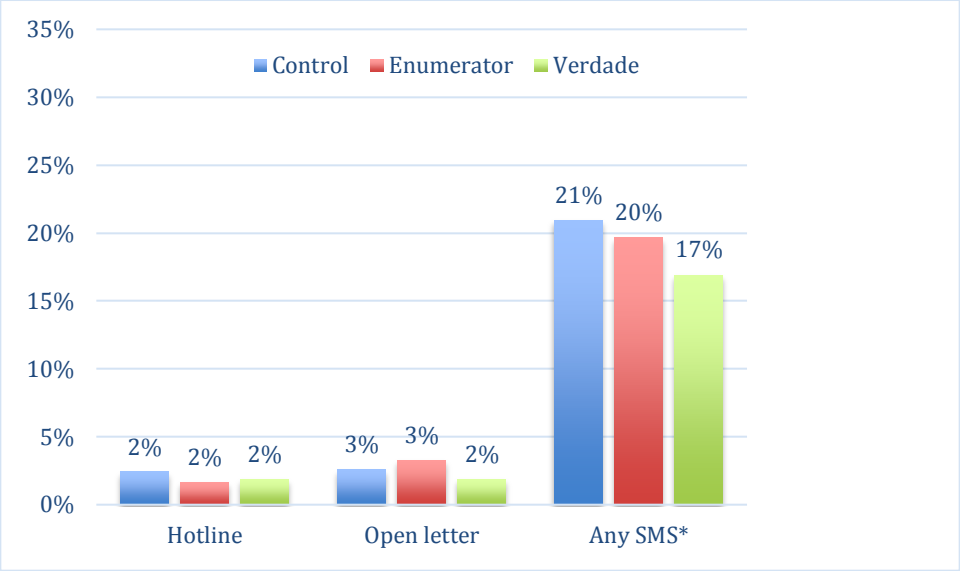
Hypothesis 8 states that distribution of newspaper @Verdade by enumerators and by @Verdade leads to similar effects on electoral participation. We employ two dummy variables corresponding to the two different location-level treatments, i.e., distribution of the newspaper by enumerators, and distribution of the newspaper by @Verdade. We include both targeted and untargeted individuals in treated locations. We analyze impact on the set of outcomes relating to political participation. We find no statistically significant differences between the two types of newspaper distribution (See Figures 23 and 24). However, we can observe that almost all point estimates of the effects of each type of newspaper distribution on the sending of behavioral SMSs and voter turnout are negative. One of them is significant at the 10 percent level when employing individual controls: the effect of distribution by @Verdade on whether experimental subjects sent a message to the newspaper. On the whole, however, we cannot be confident that there are any differences based on the method of distribution.

Figure 23: Hypothesis 8: Distribution of the newspaper by enumerators and by @Verdade has no effect on voter turnout



Note: * p<.10, ** p<.05, ***p<.01

Figure 24: Hypothesis 8: Distribution of the newspaper by enumerators and by @Verdade has no effect on SMS political participation



Note: * p<.10, ** p<.05, ***p<.01

Generally, we can conclude that, contrary to what we expected, we do not find positive effects of newspaper distribution on political participation and information outcomes. The point estimates relating to our behavioral measures of political participation and to voter turnout measures are mostly negative. We generally do not find differences between targeted and untargeted individuals and between the two types of newspaper distribution, in line with the hypotheses. The emergence of conflict in central Mozambique just a few weeks before the election, and subsequent focusing of the newspaper on issues unrelated to the municipal elections, may be a likely explanation for this lack of an effect. Indeed, front pages of the newspaper editions that were distributed before the elections were focusing on problems relating to the violence by armed RENAMO supporters and a medication shortage. Looking at post-election survey data, 84 percent of the respondents who received the newspaper reported having read it; however, only 51 percent stated the most important contents of the newspaper were related to politics. The newspaper may have even diverted the attention of its readers from the municipal elections to these alternative issues.

Note that these results are very different from the ones described in Aker et al. (2013), which reports a positive and significant impact of the newspaper distribution during the presidential and parliamentary elections of 2009 on voter turnout, using both survey measures and official voting records at the level of the polling location. Two important contextual differences should be underlined to Aker et al. (2013): (i) municipal elections, happening only in urban Mozambique, are much less prominent than presidential/parliamentary national elections; (ii) in the weeks before the 2009 election, there was a clear

effort of newspaper @Verdade on voter education concerning the 2009 elections (as described in Aker et al., 2013). These differences may help explain the different results.

Interaction between SMS and information

Finally, we turn to the interaction of the SMS and information treatments. We check impact on the variables relating to political participation we employed before. We test hypotheses H9 and H10, as stated above.

Hypothesis 9 states that individuals who receive a free newspaper and SMSs from quasi networks will be more likely to participate than individuals who do not receive a free newspaper or quasi-network text messages. The SMS treatment variable is defined by assigning value 1 to all groups except the pure control and the placebo (from both similar and dissimilar quasi-network dimensions) groups, and 0 to the placebo group. Note that the regressions we employ here are conditional on having been assigned an SMS treatment group. The information treatment takes value 1 for respondents belonging to locations where the newspaper was distributed (without distinguishing between the two types of distribution). We focus on our set of outcomes relating to political participation. As presented in Annex B, we can observe positive interaction effects. These are significant for the sending of the open letter (only in regressions with individual controls, at the 10 percent level) and for two measures of turnout (in all specifications, at the 5 or 1 percent levels). The probability of sending an open letter SMS increases by 5.2 percentage points, and voter turnout increases by 11-11.2 percentage points for the self-reported measure, and 18.1-18.2 percentage points for the box measure. We also find a positive point estimate on voting for FRELIMO (negative on voting for MDM), although this is not statistically significant at standard levels. As a result, it appears that the combination of a quasi-network SMS treatment and a free newspaper does have some influence on political participation.

We also test a similar hypothesis: H10 proposes that individuals who receive a newspaper and positive encouragement SMSs will be more likely to participate politically than individuals who do not receive a newspaper and receive only reminder text messages. We follow Table 5 in that the treatment variable is given value 1 in case the individual was assigned a positive set of messages by quasi-networks. These regressions are limited to individuals who were assigned messages labeled as coming from quasi-network treatment groups. We do not observe any statistically significant interaction effects. We note however that most point estimates relating to voter turnout outcomes are negative, and that, as for H9, we find a positive point estimate on voting for FRELIMO. We conclude that H10 is not supported by our data.

In summary, we find evidence in favor of stronger effects of the SMS network treatments for experimental subjects that had newspaper @Verdade distributed in their locations. We do not observe clear interaction effects for positive messages originating from quasi-networks.

6. Concluding remarks

In this paper, we tested the role of network influence and information on political participation in the context of a field experiment conducted in Mozambique during the municipal elections of 2013. We assigned random networks to experimental subjects and tested the impact of several types of text messages focusing on voter turnout, some of them labeled as coming from peers. We also followed the

distribution of free newspaper @Verdade. We find some effects of text messaging on political participation, namely voter turnout. However, labeling messages as coming from networks, or having networks encouraging the vote, or having messages being sent by similar peers, does not seem to produce a clear added impact on voter turnout. We do find that messages coming from peers were effective at increasing SMS political participation, that similar peers, males, and old subjects influence voters to vote for FRELIMO, and that males positively influence the level of participation of other males. Turning to information, we do not find effects of newspaper distribution. However, there is some evidence of a positive interaction between SMSs and information: network SMSs produce stronger political participation when experimental subjects are treated with newspaper distribution.

