Street Fight: The Impact of a Street Sign Campaign on Voter Turnout

1 author:

Volume 28 Issue 2 June 2009   ISSN 0261-3794

ELSEVIER

Electoral Studies

An International Journal

Editors
Harold Clarke, Geoffrey Evans and Elinor Scarbrough

Available online at www.sciencedirect.com

ScienceDirect

Street fight: The impact of a street sign campaign on voter turnout

Costas Panagopoulos*

Fordham University, Department of Political Science, Faber Hall 667, 441 E. Fordham Rd., Bronx, NY 10458, USA

ARTICLE INFO

ABSTRACT

Over the past two decades, there has been a resurgence in the use of field experimental methods to examine the impact of a range of get-out-the-vote tactics (Green and Gerber, 2008), continuing a tradition that dates as far back as Gosnell (1927). Scholars have investigated the impact of face-to-face canvassing, direct mail, phone calls, leafleting, and mass media (Green and Gerber, 2008), yet no field experiment of which we are aware has tested the impact of a street sign campaign on voter mobilization. This study reports the first randomized field experiment gauging the effects of a nonpartisan get-out-the-vote street sign campaign. The experiment we describe is essentially a matched-pair, cluster-randomized design conducted in the context of the November 2005 municipal elections in New York City. We identified 14 pairs of poll sites (voting locations) that were closely matched in terms of past voter turnout. One poll site in each pair was randomly assigned to be exposed to the treatment that encouraged voters to vote on the day before Election Day. The street sign intervention is found to produce higher turnout.

© 2009 Elsevier Ltd. All rights reserved.

Concerns about low voter turnout in elections, especially at the local level where contests are typically low-salience affairs that lack the intense attention and visibility of states and federal contests, have energized activists to focus on mobilization, and efforts to stimulate electoral participation have turned increasingly to grassroots activities. Recent election cycles have witnessed greater grassroots activity nationwide than anytime since the early 1960s (Bergan et al., 2005; Panagopoulos and Wielhouwer, 2008). Political parties, organizations and candidate campaigns organize elaborate get-out-the-vote activities that deploy a variety of grassroots tactics to motivate voters including door-to-door canvassing, direct mail, phone calls, and email. Recent studies have shown that several of these tactics effectively mobilize voters to participate in elections (Green and Gerber, 2008; Gerber and Green, 2000).

This study uses field experimental techniques to examine the effect of nonpartisan street sign campaigns designed to stimulate voter participation. As a grassroots mobilization tactic, street signs are commonly used to attract voters' attention and to promote participation and support. The central hypothesis is that a communications campaign that reminds voters of the upcoming election raises voter turnout by providing information and increasing interest and motivation. Moreover, citizens who observe neighbors on the street urging others to participate in the election may derive psychic benefits that translate into enhanced propensity to vote (Crenson, 1983). As Rosenstone and Hansen (1993: pp. 175–176) argue, such mobilization, "underwrites the costs of participation [and] occasions the creation of selective social incentives for political involvement."

Huckfeldt and Sprague (1995: p. 78) argue that visible manifestations of individual involvement in elections have important consequences at the aggregate level. Viewing the electorate as composed of interdependent citizens tied

* Tel.: +1 917 405 9069.
E-mail address: costas@post.harvard.edu

together by complex patterns of social interaction, Huckfeldt and Sprague (1995) develop a contextual theory of politics in which individual political choices are situated at the intersection between individual purpose, cognition and preference and environmentally-imposed opportunities and constraints (1995: p. 12). These social interactions exert powerful contextual effects on political behavior (1995: p. 10). For example, the authors argue that the placement of bumper stickers and yard signs "is important in the aggregate because it sends a signal regarding appropriate behavior to others who are exposed to these signs" (1992: p. 78). A confluence of individual interest and socially transmitted influence is produced as individuals receive cumulative signals regarding the political preferences of those perceived as sharing the same interests, the authors explain (Huckfeldt and Sprague, 1992: 78). Recent field experimental studies also find evidence that social pressure to vote that can be generated by public, get-out-the-vote efforts that stimulate compliance with social voting norms, resulting in higher turnout (Gerber et al., 2008; Panagopoulos, 2008).

