

SIGNALING SOPHISTICATION: HOW SOCIAL EXPECTATIONS CAN INCREASE POLITICAL INFORMATION ACQUISITION*

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Voter information levels play an integral role in theories of political behavior. However, little is known about when or why voters consume political news. This paper proposes a model of information acquisition where voters strategically acquire political information to cultivate a reputation among their peers as politically sophisticated. Drawing on experimental and quasi-experimental variation in the likelihood that peers observe the political knowledge individuals acquire, I show that social incentives significantly increase political knowledge among Mexican voters nested in groups that collectively value political knowledge. This effect is particularly prevalent among relatively unsophisticated voters seeking to reach a minimum standard, but I also document evidence of a ratchet effect where more sophisticated voters acquire news to distinguish themselves. These findings suggest that social networks can increase informed participation, and highlight how politically-disengaged social groups can generate information traps.

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1 Introduction

Considerable evidence now shows that access to news is a prerequisite for voters to hold governments accountable for their performance in office (see [Ashworth 2012](#); [Pande 2011](#)), informed voters are more likely to vote in line with their distributive policy interests (e.g. [Bartels 2008](#); [Casey 2015](#)), and reliable information about events can increase participation in politics (e.g. [Kuran 1991](#)). In practice, however, voters are often poorly informed about politics ([Delli Carpini and Keeter 1996](#); [Pande 2011](#)). Particularly where democratic institutions and expectations are less weakly ingrained, low levels of voter information may harm political representation and democratic consolidation.

Despite the foundational role of voter information in theories of political behavior, little is known about what causes voters to become politically informed. Since [Downs \(1957\)](#) seminally argued that “rationally ignorant” voters face strong incentives to leave costly information acquisition to others, researchers have struggled to explain when voters become informed. Moreover, experimental evidence indicates that low levels of political knowledge are not simply a supply constraint ([Gerber, Karlan and Bergan 2009](#)). Prominent demand-side explanations suggest that voters acquire political information because they find such news entertaining ([Hamilton 2004](#)), have a strong sense of civic duty ([Blais 2000](#); [Feddersen and Sandroni 2006](#)), or are subject to vocational spillovers ([Hamilton 2004](#); [Larcinese 2005](#); [Prior 2007](#)).¹ However, beyond the lack of causal evidence, such accounts struggle to explain variation in demand for news across time or context because they reflect exogenous preferences or incidental externalities.

In this paper, I develop and test a theory arguing that voters *strategically* acquire political information to cultivate a reputation among their peers as politically sophisticated.² In this so-

¹The evidence that turnout incentives increase political knowledge is mixed ([Loewen, Milner and Hicks 2008](#); [Shineman 2013](#)).

²Similar arguments have been proposed for charitable giving (e.g. [Bénabou and Tirole 2006](#)) and electoral turnout (e.g. [Abrams, Iversen and Soskice 2011](#)). [Abrams, Iversen and Soskice \(2011\)](#) suggest that their argument may also apply to political information, but develop a different type of model that empirically

cial signaling model, sophisticated voters can acquire information relatively cheaply, while social groups collectively form beliefs about an individual's sophistication on the basis of the quantity of information that they acquire. The resulting semi-separating equilibria highlight two forces facing different types of voter. An increase in the probability that members of an individual's social group observe their information acquisition increases: (1) the desire to meet a minimum standard that separates less sophisticated voters from the least sophisticated that continue to face prohibitively high costs of acquiring information, and (2) a "ratchet" effect where increased information acquisition among less sophisticated voters causes more sophisticated voters to also acquire more information in order to differentiate themselves from the newly-informed less sophisticated voters. These effects are especially pronounced in social groups where members highly value political knowledge.

I test the model's predictions in Mexico using experimental and observational empirical designs that capture two different ways in which a clearer signal of political sophistication is revealed. As in many developing contexts, Mexican voters are largely uninformed about politics (Castañeda Sabido 2011; Chong et al. forthcoming; Larreguy, Marshall and Snyder 2015a). However, given that recent studies have shown that politically-relevant information can play a key role in supporting electoral accountability (Larreguy, Marshall and Snyder 2015b) and reducing support for locally dominant parties (Larreguy, Marshall and Snyder 2015a), understanding the demand side of voter information acquisition is a particularly salient issue.

Using a field experiment conducted at an elite Mexican university, I first show that social incentives can increase information acquisition. Students were offered the opportunity to participate in a panel study consisting of a baseline survey three weeks before the 2015 national legislative elections and a post-election survey that students were informed in advance would include a quiz about the election campaign and results. To vary social incentives to acquire information, treated students were informed at the end of the first survey that their quiz results would be sent to three

treated political information as the independent, rather than dependent, variable.

friends. On average, treated students did not exhibit higher quiz scores. However, this masks important heterogeneous effects. Consistent with the model's prediction that less-sophisticated voters acquire information to reach a minimal standard once they expect members of their social group to receive a clear signal of their sophistication, students with low levels of political knowledge significantly increased their information acquisition. This change was concentrated among students whose friends are interested in politics.

To test the generalizability of the model and explore differential incentives to acquire information before elections, I exploit proximity to upcoming local elections generated by the timing of surveys with respect to staggered state election cycles (see [Eifert, Miguel and Posner 2010](#); [Marshall 2015](#)). The returns to demonstrating political sophistication increase as elections approach because politics becomes a more salient discussion topic. Consistent with this argument, I find that individuals nested in politically-engaged social networks acquire significantly more political information in the run-up to elections. Although this observational design cannot definitively isolate the causal effect of social incentives, I show that the results are robust to controlling for alternative explanations based on voters interested in following elections or dutifully following elections sorting into more politically-oriented groups. In conjunction with the findings from the field experiment, these results suggest that social group dynamics play an important role in explaining information acquisition in the general population, both among unsophisticated voters aiming to reach a minimum standard and sophisticated voters seeking to differentiate themselves. However, these effects operate principally among voters nested in politically-oriented networks, and thus suggest that a lack of politically-engaged friends can generate political information traps among other voters in networks with limited interest in politics.

The study therefore makes several theoretical and empirical contributions. First, it proposes a signaling model that highlights how responses to social incentives to acquire political information vary with voter sophistication. This signaling dimension differentiates the model from [Abrams, Iversen and Soskice \(2011\)](#), who also emphasize the importance of political interest within groups.

Second, and most importantly, the study provides the first evidence of which I am aware that information acquisition is caused by social incentives. Previous correlational studies, which have typically focused on consolidated democracies, are typically vulnerable to the concern that informed individuals select into certain types of network. Third, as noted above, understanding when voters acquire political information may be particularly important in consolidating democracies lacking institutional protections. The results thus chime with [Marshall \(2015\)](#), who shows that Mexican voters primarily hold governments accountable for events in the news before elections. Fourth, the findings complement and extend the recent literature using field experiments to demonstrate that social pressure increases the likelihood that an individual turns out to vote ([DellaVigna et al. 2014](#); [Gerber, Green and Larimer 2008](#); [Gerber et al. 2011](#); [Nickerson 2008](#)) or participates in a protest ([McClendon 2014](#)). In contrast with these studies, I show that differences in social context play a key role in understanding when different types of voters will acquire political information. [McClurg \(2006\)](#) finds that peer contexts also correlate with voter turnout. Finally, the results illuminate insights from prominent qualitative studies in the U.S. that observe voter meetings (e.g. [Huckfeldt and Sprague 1995](#); [Walsh 2004](#)).

The paper is structured as follows. Section 2 presents the model, demonstrating that an increase in the saliency of political sophistication induces voters—especially those embedded in more politically-engaged groups—to acquire more political information. To test the model, section 3 first presents the experimental findings before section 4 reinforces the results exploiting quasi-experimental variation in upcoming elections. Section 5 considers the broader implications of the findings.

2 Information acquisition with social groups

In this section I model voter acquisition of political information. I propose that—independent of changes in the supply of information—voters strategically acquire political information in order to

signal their status as politically sophisticated within their social group. [Bénabou and Tirole \(2006\)](#) make a similar argument for charitable giving. The model predicts that that an increase in the likelihood an individual's information acquisition is observed by members of their social group both pushes the least sophisticated voters to acquire news for the first time and in turn induces more sophisticated to acquire more news to distinguish themselves from less sophisticated voters consuming for the first time.

2.1 Model

Voters are nested within social groups, although for simplicity I focus on a generic group with a political interest level of $w > 0$. Within the given group, there is a continuum of voter types $\theta \in [\underline{\theta}, \bar{\theta}] \subset \mathbb{R}^+$ defining different levels of latent political sophistication, and distributed according to cumulative distribution function F . To acquire political information, voters decide to consume $n \geq 0$ news programs. However, consuming n programs costs $c(n, \theta)$, where $c(0, \theta) = 0$, $c(\cdot, \theta)$ is convex in n , $c_\theta < 0$, and $c_{n\theta} < 0$ (where subscripts denote partial derivatives). The final assumption reflects the standard “single-crossing” condition stating that information acquisition is cheaper for voters with higher levels of political sophistication θ . A strategy for a voter of type θ is thus $n : [\underline{\theta}, \bar{\theta}] \mapsto \mathbb{R}^+$.

With probability $p \in (0, 1]$, all members of the group observe the level of information n that each voter acquires through social interaction. This probability can also be interpreted broadly as the precision or frequency of the signal. However, an individual's type θ is only known to themselves. Individual voters can thus signal their type through the amount of political news that they acquire. In this model, they do so because acquiring costly political information allows voters to distinguish themselves by developing a coveted reputation as politically knowledgeable. For such a reputation, the group collectively bestows rewards $w\beta$, where $\beta : \mathbb{R}^+ \mapsto [\underline{\theta}, \bar{\theta}]$ is the group's belief about an individual's type (based on observing n , but without observing θ). Formally, I

express this motive in the following utility function for type θ :

$$pw\beta(n(\theta)), \tag{1}$$

where w captures the importance attached to political sophistication by the group as a whole.

