Political Science Faculty Publications

Political Science

3-1-2010

Revisiting Local Campaign Effects: An Experiment Involving Literature Mail Drops in the 2007 Ontario Election

Steven D. Brown
Wilfrid Laurier University, sdbrown@wlu.ca

Andrea M.L. Perrella
Wilfrid Laurier University, aperrella@wlu.ca

Barry J. Kay
Wilfrid Laurier University, bkay@wlu.ca

Follow this and additional works at: https://scholars.wlu.ca/poli_faculty

Recommended Citation

Revisiting Local Campaign Effects: An Experiment Involving Literature Mail Drops in the 2007 Ontario Election

STEVEN D. BROWN *Wilfrid Laurier University*
ANDREA M.L. PERRELLA *Wilfrid Laurier University*
BARRY J. KAY *Wilfrid Laurier University*

1. Introduction

An invariant feature of constituency election campaigns is the literature mail drop, usually a one-page leaflet or card left at the door profiling the candidate and appealing for electoral support. At a cost of seven cents a household in a typical constituency of about 40,000 households, this item represents a substantial component of an average campaign budget. In addition, there are the costs in volunteer hours of delivering literature door to door throughout a constituency, costs that could easily consume 250 to 300 person-hours for each wave of literature in a typical urban constituency. Clearly, candidates believe literature drops are worth the sizeable investment involved because they use them regularly and rank them as important to their campaigns (Carty, 1991); however, there is surprisingly little systematic research investigating their effectiveness as a communication tool and campaign strategy.

Steven D. Brown, Wilfrid Laurier University, Waterloo, Ontario, sdbrown@wlu.ca.
Andrea M.L. Perrella, Wilfrid Laurier University, Waterloo, Ontario, aperrella@wlu.ca.
Barry J. Kay, Wilfrid Laurier University, Waterloo, Ontario, bkay@wlu.ca.

In this article, we begin to redress this deficiency by reporting the results of a field experiment undertaken in one constituency during the 2007 Ontario provincial election campaign. The experiment involved randomly assigning constituency polls to treatment and control groups, delivering a candidate's partisan literature only to the selected treatment group polls, then comparing the candidate's support levels in the treated polls with those in the control group. Our research detected a modest dividend associated with this literature drop, but the effect was largely limited to constituency neighbourhoods with higher than average socio-economic status, a traditional demographic for Green parties elsewhere.

While there is much support for the thesis that election campaigns in parliamentary democracies have become more centralized or nationalized in recent decades (Stokes, 1975; Swanson and Mancini, 1996), there is also an emerging consensus that local campaigns are still relevant for understanding constituency outcomes. Indeed, recent studies have detected substantial local effects in both parliamentary and presidential systems, and have gone some distance toward identifying campaign factors that seem to affect candidate success (Black, 1984; Carty and Eagles, 1999; Denver and Hands, 1997a, 1997b; Whiteley and Seyd, 1994). Not surprisingly in these studies, financial and volunteer resources have consistently emerged as important variables in the process, at least for challenging or non-governing parties. Opposition parties that spend more money on their campaigns and that recruit larger pools of volunteers achieve more electoral success than those with less of each.

To what extent are literature drops an effective way to deploy these resources? On this question, evidence from observational data is relatively sparse and mixed. A survey of Canadian campaign organizers by Carty (1991) suggests organizers *believe* the literature drop is an important tool, ranking it just below personal canvassing and newspaper advertising as an effective way of communicating with voters. Most survey analyses of electoral behaviour suggest the effects of this literature are actually quite modest and conditional. For example, Clarke and his colleagues (1979) found canvassing in general had only a modest reinforcement effect on Canadian voters and very little conversion potential.

However, Black's (1984) reanalysis of the same data using multivariate techniques found "impersonal" contact—largely literature drops—did have effects for different kinds of voters in selected electoral contexts. For example, if a respondent recalled receiving party literature in a competitive constituency, it affected his or her likelihood of voting in the election. Receiving literature also served to reinforce past party preferences: those recalling literature from a party they supported in the previous 1972 election were more likely to support that party again than if they did not recall receiving such literature; as well, they were more likely to reject the party again if they had done so in 1972. Interestingly, Black also

Abstract. An invariant feature of constituency election campaigns is the literature mail drop, usually a one-page leaflet or card left at the door profiling the candidate and appealing for electoral support. In this article, we report on a field experiment designed to assess the effects of such mail drops. The experiment was conducted during the 2007 Ontario provincial election campaign in the constituency of Cambridge and entailed distributing literature for the Green party candidate in that constituency. After randomly assigning constituency polls to treatment and control groups, and delivering the Green candidate's partisan literature only to the selected treatment group polls, we compared the candidate's support levels in the treated polls with those in the control group. Our research detected a modest effect associated with the literature drop. The effect was largely limited to constituency neighbourhoods fitting at least part of the Green party's traditional demographic, that is, those with higher than average socio-economic status.

Résumé. Un trait commun des campagnes électorales au niveau des circonscriptions est la distribution de publipostages. Il s'agit habituellement d'un dépliant d'une page déposé dans la boîte aux lettres et donnant le profil du candidat tout en invitant les gens à voter pour lui. Notre article porte sur une expérience que nous avons menée pour évaluer les effets de ces publipostages sur le vote. Au cours de la campagne des élections provinciales de l'Ontario, en 2007, dans la circonscription de Cambridge. nous avons distribué des documents sur le candidat du Parti vert de cette circonscription. Les bureaux de scrutin ont étés divisés, au hasard, en deux groupes, soit un groupe de traitement et un groupe de contrôle. Nous avons distribué les documents seulement aux électeurs du premier groupe. Après l'élection, nous avons comparé les niveaux d'appui au candidat vert dans les deux groupes. Les résultats montrent un effet modeste associé à la distribution des publipostages. L'effet observé était en grande partie limité aux quartiers répondant, en partie du moins, au profil démographique traditionnellement favorable aux partis écologiques, soit les quartiers ayant un statut socio-économique plus élevé que la moyenne.

reported that the effects of "impersonal" contacting were generally stronger than the effects of direct contact by the candidate or by party workers.