This study uses a randomized field experiment to assess the effects of nonpartisan GOTV street sign campaign. The experiment was conducted during the November 2005 municipal election in New York City. New York City was strategically selected as the experimental site. Our reasoning is that contextual effects of the sort described by Huckfeldt and Sprague (1995) should be relatively easy to detect in largely suburban communities like South Bend, Indiana (where Heckfeldt and Sprague conducted their 1992 study) where neighbors can readily scrutinize each others' activities. Detecting environmental effects in New York City, the epitome of urban anomie, would produce more convincing evidence of contextual effects. Still, residents often coalesce around neighborhood identities that enhance the impact of neighborhood-based, political activities, even in urban areas (Crenson, 1983). Moreover, as low-salience elections with relatively few competing messages, municipal elections are ideal laboratories within which to isolate the effects of our intervention.

This essay is organized as follows. First, we describe the procedure by which the experimental sample was created and the way in which observations were randomly assigned to treatment and control groups. Next, we describe the content and timing of the street sign campaign. We then explain the analytic procedures used to test the hypothesis that street sign campaigns stimulate voter turnout. After presenting our results, we comment on their theoretical and policy implications. We conclude by suggesting directions for future research.

1. Experimental design

Randomized experiments assign units of observation randomly to treatment and control groups, a feature that ensures the samples' characteristics (observed and unobserved) are similarly distributed. Randomization thus enhances the likelihood of obtaining unbiased estimates of causal effects and facilitates reliable causal inference. Field experiments, as distinct from laboratory experiments, study the effects of an intervention within a naturalistic setting.

Field experimentation enjoys a long tradition in political science, with applications in electoral settings dating as far back as Gosnell (1927). More recently, scholars have turned increasingly to randomized field experiments to isolate the causal impact of various activities on voter turnout (Druckman et al., 2006; Green and Gerber, 2008). In many field experimental applications, including the current study, randomization at the individual level is impractical, even when individuals are the unit of interest. In our experiment, the units of observation are voting jurisdictions, the intervention is a nonpartisan street sign campaign, and the outcome variable is the rate of voter turnout.

1.1. Sample construction

New York City held municipal elections in November 2005. Michael Bloomberg, the incumbent Republican mayor seeking reelection against Democratic nominee Fernando Ferrer, ultimately captured 57 percent of the votes cast on Election Day and was granted a second term. Voters in New York City vote in election districts (ED). Manhattan, the city's largest borough, contains 1240 election districts that are distributed across nearly 300 voting locations (poll sites) across the borough. Following protocols advocated by Imai et al. (forthcoming) to maximize efficiency, power and robustness, we adopt a matched-pair, cluster-randomized experimental design. Matching prior to random treatment assignment can greatly improve the efficiency of causal effect estimation (Horiuchi et al., 2007; Imai et al., forthcoming). We gathered information about prior turnout for each voting location (poll site)[1] in order to create matched pairs. Each pair included two poll sites comprising clusters of election districts. We used turnout in 2004 as the matching criterion. We were also sensitive to geographical proximity of the voting locations in order to avoid interference, thus we endeavor to select clusters and pairs that are, as much as possible, not contiguous.[2] Using the criteria described above, we identified 14 closely matched pairs of voting locations comprising 144 election districts in total. Once the matching exercise was completed, we randomly assigned one poll site in each pair to the treatment group and the other to the control group.

Table 1 presents a list of voting locations in the 14 pairs included in the final experimental sample. As expected, our matching and randomization exercise generated treatment and control groups that are well-balanced overall on past turnout (control mean = 67.2, treatment mean = 68.1).[3]

---

[1] New York City Election Districts were redistricted in 2002, therefore, turnout data from the 2004 election were used in place of turnout data from the 2001 mayoral election. Because the 2001 elections took place just after the attacks on September 11, this also bypasses any considerations about anomalous behavior that can be attributed to the national emergency.

[2] Notwithstanding our best efforts to avoid interference, we cannot rule out the possibility that voters traveled across Manhattan, thus violating the basic assumption of no interference in causal inference (see Imai et al., forthcoming, for discussion). We acknowledge that such contamination can potentially make the estimation of average treatment effects more difficult, but we note that this would only underestimate the effects by producing more conservative estimates.