The game's timing can be summarized as:

1. Voters learn their type θ , which is private information.
2. Voters choose to acquire n news programs, and form posterior beliefs about the quality of the incumbent.
3. With probability p , the entire social group observes n . The group then collectively forms beliefs β over voter types, and assigns reputation benefits accordingly.

2.2 Equilibrium and comparative statics

I now search for perfect Bayesian equilibria. The analysis first identifies the unique separating equilibrium (see [Mailath 1987](#)), where the different levels of information acquired by different types fully reveal all (or sufficiently high) types in equilibrium; accordingly, $\beta(n(\theta)) = \theta$. In such an equilibrium, each type then solves the following problem:

$$\max_n \left\{ pw\hat{n}^{-1}(n) - c(n, \theta) \right\} \tag{2}$$

where \hat{n} is the group's correctly conjectured understanding of the strategy a given type will employ.

The separating equilibrium condition $\hat{n}^{-1}(n) = \theta$, evaluated at the binding first-order condition, is thus given by the following differential equation:

$$\frac{d\hat{n}(\theta)}{d\theta} = \frac{pw}{c_n(n, \theta)}. \tag{3}$$

This equation is the incentive compatibility constraint that ensures that no type has any incentive to mimic another type (see Mailath 1987). To derive equilibrium information acquisition by a generic type θ , I exploit the initial value for type $\underline{\theta}$, $n^*(\underline{\theta}, p, w)$, and integrate over θ to yield:

$$n^*(\theta, p, w) = n^*(\underline{\theta}, p, w) + \int_{\underline{\theta}}^{\theta} \frac{pw}{c_n(n^*(\theta, p, w), \theta)} d\theta. \quad (4)$$

The lowest type, $\underline{\theta}$, maximizes equation (2) by choosing $n^*(\underline{\theta}, p, w) = 0$.³ In the fully separating equilibrium, all types other types acquire $n^*(\theta, p, w) > 0$.

However, if pw is insufficiently large to overcome the costs of acquiring information, a semi-separating equilibrium occurs where all types $\theta < \tilde{\theta}(p, w)$ pool at $n = 0$. There may thus exist some low types that never acquire political information. Types $\theta \geq \tilde{\theta}(p, w)$ continue to separate as the benefits of signaling their political understanding are sufficiently high, where type $\tilde{\theta}(p, w)$ chooses $n^*(\tilde{\theta}(p, w), p, w) > 0$ once it weakly prefers this outcome to pooling with the lowest types $\theta < \tilde{\theta}(p, w)$.

The preceding analysis is summarized in the following proposition:

Proposition 1. *(Equilibrium characterization) The unique separating or semi-separating perfect Bayesian equilibrium $\langle n^*(\theta, p, w), \beta(n^*(\theta, p, w)) \rangle$ is characterized by the following strategies and beliefs:*

$$n^*(\theta, p, w) = \begin{cases} n^*(\tilde{\theta}(p, w), p, w) + \int_{\tilde{\theta}(p, w)}^{\theta} \frac{pw}{c_n(n^*(\theta, p, w), \theta)} d\theta & \text{if } \theta > \tilde{\theta}(p, w) > \underline{\theta}, \\ 0 & \text{if } \theta \leq \tilde{\theta}(p, w). \end{cases} \quad (5)$$

$$\beta(n^*(\theta, w)) = \begin{cases} \theta & \text{if } n^*(\theta, p, w) > n(\tilde{\theta}(p, w), p, w), \\ \frac{1}{F(\tilde{\theta}(p, w))} \int_{\underline{\theta}}^{\tilde{\theta}(p, w)} \theta dF(\theta) & \text{if } n^*(\theta, p, w) \leq n(\tilde{\theta}(p, w), p, w). \end{cases} \quad (6)$$

³This ensures that the individual rationality constraint is satisfied. If personal incentives to acquire information were included in the model, it is possible that $n^*(\underline{\theta}, p, w) > 0$. These are excluded to emphasize the model's core social insights.

All proofs are provided in the Online Appendix.

The following proposition identifies several key comparative static predictions, in terms of both information acquisition and voting. I focus on a semi-separating equilibrium where the lowest types acquire no political news.

Proposition 2. *(Comparative statics) In the perfect Bayesian equilibrium described in Proposition 1, the following comparative statics hold:*

1. *The proportion of voters that acquire any information, $1 - F(\tilde{\theta}(p, w))$, is increasing in the probability that information acquisition is observed by members of the social groups (p), the political interest of the group (w), and (if F'' is not too large) their interaction.*
2. *Information acquisition among those that acquire information is also increasing in the probability that information acquisition is observed by members of the social groups (p), the political interest of the group (w), and (if F'' is not too large) their interaction.*

The first part of Proposition 2 establishes that individuals start to acquire news when other members of their social group are more likely to observe their signal of sophistication, when the social group collectively rewards political sophistication, and especially when both factors are salient.⁴ This reflects an increase in the value of developing a reputation as politically knowledgeable, which induces even relatively unsophisticated types to differentiate themselves from the lowest types by acquiring some news.

While increases in p and w induce low types to start acquiring information, the second part of proposition 2 shows that more sophisticated voters engage in separation, or “fanning out”. By increasing the returns to developing a desirable reputation, higher values of p and w increase the incentives to mimic higher types and thus force sophisticated voters to further differentiate themselves until the point where no lower type is willing to pay the cost of mimicking them. In

⁴The condition $F'' > 0$ requires that the type distribution is not too negatively skewed. This is not unreasonable since the political type distributed is likely to be positively skewed (like almost every education and income distribution).

groups where many voters already acquire considerable levels of news, the differentiation required to separate may be small because the convexity of the costs ensures that the marginal cost of acquiring additional news is high.

2.3 Testable implications

The preceding analysis, particularly Proposition 2, suggests several key testable implications. First, a key demand-side prediction is that political news consumption will increase with the likelihood that an individual's information acquisition is revealed to members of their social group. Empirically, I will consider two situations where political knowledge is revealed: most directly, when the results of a political knowledge quiz are sent to close university friends; and during an electoral campaign when politics becomes a more salient discussion topic. Averaging across all types of voter, the model predicts that:

H1. *The prospective revelation of an individual's political knowledge induces voters to acquire more news about politics.*

The social signaling model also suggests two motivations for news acquisition that differentially affect different types of voter. First, relatively politically unsophisticated voters (i.e. $\theta < \tilde{\theta}(p, w)$) within a social group acquire news for the first when faced with an increased likelihood that their political knowledge is revealed to members of their social group:

H2. *The prospective revelation of an individual's political knowledge induces relatively unsophisticated voters within a given social group to acquire political news for the first time.*

In practice, it is important to emphasize that voters in many social settings may not literally acquire news for the first time; rather, they increase their acquisition from relatively low levels within their group if voters also consume news for other reasons such as consumption preferences or through social externalities. Nevertheless, I expect to observe a significant jump in acquisition. Empirically, I will conceive of voter sophistication in terms of prior levels of political knowledge.

Second, relatively sophisticated voters (i.e. $\theta \geq \tilde{\theta}(p, w)$) consume just enough additional news to continue to differentiating themselves from less sophisticated voters:

H3. *The prospective revelation of an individual's political knowledge induces relatively sophisticated voters within a given social group to acquire relatively more political news than before.*

This “ratchet” effect, whereby all types (except those that never acquire information) slightly increase their news consumption, is an important implication of the signaling model. Intuitively, this reflects the fact that increasing the benefits of reputation induces unsophisticated voters to acquire information for the first time (because the reputational gains now exceed the costs), which in turn requires more sophisticated voters to acquire more information in order to continue differentiating themselves from lower types. Consequently, I expect sophisticated voters to disproportionately increase acquisition at high levels, while unsophisticated voters may jump from acquiring essentially no news to consuming a small quantity.

Finally, a defining feature of the social signaling model is the importance of social groups. In particular, the effects of revealing political knowledge are expected to be greater among voters embedded in social groups characterized by high average levels of interest in politics because political knowledge is rewarded with greater reputational benefits in such groups:

H4. *The effect of prospective revelation of an individual's political knowledge is greater among among individuals nested in more politically-oriented social networks.*

Conversely, a reputation for political knowledge is less valuable in civic organizations such as neighborhood, voluntary and sporting groups.

3 Experimental evidence

I first test the social signaling model using a field experiment conducted around the 2015 Mexican elections. The experiment is designed to identify the effect of voters anticipating that their level of political knowledge, as measured by a post-election political quiz, will be revealed to their friends.

3.1 Design

I recruited students from an elite university in Mexico City just before the 2015 elections held on June 7th. The student population, of around 5,000 undergraduate students, includes many of Mexico's most gifted and politically engaged students. All undergraduate students, all of whom were of legal voting age, were offered the opportunity to participate in this study via a mass email sent by university administrators.⁵ The experiment itself consisted of a baseline and endline survey.

Before beginning the baseline survey, which could be reached by clicking through from the recruitment email, students were informed of the study's structure. A clear understanding of expectations is an essential element of the social treatment.⁶ The survey preamble explained that participants would undertake one survey immediately and a second survey containing general knowledge questions about the 2015 elections just after the election. Furthermore, participants were informed that they would be required to list the email address of three friends also attending the university, and that the results of their quiz may be sent to their friends (but nobody else, including the university).⁷ Although the prospect of facing a political knowledge quiz may reduce participation, such a quiz is not subject to the social desirability biases commonly associated with

⁵Students were informed that study was a collaboration between their home institution and a major U.S. university.