Given the number of variables in play during an election campaign, isolating the effects of any specific variable through observational designs such as surveys is fraught with uncertainties about unmeasured factors and spurious association. As a consequence, some of the most pertinent research on the effects of literature campaigns has employed field experimental designs. For the most part, the effects investigated have been mobilization effects, the impact campaign literature has in mobilizing citizens to vote. The focus on mobilization rather than persuasion or conversion effects is partly a result of available research opportunities in that much of the early academic research in the United States resulted from collaborative partnerships with nonpartisan "get out the vote" campaigns where turnout was the primary objective. However, it is also a result of partisan interest in voter mobilization as a campaign strategy, a recognition that getting out one's core support is the more likely and therefore the more important outcome to study.

The picture that emerges from this body of research resembles the conclusions drawn from survey analyses: the evidence of effects is mixed and conditional. For nonpartisan mail campaigns, early field experiments (Eldersveld and Dodge, 1954; Gosnell, 1927; Miller et al., 1981) all report that, relative to a control group, those receiving door-hanger or

mailed literature are at least somewhat more likely to vote in the associated election. While the latter two of these studies used samples too small to yield reliable estimates of effects, Gosnell reported turnout increases of 1 per cent for the 1924 presidential election campaign and 9 per cent for the 1925 Chicago municipal election. A more recent study by Gerber and Green (2000) qualifies this conclusion somewhat. Their experiment using nonpartisan "get out the vote" leaflets in the 1998 US mid-term election found that the leaflets had no effect among registered Democrats and Republicans, but significant effects among unaffiliated voters, especially unaffiliated voters with a history of voting. For this latter group, the increase was close to 10 percentage points.

What is the impact on turnout of distributing *partisan* rather than nonpartisan literature? Partisan mobilization campaigns differ from nonpartisan ones in that they combine persuasion with mobilization messages. As Nickerson, Friedrichs and King (2006) point out, this could have the effect of enhancing the campaign's impact by providing the recipient with something to vote for, but it could also undermine the campaign's effectiveness because the messenger is obviously self-interested. Research on the question of mobilization and persuasion effects tends to be mixed. In a carefully designed experiment involving tens of thousands of registered Connecticut and New Jersey voters, Gerber, Green and Green systematically varied the amount of direct mail received by their subjects about specific candidates. They concluded partisan mail campaigns had "negligible positive effects on voter turnout" (2003: 574) in both of the races they studied. Indeed, they suggested the negative tone of the literature in one of the races may actually have depressed turnout in that case. However, the generality of that conclusion has been contested by Nickerson, Friedrichs and King (2006) who studied the impact of partisan door-hanger literature on a treatment group of over 20,000 citizens in the 2002 Michigan gubernatorial election. They estimated the hanger increased turnout by a statistically significant 1.3 percentage points.

On the question of persuasion effects, Loewen and Rubenson (forthcoming) conducted a field experiment during the Canadian Liberal party leadership campaign in 2006. Working with the Michael Ignatieff campaign, they manipulated the amount of Ignatieff direct mail received by delegates randomly assigned to treatment and comparison groups. Contrary to expectations, these researchers found that the effect of the mail on delegates was actually negative with respect to Ignatieff's candidacy.

Clearly there is room for more investigation of the effects of literature in election campaigns. In this article, we report a controlled field experiment designed to assess the effects of a partisan literature drop on behalf of a newly emerging party in the Ontario party system. For the 2007 Ontario provincial election campaign, a research team based at Wil-

frid Laurier University agreed to distribute partisan literature on behalf of the Green party candidate for the Cambridge constituency. In return, the candidate[1] agreed to allow the team to determine which polls would receive the literature. Accordingly, two groups of polls were randomly selected from the constituency and designated as treatment groups, slated to receive either 100 per cent household coverage or 50 per cent household coverage of the candidate's literature. Polls not selected in this process were designated the control group. After the election was over, official poll results were examined to determine whether the treatment group differed from the control group as a result of the intervention.

What kinds of effects might we expect from a literature campaign of this nature? Two seem possible. The first is a *mobilization* effect in that the literature may move people to vote who would not otherwise be inclined to do so. The research discussed above suggests such effects are possible, although they tend to be very modest in magnitude and perhaps limited to those already predisposed to the partisan message. Presumably the campaign literature has this effect either by activating one's sense of civic duty, by informing the voter that the party in question has a candidate in the field, or by providing a novel reason for voting in this election. The latter two of these reasons would seem to be especially relevant to the case at hand because the Green party was not a typical partisan actor in the 2007 campaign. As explained below, it represented a relatively new ballot option for Ontario voters and an option, moreover, that had environmental protection as its signature issue, the electorate's top concern at the time. Since the party was not otherwise very visible in the campaign, it is quite plausible that the door-hanger literature could play a more salient informing role for citizens not normally mobilized by elections but predisposed to this message or this party. Indeed, there is some evidence Green parties in Canada are viewed as a protest option with a potential to attract new or lapsed voters dissatisfied with the traditional parties.[2]

The second possible effect of the campaign is a *persuasion* or *conversion* effect, in which the campaign literature causes voters to shift their support from (or to) other parties. Our understanding of election campaigns suggests persuasion effects are relatively rare. Indeed, perhaps the most venerable conclusion in the voting literature is that election campaigns serve primarily to activate and reinforce traditional partisan dispositions (Bartels, 2000; Lazarsfeld et al., 1948). However, conversion can occur, and it tends to happen when partisanship is weak or when the campaign introduces considerations that compete with and overcome traditional partisan leanings (Campbell et al., 1960; Zaller, 1992). Again, the novelty of the Green party in Ontario electoral politics and the level of public concern with its most salient issue position suggest conversion effects are certainly possible and perhaps plausible.