[3] The difference in means does not approach statistical significance at conventional levels.

Table 1
Experimental sample (treatment and control pairs).

Poll Site (address)	Pair	Treatment
307 E 116 St	1	C
515 W 114 St	1	T
55 E 10 St	2	C
110 E 88 St	2	T
210 E 33 St	3	C
128 E 68 St	3	T
2920 Broadway (115 St)	4	C
135 W 106 St	4	T
155 First Ave	5	C
343 E 70 St	5	T
222 W 134 St	6	C
125 W 109 St	6	T
593 Columbus Ave	7	C
1458 York Ave (E 78 St)	7	T
630 Second Ave (E 35 St)	8	C
163 W 97 St	8	T
1615 Madison Ave	9	C
215 W 144 St	9	T
111 E 33 St	10	C
241 W 72 St	10	T
365 W 25 St	11	C
1395 Lexington Ave	11	T
353 E 83 St	12	C
300 W 100 St	12	T
421 E 88 St	13	C
97 Hudson St	13	T
225 E 75 St	14	C
175 W 87 St	14	T

1.2. Treatment

Voters in election districts in the treatment group were exposed to volunteers holding street signs at high-traffic intersections adjacent to the voting location on November 4, 2005 between the hours of 7:00 AM and 6:00 PM. Groups of two-to-three volunteers with signs were assigned to each treatment location at all times during this period. Signs were professionally designed and produced to maximize visibility. They were 2 feet by 3 feet, with large block, dark blue lettering on a white background with the message: *VOTE TOMORROW*. The treatment was designed to achieve two goals: to encourage participation on Election Day and to remind voters that the election was taking place on the following day. The latter reminder was intended to reduce information costs associated with acquiring knowledge about the date of the election thereby raising the likelihood of participation further.

2. Results

Overall, the observed turnout rate in the 14 poll site locations included in the treatment group was 36.8 percent in November 2005, compared to a turnout rate of 33.2 percent for sites located in the control group. The estimated intent-to-treat effect of 3.6 percentage points is statistically significant at conventional levels. This initial finding suggests street sign campaigns effectively mobilize participation in elections. We pursue more conclusive evidence of a treatment effect using more sophisticated analytical procedures.

Imai et al. (forthcoming) argue that nonparametric, design-based estimators and standard errors have more desirable statistical properties than model-based approaches when analyzing matched-pair, cluster-randomized experimental data. Accordingly, we follow the procedures proposed by Imai et al. (forthcoming) to obtain an estimate of the effect of our street sign intervention. We remind readers that our outcome variable is the rate of turnout amongst registered voters. Thus, we are interested in the effect of our treatment on registered voters. Our target population quantity of interest is the sample average treatment effect (SATE).[4] We note that details about unit-level compliance (contact rates) are unavailable,[5] so the estimates we report are essentially intent-to-treat effects. Using the estimator for design-based inference proposed by Imai et al. (forthcoming, equation (3)), that takes, among other things, the size of clusters into account, our estimate of SATE is 3.48 percentage points. The nonparametric estimation of the variance of the average treatment effect (SATE), based on equation (6) in Imai et al. (forthcoming), is 2.80, implying a standard error of 1.67 percentage points corresponding to the estimated treatment effect.[6] We note that in the case of SATE, the variance is not identified, so this estimate from the observed data is conservative, representing a sharp, upper bound (see Imai et al., forthcoming, for details). Nevertheless, the estimated treatment effect is statistically significant at the $p < 0.05$ level, suggesting street sign campaigns are an effective way to mobilize voters on Election Day.

3. Evaluating cost-effectiveness

What do these estimates imply about the cost-effectiveness of street sign campaigns as a means of increasing voter turnout? Our estimate implies the intervention increased turnout by 3.48 percentage points, suggesting street sign campaigns may be competitive with other get-out-the-vote tactics in terms of cost-effectiveness.[7] The average election district in our sample consists of approximately 831 registered voters. Raising turnout among registered voters by 3.48 percentage points in an average district implies an increase of 29 votes. If volunteers are coordinated to execute street sign campaigns (as they were for this experiment), the costs associated with such a campaign will be minimal, and votes will be

[4] Since our sample is also the population, this quantity will be equivalent to the population average treatment effect (PATE).