⁶In contrast to some experiments, there was little value in either deceiving participants or obfuscating the purpose of the experiment.

⁷When listing friends, participants were told that the receipt of any prize would be contingent upon verification that the owner of the email address was indeed a fellow student at the university and knew the participant in question.

subjective measures of information acquisition. To incentivize participation, all students that completed the baseline survey would enter a prize draw to win one of three Best Buy gift cards with sufficient value (MXN\$6,600) to purchase an iPad Air 16GB, while students that also completed the second survey would enter a second (and independent) draw to win one of five such gift cards. Ultimately, 754 students completed the baseline survey.⁸

In addition to the email addresses of three friends, the baseline survey elicited background information about each participant's demographic details and subject of study, interest in politics, friends' interest in politics, behavior in political discussions, organizational participation, political news consumption, knowledge of recent events and Mexican political institutions, and political partisanship. The average participant respectively consumed 5.6, 2.5, 2.5 and 2.4 hours of political news a week through the internet, newspapers, radio and television. By consuming almost two hours of news a day, the students in the sample are among the most politically informed in the country. While politics is clearly a salient issue among such students, these initially high levels imply high marginal costs of consuming more political news.

At the end of the survey, students were randomly assigned into one of two conditions. Control participants received the following (translated) message explaining that the results of the post-election quiz would not be sent to their three friends:

Once you have completed the quiz in the second survey, your performance on the quiz will NOT be sent to the three friends that you listed at the beginning of this survey.

Conversely, treated students received the following almost-identical message explaining that their friends would be informed of their performance on the quiz:

Once you have completed the quiz in the second survey, your performance on the quiz will be sent to the three friends that you listed at the beginning of this survey.

⁸Several students were excluded because they entered invalid email addresses that prevented me from recontacting them.

The treatment condition was thus designed to generate social incentives to acquire information by creating the expectation that friends would learn about treated respondents' level of political sophistication. To mitigate spillover concerns, participants were asked not to discuss the study with students. Prior to the election, students received two emails reminding them about the upcoming election quiz and reiterating their treatment status. The post-treatment survey indicates that 64% of students correctly identified the number of people that would be informed of their quiz results.

Linking participants across surveys by their email addresses, the second survey was sent to students on June 9th—two days after the election. The key component of the survey was the election quiz, which contained ten multiple choice questions. The questions varied in difficulty, covering both events that had occurred during the campaign since the closing date of the baseline survey and election day results.⁹ To ensure that students did not look up the answers online were given 20 seconds to answer each question. For the election to remain fresh in the mind of respondents, my final sample includes only the 540 students that completed the second survey within a week of the election.¹⁰ The average student answered 5.6 questions correctly. In addition to the quiz, participants were again asked about their interest in politics, friends' interest in politics, and political news consumption, but also new questions probing the mechanisms underpinning their behavior.

To validate the experimental design, I examine attrition rates and balance across treatment conditions. Of the 754 initial participants (of which 374 were treated and 380 were not), 260 treated and 280 control students were retained for my final sample; there was no significant difference in attrition across treatment conditions ($p = 0.132$).¹¹ Furthermore, Table A1 in the Online Appendix confirms that differences across 49 pre-treatment characteristics are consistent with chance.¹² The

⁹The Online Appendix details the exact questions.

¹⁰In total, 659 students completed the second survey. The inclusion of late responds does not substantively alter the results, but in some cases reduces the precision of the estimates.

¹¹Half of the baseline respondents were encouraged to complete the second survey by being offered entry to a separate draw for an additional gift card. This measure, intended to guard differential attrition by providing an additional source of exogenous variation, significantly increased participation by 5.6 percentage points, and may have helped to prevent significant differences in attrition rates.

¹²Table A2 shows the initial balance checks among respondents that completed the baseline survey.

lack of differential attrition or imbalance indicate that the integrity of the randomization was retained across the panel surveys. To identify the effects of social incentives to acquire political news, I thus estimate the following regression using OLS:

$$Y_i = \beta \text{Social treatment}_i + X_i \gamma + \varepsilon_i, \quad (7)$$

where Y_i is student i 's score out of ten on the post-election quiz in the main analysis. The vector of covariates, X_i , contains an indicator for male students, year of birth fixed effects, baseline interest in politics, and an indicator for membership of a party organization. These controls were included to both enhance the efficiency of the estimation and to address slight imbalances on variables that are likely to affect the outcome.¹³

3.2 Results

Table 1 presents estimates of the average treatment effect of the social incentive on the election quiz score, and thus tests hypothesis H1. Although the estimate in column (1) is positive, as predicted by the model, it is small in magnitude and not statistically significant. In particular, the social treatment only increases the likelihood that an individual answers a given question correctly by 0.3 percentage points. This effect marginally increases to 0.5 percentage points in column (2) when the social treatment is used to instrument for an indicator for respondents that believed that they had been treated. I now demonstrate that these null findings mask important heterogeneity consistent with the model's predictions.

Table 2 tests hypotheses H2 and H3—that unsophisticated and sophisticated voters update at different margins—by interacting the treatment with voter sophistication. I define voter sophistication using an indicator for the 69% of participants that correctly answered all three basic political knowledge questions on the baseline survey correctly.¹⁴ The results in column (1) present a very

¹³The controls came at the cost of one respondent with a missing value for interest in politics.

¹⁴These questions asked: (1) which party was fined MXN\$180 million for violating the electoral law in

Table 1: Effect of the social treatment on election quiz scores

	Political quiz score	
	(1)	(2)
Social treatment	0.030 (0.169)	
Believe received treatment		0.052 (0.287)
Observations	539	539
Outcome mean	5.65	5.65
Outcome standard deviation	2.07	2.07
Social treatment mean	0.48	0.36

Notes: All specifications control for an indicator for being male, year of birth fixed effects, an individual's level of political interest, and an indicator for membership of a political party organization. The specification in column (1) is estimated using OLS. The specification in column (2) uses the social treatment to instrument for an indicator for respondents that believed they had been treated, and are estimated using 2SLS. Robust standard errors are in parentheses. * denotes $p < 0.1$, ** denotes $p < 0.05$, *** denotes $p < 0.01$.

different picture. Consistent with H2, the significant positive coefficient on the social treatment demonstrates that the treatment significantly increased the number of questions correctly answered by unsophisticated voters by 0.64 questions, or almost one third of a standard deviation. In terms of the model, this result suggests that unsophisticated voters substantially increase their political knowledge in order to signal to their peers that they are not the least sophisticated in their social group.

Conversely, the significant negative interaction between the social treatment and sophisticated voters (and the test at the foot of the table), shows that the treatment did not significantly impact the quiz scores of sophisticated voters. This finding provides no evidence that, as suggested by H3, sophisticated voters acquire more knowledge to differentiate themselves from the less well-informed voters that invested in increasing their knowledge. The inability to detect such differentiation could reflect the fact that the elite students in this sample, who are highly politically engaged, have

April 2015 (the Green party); (2) how long federal deputies serve in office (three years); and (3) from which party was José Luis Abarca Velázquez, the mayor of Iguala (PRD).

Table 2: Effect of the social treatment on election quiz scores, by voter sophistication

	Political quiz score (1)	Political quiz score (2)	Political quiz score (3)
Social treatment	0.639** (0.289)	0.424 (0.264)	0.981** (0.494)
Sophisticated	1.326*** (0.248)		
Social treatment \times Sophisticated	-0.934*** (0.351)		
Hours of internet news a week (baseline)		0.080*** (0.027)	
Social treatment \times Hours of internet news a week (baseline)		-0.072** (0.036)	
Follow national news			1.600*** (0.322)
Social treatment \times Follow national news			-1.080** (0.525)
Observations	539	539	539
Outcome mean	5.65	5.65	5.65
Outcome standard deviation	2.07	2.07	2.07
Social treatment mean	0.48	0.48	0.48
Interaction mean	0.69	5.59	0.88
Test: effect among sophisticated voters	0.14		0.57

Notes: All specifications control for an indicator for being male, year of birth fixed effects, an individual's level of political interest, and an indicator for membership of a political party organization, and are estimated using OLS. Robust standard errors are in parentheses. * denotes $p < 0.1$, ** denotes $p < 0.05$, *** denotes $p < 0.01$.

already credibly demonstrated high levels of political sophistication, or face substantial costs of acquiring additional information from already high levels. Accordingly, the quasi-experimental test in the general population is required to further assess this relationship.

Columns (2) and (3) present similar results using alternative measures of political sophistication based on pre-treatment news consumption. Showing that the treatment had greatest impact among students with relatively low levels of prior news consumption, column (2) identifies a significant negative interaction between the treatment and the number of hours of internet news consumed a week. Furthermore, column (3) uses an indicator for respondents that follow the national news—the primary element of the election quiz—and even more starkly than with the first sophistication indicator highlights that the treatment only produced a large significant effect on quiz scores among relatively poorly informed students.