2. Research Design

Context

The selected constituency of Cambridge is located in southwestern Ontario about a 75-minute drive from downtown Toronto. Roughly corresponding to the boundaries of the City of Cambridge, it is a large urban constituency of about 120,000 eligible voters residing mostly in a number of geographically distinct communities that were themselves cities and towns prior to amalgamation in 1972. Once a prosperous manufacturing centre, the constituency has a mix of middle- and working-class neighbourhoods.

The 2007 provincial election in Cambridge was contested by five parties, but it was essentially a two-party contest between the incumbent Progressive Conservative candidate and a strong Liberal party challenger.[3] The Green party of Ontario had contested seats in several previous provincial elections, including Cambridge, but was never a threat to win any of them and had not attracted more than 2.8 per cent of the popular vote in the province as a whole. In the run-up to the 2007 provincial election, however, the party was polling much higher—about 9–10 per cent of the electorate—as the issue of climate change became an important part of the public's agenda.

Design

To study the effects of a literature drop in the Cambridge constituency, we designed a field experiment in which the unit of analysis was the poll and the test variable was household exposure to Green party literature. We assumed "exposure" was potentially a continuous variable and that its relationship to turnout and party support would be linear. To assess this assumption, we chose to test three levels of exposure. Of the 270 polls in the constituency, 101 treatment group polls were randomly selected using a table of random numbers. Half of these—every second poll—was designated for 100 per cent coverage of households (treatment group #1) and the other half was designated for 50 per cent coverage of households (treatment group #2). The unselected polls—169 in all—were to receive no coverage, and were designated the control group.

The campaign literature in question was a 6-inch-by-4-inch card in two colours with party and candidate profiles on both sides. Most of the literature was delivered on Saturday, September 29, but some was also delivered on Monday, October 1, and Saturday, October 6, just prior to the October 10 election. Six three-person teams carried out the literature drop. The constituency was divided into six geographic areas and each team was assigned the polls for one area. The teams were also provided with detailed poll maps and coverage instructions for the treatment polls.

The research team had no knowledge or control of other parties' partisan efforts during the campaign, nor did they have knowledge or control of the Green candidate's campaign activities beyond the distribution of his literature. The candidate was not aware of which polls had been selected for the literature treatments; moreover, he indicated that, due to job constraints, he limited his campaigning largely to public events, like all-candidates meetings, and engaged in very little door-to-door canvassing. These uncontrolled campaign variables represent potentially confounding forces in assessing the effects of the literature drop, but the strength of an experimental design is the internal validity it purchases with the use of random assignment. The effect of random assignment is to create treatment and control groups that, as groups, are likely to be comparable in their socio-political character and in their campaign experiences; hence, any differences between them in turnout or support levels can be attributed with relative and known confidence to the test effect.

The research design also has strong external validity in the sense that the experiment took place under real-world conditions: the literature and the delivery mode were authentic, the contest was the actual Cambridge provincial election and the households were not aware that they were participants in an experiment. That said, other aspects of the experiment limit the generalizability of its findings. It was conducted in a competitive constituency, but the party for which we distributed literature was not a serious threat to win; the Green party was not a major player in Ontario politics or in the constituency; hence, it is likely little was known about it—perhaps not even that it had a candidate running in Cambridge—except for its concern for the environment. Partly for it's environmental stance the Green party had a largely positive and "nonpartisan" image among voters.[4]

3. Analysis

Comparability of treatment and control groups

In the execution of the design, time constraints and longer-than-anticipated delivery times meant that not all of the treatment group polls received their designated treatment. Only 42 of the 51 "100 per cent" polls and 38 of the 50 "50 per cent" polls were actually covered. The presence of selected-but-untreated polls in the study raises a question about how such polls should be handled; perhaps, more seriously, it raises the possibility of a selection bias in choosing those that were treated. On the surface, such a bias seems unlikely. By design, the treated polls are drawn from each of the six identifiable sub-regions of the constituency, so there is unlikely to be a significant geographic bias at work

here. Within subregions, the teams were given no instructions regarding the order of delivery, making the actual selection process a function of team leader idiosyncrasies.

Unfortunately, there is no strong balance test to establish that the three groups—treated, selected-but-untreated and control groups—are otherwise comparable. The poll boundaries between 2003 and 2007 overlap surprisingly little, which denied us the opportunity to compare prior partisan profiles. And the poll boundaries themselves are geographic creations of Elections Ontario that do not coincide with those of municipal and census units for descriptive purposes.

In an effort to explore this question of comparability further, we adopted two strategies. First, we reasoned that if there is a politically relevant selection bias to our treatment group, we might expect evidence of a similar bias using a set of unselected but neighbouring polls. Accordingly, we developed a "paired" control group of polls by selecting a geographically contiguous poll for each of our treated polls. We then compared the partisan character (turnout, party support levels) for this paired control group with the entire control group to see if there were differences. This exercise revealed no such bias; the partisan profile of the paired group of polls was almost identical to that of the larger control group, and, if used, would not alter the thrust of the analysis that follows.

