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MOBILIZING PASADENA DEMOCRATS: MEASURING THE EFFECTS OF PARTISAN CAMPAIGN CONTACTS

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Mobilizing Pasadena Democrats: Measuring The Effects of Partisan Campaign Contacts

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Abstract

This paper examines the effect of an entire campaign using a randomized field experiment where the treatment consists of campaign decisions made by a campaign manager. In contrast to the majority of the field experiments found in the contemporary get-out-the-vote literature, this paper studies the actual behavior of a campaign within a particular election as opposed to studying particular mobilization tactics. Thus, the campaign itself chooses which method to contact each individual within the randomly assigned treatment group. Contacts are made via face-to-face canvassing, phone calls, emails, and doorhangers and consist of experienced volunteers making partisan appeals. We observe a large treatment effect of campaign contact despite a small number of face-to-face contacts, suggesting that the targeting strategy of the campaign manager is particularly effective.

1 Introduction

Despite the proliferation of academic studies of voter mobilization campaigns, it is unclear whether much of the recent research sheds light on how effective partisan voter mobilization is in the real world of practical politics. Most of the existing academic field experiments are conducted using non-partisan get-out-the-vote (GOTV) messages, while most real-world campaigns are conducted using political and often highly partisan messages about candidates, issues, or ideologies (e.g. Gerber and Green 2000a). Additionally, much of the academic research in this area has examined the efficacy of different types of mobilization strategies — measuring the relative effectiveness of direct mail versus phone calls versus door-to-door canvassing, for example (Gerber and Green 2004). And finally, it is not clear that academic research has examined adequately the groups in the registered voter population that campaigns may target for different types of mobilization efforts, especially low or moderate propensity voters. Yet while research has been done to analyze each type of mobilization effort, typically using non-partisan messages, little work has been done to try to evaluate what established political campaign managers and their respective staff do when left to their own devices to combine each of these components, devise the partisan messages, develop a target group in the electorate, and run a campaign.

The field experiment we report on in this paper provided us with a unique opportunity to examine mobilization effects from a real world campaign, conducted exactly as a real-world campaign manager would undertake various voter mobilization efforts. An evaluation of a real campaign's get-out-the-vote efforts provides insights into the kind of turnout effects campaign managers might expect where the campaign consists of a Democratic political message which was delivered according to the decisions of the campaign manager. We find that the messages and strategies of the real-world campaign manager are highly effective in stimulating voter participation, more effective than might be extrapolated from previous academic studies using non-partisan messages.

The existing voter mobilization literature has not yet resolved whether or not the con-

tent of the mobilization message has the potential to impact on turnout. Nickerson (2006) finds that when the message consists of a comparison of candidates as opposed to a comparison of parties, there is an increase in turnout. Similarly Bennion (2005) finds that for voters under the age of 30, appeals to civic duty increase turnout more than statements about a close election, but that for older voters there is no difference. Niven's (2006) field experiment found that negative campaign messages increased turnout, contrary to the earlier laboratory and observational studies of Ansolabehere et al. (1994) and Ansolabehere and Iyengar (1995), who found that negative messages depressed voter turnout.

Much of the literature has found that content doesn't matter. In Green and Gerber's seminal book *Get Out the Vote* (2000), they find no variation in turnout according to a variety of messages delivered (where they vary the message to include statements about civic duty, neighborhood solidary, and whether it is a close election). These experiments are also multi-method, in that they explore direct mail, face-to-face canvassing, and phone calls. Nickerson (2006) compares professional versus volunteer phone banks and again finds no variation in turnout by message (where the message includes statements about civil rights, terrorism, or generational solidarity). Arceneaux and Nickerson (2006) compare positive and negative messages with phone and face-to-face canvassing and again find no variation in turnout. Trivedi (2005) finds no variation in turnout with a direct mail experiment which makes different content appeals to ethnic identity. Finally, Green and Karlan (2006) find no variation in turnout with a robotic phone call experiment where they compare a simple get-out-the-vote message with an election protection message.

Most of the messages included in the studies above are nonpartisan messages. Our field experiment is different in that the content of the message is not restricted in any form; this message is partisan and canvassers are encouraged to deviate from the script to expand upon the partisan message. Individuals may be more likely to vote based upon a partisan appeal — this may spark their interest in a particular contest or make a contest or issue particularly salient. Individuals may be less likely to act based upon

something abstract (a desire to participate in civic life) and more likely to act based upon a political fact which has a direct impact on that individual's life (that the candidate wishes to change a health care policy, for example). Thus, this experiment will monitor the effect of a real campaign. Very little work has been conducted on partisan campaign tactics — even less has analyzed the effect of a real campaign.

Additionally, this experiment will allow the campaign to chose how to contact each individual who is assigned to receive the mobilization message. While much of the get-out-the-vote literature has found that many of the strategies employed by real world campaigns appear to be inefficient or ineffective, much of that analysis has been conducted in a non-partisan setting where the researcher has determined which individuals are eligible to receive a particular campaign treatment. This may or may not correlate with the patterns that a campaign would actually employ in choosing which tactics to use with particular individuals.