3.3 Mechanisms and interpretation

To further support the signaling interpretation, I utilize various ancillary variables in the surveys to test observable implications of the theory. First, if the social signaling model is in operation, we should expect that unsophisticated voters also learned more about politics in preparation for the quiz. Examining an indicator for students that claimed to have learned more about politics before the election, column (1) of Table 3 confirms that the social treatment only significantly increased the learning of unsophisticated voters. Second, although the estimates are somewhat noisy, column (2) shows that the social treatment had a larger effect among the 7% of students that stated in the baseline survey that they acquire political information in order to demonstrate this knowledge to their friends. Third, for students that incorrectly claim to be well informed relative to their friends, the social treatment may be especially powerful. I test this possibility by interacting the social treatment with both voter sophistication and a five-point variable measuring the extent to which voters believe that they know more about politics than their friends. The significant positive interaction between the social treatment and this belief in column (3) shows that the effect of the

social treatment is increasing in the (likely incorrect) belief that unsophisticated voters know more about politics than their friends.

A fourth, and particularly important, test examines how the effect of the treatment varies with the political interest of the three friends respondents listed in the baseline survey. Hypothesis H4 predicts that the social treatment should have its greatest impact in groups that collectively prize political knowledge. I test this using a (pre-treatment) indicator for respondents that list their friends' interest in politics at 5 or greater on a scale from 0 to 10.¹⁵ Column (4) confirms the model's expectation: while the social treatment has no significant effect on unsophisticated voters with low-interest friends, combining the social treatment and its interaction with high interest friends produces a significant positive effect ($p = 0.010$). This demonstrates that only sophisticated voters in politically-oriented social groups were impacted by social incentives to acquire political knowledge.

An alternative possibility is that unsophisticated treated students did not in fact acquire more political news, but rather were more likely to cheat on the quiz. For example, they might consult friends that have already completed the quiz. Given that students are unlikely to report having "cheated", I exploit a list experiment to differentiate these possibilities. After completing the quiz, all respondents were asked to list the total number of the following activities that they had engaged in during recent weeks: attend a campaign activity; watch the news on television; write an article about politics on the internet; and, in the case of a random subset of students, talk about the questions on the quiz with a friend. Among students that did not receive the additional option, the average student engaged in 1.5 of these activities. Comparing the number of items listed by students that did and did not receive the additional option (see Blair and Imai 2012), column (1) of Table 7 indicates that 36% of students consulted their friends about the quiz questions. However, interacting the additional option with the social treatment and the indicator for sophisticated voters,

¹⁵Column (11) of Table 7 also indicates that the treatment did not affect respondents' appraisals of their friends' interest in politics.

Table 3: Mechanisms underpinning the effect of the social treatment on election quiz scores

	Learned more (1)	Political quiz score (2)	Political quiz score (3)	Political quiz score (4)
Social treatment	0.125* (0.074)	-0.030 (0.172)	-0.968 (0.803)	-0.050 (0.552)
Sophisticated	0.168*** (0.064)		0.359 (0.793)	-0.587 (0.847)
Social treatment \times Sophisticated	-0.134 (0.088)		0.259 (1.089)	1.385 (1.011)
Demonstrate knowledge		-0.200 (0.611)		
Social treatment \times Demonstrate knowledge		0.826 (0.758)		
More than friends			-0.217 (0.160)	
Social treatment \times More than friends			0.467** (0.214)	
Sophisticated \times More than friends			0.260 (0.207)	
Social treatment \times Sophisticated \times More than friends			-0.356 (0.284)	
High interest friends				-0.656 (0.456)
Social treatment \times High interest friends				0.943 (0.650)
Sophisticated \times High interest friends				2.127** (0.884)
Social treatment \times Sophisticated \times High interest friends				-2.705** (1.086)
Observations	533	539	528	529
Outcome mean	0.61	5.65	5.65	5.65
Outcome standard deviation	0.49	2.07	2.06	2.07
Social treatment mean	0.48	0.48	0.48	0.48
Sophisticated mean	0.69		0.69	0.69
Other interaction mean		0.07	3.72	0.88
Test: effect among unsophisticated voters with high interest friends				0.01

Notes: All specifications control for an indicator for being male, year of birth fixed effects, an individual's level of political interest, and an indicator for membership of a political party organization, and are estimated using OLS. Robust standard errors are in parentheses. * denotes $p < 0.1$, ** denotes $p < 0.05$, *** denotes $p < 0.01$.

Table 4: Alternative interpretations

	Items listed (1)	Items listed (2)	Interest in politics (3)	Acquire to speak with friends (4)	Acquire to demonstrate knowledge (5)	Acquire to choose best candidate (6)	Acquire to due to interest (7)	Acquire for work (8)	Acquire due to duty (9)	Estimated friend score (10)	Political interest of friends (11)
List experiment treatment	0.359*** (0.069)	0.341* (0.183)									
Social treatment		-0.068 (0.137)	0.074 (0.174)	-0.122* (0.062)	-0.023 (0.025)	-0.056 (0.043)	-0.071 (0.069)	0.177*** (0.064)	-0.040 (0.068)	-0.332 (0.316)	0.016 (0.277)
Sophisticated		0.074 (0.116)	0.370** (0.154)	-0.091 (0.057)	0.023 (0.025)	-0.073** (0.036)	0.094 (0.062)	0.010 (0.050)	-0.028 (0.057)	0.237 (0.261)	0.404* (0.227)
Social treatment × Sophisticated		0.036 (0.164)	-0.329 (0.206)	0.135* (0.076)	-0.007 (0.031)	0.071 (0.054)	0.069 (0.083)	-0.170** (0.077)	0.037 (0.081)	0.417 (0.373)	0.063 (0.334)
Social treatment × List experiment treatment		-0.070 (0.238)									
Sophisticated × List experiment treatment		0.061 (0.216)									
Social treatment × Sophisticated × List experiment treatment		0.037 (0.290)									
Observations	530	530	538	539	539	539	539	539	539	488	522
Outcome mean	1.67	1.67	7.64	0.21	0.03	0.89	0.55	0.21	0.74	5.72	6.78
Outcome standard deviation	0.80	0.80	2.04	0.41	0.17	0.31	0.50	0.41	0.44	1.93	1.92
List experiment treatment mean	0.48										
Social treatment mean	0.48		0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.47	0.48
Sophisticated mean	0.69		0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69

Notes: All specifications control for an indicator for being male, year of birth fixed effects, an individual's level of political interest, and an indicator for membership of a political party organization, and are estimated using OLS. Robust standard errors are in parentheses. * denotes $p < 0.1$, ** denotes $p < 0.05$, *** denotes $p < 0.01$.

the results in column (2) provide no evidence that unsophisticated treated voters were more likely to cheat. While the substantial proportion of students that cheated is likely to downwardly bias the effects of the social treatment (by helping everyone reach the correct answer), this demonstrates that the effect among unsophisticated voters is not driven cheating.

Another interpretation of my findings is that the treatment affected the role that political news plays in the lives of students. However, there is little evidence for such a change. First, column (3) indicates that treated respondents—whether sophisticated or unsophisticated—do not register greater interest in politics on a scale from 0 to 10. Second, columns (4)-(9) show that, except in the case of acquiring political news to speak with friends and family, the treatment did not induce unsophisticated students to acquire information about politics at the beginning of the second survey (but before the quiz) for new reasons. Third, the social treatment did not affect student appraisals of their friends' political knowledge: columns (10) and (11) respectively report no differences in the number of correct answers students expected that their friends would provide to the same quiz questions or the level of political interest of their friends.

Together, these results further support the social signaling model. Rather than by causing students to cheat on the quiz or alter their view of acquiring political information, the evidence suggests that unsophisticated voters were induced to perform better on the quiz through social expectations or individual characteristics that make them more susceptible to social pressures. To examine the generality of these findings I now turn to a quasi-experimental test of the social signaling argument.

4 Quasi-experimental evidence

The experimental findings point to the importance of social incentives to acquire information, at least among less sophisticated voters in social networks containing members with high levels of political interest. However, the results pertain to an unrepresentative subset of the Mexican

population. To examine the broader implications of social signaling, I now identify how upcoming local elections—that increase political discussion (Marshall 2015), and are likely to increase the benefits of cultivating a reputation for political sophistication—differentially affect the information acquisition of voters embedded in different types of social networks.

4.1 Data

To test the implications of the social signaling model, I use four waves of the government-run National Survey of Political Culture and Civil Practices (ENCUP) conducted in 2001 (November), 2003 (February), 2005 (December), and 2012 (August).¹⁶ Each wave draws stratified random samples of around 4,000 eligible Mexican voters for face-to-face interviews from within urban and rural strata defined by the electoral register, and was designed by the government to be broadly nationally representative (see Marshall 2015). The pooled sample includes 17,213 respondents from 523 municipalities and the federal district.

My analysis utilizes four key types of variable. First, I measure political news consumption by the frequency with which voters watch or listen to the news, programs about politics, or programs about public affairs.¹⁷ Relating to the model's predictions, I focus on two measures of consumption: an indicator for the 87% of respondents that report consuming political news at some point; and, to capture the ratchet effect, I computed a five-point consumption intensity scale ranging through never, at some point, at least monthly, at least weekly, and daily.¹⁸ News consumption was not elicited in the 2001 survey.

Second, like the experimental study, political knowledge is my principal outcome variable. Political knowledge is defined by the first (standardized) factor from a set of indicators coding correct

¹⁶The 2008 survey could not be used because it lacks both geographic identifiers and comparable questions.

¹⁷Like Marshall (2015), I focus on radio and television. Unlike my study with students, these are by far the most prevalent sources of political information in Mexico at large. Accordingly to the 2010 Census, only around one quarter of Mexican households have access to the internet at home.

¹⁸I obtain similar results when examining these intensities separately.

responses to simple factual questions regarding topical political news and basic (national and local) knowledge of political institutions and incumbents parties.¹⁹ The average respondent again answered around half the questions correctly. To analyze the acquisition of recent information, I also distinguish between topical and general political knowledge. As Online Appendix explains in detail, topical political news includes questions about contemporary political issues and the party identity of the state governor. Institutional knowledge is instead represented by correct answers to questions asking about Mexican political institutions that are less likely to appear in the news.