Our second strategy involved use of available census data. There are 27 census tracts within the boundaries of the Cambridge constituency. While these obviously do not coincide with poll boundaries, both poll and census tract boundaries tend to use major roads and natural features, such as rivers, as boundaries. As a consequence, we were able to overlay the two maps, census and poll, and visually determine the census tract location of each poll.[5] On average each census tract contains about 10 polls. We then compared profiles of the three poll groups—treated, selected-but-untreated and control groups—over a sampling of socio-demographic variables.[6] Again, there were no significant differences among the three groups, suggesting the treated polls were drawn from neighbourhoods not dissimilar to those of the control group or to the selected-but-untreated group.

While none of this conclusively demonstrates group comparability, the body of evidence here is supportive of our assumptions: first, that random assignment produced treatment and control groups that are comparable and, second, that a failure to treat some of the originally selected polls was itself a random process that did not render the treated group atypical in relevant respects. Nevertheless, if there remains an undetected selection bias in the treatment group, its effects would be magnified by assigning the selected-but-untreated polls to the control group. Hence we have excluded the selected-but-untreated polls from all analyses.

TABLE 1

Comparison of 2003 and 2007 Election
Results in the Constituency of
Cambridge, Ontario

Parties Contesting	2003	2007
Progressive Conservative	42.5%	41.7%
Liberal	35.2%	34.2%
New Democratic Party	18.1%	13.7%
Green Party	2.1%	8.9%
Family Coalition Party	2.1%	1.5%
Total	100%	100%
Turnout	53.4%	49.3%

Effects of the Literature Drop

Table 1 displays the party vote shares in the constituency of Cambridge for both the 2003 and 2007 provincial elections. It can be seen that the Progressive Conservative incumbent maintained his margin of victory over the Liberal challenger in the constituency while losing about one percentage point from his 2003 share.[7] The Green candidate's vote share, at 8.9 percent, was almost four times that achieved by his party in 2003, but this largely mirrored the party's province-wide performance.

Did the literature drop in treated polls seem to have any effect? Table 2 summarizes treatment and control group differences for six related test effects: turnout, partisan support for each of the four main parties in the constituency and coefficients on an index of qualitative variation (IQV).[8] As noted, much of the literature has identified mobilization effects as more likely than persuasion or conversion effects, and such effects might even be more likely in the case of the Green party. An analysis of

TABLE 2

Effects of Literature Drop on Turnout and Partisan Support

	Control Group Polls (N = 169)	50% Literature Coverage (N = 38)	100% Literature Coverage (N = 42)	Test of Significance
Turnout	46.19%	44.29%	44.94%	F = .533, df = 2,246; Sig: .587
Green Support	8.65%	9.98%	9.09%	F = .280, df = 2,246; Sig: .756
Liberal Support	34.53%	33.40%	32.03%	F = 2.370, df = 2,246; Sig: .096
Conservative Support	39.97%	39.17%	40.25%	F = .240, df = 2,246; Sig: .787
NDP Support	14.46%	15.31%	15.92%	F = .913, df = 2,246; Sig: .403
IQV Coefficient	.835	.856	.853	F = 4.063, df = 2,246; Sig: .018

aggregate poll data does not permit us to distinguish mobilization from conversion effects, but the table certainly provides no *prima facie* evidence of mobilization effects here in the form of higher turnout. There were no significant turnout differences across the treatment and control groups; in fact, the modest group differences here are in the opposite direction. Regarding support for the Green candidate, the differences are monotonic and in the predicted direction, but they are too small to attain statistical significance. There is also a monotonic pattern of differences in Liberal and NDP support; the Liberal candidate attracted two percentage points more support in control group polls than in polls receiving 100 per cent coverage of the Green literature, while the NDP candidate attracted almost a 1.5 percentage point gain in the "100 per cent" coverage polls. Again, in neither of these cases, nor in the case of the Conservative candidate, are the differences statistically significant.

The lone statistically significant difference in the table is for the IQV coefficient, which reflects the degree to which votes in the polls are distributed evenly across the five candidates. In this experiment, the polls that received any Green literature, regardless of whether it was 50 percent or 100 per cent coverage, exhibit more partisan diversity on average than polls that received no literature. At least part of this greater vote dispersion is a reflection of the modest increase in the Green vote share in treated polls, but the fact this statistic is significant suggests it may have had other effects on voters' choices as well.[9]

If the overall effect of the literature drop on support for the Green party is so weak that we cannot even conclude there is such an effect, can we specify the nature of expected effects more completely, thereby cutting down on within-group variance? One possible source of variance is voter receptivity to the Green appeal. There is considerable evidence that environmental movements and Green parties globally attract a particular demographic to their cause. Labelled the "new class" or the "new middle class," these individuals tend to be younger, much better educated, financially secure (but not wealthy) and from student and professional occupations (see, for example, Camcastle, 2007; Eckersley, 1989; Rüdig et al., 1991; Vromen, 2005). As noted above, one possible effect of door-hanger literature is to activate considerations that might not otherwise be top of mind, that is, to remind voters who are already receptive to an appeal that they have an opportunity to act on their concern. If so, then we would expect the effectiveness of a Green party literature campaign to vary as a function of neighbourhood social characteristics. As noted earlier, the constituency of Cambridge is diverse in its socio-economic composition. While it contains many middle-class suburban neighbourhoods housing commuters to Toronto, Kitchener-Waterloo and Guelph, it also contains many working-class neighbourhoods, remnants of bygone times when this was a major textile and furniture manufactur-

ing centre in Ontario. Given what we know about potential Green voters, this social heterogeneity is likely a source of within-group variance.