[5] That is to say, some individuals assigned to treatment clusters may not have received the treatment, while others in control treatments may have been exposed to the street signs.

[6] Calculations were made using the "experiment" package in R developed by Imai (2007). We note that the estimates obtained using the nonparametric approach described above are generally consistent with estimates generated by model-based procedures (see Appendix 1). The estimate of the standard error yielded by the parametric model without covariates using fixed effects for experimental pairs of clusters is, as expected, slightly less efficient. Meanwhile, parametric models that take intercluster correlation into account appear more efficient (standard errors generated by Model 3 are about 40 percent smaller than the nonparametric estimate) because the models assume (erroneously in the case of this study) clusters of equal sizes.

[7] We present these comparisons by way of illustration, acknowledging that the validity of comparisons with estimates of treatments' effects and cost-effectiveness associated with other GOTV tactics obtained from field experimental studies conducted in different electoral contexts and under different conditions is disputable.

generated at a total cost of pennies per vote. On the other hand, non-negligible costs will be incurred if it is necessary to compensate street sign holders. On the cost side of the equation, expenditures will vary depending primarily on labor costs. Compensating three sign holders at a rate of $15 per hour to display signs on street corners for a total of 11 h is an average expenditure of $495. Signs cost about $10 to produce. Paying $505 to produce 29 votes – at just about $17 per vote – is not especially inexpensive, but it is more cost-effective than many other modes of GOTV activity. In terms of cost-effectiveness, this puts street sign campaigns on par with relatively efficient methods, such as door-to-door canvassing, that have been shown to produce votes at a rate of $20 per vote (Green and Gerber, 2008). If sign holders are compensated less generously, street sign campaigns can generate votes at a rate of $8–10 per vote, making this mobilization tactic highly cost-effective. The typical direct mail campaign generates votes at more than $60 per vote; commercial phone banks often produce votes at rate of over $100 per vote (Green and Gerber, 2008; Cardy, 2005).

4. Conclusion

This initial foray into investigating the impact of nonpartisan GOTV street sign campaigns on electoral participation using field experimental techniques reveals some promising substantive and methodological findings. First, the evidence of mobilization effects we present lends support to the theoretical construct of contextual effects as developed by Huckfeldt and Sprague (1995). Individual voters do appear interdependent and situated within social environments that exert powerful influences over their political behavior. The current study also provides a guidepost for further

research. Subsequent studies would allow us to expand the scope of the current project significantly. Since this is the first randomized field experiment to evaluate the impact of street signs on electoral behavior, power calculations were difficult given that there was no existing baseline for year-to-year variability in rates of participation. Replication would allow us to reduce the standard errors substantially. Another possibility is to conduct similar experiments using partisan appeals. Critics contend that one reason some mobilization experiments routinely fail to detect treatment effects is that they typically appeal to voters using only nonpartisan messages (Grenzke and Watts, 2005). Recent studies (Panagopoulos, 2009; Cardy, 2005; McNulty, 2005) show that partisan campaigns that use commercial phone banks are no more effective than similar nonpartisan campaigns, but the possibility is worth exploring further.

Despite the limitations we acknowledge, the findings of this study suggest street sign campaigns can play a role in increasing voter turnout. The analyses we conducted and described above present the first direct evidence derived from a field experimental study that shows street sign campaigns can mobilize participation in elections. Moreover, we argue that matched-pair, cluster-randomized field experimental designs are a productive and reproducible way to measure the effects of GOTV activities on political behavior and can help place the findings of observational studies into perspective.