Third, although no suitable pre-treatment measure of voter sophistication was available, I use a respondent's participation in political groups to proxy for the average level of political engagement in their social group. Specifically, I created a summative rating scale containing three (standardized) variables: the number of politically-oriented organizations an individual is a member of;²⁰ the number of such organizations at which the respondent attended a meeting in the last year;²¹ and a three-point scale capturing the extent to which the community discusses local problems. Since the final component of the scale was not asked in the 2012 survey, I multiply imputed responses over ten datasets using a variety of pre-treatment characteristics. Supporting its conceptual coherence, the scale has a high Cronbach's alpha of 0.57.

Finally, the treatment variable is an upcoming local election. Based on the municipality in which the respondent lives, I code a indicator for respondents facing a municipal, and typically a simultaneous state legislative election, within the five months following the survey (see also [Marshall 2015](#)). This period approximates the length of a typical election campaign. Unlike federal elections, a key advantage of utilizing local elections is the ability to isolate exogenous variation in the likelihood that peers learn about an individual's political sophistication through the heightened salience of politics.

¹⁹In 2001, 2003, 2005 and 2012 respectively, there were 6, 3, 3 and 4 questions asked of respondents.

²⁰In this category I include political organization, political party organizations, and cooperative organizations.

²¹Since the organizations do not exactly reflect membership, I use the sum of the following two indicators: attended a meeting at a political or party organization, and attended a community or cooperative meeting.

4.2 Empirical design

I exploit exogenous variation in upcoming local elections to identify how the effect of upcoming elections on information acquisition differs across individuals in different social groups. Following Eifert, Miguel and Posner (2010) and Marshall (2015), I leverage the irregular timing of the ENCUP surveys with respect to state-specific election cycles. The ENCUP surveys do not track federal elections like the Mexico Panel Studies (e.g. Lawson et al. 2013), and each wave was conducted in a different month of the year. Given that surveys were conducted in the same year as elections from virtually all states, there is no reason to believe that the surveys were strategically timed. Mexican states have traditionally followed distinct electoral cycles, both in terms of the month and year in which elections are held, although the months when election are held within a given year were homogenized following a major electoral reform in 2007 (Serra 2013). Consequently, whether a survey falls just before or just after an election, or whether a municipality is holding an election in a given year, effectively occurs by chance. Consistent with this claim, Marshall (2015) shows that the occurrence of upcoming local elections is well-balanced across a variety of individual- and municipal-level characteristics.

To assess the implications of the social signaling model, I examine how the effect of an upcoming local election varies with the political interest of a respondent's social network. A positive relationship would suggest that upcoming elections, which Marshall (2015) demonstrates increase interest in politics and political discussion, differentially induce voters to acquire political information in social contexts where the increase in the salience of politics before elections is particularly important for establishing reputations among peers. Formally, I estimate the following interactive regression equation for respondents i in municipality m at survey year t :

$$Y_{imt} = \beta_1 Local\ election_{mt} + \beta_2 Political\ network_{imt} + \beta_3 \left(Local\ election_{mt} \times Political\ network_{imt} \right) + \mu_t + \varepsilon_{imt}, \quad (8)$$

where Y_{imt} is a measure of political news consumption or political knowledge, and μ_t is a survey fixed effect that controls for common period effects such as the availability of news or trends in political behavior. Standard errors are clustered by municipality.

4.3 Results

Columns (1) and (2) of Table 5 estimate the effects of upcoming local elections on political news consumption, at different levels of intensity. The large positive coefficients for upcoming elections confirm the findings of Marshall (2015) that voters consume more news just before elections. More importantly, and consistent with hypothesis H4, the significant positive interactions with my proxy for political-oriented social networks indicate that the effect of increasing the salience of politics is particularly pronounced among respondents in such networks. For both voters consuming political news for the first and voters ratcheting up their consumption, a standard deviation increase in politically-oriented social networks from its mean of zero increases the effect of local elections by more than 50%.

These large estimates suggest that both relatively unsophisticated voters that are consuming information about politics for the first time and more sophisticated voters with higher levels of initial political news consumption are considerably more likely to consume political news around local elections when they are nested in politically-engaged social networks. In addition to reinforcing the experimental evidence that social incentives induce less sophisticated voters to acquire news (H2), these results for the consumption scale—which holds even for daily news consumption (see Online Appendix)—also support the ratchet claim in H3.

Columns (3)-(5) confirm that news consumption translates into political knowledge, a key signal of political sophistication. Column (3) first shows that a standard deviation increase in the political network scale from its mean of zero increases the effect of a local elections on the political quiz outcome by one third to a substantial 0.4 standard deviations of the outcome. If voters are watching the news to learn about current affairs for conversations with their peers, they are far

Table 5: The effect of upcoming local elections on political news consumption and political knowledge, by political network engagement

	Watch and listen to news scale (1)	Watch and listen to news scale (2)	Political knowledge quiz (3)	Topical political knowledge (4)	Institutional political knowledge (5)
Upcoming local election	0.054*** (0.014)	0.303*** (0.075)	0.302*** (0.049)	0.509*** (0.088)	0.135*** (0.038)
Political network scale	0.023** (0.009)	0.112** (0.048)	0.070** (0.025)	0.093** (0.034)	0.064** (0.027)
Upcoming local election × Political network scale	0.030*** (0.011)	0.175*** (0.054)	0.101*** (0.035)	0.159*** (0.050)	0.044 (0.034)
Observations	13,030	13,030	17,213	17,213	17,213
Outcome mean	0.87	2.58	0.00	0.00	0.00
Outcome std. dev.	0.34	1.47	1.00	1.00	1.00
Upcoming local election mean	0.19	0.19	0.16	0.16	0.16
Political network scale mean	0.00	0.00	0.00	0.00	0.00
Political network scale std. dev.	1.00	1.00	1.00	1.00	1.00
Survey year not asked	2001	2001			

Notes: All specifications include survey fixed effects, and are estimated using OLS. Standard errors clustered by municipality are in parentheses. * denotes $p < 0.1$, ** denotes $p < 0.05$, *** denotes $p < 0.01$.

more likely to consume topical news as opposed to institutional knowledge of the political system that is less likely to be covered. Supporting this claim, columns (4) and (5) demonstrate that while the interaction between local elections and politically-oriented social networks is particularly pronounced for topical knowledge, there is no significant relationship for institutional knowledge questions.

4.4 Alternative interpretations

Although it is hard to see why individuals in politically-oriented social groups would be more likely to passively consume news when it is in greater supply around elections, voter sorting represents a key concern for these findings. In particular, sorting may account for the findings if voters with a taste for news about elections (Hamilton 2004), or a greater sense of civic duty to cast an informed

Table 6: The effect of upcoming local elections on news consumption, by civic network engagement

	Watch and listen to news scale (1)	Watch and listen to news scale (2)	Political knowledge quiz (3)	Topical knowledge questions (4)	Institutional knowledge questions (5)
Local election	0.052*** (0.014)	0.299*** (0.077)	0.313*** (0.050)	0.528*** (0.089)	0.145*** (0.038)
Civic network scale	0.039*** (0.003)	0.206*** (0.016)	0.132*** (0.013)	0.201*** (0.020)	0.117*** (0.015)
Local election \times Civic network scale	-0.000 (0.008)	-0.015 (0.035)	-0.009 (0.029)	-0.015 (0.044)	-0.052* (0.028)
Observations	13,030	13,030	17,213	17,213	17,213
Outcome mean	0.87	2.58	-0.00	-0.00	0.00
Local election mean	0.19	0.19	0.16	0.16	0.16
Civic network scale mean	0.15	0.15	-0.00	-0.00	-0.00
Civic network scale std. dev.	1.06	1.06	1.00	1.00	1.00
Survey year not asked	2001	2001			

Notes: All specifications include survey fixed effects, and are estimated using OLS. Standard errors clustered by municipality are in parentheses. * denotes $p < 0.1$, ** denotes $p < 0.05$, *** denotes $p < 0.01$.

ballot (e.g. [Blais 2000](#); [Feddersen and Sandroni 2006](#)), are also more likely to enter certain social networks. Such concerns are endemic in the social networks literature, and ultimately may only be convincingly disproved using the type of experimental variation exploited above. Nevertheless, I now present some evidence against this concern.

First, I conduct a placebo exercise using civic, as opposed to political, social groups. Consistent with the importance of political interest, the results in [Table 6](#) show that the effects of local elections on political information acquisition do not vary with a similar civic network scale combining the number of civic organizations a respondent has been a member of and the number of meetings they attended in the last year.²² This provides strong evidence that it is not simply participation in any group that drives the results. Nevertheless, this does not address the more specific sorting concern that voters interested in following elections sort into more political groups.

²²Civic organizations include pensioner, professional, labor, social, voluntary, religious, neighbor, cultural, sporting, parents and citizen organizations.