We employed data from the 2006 Canadian census to derive appropriate demographic measures reflecting receptivity to the Green party's appeal. Specifically we developed a neighbourhood-level index of socio-economic status based on the following aggregate socio-demographic properties: unemployment rate, per cent employed in management positions, median household income, and two measures reflecting the educational profile of residents in the area: the percentage of those aged 24–65 with no education certificates (that is, no high school diploma, college or trade certificate) and the percentage in the same age group that reported at least one post-secondary educational certificate beyond a high-school diploma.

Using these five socio-economic measures and knowledge of the tracts in which each poll was located, we employed a cluster analysis to group the polls into three levels that correspond roughly to working-class neighbourhoods (low SES), middle-class neighbourhoods (mid-SES), and upper-middle-class neighbourhoods (high SES). As reported in Table 3, the 67 low SES polls are characterized by a generally higher level of unemployment, lower proportions of individuals employed in managerial positions, low levels of educational attainment, and a lower median household income. The 106 mid-SES polls do slightly better with respect to unemployment, have a marginally higher proportion of the population employed in managerial occupations, but reflect much higher income levels and educational attainment. The 76 high SES polls exhibit less unemployment, a higher proportion of the workforce employed in managerial positions, a much higher level of income (almost twice that of the low SES), and a much higher level of educational attainment as well. For each of the measures, the average scores for the 106 polls of the mid-SES cluster fall between those of the low and high groups.

Because age has been identified as one of the more important demographic predictors of Green support, we also appropriated that variable

TABLE 3

Demographic Factors in Clusters

	Low SES	Mid-SES	High SES
Economic factors			
Unemployment rate	6.6%	5.7%	5.1%
Per cent employed in management positions	7.8%	8.1%	12.1%
Median household income	$48,554	$64,627	$87,699
Education (per cent 25–64 year olds)			
No educational certificates	23.5%	19.6%	12.0%
Post-secondary education	58.3%	68.4%	85.9%
N	67	106	76

from the census for the analysis, and derived a measure reflecting the balance of younger and older residents in the tract. This age-related variable is a difference measure calculated by subtracting the proportion of older adults in the tract (60 years or older) from the proportion of younger adults there (under 35 years). Hence, the higher the index value, the "younger" the neighbourhood.

If indeed receptivity to the Green party message matters, then we would expect the literature mail-drop to produce a greater effect in those polls with a high SES profile and a younger demographic. In order to test this possibility, OLS regression was used. The dependent variable was per cent of votes cast for the Green party. Independent variables included mail-drop coverage, the poll's age profile variable, and dummy variables for the high SES and mid-SES groups, with low SES polls set as the reference group. In addition, interactive terms were included, reflecting the possible interaction of mail-drop coverage with each of the other independent variables.

As shown in Table 4, the significant "coverage ∗ high SES" interactive term suggests the literature mail-drop produced the expected contingent effect. It appears that, in high SES polls, as coverage increases

TABLE 4

Regression of Green Party Vote on
Mail-Drop Coverage, SES and Age

Dependent Variable: Green Vote	Coef.
Mail-drop coverage	−.009
	(.014)
Socio-demographic factors	
Mid-SES polls	−.005
	(.009)
High SES polls	−.007
	(.010)
Age	−.040
	(.041)
Interactive terms	
Coverage ∗ Mid-SES	.028
	(.018)
Coverage ∗ High SES	.049[a]
	(.018)
Coverage ∗ Age	−.141
	(.117)
Intercept	.096[b]
	(.008)
R^2	.047
S.E.E.	.038
N	249

Note: [a]$p < .05$; [b]$p < .01$; cell entries are b weights with robust standard errors in parentheses.

from 0 per cent (that is, polls that received no Green party literature) to 100 per cent (Green literature delivered to all households), the share of votes cast for the Greens increases on average from 8.4 per cent to 11 per cent. No other variables in the analysis are significant.

A graphic representation of these interactive relationships is found in Figures 1a to 1c.[10] The graphs show the *marginal* effect of mail-drop