Looking at the results of this paper in conjunction with the results available for the impact of voter education in Mozambique during the presidential and parliamentary elections of 2009 (Aker et al., 2013), we infer that SMSs providing information about the elections and mobilizing voters to vote are effective at producing political participation. We detect effects of our average SMS on voter turnout between 7 and 10 percentage points, comparable to the effects of text messaging information found during the 2009 elections. These effects are therefore independent of the specific context: national or municipal elections, stable or violent conflict scenario. However, newspaper distribution was much less effective during the municipal elections of 2013 than it was during the national elections of 2009. This difference may be linked to political violence occurring in the country at the time of the experiment, which limited coverage on the local elections. For policy makers interested in increasing the levels of political participation in Mozambique, this body of research suggests that text messaging generally works. We should also be aware of the fact that text messages, namely those sent by similar peers or individuals perceived as patriarchs, appear to have induced more votes for the ruling party. Free distribution of newspapers can work as well (Aker et al., 2013), but we do not find evidence that it was effective in the specific (and unusual) context faced in our experiment.

References

Addonizio, Elizabeth M., Donald P. Green, and James M. Glaser (2007), *Putting the Party Back into Politics: An Experiment Testing Whether Election*, PS: Political Science & Politics, 40(4), pp. 721-727;

Aker, Jenny, Paul Collier, and Pedro C. Vicente (2013), *Is Information Power? Using Cell Phones and Free Newspapers in an Election in Mozambique*, Universidade Nova de Lisboa, Working Paper;

Banerjee, Abhijit. V., Selvan Kumar, Rohini Pande, and Felix Su (2011), *Do Informed Voters Make Better Choices? Experimental Evidence from Urban India*, Harvard University, Working Paper;

Bentham, Jeremy (1999), *Political Tactics*, in *The Collected Works of Jeremy Bentham*, Michael James, Cyprian Blamires, and Catherine Pease-Watkin (eds.), Oxford University Press;

Besley, Timothy, and Robin Burgess (2002), *The Political Economy of Government Responsiveness: Theory and Evidence from India*, Quarterly Journal of Economics, 117(4), pp. 1415-1451;

Bjorkman, Martina, and Jakob Svensson (2009), *Power to the People: Evidence from a Randomized Field Experiment on Community-Based Monitoring in Uganda*, Quarterly Journal of Economics, 124(2), pp. 735-769;

Centola, Damon (2011), *An Experimental Study of Homophily in the Adoption of Health Behavior*, Science, 334, pp. 1269-1272;

Chong, Alberto, Ana De La O, Dean Karlan, and Leonard Wantchekon (2011), *Looking Beyond the Incumbent: The Effects of Exposing Corruption on Electoral Outcomes*, National Bureau of Economic Research, Working Paper 17679;

Collier, Paul, and Pedro C. Vicente (2014), *Votes and Violence: Evidence from a Field Experiment in Nigeria*, joint with Paul Collier, Economic Journal, 124(574), pp. F327-355;

Conley, Timothy G., and Christopher R. Udry (2010), *Learning About a New Technology: Pineapple in Ghana*, American Economic Review, 100(1), pp. 35-69;

Dale, Allison., and Aaron Strauss (2009), *Don't Forget to Vote: Text Message Reminders as a Mobilization Tool*, American Journal of Political Science, 53(4), pp. 787-804;

De Brito, Luis (2007), *A Democracia à Prova da Urnas: Elementos para um Programa de Pesquisa Sobre a Abstenção Eleitoral em Moçambique*, IESE, Conference Paper 3;

Duflo, Esther, Rachel Glennerster, and Michael Kremer (2007), *Using Randomization in Development Economics Research: A Toolkit*, In *Handbook of Development Economics*, eds. T. Paul Schultz, and John Strauss, 4, pp. 3895–3962, Elsevier;

Fafchamps, Marcel, and Pedro C. Vicente (2013), *Political Violence and Social Networks: Experimental Evidence from a Nigerian Election*, Journal of Development Economics, 101, pp. 27-48;

Fafchamps, Marcel, Ana Vaz, and Pedro C. Vicente (2013), *Voting and Peer Effects: Experimental Evidence from Mozambique*, Universidade Nova de Lisboa, Working Paper;

Feddersen, T. J., & Pesendorfer, W. (1999). Abstention in elections with asymmetric information and diverse preferences. *American Political Science Review*, *93*(02), 381-398.

Ferejohn, J. A., & Fiorina, M. P. (1974). The paradox of not voting: A decision theoretic analysis. *American Political Science Review*, *68*(02), 525-536.

Ferraz, Claudio, and Frederico Finan, (2008), *Exposing corrupt politicians: The effects of Brazil's publicly released audits on electoral outcomes*, Quarterly Journal of Economics, 123(2), pp. 703-745;

Gerber, Alan S. and Donald P. Green (2000), *The Effects of Canvassing, Telephone Calls, and Direct Mail on Voter Turnout: A Field Experiment*, American Political Science Review, 94(3), pp. 653-663;

Green, Donald P., and Alan S. Gerber (2004), *Get Out The Vote! How to Increase Voter Turnout*, Brookings Institution Press, Washington, D.C.;

Gerber, Alan S., Donald P. Green, and Christopher W. Larimer (2008), *Social Pressure and Vote Turnout: Evidence from a Large-Scale Field Experiment*, American Political Science Review, 102(1), pp. 33-48;

Gerber, Alan S., Dean Karlan, and Daniel Bergan (2009), *Does the Media Matter? A Field Experiment Measuring the Effect of Newspapers on Voting Behavior and Political Opinions*, American Economic Journal: Applied Economics, 1(2), pp. 35-52;

Gine, Xavier, and Ghazala Mansuri (2011), *Together We Will: Experimental Evidence on Female Voting Behavior in Pakistan*, World Bank, Policy Research Working Paper 5692;

Huckfeldt, R. Robert, and John Sprague (1995), *Citizens, Politics and Social Communication: Information and Influence in an Election Campaign***,** Cambridge University Press, Cambridge;

Humphreys, Macartan, and Jeremy Weinstein (2012), *Policing Politicians: Citizen Empowerment and Political Accountability in Uganda*, Working Paper;

Marsden, Peter V. (1988), *Homogeneity in Confiding Relations*, Social Networks, 10, pp. 57-76;

Mattes, Robert, and Carlos Shenga (2007), *"Uncritical Citizenship" in a "Low-Information" Society: Mozambicans In Comparative Perspective*, Afrobarometer, Working Paper 91;

McPherson, Miller, Lynn Smith-Lovin, and James M. Cook (2001), *Birds of a Feather: Homophily in Social Networks*, Annual Review of Sociology, 27, pp. 415-444;

Nickerson, David W. (2008), *Is Voting Contagious? Evidence from Two Field Experiments*, American Political Science Review, 102(1), pp. 49–57;