Acknowledgements

Appendix 1. Parametric estimates of the effects of street sign campaign on levels of voter turnout

Independent variables	Dependent variable			
	Turnout level (2005)			
	(Poll sites)		(Election districts)	
	Model 1: (no covariates) OLS	Model 2: (with covariates) OLS	Model 3: (no covariates) OLS	Model 4: (with covariates) OLS
Treatment	3.62* (1.70)	3.19* (1.72)	4.59** (1.21)	3.18* (1.53)
Fixed effects for experimental pairs	YES	NO	YES	NO
Turnout 2004		0.46** (0.10)		0.52** (0.07)
N	28	28	144	144

Notes: Models 1 and 2: Dependent variable is turnout level (% of registered who voted) aggregated to voting location (poll site); Standard errors in parentheses. Models 3 and 4: Dependent variable is turnout level (% of registered who voted) disaggregated to election district. Cluster-corrected standard errors in parentheses. *Estimated treatment effect is $p < 0.05$, one-tailed test **$p < 0.01$, one-tailed.

References

Bergan, D.E., Gerber, A.S., Green, D.P., Panagopoulos, C., 2005. Grassroots mobilization and voter turnout in 2004. Public Opinion Quarterly 69 (5), 760–777.

Cardy, E.A., September 2005. "An experimental field study of the GOTV and persuasion effects of partisan direct mail and phone calls." The

science of voter mobilization. Green, D.P., Gerber, A.S. (Special Eds.). The Annals of the American Academy of Political and Social Science 601, 28–40.

Crenson, M., 1983. Neighborhood Politics. Harvard University Press, Cambridge.

Druckman, J.N., Donald, P.G., Kuklinski, J.H., Lupia, A., 2006. The growth and development of experimental research in political science. American Political Science Review 100 (4), 627–635.

Gerber, A., Green, D.P., 2000. The effects of canvassing, telephone calls, and direct mail on voter turnout: a field experiment. American Political Science Review 94 (3), 653–663.

Gerber, A.S., Green, D.P., Larimer, C.W., February 2008. Social pressure and voter turnout: evidence from a large scale field experiment. American Political Science Review 102, 33–48.

Gosnell, Harold, 1927. *Getting out the Vote: an Experiment in the Stimulation of Voting*. Chicago: University of Chicago Press.

Green, D.P., Gerber, A.S., 2008. Get Out the Vote! How to Increase Voter Turnout, second ed. Brookings Institution Press, Washington, D.C.

Grenzke, J., Watts, M., December/January 2005. Hold the phones: taking issue with a get-out-the-vote strategy. Campaigns & Elections, 81–83.

Huckfeldt, R., Sprague, J., 1995. Citizens, Politics and Social Communication: Information and Influence in an Election Campaign. Cambridge University Press, New York.

Huckfeldt, R., Sprague, J., 1992. Political parties and electoral mobilization: political structure, social structure and the party canvass. American Political Science Review 86 (1), 70–86.

Horiuchi, Y., Imai, K., Taniguchi, N., 2007. Designing and analyzing randomized experiments: application to a Japanese election survey experiment. American Journal of Political Science 51 (3), 669–687.

Imai, K., 2007. Experiment: R package for designing and analyzing randomized experiments. Available from: The Comprehensive R Archive Network.

Imai, K., King, G., Nall, C. The essential role of pair matching in cluster-randomized experiments, with application to the Mexican universal health insurance evaluation. Statistical Science, forthcoming.

McNulty, J.E., September 2005. "Phone-based GOTV – what's on the line? Field experiments with varied partisan components, 2002–2003." The science of voter mobilization. Green, D.P., Gerber, A.S. (Special Eds.). The Annals of the American Academy of Political and Social Science 601, 41–65.

Panagopoulos, C., 2009. Partisan and nonpartisan message content and voter mobilization: field experimental evidence. Political Research Quarterly 61 (1), 70–76.

Panagopoulos, C., 2008. Emotions, motivation and prosocial behavior: field experimental tests of the effects of alternative civic duty appeals on voter turnout. In: Paper Presented at the ISPS 40th Anniversary Conference, November 14. Yale University.

Panagopoulos, C., Wielhouwer, P., 2008. The ground war 2000–2004: strategic targeting in grassroots presidential campaigns. Presidential Studies Quarterly 38 (2), 347–362.

Rosenstone, Steven, John Hansen, 1993. *Mobilization, Participation, and Democracy in America* . New York: Macmillan.