FIGURE 1
Marginal effects of coverage by age (a) high-SES polls, (b) mid-SES polls, (c) low-SES polls
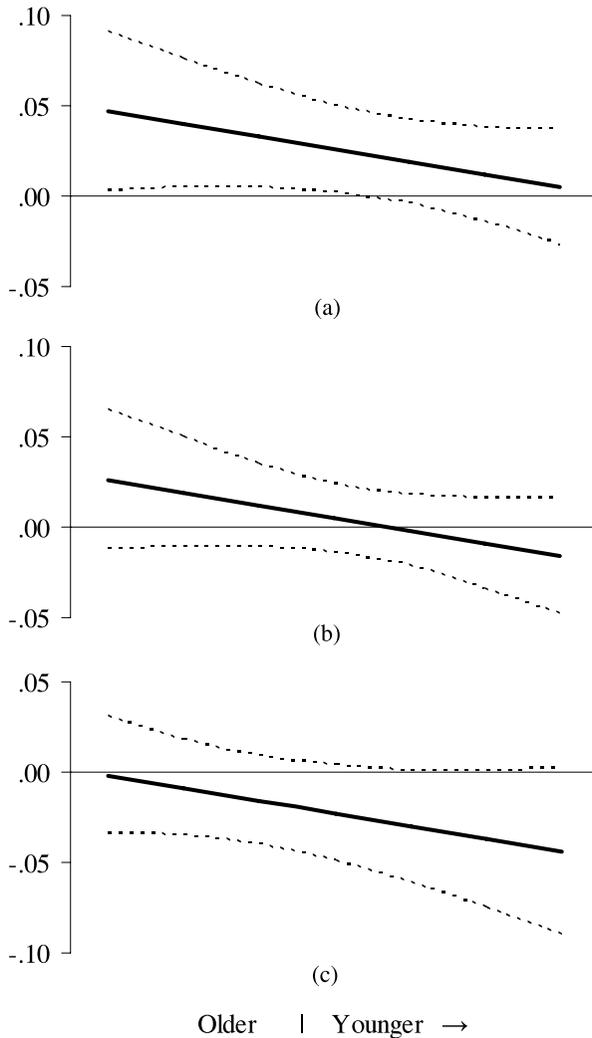
coverage on the Green vote, taking into account interactions with a poll's socioeconomic status and age attributes. Coverage can raise the Green vote by up to five percentage points within high SES polls (Figure 1a) that are also inhabited by a generally older population. The impact of coverage weakens for polls increasingly inhabited by younger residents. The effect of coverage drops effectively to nil for polls where the "less than 35" population outnumbers the "over 60" population by at least 15 percentage points. Given that the 95 per cent confidence interval includes the horizontal zero line, it is entirely possible that the coverage produced *no* effect in these "younger" poll contexts. The opposite pattern appears for low SES polls (Figure 1c), where negative marginals suggest the distribution of literature suppressed the Green vote, but only within the "younger" polls, although the margins here are only significant at .10 level. Mail-drop coverage has no significant effect in the mid-level SES polls (Figure 1b), regardless of age attributes.[11]

If the literature drop had a discernible positive effect on the Green vote in some high SES polls, did it also have an effect on the fortunes of other parties and on turnout in those polls? Recent research examining the Green vote in Canada suggests the party draws from across the partisan spectrum, but Liberals and NDP voters are more receptive to the party's appeal than are Progressive Conservative voters (Brown, 2009). As well, the party does well with "new" voters and with voters "re-entering" the electorate (that is, those who reported sitting out the previous election). If the party is mobilizing both "new" and "re-entering" voters, the mail drop may have had a contingent effect on turnout as well.

Table 5 summarizes a set of regression analyses using the same set of independent variables as above, but substituting voter turnout, Liberal support, Progressive Conservative support and NDP support as the dependent variables.[12] The analysis suggests that, as with the Green vote, turnout may have been significantly greater in high SES polls that received the campaign literature. However attempts to graph the marginal effects of the mail-drop coverage for different socioeconomic and age values did not produce significant coverage effects for any particular combination of socioeconomic and age values; hence, we should treat this finding as suggestive only.

In the equations for the three other parties in Table 5, none of the coefficients for the interactive terms is statistically significant. This suggests either that the coverage had no effects on support for these other parties or that its effects were so small as to be indistinguishable from ambient noise. That said, it should be noted the interaction coefficients are directionally consistent with our expectations in most cases. For the Liberal and NDP analyses, these interaction coefficients are both negative in sign, consistent with the expectation that the mail drop stimulated modest levels of defection from these parties. Support for the Progres-

TABLE 5

Regression of Other Parties on Mail Drops, SES and Age

Dependent variable	Poll Turnout	Liberal Party Support	Progressive Conservative Party Support	New Democratic Party Support
	Coef.	Coef.	Coef.	Coef.
Mail-drop coverage	−.051	.002	−.010	.002
	(.046)	(.024)	(.027)	(.027)
Socio-demographic factors				
Mid-SES polls	.003	−.001	.006	−.008
	(.027)	(.016)	(.017)	(.015)
High SES polls	.060	.021	.051[a]	−.058[b]
	(.034)	(.017)	(.020)	(.017)
Age	−.419[b]	.216[b]	−.105	−.068
	(.146)	(.078)	(.094)	(.075)
Interactive terms				
Coverage * Mid-SES	.059	−.003	.011	−.018
	(.048)	(.028)	(.032)	(.032)
Coverage * High SES	.115[a]	−.021	.006	−.020
	(.053)	(.032)	(.034)	(.033)
Coverage * Age	−.276	−.145	.047	.228
	(.244)	(.143)	(.174)	(.140)
Intercept	.489[b]	.314[b]	.393[b]	.174[b]
	(.023)	(.012)	(.013)	(.012)
R^2	.119	.098	.075	.175
S.E.E.	.108	.067	.072	.062
N	249	249	249	249

Note: [a]$p < .05$; [b]$p < .01$; cell entries are b weights with robust standard errors in parentheses.

sive Conservative candidate seems almost entirely unaffected by the mail drop.

4. Implications and Conclusions

In this experiment, we have shown that receipt of Green party literature at the doorstep affected the party's vote share in the Cambridge constituency. While the overall effect was very modest, indeed too small to reject chance as an explanation, the effect was clearly discernible in high SES polls. This fits well with the idea that campaign literature will have a greater impact on those who are already predisposed to the position taken. Extant research has shown that Green movements and Green parties appeal to a specific demographic in western societies, one that is reflected generally but not exclusively by socio-economic status and age.

It should be noted that while the SES pattern in our data fits well with this receptivity interpretation, the age pattern does not. Where we

expected greater receptivity to the Green party message in polls with a younger demographic, age has no significant main or interactive effects on Green votes and the pattern is not even directionally consistent with our hypothesis. Why this is so poses an interesting puzzle that our data cannot address.[13]

What does this study tell us about the effectiveness of the literature drop as a campaign tool? First, and perhaps foremost, it provides novel and convincing evidence that the literature drop can be an effective means of attracting votes. To date, the most convincing research concerning literature drops has focused on potential mobilization (that is, get-out-the-vote) effects. Research on *partisan* literature effects has been less convincing because it has been based mostly on observational studies that rely on respondent recall of campaign contact to measure the independent variable. Because the use of a field experiment here clearly separates the independent from the dependent variable and establishes the temporal order of the two variables, the effects, small though they may be, can be inferred with much greater confidence.