Pereira, Joao, Yul D. Davids, and Robert Mattes (2002), Mozambicans' Views of Democracy and Political Reform: A Comparative Perspective, Afrobarometer, Working Paper 22;

Pereira, Joao, Ines Raimundo, Annie Chikwanha, Alda Saute, and Robert Mattes (2003), *Eight Years of Multiparty Democracy in Mozambique: The Public's View*, Afrobarometer, Working Paper 30;

Pop-Eleches, Cristian, Harsha Thirumurthy, James P. Habyariamana, Joshua G. Zivin, Markus P. Goldstein, Damien de Walque, Leslie MacKeen, Jessica Haberer, Sylvester Kimaiyo, John Sidle, Duncan Ngare, and David R. Bangsberg (2011), *Mobile Phone Technologies Improve Adherence to Antiretroviral Treatment in a Resource-limited Setting: a Randomized Controlled Trial of Text Message Reminders*, AIDS, 25(6), pp. 825-834;

Vicente, Pedro C. (2014), *Is Vote-buying Effective? Evidence from a Field Experiment in West Africa*, Economic Journal, 124(574), pp. F356-387;

Wantchekon, Leonard (2003), *Clientelism and Voting Behavior: Evidence from a Field Experiment in Benin*, World Politics, 55, pp. 399-422.

Annex A. Balance tests

Table 2a: Individual characteristics: Differences across treatment dimensions

	sms networks						newspaper @Verdade		
	control	similar quasi-network			dissimilar quasi-network			control	by enumerator	by @Verdade
		placebo	neutral	positive	placebo	neutral	positive			
male	0.477	0.009	0.019	0.054	0.010	0.019	0.053	0.513	-0.008	-0.015
		(0.051)	(0.053)	(0.052)	(0.052)	(0.050)	(0.053)		(0.009)	(0.011)
age	32.000	0.662	1.591	2.058	1.702	2.035	0.582	33.994	-1.459	-0.859
		(1.293)	(1.333)	(1.476)	(1.365)	(1.454)	(1.302)		(0.967)	(0.983)
household size	5.578	-0.194	-0.043	0.407	0.086	-0.012	0.094	5.847	-0.610**	-0.078
		(0.316)	(0.361)	(0.345)	(0.327)	(0.330)	(0.373)		(0.259)	(0.269)
single	0.454	-0.023	-0.042	-0.024	-0.051	-0.028	-0.010	0.419	0.023	0.040
		(0.045)	(0.047)	(0.048)	(0.048)	(0.045)	(0.045)		(0.043)	(0.045)
union	0.377	0.005	0.009	0.027	0.003	0.026	0.013	0.367	0.010	0.004
		(0.045)	(0.046)	(0.049)	(0.049)	(0.046)	(0.048)		(0.042)	(0.044)
literate	0.954	-0.019	-0.020	-0.006	-0.026	0.002	-0.021	0.928	0.015	-0.009
		(0.021)	(0.021)	(0.023)	(0.023)	(0.020)	(0.022)		(0.020)	(0.021)
no religion	0.063	0.003	0.012	-0.010	0.010	0.005	-0.010	0.064	-0.014	-0.007
		(0.023)	(0.020)	(0.024)	(0.022)	(0.024)	(0.023)		(0.023)	(0.025)
catholic	0.313	0.007	-0.011	0.053	0.006	0.010	0.033	0.324	-0.006	-0.018
		(0.046)	(0.046)	(0.045)	(0.047)	(0.047)	(0.044)		(0.043)	(0.046)
muslim	0.266	-0.006	0.010	-0.023	0.006	-0.011	-0.014	0.275	0.010	0.086
		(0.038)	(0.037)	(0.037)	(0.036)	(0.038)	(0.037)		(0.059)	(0.065)
macua	0.325	-0.017	-0.016	-0.035	-0.025	-0.018	-0.025	0.318	0.058	0.075
		(0.029)	(0.030)	(0.035)	(0.030)	(0.033)	(0.030)		(0.079)	(0.081)
changana	0.198	-0.004	-0.013	-0.014	-0.007	-0.003	-0.021	0.202	-0.005	-0.061
		(0.036)	(0.033)	(0.033)	(0.032)	(0.035)	(0.034)		(0.056)	(0.053)

Note: Standard errors of the differences reported in parenthesis. * significant at 10%; ** significant at 5%; *** significant at 1%.

Table 2b: Individual characteristics: Differences across treatment dimensions

	sms networks						newspaper @Verdade		
	control	similar quasi-network			dissimilar quasi-network			control	by enumerator	by @Verdade
		placebo	neutral	positive	placebo	neutral	positive			
no occupation	0.197	-0.060	-0.050	-0.056	-0.059	-0.054	-0.054	0.131	0.024	0.024
		(0.040)	(0.040)	(0.037)	(0.038)	(0.040)	(0.039)		(0.034)	(0.033)
farmer	0.165	0.054	0.057*	0.049	0.018	0.092**	0.050	0.236	-0.040	-0.017
		(0.036)	(0.034)	(0.038)	(0.033)	(0.038)	(0.036)		(0.044)	(0.045)
trader	0.071	-0.007	0.013	0.027	0.017	-0.005	0.021	0.077	0.001	0.006
		(0.026)	(0.027)	(0.026)	(0.027)	(0.025)	(0.027)		(0.017)	(0.019)
artisan	0.094	-0.028	-0.032	-0.038	-0.041	-0.033	-0.022	0.046	0.017	0.026
		(0.029)	(0.030)	(0.028)	(0.029)	(0.029)	(0.029)		(0.014)	(0.016)
manual	0.079	-0.015	-0.008	-0.016	-0.007	-0.018	-0.014	0.075	-0.018	-0.016
		(0.027)	(0.028)	(0.024)	(0.025)	(0.028)	(0.027)		(0.016)	(0.017)
student	0.102	-0.003	-0.019	-0.024	-0.004	-0.033	-0.008	0.095	-0.012	-0.007
		(0.031)	(0.029)	(0.031)	(0.031)	(0.029)	(0.031)		(0.021)	(0.023)
household work	0.118	0.013	0.010	0.012	0.020	0.017	-0.002	0.137	-0.012	-0.004
		(0.032)	(0.034)	(0.034)	(0.033)	(0.033)	(0.034)		(0.025)	(0.024)
has book	0.669	-0.033	0.003	-0.017	-0.020	-0.002	-0.025	0.625	-0.000	0.032
		(0.048)	(0.047)	(0.046)	(0.047)	(0.047)	(0.046)		(0.046)	(0.045)
has radio	0.690	-0.058	-0.002	0.007	-0.013	-0.022	-0.018	0.675	-0.033	0.000
		(0.046)	(0.052)	(0.046)	(0.047)	(0.048)	(0.049)		(0.034)	(0.035)
has bike	0.325	-0.063	-0.087**	-0.030	-0.086**	-0.066	-0.027	0.258	0.041	0.002
		(0.045)	(0.043)	(0.046)	(0.043)	(0.047)	(0.045)		(0.046)	(0.045)
has house	0.802	0.001	0.047	0.026	0.017	0.031	0.025	0.811	0.052*	-0.015
		(0.038)	(0.039)	(0.040)	(0.042)	(0.038)	(0.036)		(0.031)	(0.034)
has land	0.706	0.005	0.000	0.027	0.021	-0.004	0.017	0.740	0.011	-0.080*
		(0.043)	(0.045)	(0.045)	(0.045)	(0.045)	(0.043)		(0.041)	(0.043)
has animal	0.278	0.021	-0.033	-0.011	-0.025	-0.019	0.021	0.269	-0.035	-0.011
		(0.045)	(0.047)	(0.044)	(0.046)	(0.044)	(0.046)		(0.038)	(0.042)
has oven	0.151	-0.029	-0.038	-0.033	-0.027	-0.038	-0.035	0.109	0.021	-0.013
		(0.036)	(0.034)	(0.034)	(0.036)	(0.035)	(0.035)		(0.030)	(0.027)
has fridge	0.341	-0.008	0.003	0.015	0.022	-0.017	0.004	0.334	0.016	-0.063
		(0.048)	(0.044)	(0.046)	(0.045)	(0.046)	(0.048)		(0.050)	(0.051)
has cell	0.961	-0.027	-0.008	-0.013	-0.008	-0.042*	0.003	0.933	0.025	-0.033
		(0.021)	(0.018)	(0.020)	(0.019)	(0.023)	(0.017)		(0.020)	(0.027)