Table 7: Alternative explanations for information acquisition before local elections

	Watch/listen to news scale		Political knowledge quiz			
	(1)	(2)	(3)	(4)	(5)	(6)
Local election	0.203*	0.249	0.320***	0.363***	-0.230	0.300***
	(0.123)	(0.366)	(0.099)	(0.079)	(0.274)	(0.068)
Political network scale	0.112**	0.112**	0.106**	0.070**	0.071**	0.052**
	(0.042)	(0.041)	(0.040)	(0.026)	(0.026)	(0.022)
Local election \times Political network scale	0.178***	0.176***	0.171***	0.097***	0.101***	0.080***
	(0.053)	(0.054)	(0.052)	(0.035)	(0.035)	(0.032)
Incumbent win margin (lag)	-0.497*			-0.203		
	(0.263)			(0.156)		
Local election \times Incumbent win margin (lag)	0.682			-0.363		
	(0.6694)			(0.394)		
ENPV (lag)		0.040			0.030	
		(0.044)			(0.029)	
Local election \times ENPV (lag)		0.020			0.200*	
		(0.129)			(0.104)	
Voted for mayor since 2000			0.169***			0.189***
			(0.039)			(0.027)
Local election \times Voted for mayor since 2000			-0.027			0.053
			(0.082)			(0.059)
Observations	13,030	13,030	13,030	17,213	17,213	13,030
Interaction mean	0.15	2.65	0.73			

Notes: All specifications include survey fixed effects, and are estimated using OLS. Standard errors clustered by municipality in parentheses. * denotes $p < 0.1$, ** denotes $p < 0.05$, *** denotes $p < 0.01$.

Second, to address the concern that certain types of voters populate politically-oriented social groups, I simultaneously control for the interaction of indicators of political interest and civic duty with upcoming local elections. Given that political interest is post-treatment in the context of this design, I proxy for interest in local elections using two pre-treatment measures of political competition: the incumbent’s win margin and the effective number of parties (ENPV) at the previous municipal election. Columns (1) and (2) of Table 7 show that the interaction for neither proxy for political interest consistently affects political news consumption or political knowledge,²³ while the effect of politically-oriented networks remains highly statistically significant. Only in the case of column (5) is the interaction with the ENPV marginally statistically significant. To test the duty-based explanation, columns (3) and (6) similarly show that citizens that have voted in at least one mayoral election since 2000 are no more likely to acquire information in the run up to an election while the results for politically-oriented networks are unaffected. Together, these results suggest that the likelihood that political sophistication is revealed around elections is greater among voters in the most politically-engaged social groups.

5 Conclusion

This paper endogenizes the acquisition of political news, and shows that social incentives play a key role in inducing voters to strategically acquire information about politics. The social signaling model highlights how, especially in groups that collectively value knowledge about politics, the prospect of an individual’s knowledge about politics being revealed causes unsophisticated voters to start acquiring information to meet a minimum standard of knowledge and sophisticated voters to differentiate themselves by acquiring more information. Exploiting both experimental and quasi-experimental variation, I provide the first causal evidence that such incentives significantly impact voter information acquisition. Across both analyses, I find clear evidence that relatively un-

²³I present only two indicators to save space, although the results are similarly robust over the other outcomes included in Table 5.

informed voters can be induced to acquire political news, particularly when nested in high-interest social networks.

The results provide further evidence that social interactions play a key causal role in political behavior. In addition to previous experimental studies showing that social factors increase turnout, my findings suggest that because elections also serve as a focal point for political discussion within groups such increased participation may be better informed. This chimes with recent work demonstrating that political concerns are transmitted through social networks, and can significantly alter political preferences (Alt et al. 2015).

The findings thus have implications for policy-makers seeking to increased informed political participation. First, the results highlight the importance of timing: information dissemination is only likely to be effective when, e.g. just before elections, voters have strong social incentives to consume the news available to them. This conclusion reinforces the findings of Marshall (2015), who shows that voters are only likely to punish incumbents for failing to maintain public security when homicides are reported in the news before elections. In tandem with the conclusions of Gerber, Karlan and Bergan (2009), the results suggest that variation in political news consumption over time may predominantly reflect demand-side, rather than supply-side, constraints. Second, the theory also points to an “information trap” whereby information acquisition is perpetuated by politically-engaged social groups that assign reputational benefits to being informed. Such groups are likely to disproportionately contain well-educated and already well-informed elites. Consequently, to increase political knowledge across the entire electorate, the results emphasize the need for government and the media to engage all types of citizens with politics, which may require visible interactions, public outreach and civic education programs.

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Online Appendix

Proofs

Proof of Proposition 1. First, consider the case of a fully separating equilibrium, where $\beta = \theta, \forall \theta$. Given the maximand in equation (2), call it $u(\theta, \beta, n)$, is twice-differentiable on $[\underline{\theta}, \bar{\theta}]^2 \times \mathbb{R}^+$, $u_\beta > 0$, $u_{\theta n} < 0$, the convexity of $c(n, \theta)$ ensures a unique (bounded) maximizer solving $u_n(\theta, \theta, n) = 0$, and $u_\beta > 0$ implies that $\underline{\theta}$ freely maximizes (akin to a Riley equilibrium), I invoke Theorems 1 and 2 of Mailath (1987). Consequently, the differential equation in equation (3) defines the incentive compatibility constraint for all types θ , which is continuously differentiable on $[\underline{\theta}, \bar{\theta}]$. Integrating over θ yields equilibrium information acquisition (as shown in equation (4)). Incentive compatibility and the existence of a unique solution for $\underline{\theta}$ imply the uniqueness of the separating equilibrium.

Second, consider the case of a semi-separating equilibria where there exist some low θ types that do not acquire information because $pw\beta(n) - c(n, \theta) < 0, \forall n$ (i.e. a corner solution, given $n \in \mathbb{R}^+$). For such types, $n^*(\theta, p, w) = 0$. Given that u is monotonically increasing in θ , and provided that $n^*(\bar{\theta}, p, w) > 0$ (a necessary condition for a semi-separating equilibrium), the intermediate value theorem implies that there exists an $\tilde{\theta}(p, w)$ and $n^*(\tilde{\theta}(p, w), p, w)$ where the $\tilde{\theta}$ is indifferent between acquiring information to separate from low types and pooling with low types:

$$pw\tilde{\theta} - c(n^*(\tilde{\theta}, p, w), \tilde{\theta}) = \frac{pw}{F(\tilde{\theta})} \int_{\underline{\theta}}^{\tilde{\theta}} \theta dF(\theta). \quad (9)$$

Monotonicity of the maximization problem in θ implies that all types $\theta \leq \tilde{\theta}(p, w)$ will prefer to acquire $n^* = 0$ news rather than $n^*(\tilde{\theta}(p, w), p, w)$. For such types, $\beta(n) = \frac{1}{F(\tilde{\theta}(p, w))} \int_{\underline{\theta}}^{\tilde{\theta}(p, w)} \theta dF(\theta), \forall n < n^*(\tilde{\theta}(p, w), p, w)$, because they cannot be differentiated in equilibrium. For $\theta > \tilde{\theta}(p, w)$, exactly the characteristics of the fully separating equilibrium apply where $n^*(\underline{\theta}) = 0$ and they integrate

from $\tilde{\theta}(p, w)$ to θ in order to calculate $n^*(\theta, p, w)$. ■

Proof of Proposition 2. I examine the comparative static predictions in order, differentiating the equilibrium outcomes by the respective parameters. First, the results at the extensive margin follow by differentiating $S \equiv 1 - F(\tilde{\theta}(p, w))$. I first use the implicit function theorem to derive:

$$\frac{d\tilde{\theta}(p, w)}{dp} = -\frac{w \left[\tilde{\theta}(p, w) - \frac{\int_{\tilde{\theta}(p, w)}^{\tilde{\theta}(p, w)} \theta dF(\theta)}{F(\tilde{\theta}(p, w))} \right]}{D} < 0, \quad (10)$$

$$\frac{d\tilde{\theta}(p, w)}{dw} = -\frac{p \left[\tilde{\theta}(p, w) - \frac{\int_{\tilde{\theta}(p, w)}^{\tilde{\theta}(p, w)} \theta dF(\theta)}{F(\tilde{\theta}(p, w))} \right]}{D} < 0, \quad (11)$$

$$\begin{aligned} \frac{d\tilde{\theta}(p, w) \partial \tilde{\theta}(p, w)}{dp \partial w} &= \frac{d\tilde{\theta}(p, w) \partial \tilde{\theta}(p, w)}{dw \partial p} \\ &= \frac{c_{\theta}(n^*(\tilde{\theta}(p, w)), \tilde{\theta}(p, w)) \left[\tilde{\theta}(p, w) - \frac{\int_{\tilde{\theta}(p, w)}^{\tilde{\theta}(p, w)} \theta dF(\theta)}{F(\tilde{\theta}(p, w))} \right]}{D^2} < 0, \quad (12) \end{aligned}$$

where the signs follow from noting that $c_{\theta} < 0$ and $\tilde{\theta}(p, w) > [F(\theta)]^{-1} \int_{\tilde{\theta}(p, w)}^{\tilde{\theta}(p, w)} \theta dF(\theta)$, and given that the denominator is positive:

$$\begin{aligned} D &\equiv pw \left[1 - \frac{F(\tilde{\theta}(p, w)) F'(\tilde{\theta}(p, w)) \tilde{\theta}(p, w) - F'(\tilde{\theta}(p, w)) \int_{\tilde{\theta}(p, w)}^{\tilde{\theta}(p, w)} \theta dF(\theta)}{[F(\tilde{\theta}(p, w))]^2} \right] \\ &\quad - c_{\theta}(n^*(\tilde{\theta}(p, w)), \tilde{\theta}(p, w)) > 0, \quad (13) \end{aligned}$$

given $F' > 0$, $F(\tilde{\theta}(p, w)) < 1$ (provided $\tilde{\theta}(p, w) \neq \bar{\theta}$), $\int_{\tilde{\theta}(p, w)}^{\tilde{\theta}(p, w)} \theta F'(\theta) d\theta > \tilde{\theta}(p, w) F'(\tilde{\theta}(p, w))$, and the envelope theorem implies that $\frac{\partial n^*(\tilde{\theta}(p, w))}{\partial \tilde{\theta}(p, w)} = 0$ because the indifference condition is evalu-

ated at the value function maximized at $n^*(\tilde{\theta}(p, w), p, w)$. Then,

$$\frac{\partial S}{\partial p} = -F'(\tilde{\theta}(p, w)) \frac{d\tilde{\theta}(p, w)}{dp} > 0, \quad (14)$$

$$\frac{\partial S}{\partial w} = -F'(\tilde{\theta}(p, w)) \frac{d\tilde{\theta}(p, w)}{dw} > 0, \quad (15)$$

$$\frac{\partial^2 S}{\partial p \partial w} = -\left[F''(\tilde{\theta}(p, w)) \frac{d\tilde{\theta}(p, w)}{dp} \frac{d\tilde{\theta}(p, w)}{dw} + F'(\tilde{\theta}(p, w)) \frac{d^2 \tilde{\theta}(p, w)}{dp dw} \right] > 0. \quad (16)$$

The final condition holds provided that F'' is not too large.