While the analysis here advances our understanding of the potential effects of a literature drop, we must be cautious in generalizing beyond this case because the circumstances here are atypical in potentially important ways. First, to the extent that the Green party has a public image, it is as a champion of environmental protection measures. In 2007 Ontario, this comes close to *defining* an archetypal "style" issue. Indeed, as we noted, the environment at the time of the election was identified by pollsters as the "most important problem" facing the country. As a consequence, the effect of this literature may have been less to persuade voters of the relevance of the party's platform and more to activate pre-existing inclinations as relevant considerations for the party's target demographic in this election. The experience might be different had we investigated other minor parties with more divisive public images. For example, the other minor party in the Ontario election was the more controversial Family Coalition party, a pro-life party with a far greater potential to polarize the electorate than the Greens.

Second, and related to the first, the Green party in this election had a low profile both provincially and in the constituency. Although the party was polling in the 9–10 per cent range in the province, the media tended to discount these numbers as phantom voters and to concentrate their attention on the mainstream parties. As well, the media consortium which organized a leaders' debate midway through the campaign refused to provide a place for the Green leader at the podium and therefore denied the party the publicity that this focal event provides. At the constituency level, the candidate had little time for campaigning and was even more strapped for resources. As a consequence, his lawn sign and door-knocking campaigns were very limited. By default, then, the literature may have

assumed a more important function as an information tool for this candidate than it might for candidates of well-established parties with track records in previous elections, track records in government and with extensive media and door-knocking campaigns. It would be useful to explore these effects more fully by extending the study to include different constituencies and parties with different electoral histories and prospects.

Another consideration that deserves more attention is the timing of the literature mail-drop. In our experiment, most of the literature was delivered about 11 days prior to the vote. While it is likely timing does affect the impact of the literature on voters, the nature of that relationship is certainly unexplored here; moreover, it is largely unexplored in the literature and likely to vary with electoral circumstances.

Finally, we have speculated that the literature might produce mobilization and conversion effects within treated polls. Our analysis suggests both are plausible, but an aggregate data analysis cannot effectively identify their respective magnitudes. That is, while we know that the presence of the literature in fertile neighbourhoods modestly increased the Green party's share of the popular vote and modestly increased the turnout in that poll, we cannot determine from this study to what extent the literature mobilized reluctant voters to participate, reinforced an option already selected, activated the environment as a relevant consideration in the voter's decision calculus or simply informed the voter that there was a Green candidate in the constituency. An answer to these most interesting questions must await additional investigation at the individual level.

Notes

1 The Green candidate for the 2007 Cambridge election, Colin Carmichael, was a young university graduate working in the information technology sector.
2 Analysis of Green party voters in the 2006 Canadian General Election suggests the party attracted disproportionate support from voters who had not voted in the previous election and disproportionate support from those expressing dissatisfaction with the party options (Brown, 2009).
3 The 2003 vote shares of the other minor parties contesting the Cambridge constituency are as follows: New Democratic party, 18.1 per cent; Family Coalition party, 2.1 per cent; and Green party, 2.1 per cent. See Table 1.
4 As evidence of this, our delivery teams reported virtually no negative feedback in any casual contacts that they had with homeowners as they walked the neighbourhoods.
5 There were only a handful of polls that straddled census tract boundaries. In these cases, we used the Elections Ontario constituency map to assess the geographic distribution of households on both sides of the census tract boundary and assigned the poll to the tract apparently containing the bulk of the poll's population. In almost all cases, the decision was clear.
6 The variables used in this analysis were unemployment rate, median household income, per cent of 15–24 year olds without an educational certificate, and per cent of 15–24 year olds with post-secondary certificates. It should be acknowledged that assigning

all polls in a census tract the same socio-demographic value is a simplifying assumption that is necessary in this case, but one with costs. It will certainly underestimate between-poll variation and will weaken the force of the comparison across the three groups.

7   Interestingly, he did so while his Progressive Conservative party provincially lost 6 percentage points from its 2003 vote share.

8   The Index of Qualitative Variation is a measure of dispersion appropriate for categorical-level variables. It reflects how evenly observations are distributed across categories of the variable. An index coefficient of "0" suggests all observations fall into one category. A score of "1" reflects a perfectly even distribution of observations across all categories. An *IQV* coefficient was calculated for each poll using the following formula:

$$IQV = \frac{k \left(N^2 - \sum_{k=1}^{k} f_i^2 \right)}{N^2(k-1)}$$

where k = the number of parties (five in our case); N = the number of votes cast; f_i = total number of votes cast for the ith party (Healey, 2009: 89; see also Agresti and Agresti, 1978).

9   It is interesting to note that the differences in *IQV* across treatment and control groups disappear when the Green vote is excluded such that the *IQV* coefficient is based only on four parties instead of five.

10   The graphs plot the marginal effect of coverage on Green vote, taking into account the interactive term. Marginal effects, and their associated confidence intervals, were generated with the *lincom* function in Stata. A detailed explanation about marginal effects can be found in Kam and Franzese (2007). See Brambor and others (2005) for a discussion about the need for such a procedure.