Annex B: Linear probability models

Table 3: Hypothesis 1: Effect of receiving SMS messages on voter turnout

dependent variable ------>		behavioral sms				turnout				voting	
		Hotline	Open letter	Any SMS	number of sms	Self-reported*	Adjusted	Interviewer**	Box*	Frelimo	mdm
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
treatment effect	coefficient	-0.008	-0.003	0.082**	0.329***	0.070*	-0.013	0.096**	0.072*	0.005	-0.005
	standard error	(0.016)	(0.016)	(0.035)	(0.078)	(0.040)	(0.050)	(0.048)	(0.041)	(0.028)	(0.028)
mean dep. variable (control)		0.031	0.031	0.146	0.215	0.837	0.685	0.674	0.830	0.918	0.082
r-squared adjusted		-0.000	-0.001	0.003	0.004	0.004	-0.001	0.003	0.004	-0.001	-0.001
number of observations		1,290	1,290	1,290	1,290	941	941	941	879	786	786
controls		no	no	no	no	no	no	no	no	no	no
treatment effect	coefficient	-0.010	-0.003	0.077**	0.301***	0.068*	-0.012	0.094*	0.069*	0.009	-0.009
	standard error	(0.016)	(0.016)	(0.035)	(0.079)	(0.040)	(0.051)	(0.049)	(0.042)	(0.028)	(0.028)
mean dep. variable (control)		0.031	0.031	0.147	0.217	0.837	0.685	0.674	0.828	0.917	0.083
r-squared adjusted		-0.002	-0.000	0.004	0.010	0.006	-0.002	0.035	0.016	0.028	0.028
number of observations		1,262	1,262	1,262	1,262	935	935	935	872	779	779
controls		yes	yes	yes	yes	yes	yes	yes	yes	yes	yes

Note: Standard errors of the differences reported in parenthesis. * significant at 10%; ** significant at 5%; *** significant at 1%.

Table 4: Hypothesis 2: SMSs from quasi networks have a stronger impact on vote

dependent variable ------>		behavioral sms				turnout				voting	
		Hotline*	Open letter	Any SMS	number of sms	Self-reported	Adjusted	Interviewer	Box	FRELIMO	MDM
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
treatment effect	**coefficient**	**0.016***	**0.014**	**0.022**	**0.202***	**-0.015**	**0.039**	**0.023**	**0.025**	**0.054**	**-0.054**
	standard error	**(0.009)**	**(0.012)**	**(0.037)**	**(0.110)**	**(0.031)**	**(0.052)**	**(0.047)**	**(0.036)**	**(0.033)**	**(0.033)**
mean dep. variable (control)		0.008	0.016	0.209	0.364	0.920	0.636	0.750	0.879	0.875	0.125
r-squared adjusted		0.000	-0.000	-0.001	0.001	-0.001	-0.001	-0.001	-0.001	0.003	0.003
number of observations		1,160	1,160	1,160	1,160	849	849	849	791	713	713
controls		no	no	no	no	no	no	no	no	no	no
treatment effect	**coefficient**	**0.016**	**0.014**	**0.021**	**0.209***	**-0.015**	**0.052**	**0.032**	**0.015**	**0.046**	**-0.046**
	standard error	**(0.010)**	**(0.013)**	**(0.037)**	**(0.111)**	**(0.032)**	**(0.054)**	**(0.048)**	**(0.037)**	**(0.033)**	**(0.033)**
mean dep. variable (control)		0.008	0.016	0.210	0.371	0.920	0.632	0.747	0.878	0.873	0.127
r-squared adjusted		-0.002	0.000	0.002	0.010	0.001	-0.002	0.039	0.007	0.029	0.029
number of observations		1,133	1,133	1,133	1,133	843	843	843	785	707	707
controls		yes	yes	yes	yes	yes	yes	yes	yes	yes	yes

Note: Standard errors of the differences reported in parenthesis. * significant at 10%; ** significant at 5%; *** significant at 1%.

Table 5: Hypothesis 3: SMSs from similar networks have a stronger effect on voter turnout than SMSs from dissimilar networks

dependent variable ------>		behavioral sms				turnout				voting	
		hotline	open letter	any sms	number of sms	self-reported	adjusted	interviewer	box	frelimo	mdm
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
similar	coefficient	0.014	-0.005	0.004	0.134	-0.003	-0.021	0.002	0.006	0.041*	-0.041*
	standard error	(0.009)	(0.011)	(0.026)	(0.088)	(0.022)	(0.033)	(0.030)	(0.023)	(0.024)	(0.024)
dissimilar	coefficient	0.003	0.026***	0.027	0.094	-0.008	0.025	0.015	0.023	0.027	-0.027
	standard error	(0.008)	(0.008)	(0.025)	(0.088)	(0.021)	(0.034)	(0.028)	(0.023)	(0.021)	(0.021)
mean dep. variable (control)		0.008	0.016	0.209	0.364	0.920	0.636	0.750	0.879	0.875	0.125
r-squared adjusted		0.000	0.004	-0.001	0.001	-0.002	-0.001	-0.002	-0.001	0.005	0.005
number of observations		1,160	1,160	1,160	1,160	849	849	849	791	713	713
h0: similar = dissimilar	F-stat p-value	0.377	0.020	0.528	0.736	0.884	0.345	0.747	0.577	0.633	0.633
controls		no	no	no	no	no	no	no	no	no	no
similar	coefficient	0.012	-0.005	-0.000	0.117	-0.007	-0.018	0.005	-0.003	0.043*	-0.043*
	standard error	(0.009)	(0.012)	(0.026)	(0.089)	(0.023)	(0.033)	(0.030)	(0.024)	(0.025)	(0.025)
dissimilar	coefficient	0.001	0.026***	0.034	0.108	-0.008	0.027	0.019	0.018	0.025	-0.025
	standard error	(0.009)	(0.009)	(0.025)	(0.089)	(0.022)	(0.035)	(0.028)	(0.023)	(0.019)	(0.019)
mean dep. variable (control)		0.008	0.016	0.210	0.371	0.920	0.632	0.747	0.878	0.873	0.127
r-squared adjusted		-0.003	0.005	0.003	0.009	-0.001	-0.003	0.038	0.006	0.032	0.032
number of observations		1,133	1,133	1,133	1,133	843	843	843	785	707	707
h0: similar = dissimilar	F-stat p-value	0.363	0.029	0.359	0.939	0.980	0.350	0.725	0.523	0.569	0.569
controls		yes	yes	yes	yes	yes	yes	yes	yes	yes	yes

Note: Standard errors of the differences reported in parenthesis. * significant at 10%; ** significant at 5%; *** significant at 1%.