Second, I examine the effects of p and w on $n^*(\theta, p, w)$. First note that equation (3) in the main text demonstrates that $n^*(\theta, p, w)$ is increasing in θ . Given this, for $\theta \geq \tilde{\theta}(p, w) > \underline{\theta}$, the implicit function theorem yields:

$$\begin{aligned} \frac{dn^*(\theta, p, w)}{dp} &= \int_{\tilde{\theta}(p, w)}^{\theta} \frac{w}{c_n(n^*(\theta, p, w), \theta)} d\theta - \frac{pw}{c_n(n^*(\tilde{\theta}(p, w), p, w), \tilde{\theta}(p, w))} \frac{\partial \tilde{\theta}(p, w)}{\partial p} \\ &\quad + \frac{\partial n^*(\tilde{\theta}(p, w), p, w)}{\partial p}, \end{aligned} \quad (17)$$

$$\begin{aligned} \frac{dn^*(\theta, p, w)}{dw} &= \int_{\tilde{\theta}(p, w)}^{\theta} \frac{p}{c_n(n^*(\theta, p, w), \theta)} d\theta - \frac{pw}{c_n(n^*(\tilde{\theta}(p, w), p, w), \tilde{\theta}(p, w))} \frac{\partial \tilde{\theta}(p, w)}{\partial w} \\ &\quad + \frac{\partial n^*(\tilde{\theta}(p, w), p, w)}{\partial w}, \end{aligned} \quad (18)$$

where the first two terms for each expression reflect the ratchet effect, while the third term reflects the level effect coming from a shift in $n^*(\tilde{\theta}(p, w), p, w)$. The proposition focuses only on the former effect, which is clearly positive given that $\frac{\partial \tilde{\theta}(p, w)}{\partial w} < 0$, $\frac{\partial \tilde{\theta}(p, w)}{\partial p} < 0$, and $c_n > 0$. The level effect is also positive from inspection of equation (14).

Furthermore,

$$\begin{aligned}
\frac{dn^*(\theta, p, w) \partial n^*(\theta, p, w)}{dp \partial w} &= \int_{\tilde{\theta}(n, w)}^{\theta} \frac{1}{c_n(n^*(\tilde{\theta}(p, w), p, w), \tilde{\theta}(p, w))} d\theta \\
&- \frac{\tilde{\theta}(p, w)}{c_n(n^*(\tilde{\theta}(p, w), p, w), \tilde{\theta}(p, w))} \left[\frac{\partial \tilde{\theta}(p, w)}{\partial p} \left(1 - \frac{wc_{nn}(n^*(\tilde{\theta}(p, w), p, w), \tilde{\theta}(p, w))}{c_n(n^*(\tilde{\theta}(p, w), p, w), \tilde{\theta}(p, w))} \right) \right. \\
&\frac{\partial \tilde{\theta}(p, w)}{\partial w} \left(1 - \frac{wc_{n\theta}(n^*(\tilde{\theta}(p, w), p, w), \tilde{\theta}(p, w))}{c_n(n^*(\tilde{\theta}(p, w), p, w), \tilde{\theta}(p, w))} \right) \\
&\left. + w \frac{\partial^2 \tilde{\theta}(p, w)}{\partial p \partial w} \right] + \frac{\partial^2 n^*(\tilde{\theta}(p, w), p, w)}{\partial w \partial p}, \tag{19}
\end{aligned}$$

which is positive given the differentials for $\tilde{\theta}(p, w)$ above, and a sufficient condition that:

$$w < \max \left\{ \frac{c_{nn}(n^*(\tilde{\theta}(p, w), p, w), \tilde{\theta}(p, w))}{c_n(n^*(\tilde{\theta}(p, w), p, w), \tilde{\theta}(p, w))}, \frac{c_{n\theta}(n^*(\tilde{\theta}(p, w), p, w), \tilde{\theta}(p, w))}{c_n(n^*(\tilde{\theta}(p, w), p, w), \tilde{\theta}(p, w))} \right\}. \blacksquare \tag{20}$$

Variable definitions

Experimental data

Political quiz score. Number of political quiz questions, out of 10, that the respondent correctly answered. The quiz included the following questions:

1. What party obtained the fourth largest vote share in the elections for Federal Deputy? [A: MC; **B: MORENA**; C: PRD; D: PVEM]
2. On the 29th May 2015, the Tribunal Electoral del Poder Judicial de la Federación revoked the 3-day suspension of campaign advertising on radio and television of which party? [A: MORENA; B: PAN; C: PRD; **D: PVEM**]
3. According to the National Electoral Institute, how many polling stations in Chiapas, Guerrero and Oaxaca were not installed due to social conflict? [A: 36; **B: 88**; C: 125; D: 200]
4. The candidate from which party won the Governor's election in Queretaro? [**A: PAN**; B:

PRD; C: PRI; D: Independent]

5. Which of the following states did not hold an election for Governor on the 7th June 2015?
[A: Colima; **B: Morelos**; C: Nueva León; D: San Luis Potosí]
6. Who is responsible for setting fire to ballots in Oaxaca? [**A: the CNTE**; B: people from the PRD; C: people from the PRI; the SNTE]
7. On 3rd June 2015, the candidate for Federal Deputy, Ángel Luna Munguía, was assassinated in his campaign office. From what party was he? [A: MORENA; B: PAN; **C: PRD**; D: PRI]
8. The candidate from which party won the election to become delegational head of Álvaro Obregón? [A: MORENA; **B: PAN**; C: PRD; D: PRI]
9. What institution is responsible for verifying the Programa de Resultados Electorales Preliminares (PREP) information system used to verify the Federal Deputy elections in 2015? [A: the U.S. government; B: the federal government; C: Tribunal Electoral del Poder Judicial de la Federación (TEPJF); **D: Universidad Nacional Autónoma de México (UNAM)**]
10. For which party was ex-footballer Cuauhtémoc Blanco a mayoral candidate in Cuernavaca, Morelos? [A: MC; B: MORENA; C: PRD; **D: PSD**]

The ordering of multiple choices was randomized.

Social treatment. Indicator coded 1 for respondents that were randomly assigned to receive the social treatment informing voters that their performance on the quiz will be sent to the email addresses of the three friends that they enumerated earlier in the baseline survey.

Believe received treatment. Indicator coded 1 for respondents that said after the political quiz that they believed that the three friends whose email addresses they listed on the baseline survey would be informed of the results of the quiz. Respondents coded zero include those that said 0, all students, or don't know.

Sophisticated. Indicator coded 1 for respondents that answered all three questions on the baseline survey correctly.

Hours of internet news a week (baseline). The number of hours of news consumed on the internet week, according to the baseline survey.

Follow national news. Indicator coded 1 for respondents that report following the national news, according to the baseline survey.

Demonstrate knowledge. Indicator coded 1 for respondents that stated on the baseline survey that they acquire information in order to demonstrate to their friends and family that they are informed about politics.

More than friends. Five-point scale rating how much more respondents believe that they know about politics than their friends, according to the baseline survey.

High interest friends. Indicator coded 1 for respondents that in the baseline survey rated their three friends' political interest at 5 or greater on a scale from 0 to 10.

Male. Indicator coded 1 for being male.

Year of birth. Year of birth in years.

Political interest. A scale ranging from 0 to 10 rating an individual's self-reported interest in politics.

Items listed. Count of the number of items that respondents say that they engaged in during recent weeks: attend a campaign activity; watch the news on television; write an article about politics on the internet; and, in the case of a random subset of respondents, talk about the questions on the quiz with a friend.

List experiment treatment. Indicator coded 1 for respondents that were randomly assigned to receive the final item listed in the previous variable.

Interest in politics. Eleven-point scale ranging from 0 to 10 denoting the respondent's stated level of interest in politics in the second survey (before the quiz).

Acquire to speak with friends/to demonstrate knowledge/to choose best candidate/due to interest/for work/due to duty. Indicator coded 1 for respondents that, in the second survey, report acquiring political information for these respective reasons.

Estimated friend score. The respondent's estimate of the number of questions that they believe that the three friends they listed on the first survey would have answered correctly.

Political interest of friends. A scale ranging from 0 to 10 rating an individual's perceived interest in politics of their friends in the second survey (after the quiz).

ENCUP survey data

Local election. Indicator coded 1 for respondents living in a state/municipality with an upcoming local election occurring within the year of the survey. States/municipalities where an election has already occurred within the year of the survey are coded 0.

Watch and listen to news and political programs ever/monthly/weekly/daily. Indicator coded 1 for a respondent that answers that they watch political programs or listen to news at least ever/once a month/at least once a week/daily. (“¿Qué tan seguido escucha noticias o ve programas sobre política?”)