11   Marginals in Figure 1b remain non-significant at the .10 significance level.

12   The same results are obtained using seemingly unrelated regression.

13   A separate analysis of available survey data from the Ontario election campaign found the expected inverse relationship between age and Green vote at the individual level. That is, younger voters were more likely to vote Green in that provincial election. This suggests either that the Cambridge constituency was atypical or that cross-level inference in this case is not appropriate.

References

Agresti, Alan and Barbara F. Agresti. 1978. "Statistical Analysis of Qualitative Variation." *Sociological Methodology* 9: 204–37.

Bartels, Larry M. 2000. Partisanship and Voting Behavior, 1952–1996. *American Journal of Political Science* 44: 35–50.

Black, Jerome. 1984. "Revisiting the Effects of Canvassing on Voting Behaviour." *Canadian Journal of Political Science* 17: 351–74.

Brambor, Thomas, William R. Clark and Matt Golder. 2005. "Understanding Interaction Models: Improving Empirical Analyses." *Political Analysis* 14: 63–82.

Brown, Steven D. 2009. "The Green Vote in Canada." In *Canadian Environmental Policy*, ed. Debora Van Nijnatten and Robert Boardman, 3rd ed. Toronto: Oxford University Press.

Camcastle, Cara. 2007. "The Green Party of Canada in Political Space and the New Middle-Class Thesis." *Environmental Politics* 16: 625–42.

Campbell, Angus, Philip E. Converse, Warren E. Miller and Donald E. Stokes. 1960. *The American Voter*. New York: Wiley.

Carty, R. Kenneth and Munroe Eagles. 1999. "Do Local Campaigns Matter? Campaign Spending, the Local Canvass and Party Support in Canada." *Electoral Studies* 18: 69–87.

Carty, R. Kenneth. 1991. *Canadian Political Parties in the Constituencies*. Toronto: Dundurn Press.

Clarke, Harold C., Jane Jenson, Lawrence LeDuc and Jon H. Pammett. 1979. *Political Choice in Canada*. Toronto: McGraw-Hill Ryerson.

Denver, David and Gordon Hands. 1997a. "Challengers, Incumbents and the Impact of Constituency Campaigning in Britain." *Electoral Studies* 16: 175–93.

Denver, David and Gordon Hands. 1997b. *Modern Constituency Electioneering: Local Campaigning in the 1992 General Election*. London: Frank Cass.

Eckersley, Robyn. 1989. "Green Politics and the New Class: Selfishness or Virtue." *Political Studies* 37: 205–23.

Eldersveld, Samuel J. and Richard W. Dodge. 1954. "Personal Contact or Mail Propaganda? An Experiment in Voting and Attitude Change." In *Public Opinion and Propaganda*, ed. Daniel Katz, Dorwin Cartwright, Samuel Eldersveld and Alfred M. Lee. New York: Dryden.

Gerber, Alan S. and Donald P. Green. 2000. "The Effect of a Non-Partisan Get-Out-the-Vote Drive: An Experimental Study of Leafleting." *Journal of Politics* 62: 846–57.

Gerber, Alan S., Donald P. Green and M. Green. 2003. "Partisan Mail and Voter Turnout: Results from Randomized Field Experiments." *Electoral Studies* 22: 563–79.

Gosnell, Harold F. 1927. *Getting-Out-the-Vote: An Experiment in the Stimulation of Voting*. Chicago: University of Chicago Press.

Healey, Joseph F. 2009. *Statistics: A Tool for Social Research*. Belmont CA: Thomson Wadsworth.

Kam, Cindy D. and Robert J. Franzese, Jr. 2007. *Modeling and Interpreting Interactive Hypotheses in Regression Analysis*. Ann Arbor MI: University of Michigan Press.

Lazarsfeld, Paul F., Bernard R. Berelson and Hazel Gaudet. 1948. *The People's Choice*. New York: Columbia University

Loewen, Peter J. and Daniel Rubenson. 2010 (forthcoming). "For Want of a Nail: Negative Persuasion in a Party Leadership Campaign." *Party Politics*.

Miller, Roy E., David A. Bositis and Denise L. Baer. 1981. "Stimulating Voter Turnout in a Primary: Field Experiment with a Precinct Committeeman." *International Journal of Political Science* 2: 445–59.

Nickerson, David W., Ryan D. Friedrichs and David C. King. 2006. "Partisan Mobilization Campaigns in the Field: Results from a Statewide Turnout Experiment in Michigan." *Political Research Quarterly* 59: 85–97.

Rüdig, Wolfgang, Lynn G. Bennie and Mark N. Franklin. 1991. *Green Party Members: A Profile*. Glasgow: Delta Publications.

Stokes, Donald. E. 1975. "Parties and the Nationalization of Electoral Forces." In *The American Party Systems: Stages of Political Development*, ed. William N. Chambers and Walter D. Burns. New York: Oxford University Press.

Swanson, David L. and Paolo Mancini. 1996. "Patterns of Modern Electoral Campaigning and Their Consequences." In *Politics, Media, and Modern Democracy: An International Study of Innovations in Electoral Campaigning and Their Consequences*, ed. Paolo Mancini and David L. Swanson. Westport CT: Praeger.

Vromen, Ariadne. 2005. "Who are the Australian Greens? Surveying the Membership." In *Proceedings of the Australian Sociological Association Conference*. Tasmania: TASA, University of Tasmania.

Whiteley, Paul F. and Patrick Seyd. 1994. "Local Party Campaigning and Electoral Mobilization in Britain." *Journal of Politics* 56: 242–252.

Zaller, John. 1992. *The Nature and Origins of Mass Opinion*. Cambridge: Cambridge University Press.