Table 6a: Hypothesis 4a: Reminders from males will have stronger effects on political participation than from females

dependent variable ------>		behavioral sms				turnout				voting	
		hotline	open letter	any sms	number of sms	self-reported	adjusted	interviewer	box	frelimo	mdm
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
similar	coefficient	0.006	-0.010	-0.033	0.013	-0.045	-0.077	-0.064	-0.017	0.058*	-0.058*
	standard error	(0.010)	(0.013)	(0.039)	(0.118)	(0.033)	(0.047)	(0.045)	(0.033)	(0.031)	(0.031)
dissimilar	coefficient	-0.002	0.017	-0.008	-0.094	0.003	0.074	0.081**	0.059*	-0.003	0.003
	standard error	(0.014)	(0.014)	(0.038)	(0.158)	(0.026)	(0.048)	(0.040)	(0.033)	(0.027)	(0.027)
male	coefficient	0.012	0.014	0.011	0.156	-0.020	-0.087	-0.096	-0.023	0.017	-0.017
	standard error	(0.015)	(0.017)	(0.053)	(0.174)	(0.041)	(0.072)	(0.070)	(0.048)	(0.050)	(0.050)
similar*male (a)	coefficient	**0.016**	**0.010**	**0.076**	**0.255***	**0.080***	**0.104**	**0.118***	**0.033**	**-0.022**	**0.022**
	standard error	**(0.018)**	**(0.021)**	**(0.053)**	**(0.151)**	**(0.044)**	**(0.070)**	**(0.067)**	**(0.044)**	**(0.043)**	**(0.043)**
dissimilar*female (b)	coefficient	**0.008**	**0.017**	**0.067**	**0.356***	**-0.027**	**-0.105**	**-0.140****	**-0.073**	**0.063**	**-0.063**
	standard error	**(0.017)**	**(0.018)**	**(0.049)**	**(0.194)**	**(0.042)**	**(0.067)**	**(0.067)**	**(0.046)**	**(0.039)**	**(0.039)**
constant	coefficient	0.006	0.007	0.203***	0.316***	0.927***	0.717***	0.813***	0.898***	0.864***	0.136***
	standard error	(0.011)	(0.009)	(0.038)	(0.097)	(0.032)	(0.052)	(0.049)	(0.036)	(0.043)	(0.043)
r-squared adjusted		0.002	0.003	0.000	0.004	0.007	0.004	0.014	0.006	0.010	0.010
number of observations		1,160	1,160	1,160	1,160	849	849	849	791	713	713
h0: (a) + (b) = 0	F-stat p-value	0.365	0.306	0.048	0.010	0.405	0.988	0.816	0.535	0.460	0.460
controls		no	no	no	no	no	no	no	no	no	no
similar	coefficient	0.006	-0.011	-0.034	-0.009	-0.044	-0.067	-0.055	-0.019	0.061**	-0.061**
	standard error	(0.010)	(0.014)	(0.040)	(0.121)	(0.033)	(0.048)	(0.046)	(0.033)	(0.031)	(0.031)
dissimilar	coefficient	-0.005	0.017	-0.001	-0.066	0.005	0.079*	0.084**	0.054	-0.010	0.010
	standard error	(0.014)	(0.014)	(0.038)	(0.153)	(0.026)	(0.047)	(0.039)	(0.033)	(0.025)	(0.025)
male	coefficient	0.011	0.013	-0.004	0.062	-0.024	-0.077	-0.097	-0.025	0.031	-0.031
	standard error	(0.016)	(0.018)	(0.054)	(0.159)	(0.042)	(0.074)	(0.072)	(0.046)	(0.052)	(0.052)
similar*male (a)	coefficient	**0.014**	**0.013**	**0.071**	**0.270***	**0.075***	**0.097**	**0.118***	**0.030**	**-0.033**	**0.033**
	standard error	**(0.018)**	**(0.022)**	**(0.054)**	**(0.156)**	**(0.045)**	**(0.070)**	**(0.069)**	**(0.044)**	**(0.045)**	**(0.045)**
dissimilar*female (b)	coefficient	**0.010**	**0.018**	**0.067**	**0.337***	**-0.032**	**-0.111**	**-0.139****	**-0.073**	**0.073***	**-0.073***
	standard error	**(0.017)**	**(0.018)**	**(0.049)**	**(0.183)**	**(0.042)**	**(0.068)**	**(0.065)**	**(0.045)**	**(0.039)**	**(0.039)**
constant	coefficient	-0.007	0.040	0.126	-0.047	0.853***	0.649***	0.757***	0.789***	0.843***	0.157**
	standard error	(0.028)	(0.033)	(0.103)	(0.344)	(0.115)	(0.138)	(0.121)	(0.114)	(0.079)	(0.079)
r-squared adjusted		-0.004	0.004	0.004	0.012	0.001	-0.000	0.045	0.007	0.034	0.034
number of observations		1,133	1,133	1,133	1,133	843	843	843	785	707	707
h0: (a) + (b) = 0	F-stat p-value	0.370	0.264	0.057	0.011	0.502	0.885	0.821	0.500	0.468	0.468
controls		yes	yes	yes	yes	yes	yes	yes	yes	yes	yes

Note: Standard errors of the differences reported in parenthesis. * significant at 10%; ** significant at 5%; *** significant at 1%.