Watch and listen to news and political programs scale. 5-point scale from 0 to 4, with values corresponding to levels of watching and listening to new and political programs (in ascending order).

Political knowledge quiz. First factor from a factor analysis containing the following questions: What is the name of the youth movement that recently started in Mexico? (2012) Where was the plan to build an airport that was subsequently abandoned due to local pressure? (2003, 2005) Which political party intends to charge VAT on medicines, food, and tuition? (2001) Which party holds your state governorship? (2001, 2003, 2005, 2012) What is the name of your state governor? (2001) How many years do federal representatives serve for? (2001, 2003, 2005, 2012) What are the three separated powers of government? (2012) Who has the authority to approve changes to

the constitution? (2001)

Topical political knowledge. First factor from a factor analysis containing the following topical questions: What is the name of the youth movement that recently started in Mexico? (2012) Where was the plan to build an airport that was subsequently abandoned due to local pressure? (2003, 2005) Which political party intends to charge VAT on medicines, food, and tuition? (2001) Which party holds your state governorship? (2001, 2003, 2005, 2012) What is the name of your state governor? (2001)

Institutional political knowledge. First factor from a factor analysis containing the following topical questions: How many years do federal representatives serve for? (2001, 2003, 2005, 2012) What are the three separated powers of government? (2012) Who has the authority to approve changes to the constitution? (2001)

Political network scale. A standardized summative rating scale combining the following three variables: the number of political organizations (general political, party, or cooperative) that a respondent reports being a member of, or previously being a member of; the number of political organizations at which an individual has attended a meeting during the last year; and a scale measuring the regularity with which respondents discuss problems in the community with friends and neighbors, ranging through never (coded 0), occasionally (coded 1) and frequently (coded 2). As noted in the main text, the scale has a Cronbach's alpha of 0.57.

Civic network scale. A standardized summative rating scale combining the following three variables: the number of civic organizations (pensioner, professional, labor, social, voluntary, religious, neighbor, cultural, sporting, parents and citizen organizations) that a respondent reports being a member of, or previously being a member of; and the number of civic organizations at which an individual has attended a meeting during the last year. The scale has a Cronbach's alpha of 0.66.

Incumbent win margin (lag). The difference in vote share between the incumbent and second-placed finisher at the previous municipal mayoral election. In *Usos y Costumbres* in Oaxaca, the

Table A1: Balance tests for the final sample

Pre-treatment variable	Treatment	Standard error	Pre-treatment variable	Treatment	Standard error
Latitude	0.063	(0.311)	Hours of radio news a week	-0.128	(0.269)
Longitude	-0.393	(0.432)	Hours of television news a week	-0.039	(0.269)
Year of birth	0.329*	(0.176)	Follow local news	-0.064*	(0.039)
Male	-0.062	(0.041)	Follow national news	-0.009	(0.028)
Politics student	0.027	(0.035)	Follow international news	0.028	(0.038)
Total correct answers	0.014	(0.060)	Follow state news	-0.036	(0.043)
Sophisticated	0.003	(0.040)	Follow no news	0.012*	(0.007)
Interest in politics	-0.358*	(0.191)	Don't know if follow news	-0.004	(0.004)
Political interest of friends	-0.126	(0.175)	Student organization	0.046	(0.042)
Frequency of political discussion with friends	-0.057	(0.082)	Voluntary organization	0.022	(0.043)
More than friends	0.02	(0.099)	Sindicate	-0.004	(0.004)
Respect for knowledge about politics	-0.203	(0.184)	Religious organization	0.037	(0.034)
Participate in political conversations	-0.053	(0.057)	Citizen organization	-0.024	(0.028)
Comfortable when don't know about politics	-0.03	(0.090)	Neighbor organization	-0.045	(0.030)
Acquire to vote for best candidate	-0.018	(0.034)	Cultural organization	0.03	(0.038)
Acquire to speak with friends	-0.015	(0.037)	Party organization	-0.065**	(0.028)
Acquire due to interest	-0.058	(0.043)	Sports organization	0.002	(0.043)
Acquire for work	0.058	(0.036)	Other organization	-0.001	(0.016)
Acquire out of civic duty	0.009	(0.039)	Total organizations	-0.002	(0.136)
Acquire to demonstrate knowledge	0.016	(0.022)	PAN partisan	-0.009	(0.043)
Acquiring information not important	0.024*	(0.013)	PRI partisan	-0.009	(0.029)
Don't know why acquire	0.008	(0.005)	PRD partisan	-0.009	(0.016)
Attrition incentive	0.013	(0.043)	MORENA partisan	0.012	(0.010)
Hours of newspaper news a week	0.214	(0.260)	Non-partisan	-0.021	(0.040)
Hours of internet news a week	-0.127	(0.405)			

Notes: All specifications are difference in means between the respondents treated by the social treatment and those that were not. Robust standard errors are in parentheses. * denotes $p < 0.1$, ** denotes $p < 0.05$, *** denotes $p < 0.01$.

incumbent win margin is set to the maximum of 1.

ENPV (lag). The effective number of political parties (by vote share) at the previous municipal mayoral election. In *Usos y Costumbres* in Oaxaca, ENPV is set to the maximum of 1.

Voted for mayor since 2000. Indicator coded 1 for individuals that have reported voting in their municipal election in 2000.

Additional experimental results

Tables A1 and A2 respectively show balance across 49 pre-treatment variables in the final sample and the initial assignment.

Table A2: Balance tests from the initial assignment in the baseline survey

Pre-treatment variable	Treatment	Standard error	Pre-treatment variable	Treatment	Standard error
Latitude	0.262	(0.266)	Hours of radio news a week	-0.145	(0.221)
Longitude	-0.396	(0.500)	Hours of television news a week	-0.109	(0.230)
Year of birth	0.193	(0.150)	Follow local news	-0.041	(0.033)
Male	-0.045	(0.035)	Follow national news	-0.031	(0.024)
Politics student	0.027	(0.029)	Follow international news	0.062*	(0.032)
Total correct answers	-0.035	(0.115)	Follow state news	-0.005	(0.036)
Sophisticated	0.021	(0.035)	Follow no news	0.008	(0.006)
Interest in politics	-0.299*	(0.158)	Don't know if follow news	-0.003	(0.003)
Political interest of friends	-0.214	(0.148)	Student organization	0.05	(0.035)
Frequency of political discussion with friends	-0.059	(0.069)	Voluntary organization	-0.002	(0.036)
More than friends	0.087	(0.084)	Syndicate	-0.003	(0.003)
Respect for knowledge about politics	-0.122	(0.151)	Religious organization	0.024	(0.029)
Participate in political conversations	-0.057	(0.049)	Citizen organization	-0.03	(0.023)
Comfortable when don't know about politics	-0.043	(0.075)	Neighbor organization	-0.035	(0.026)
Acquire to vote for best candidate	-0.035	(0.029)	Cultural organization	0.023	(0.033)
Acquire to speak with friends	-0.03	(0.032)	Party organization	-0.051**	(0.023)
Acquire due to interest	-0.017	(0.036)	Sports organization	-0.003	(0.036)
Acquire for work	0.062**	(0.031)	Other organization	-0.007	(0.014)
Acquire out of civic duty	-0.013	(0.033)	Total organizations	-0.01	(0.054)
Acquire to demonstrate knowledge	0.001	(0.018)	PAN partisan	0.012	(0.036)
Acquiring information not important	0.014	(0.010)	PRI partisan	-0.032	(0.024)
Don't know why acquire	0.005	(0.004)	PRD partisan	-0.007	(0.014)
Attrition incentive	0.005	(0.036)	MORENA partisan	0.013	(0.009)
Hours of newspaper news a week	0.074	(0.222)	Non-partisan	-0.008	(0.034)
Hours of internet news a week	-0.148	(0.329)			

Notes: All specifications are difference in means between the respondents treated by the social treatment and those that were not. Robust standard errors are in parentheses. * denotes $p < 0.1$, ** denotes $p < 0.05$, *** denotes $p < 0.01$.

Additional observational results

Table A3 shows how the effect of local election by politically-oriented networks varies by intensity of political news consumption. The results show that news consumption is increased at every level, including daily news consumption among the most politically sophisticated voters.

Table A3: The effect of upcoming local elections on news consumption, by political network engagement

	Watch and listen to news and political programs...				
	...ever (1)	...monthly (2)	...weekly (3)	...daily (4)	...scale (5)
Upcoming local election	0.054*** (0.014)	0.092*** (0.021)	0.90*** (0.023)	0.068*** (0.025)	0.303*** (0.075)
Political network scale	0.023** (0.009)	0.029** (0.011)	0.033** (0.012)	0.028** (0.012)	0.112** (0.048)
Upcoming local election × Political network scale	0.030*** (0.011)	0.048*** (0.015)	0.049*** (0.016)	0.048 (0.017)	0.175*** (0.054)
Observations	13030	13030	17213	17213	17213
Outcome mean	0.87	0.69	0.63	0.39	2.58
Outcome std. dev.	0.34	0.46	0.48	0.49	1.47
Upcoming local election mean	0.19	0.19	0.19	0.19	0.19
Political network scale mean	0.00	0.00	0.00	0.00	0.00
Political network scale std. dev.	1.00	1.00	1.00	1.00	1.00
Survey year not asked	2001	2001	2001	2001	2001

Notes: All specifications include survey fixed effects, and are estimated using OLS. Standard errors clustered by municipality are in parentheses. * denotes $p < 0.1$, ** denotes $p < 0.05$, *** denotes $p < 0.01$.