Table 6b: Hypothesis 4a: Reminders from older individuals will have stronger effects on political participation than from younger individuals

dependent variable ------>		behavioral sms				turnout				voting	
		hotline	open letter	any sms	number of sms	self-reported	adjusted	interviewer	box	frelimo	mdm
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
similar	coefficient	0.016	-0.001	0.010	0.157	-0.015	-0.056	-0.026	-0.002	-0.008	0.008
	standard error	(0.010)	(0.016)	(0.039)	(0.102)	(0.033)	(0.048)	(0.043)	(0.034)	(0.039)	(0.039)
dissimilar	coefficient	0.012	0.031***	0.025	0.083	-0.018	0.039	0.009	0.065**	0.003	-0.003
	standard error	(0.014)	(0.011)	(0.038)	(0.133)	(0.027)	(0.044)	(0.038)	(0.033)	(0.028)	(0.028)
old	coefficient	0.004	-0.004	0.045	0.237	0.041	-0.029	0.018	-0.027	-0.005	0.005
	standard error	(0.017)	(0.017)	(0.061)	(0.173)	(0.042)	(0.067)	(0.064)	(0.048)	(0.056)	(0.056)
similar*old (a)	**coefficient**	**-0.005**	**-0.009**	**-0.021**	**-0.071**	**0.021**	**0.072**	**0.055**	**0.014**	**0.096***	**-0.096***
	standard error	**(0.016)**	**(0.020)**	**(0.057)**	**(0.189)**	**(0.043)**	**(0.071)**	**(0.062)**	**(0.045)**	**(0.055)**	**(0.055)**
dissimilar*young (b)	**coefficient**	**-0.019**	**-0.009**	**0.008**	**0.028**	**0.022**	**-0.029**	**0.012**	**-0.086***	**0.049**	**-0.049**
	standard error	**(0.020)**	**(0.017)**	**(0.054)**	**(0.165)**	**(0.042)**	**(0.062)**	**(0.060)**	**(0.048)**	**(0.040)**	**(0.040)**
constant	coefficient	0.010	0.016	0.187***	0.281***	0.893***	0.680***	0.747***	0.895***	0.878***	0.122***
	standard error	(0.012)	(0.013)	(0.037)	(0.085)	(0.035)	(0.052)	(0.048)	(0.036)	(0.042)	(0.042)
r-squared adjusted		0.000	0.002	-0.002	0.002	-0.000	-0.002	-0.001	0.004	0.012	0.012
number of observations		1,144	1,144	1,144	1,144	845	845	845	787	709	709
h0: (a) + (b) = 0	F-stat p-value	0.346	0.523	0.871	0.860	0.498	0.654	0.467	0.274	0.042	0.042
controls		no	no	no	no	no	no	no	no	no	no
similar	coefficient	0.014	-0.001	0.013	0.161	-0.020	-0.064	-0.018	-0.011	-0.007	0.007
	standard error	(0.010)	(0.016)	(0.038)	(0.100)	(0.033)	(0.049)	(0.042)	(0.034)	(0.038)	(0.038)
dissimilar	coefficient	0.011	0.030***	0.026	0.092	-0.019	0.047	0.020	0.054	-0.004	0.004
	standard error	(0.014)	(0.011)	(0.038)	(0.134)	(0.027)	(0.045)	(0.037)	(0.035)	(0.025)	(0.025)
old	coefficient	0.005	0.001	0.085	0.261	0.033	-0.041	0.008	-0.034	-0.026	0.026
	standard error	(0.015)	(0.017)	(0.060)	(0.176)	(0.044)	(0.070)	(0.066)	(0.048)	(0.056)	(0.056)
similar*old (a)	**coefficient**	**-0.003**	**-0.009**	**-0.026**	**-0.080**	**0.024**	**0.087**	**0.045**	**0.015**	**0.097***	**-0.097***
	standard error	**(0.016)**	**(0.021)**	**(0.057)**	**(0.185)**	**(0.044)**	**(0.073)**	**(0.061)**	**(0.045)**	**(0.052)**	**(0.052)**
dissimilar*young (b)	**coefficient**	**-0.022**	**-0.008**	**0.014**	**0.024**	**0.019**	**-0.045**	**-0.005**	**-0.077**	**0.061**	**-0.061**
	standard error	**(0.020)**	**(0.018)**	**(0.054)**	**(0.169)**	**(0.042)**	**(0.063)**	**(0.058)**	**(0.049)**	**(0.039)**	**(0.039)**
constant	coefficient	0.007	0.012	0.128*	0.087	0.832***	0.598***	0.742***	0.816***	0.909***	0.091
	standard error	(0.018)	(0.029)	(0.076)	(0.226)	(0.107)	(0.128)	(0.115)	(0.119)	(0.071)	(0.071)
r-squared adjusted		-0.000	0.002	0.005	0.009	-0.001	-0.001	0.035	0.008	0.038	0.038
number of observations		1,133	1,133	1,133	1,133	843	843	843	785	707	707
h0: (a) + (b) = 0	F-stat p-value	0.338	0.553	0.874	0.826	0.502	0.668	0.646	0.365	0.023	0.023
controls		yes	yes	yes	yes	yes	yes	yes	yes	yes	yes

Note: Standard errors of the differences reported in parenthesis. * significant at 10%; ** significant at 5%; *** significant at 1%.

Table 7: Hypothesis 5: Positive encouragement SMSs have a stronger impact on voter turnout than reminder SMSs

dependent variable ------>		behavioral sms				turnout				voting	
		hotline	open letter	any sms	number of sms	self-reported	adjusted	interviewer	box	frelimo	mdm
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
treatment effect	coefficient	-0.015	0.010	0.029	0.152	-0.010	0.020	-0.021	-0.027	-0.002	0.002
	standard error	(0.010)	(0.009)	(0.025)	(0.097)	(0.021)	(0.035)	(0.028)	(0.022)	(0.018)	(0.018)
mean dep. variable (control)		0.033	0.023	0.213	0.472	0.912	0.663	0.786	0.921	0.930	0.070
r-squared adjusted		0.001	-0.000	0.000	0.001	-0.001	-0.001	-0.001	0.000	-0.002	-0.002
number of observations		1,031	1,031	1,031	1,031	761	761	761	700	633	633
controls		no	no	no	no	no	no	no	no	no	no
treatment effect	coefficient	-0.018*	0.008	0.020	0.141	-0.013	0.018	-0.034	-0.027	0.009	-0.009
	standard error	(0.010)	(0.009)	(0.025)	(0.098)	(0.021)	(0.036)	(0.028)	(0.022)	(0.018)	(0.018)
mean dep. variable (control)		0.034	0.023	0.214	0.470	0.911	0.661	0.784	0.920	0.930	0.070
r-squared adjusted		0.000	-0.001	0.003	0.008	0.002	0.002	0.045	0.012	0.024	0.024
number of observations		1,009	1,009	1,009	1,009	756	756	756	695	628	628
controls		yes	yes	yes	yes	yes	yes	yes	yes	yes	yes

Note: Standard errors of the differences reported in parenthesis. * significant at 10%; ** significant at 5%; *** significant at 1%.

Table 8: Hypothesis 6a: Newspaper distribution increases voter turnout

dependent variable ------>		behavioral sms				turnout				voting	
		hotline	open letter	any sms	number of sms	self-reported	adjusted	interviewer	box	frelimo	mdm
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
treatment effect	**coefficient**	**-0.007**	**-0.000**	**-0.026**	**-0.038**	**-0.010**	**-0.033**	**-0.012**	**0.000**	**-0.001**	**-0.001**
	standard error	**(0.009)**	**(0.010)**	**(0.025)**	**(0.081)**	**(0.021)**	**(0.038)**	**(0.040)**	**(0.023)**	**(0.030)**	**(0.030)**
mean dep. variable (control)		0.024	0.026	0.209	0.467	0.905	0.700	0.765	0.896	0.930	0.070
r-squared adjusted		-0.000	-0.001	0.000	-0.000	-0.001	0.000	-0.001	-0.001	-0.001	-0.001
number of observations		1,523	1,523	1,523	1,523	1,124	1,124	1,124	1,046	938	938
controls		no	no	no	no	no	no	no	no	no	no
treatment effect	**coefficient**	**-0.008**	**-0.002**	**-0.038**	**-0.043**	**-0.006**	**-0.032**	**-0.010**	**-0.000**	**0.001**	**-0.002**
	standard error	**(0.009)**	**(0.011)**	**(0.026)**	**(0.079)**	**(0.021)**	**(0.038)**	**(0.038)**	**(0.022)**	**(0.029)**	**(0.029)**
mean dep. variable (control)		0.025	0.027	0.213	0.476	0.905	0.701	0.764	0.896	0.930	0.070
r-squared adjusted		-0.001	0.001	0.007	0.005	0.007	-0.001	0.030	0.012	0.021	0.024
number of observations		1,483	1,483	1,483	1,483	1,115	1,115	1,115	1,036	928	928
controls		yes	yes	yes	yes	yes	yes	yes	yes	yes	yes

Note: Standard errors of the differences reported in parenthesis. * significant at 10%; ** significant at 5%; *** significant at 1%.

Table 9: Hypothesis 6b: Targeted and untargeted subjects within treatment areas participate in the elections at similar rates

dependent variable ------>		behavioral sms				turnout				voting	
		hotline	open letter	any sms	number of sms	self-reported	adjusted	interviewer	box	frelimo	mdm
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
treatment effect	coefficient	-0.008	-0.009	-0.036	-0.137	0.001	-0.002	0.034	-0.016	-0.002	0.006
	standard error	(0.009)	(0.011)	(0.026)	(0.092)	(0.025)	(0.037)	(0.035)	(0.025)	(0.020)	(0.020)
mean dep. variable (control)		0.022	0.031	0.205	0.508	0.895	0.672	0.734	0.905	0.931	0.065
r-squared adjusted		-0.000	-0.000	0.001	0.002	-0.001	-0.001	0.000	-0.001	-0.002	-0.002
number of observations		951	951	951	951	698	698	698	653	585	585
controls		no	no	no	no	no	no	no	no	no	no
treatment effect	coefficient	-0.011	-0.009	-0.047*	-0.166*	0.009	0.006	0.026	-0.021	-0.011	0.015
	standard error	(0.009)	(0.012)	(0.026)	(0.094)	(0.024)	(0.036)	(0.032)	(0.025)	(0.021)	(0.020)
mean dep. variable (control)		0.023	0.032	0.205	0.506	0.894	0.674	0.733	0.904	0.930	0.066
r-squared adjusted		-0.005	-0.003	0.016	0.014	0.010	0.000	0.034	0.013	0.020	0.025
number of observations		925	925	925	925	692	692	692	646	578	578
controls		yes	yes	yes	yes	yes	yes	yes	yes	yes	yes

Note: Standard errors of the differences reported in parenthesis. * significant at 10%; ** significant at 5%; *** significant at 1%.

Table 10: Hypothesis 7: Newspaper distribution at the level of the polling location increases electoral information and voters' ability to assess the previous mayor

dependent variable ------>		political information				
		interest in public affairs	know election	information about election	interest in election	information about mayor
		(1)	(2)	(3)	(4)	(5)
treatment effect	**coefficient**	**-0.036**	**-0.007**	**0.022**	**0.070**	**-0.022**
	standard error	**(0.086)**	**(0.014)**	**(0.073)**	**(0.084)**	**(0.026)**
mean dep. variable (control)		2.426	0.976	2.868	2.514	0.892
r-squared adjusted		-0.001	-0.001	-0.001	0.000	0.000
number of observations		1,153	1,076	1,161	1,155	1,408
controls		no	no	no	no	no
treatment effect	**coefficient**	**-0.021**	**-0.009**	**0.033**	**0.084**	**-0.016**
	standard error	**(0.086)**	**(0.014)**	**(0.072)**	**(0.086)**	**(0.026)**
mean dep. variable (control)		2.425	0.979	2.870	2.515	0.890
r-squared adjusted		0.035	0.000	0.052	0.027	0.008
number of observations		1,143	1,069	1,149	1,144	1,372
controls		yes	yes	yes	yes	yes

Note: Standard errors of the differences reported in parenthesis. * significant at 10%; ** significant at 5%; *** significant at 1%.

Table 11: Hypothesis 8: Distribution of @Verdade by enumerators and by @Verdade personnel lead to similar effects on electoral participation

dependent variable ------>		behavioral sms				turnout				voting	
		hotline	open letter	any sms	number of sms	self-reported	adjusted	interviewer	box	frelimo	mdm
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
enumerator	coefficient	-0.008	0.007	-0.013	-0.012	-0.019	-0.032	-0.026	-0.011	0.000	-0.004
	standard error	(0.009)	(0.013)	(0.030)	(0.096)	(0.025)	(0.042)	(0.047)	(0.026)	(0.034)	(0.034)
@Verdade	coefficient	-0.006	-0.008	-0.040	-0.065	-0.002	-0.033	0.001	0.011	-0.002	0.002
	standard error	(0.009)	(0.010)	(0.028)	(0.090)	(0.026)	(0.046)	(0.045)	(0.027)	(0.034)	(0.034)
mean dep. variable (control)		0.024	0.026	0.209	0.467	0.905	0.700	0.765	0.896	0.930	0.070
r-squared adjusted		-0.001	-0.000	0.000	-0.001	-0.001	-0.001	-0.001	-0.001	-0.002	-0.002
number of observations		1,523	1,523	1,523	1,523	1,124	1,124	1,124	1,046	938	938
h0: similar = dissimilar F-stat p-value		0.782	0.206	0.351	0.573	0.527	0.983	0.562	0.458	0.958	0.873
controls		no	no	no	no	no	no	no	no	no	no
enumerator	coefficient	-0.008	0.004	-0.028	-0.018	-0.012	-0.030	-0.018	-0.008	0.005	-0.008
	standard error	(0.009)	(0.013)	(0.030)	(0.097)	(0.024)	(0.042)	(0.046)	(0.027)	(0.033)	(0.033)
@Verdade	coefficient	-0.008	-0.009	-0.048*	-0.068	-0.001	-0.034	-0.002	0.006	-0.003	0.003
	standard error	(0.010)	(0.011)	(0.028)	(0.088)	(0.025)	(0.046)	(0.043)	(0.027)	(0.033)	(0.033)
mean dep. variable (control)		0.025	0.027	0.213	0.476	0.905	0.701	0.764	0.896	0.930	0.070
r-squared adjusted		-0.002	0.001	0.006	0.004	0.007	-0.002	0.030	0.011	0.020	0.023
number of observations		1,483	1,483	1,483	1,483	1,115	1,115	1,115	1,036	928	928
h0: similar = dissimilar F-stat p-value		0.933	0.249	0.490	0.601	0.669	0.922	0.740	0.619	0.809	0.724
controls		yes	yes	yes	yes	yes	yes	yes	yes	yes	yes

Note: Standard errors of the differences reported in parenthesis. * significant at 10%; ** significant at 5%; *** significant at 1%.

Table 12: Hypothesis 9: Individuals who receive both a newspaper and text messages from quasi-networks will be less likely to politically participate

dependent variable ------>		behavioral sms				turnout				voting	
		hotline	open letter	any sms	number of sms	self-reported	adjusted	interviewer	box	frelimo	mdm
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
sms	coefficient	0.007	-0.017	-0.015	-0.025	-0.088***	0.004	-0.028	-0.096***	-0.004	0.004
	standard error	(0.023)	(0.028)	(0.067)	(0.251)	(0.016)	(0.082)	(0.070)	(0.017)	(0.049)	(0.049)
newspaper	coefficient	-0.021	-0.042	-0.065	-0.316	-0.123***	-0.113	-0.087	-0.180***	-0.093	0.093
	standard error	(0.021)	(0.028)	(0.078)	(0.273)	(0.044)	(0.107)	(0.093)	(0.050)	(0.070)	(0.070)
sms*newspaper	coefficient	**0.016**	**0.048**	**0.058**	**0.363**	**0.112****	**0.050**	**0.077**	**0.182*****	**0.093**	**-0.093**
	standard error	**(0.024)**	**(0.029)**	**(0.079)**	**(0.265)**	**(0.049)**	**(0.106)**	**(0.093)**	**(0.054)**	**(0.066)**	**(0.066)**
constant	coefficient	0.021	0.042	0.250***	0.562**	1.000***	0.710***	0.806***	1.000***	0.933***	0.067
	standard error	(0.021)	(0.028)	(0.065)	(0.265)	(0.000)	(0.083)	(0.072)	(0.000)	(0.046)	(0.046)
r-squared adjusted		-0.001	0.000	-0.002	0.001	0.001	0.002	-0.002	0.006	0.003	0.003
number of observations		1,160	1,160	1,160	1,160	849	849	849	791	713	713
controls		no	no	no	no	no	no	no	no	no	no
sms	coefficient	0.007	-0.019	0.002	0.021	-0.087***	0.007	-0.014	-0.107***	-0.011	0.011
	standard error	(0.026)	(0.030)	(0.067)	(0.250)	(0.021)	(0.085)	(0.073)	(0.023)	(0.050)	(0.050)
newspaper	coefficient	-0.019	-0.046	-0.047	-0.253	-0.119***	-0.122	-0.083	-0.181***	-0.092	0.092
	standard error	(0.023)	(0.030)	(0.079)	(0.265)	(0.045)	(0.110)	(0.093)	(0.053)	(0.071)	(0.071)
sms*newspaper	coefficient	**0.013**	**0.052***	**0.028**	**0.300**	**0.110****	**0.063**	**0.071**	**0.181*****	**0.091**	**-0.091**
	standard error	**(0.027)**	**(0.031)**	**(0.080)**	**(0.264)**	**(0.051)**	**(0.109)**	**(0.095)**	**(0.057)**	**(0.069)**	**(0.069)**
constant	coefficient	-0.004	0.068*	0.144	0.041	0.883***	0.617***	0.712***	0.867***	0.925***	0.075
	standard error	(0.030)	(0.036)	(0.110)	(0.343)	(0.101)	(0.145)	(0.132)	(0.094)	(0.072)	(0.072)
r-squared adjusted		-0.003	0.001	0.001	0.009	0.002	0.001	0.038	0.013	0.029	0.029
number of observations		1,133	1,133	1,133	1,133	843	843	843	785	707	707
controls		yes	yes	yes	yes	yes	yes	yes	yes	yes	yes

Note: Standard errors of the differences reported in parenthesis. * significant at 10%; ** significant at 5%; *** significant at 1%.

Table 13: Hypothesis 10: Individuals who receive both a newspaper and a positive encouragement text message will be less likely to politically participate

dependent variable ------>		behavioral sms				turnout				voting	
		hotline	open letter	any sms	number of sms	self-reported	adjusted	interviewer	box	frelimo	mdm
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
sms	coefficient	-0.028*	0.020*	0.062	0.088	-0.008	0.077	0.006	0.009	-0.032	0.032
	standard error	(0.016)	(0.012)	(0.038)	(0.146)	(0.032)	(0.053)	(0.043)	(0.040)	(0.029)	(0.029)
newspaper	coefficient	-0.019	0.017	0.026	-0.021	-0.009	-0.006	0.018	0.038	-0.030	0.030
	standard error	(0.019)	(0.015)	(0.041)	(0.141)	(0.034)	(0.059)	(0.057)	(0.036)	(0.037)	(0.037)
sms*newspaper	coefficient	**0.022**	**-0.018**	**-0.054**	**0.104**	**-0.004**	**-0.095**	**-0.045**	**-0.059**	**0.049**	**-0.049**
	standard error	**(0.021)**	**(0.017)**	**(0.050)**	**(0.194)**	**(0.043)**	**(0.070)**	**(0.057)**	**(0.047)**	**(0.037)**	**(0.037)**
constant	coefficient	0.045***	0.013	0.197***	0.484***	0.917***	0.667***	0.775***	0.898***	0.948***	0.052**
	standard error	(0.016)	(0.009)	(0.031)	(0.118)	(0.024)	(0.046)	(0.046)	(0.029)	(0.026)	(0.026)
r-squared adjusted		0.001	-0.001	-0.001	-0.000	-0.003	0.003	-0.003	-0.000	-0.003	-0.003
number of observations		1,031	1,031	1,031	1,031	761	761	761	700	633	633
controls		no	no	no	no	no	no	no	no	no	no
sms	coefficient	-0.034**	0.019	0.061	0.061	-0.021	0.058	-0.029	0.005	-0.011	0.011
	standard error	(0.016)	(0.012)	(0.039)	(0.153)	(0.031)	(0.053)	(0.043)	(0.039)	(0.029)	(0.029)
newspaper	coefficient	-0.022	0.016	0.020	-0.037	-0.017	-0.017	-0.006	0.033	-0.023	0.023
	standard error	(0.020)	(0.016)	(0.042)	(0.144)	(0.033)	(0.060)	(0.053)	(0.036)	(0.037)	(0.037)
sms*newspaper	coefficient	**0.026**	**-0.017**	**-0.067**	**0.130**	**0.013**	**-0.067**	**-0.008**	**-0.054**	**0.033**	**-0.033**
	standard error	**(0.021)**	**(0.018)**	**(0.052)**	**(0.208)**	**(0.042)**	**(0.071)**	**(0.057)**	**(0.047)**	**(0.036)**	**(0.036)**
constant	coefficient	0.046	0.053	0.135	0.099	0.770***	0.647***	0.644***	0.802***	0.889***	0.111
	standard error	(0.037)	(0.036)	(0.086)	(0.323)	(0.151)	(0.163)	(0.179)	(0.123)	(0.089)	(0.089)
r-squared adjusted		0.000	-0.002	0.003	0.007	0.000	0.004	0.043	0.011	0.022	0.022
number of observations		1,009	1,009	1,009	1,009	756	756	756	695	628	628
controls		yes	yes	yes	yes	yes	yes	yes	yes	yes	yes

Note: Standard errors of the differences reported in parenthesis. * significant at 10%; ** significant at 5%; *** significant at 1%.

U.S. Agency for International Development
1300 Pennsylvania Avenue, NW
Washington, DC 20523