In our study the campaign decides which strategies to employ with the individuals who were randomly assigned to receive a campaign treatment. Only one prior study has conducted a similar investigation: Nickerson, Friedrichs and King (2006) examine the effects of a variety of campaign tactics (doorhangers, door-to-door canvassing, and volunteer phone calls) on turnout in the 2002 Michigan gubernatorial election. Like this study, their research examines the effect of partisan campaigning in an off-year election. However, the process by which the campaign may choose to employ a particular campaign tactic is quite different. In their case, a campaign manager will choose which of the strategies to employ within a congressional district. Then, within that district, treatment and control groups are assigned for each strategy. But in our study the campaign manager makes the campaign strategy decision on a household-by-household basis. While this makes it difficult in the context of this present analysis for us to study the causality of the marginal effects of each distinct campaign tactic (because there is no randomization), it does allow us to estimate the total effect of allowing the campaign manager to make each decision (beyond the initial randomization). As a consequence, we are able to gen-

eralize our results to what would happen in a partisan off-year election campaign where the campaign manager was permitted to make all campaign decisions. Thus, our paper estimates the effect of an entire campaign on voter turnout.

This study tests several hypotheses. First, we hypothesize that the partisan, manager-chosen campaign contacts will have greater effects than previously estimated in other studies. We evaluate the overall effect of campaign contact using our randomized field experiment where contact is partisan and the method of contact chosen by the campaign manager and staff. We then compare our results to those from previous field experiments involving nonpartisan contact. Second, we anticipate that, consistent with the habitual voting literature (e.g., Pultzer 2002; Bendor, Diermeier and Ting 2003; Gerber, Green and Shachar 2003; Fowler 2006), voters with higher propensities to vote will be more likely to vote in this election. As our data contains information about the prior voting history of all participants in our field experiment, we can evaluate to what extent there is heterogeneity in the treatment effect due to prior propensity to vote. Finally, we are able to compare the effects of this campaign to other campaigns where particular tactics were tested; we hypothesize that the campaign manager, within the context of a campaign, will be able to make good decisions about how to allocate resources to different types of contact. Thus we evaluate the extent to which these different tactics are efficacious. Note that only the test of our first hypothesis will have the benefit of randomization; the second and third hypotheses will require tests on observational data.

2 Experimental Approach

Prior to the November 2006 General Election, the Pasadena Area United Democratic Headquarters (UDH) decided to conduct a randomized experiment in order to evaluate the efficacy of their campaign tactics. Their hope was to increase the Democratic vote as much as possible by focusing their campaign on Democrats who have some history of voting or interest in politics, but who may not vote without a reminder or request from the campaign. To this end they worked to mobilize occasionally-voting Democrats to turn

out to vote. "Occasionally voting" was defined as voting in 2, 3 or 4 of the last 6 statewide elections or as having recently registered to vote. Individuals who had voted in the June 2006 primary election were not targeted, under the logic that they were already politically engaged in this election cycle and did not require an additional stimulus to turnout to vote.

The Pasadena Area United Democratic Headquarters targets its efforts on California's 44th Assembly District, which includes Pasadena, the neighboring cities of La Canada Flintridge, South Pasadena, Arcadia, Temple City and Duarte; the district also includes a small section of the City of Los Angles and some unincorporated areas of Los Angeles County.[1] In 2006, the local State Assembly seat was open, as the previous incumbent Assemblywoman had served her limit of three terms. The district is generally considered to be a "safe" Democratic district, and the Assembly race was not close (the Democratic candidate, Anthony Portantino, won with 58% of the vote). As a known Democratic area, however, local Democratic activists felt that the 44th District could play a significant role in statewide elections, where a large Democratic vote could aid in the effort to elect State Treasurer Phil Angelides to the Governorship, as well as the rest of the Democratic ticket.[2] Based on experience from previous campaign cycles, the campaign chose a target universe of roughly 17,000 households as an achievable goal for voter contacts. These households contained about 20,500 voters who met the campaign's voter history criteria, and a total of over 41,000 voters. In addition, roughly 7,500 households were set aside in the control group, containing roughly 9500 voters who met the voter history criteria, and a total of nearly 16,000 voters.

The UDH staff worked full work weeks, with a day off each week, and the office was open from about 10 AM to 10 PM each for the last nine weeks of the campaign. Weeknight

[1] A map of the district can be viewed at http://democrats.assembly.ca.gov/members/global/maps/map44.jpg.

[2] The 2006 general election included the full slate of California state constitutional offices on the ballot (Governor, Lieutenant Governor, Secretary of State, Controller, Treasurer, Attorney General and Insurance Commissioner). Also on the statewide ballot was U.S. Senator Dianne Feinstein, running for reelection against Richard "Dick" Montjoy. Finally, the statewide ballot included thirteen state ballot measures. Voters in the 44th District also had on the ballot a U.S. House race, in some places a state senate race, and a variety of local races and local ballot measures.

phone banks (Sun-Thurs) ran from approximately 6 PM to 8:45 PM (about 2 hours of active calling), and weekend afternoons primarily consisted of both walking and calling. A common weeknight phonebank might have had between four and eight callers.

Several other Democratic campaigns operated in the same geographic area as the Pasadena Area United Democratic Headquarters, and targeted some of the same voters with their messages. None of these campaigns, however, targeted this experiment's treatment and control groups differently. First, Portantino for Assembly sent mailers widely throughout the district. That campaign also organized separate precinct walking operations in the town of La Canada Flintridge, the candidate's hometown. Second, Congressman Adam Schiff ran successfully for re-election against both Republican and Green Party candidates. Schiff sent a small amount of election mail. Third, the California Democratic Party (CDP) selected a number of precincts within the 44th Assembly District to target with a direct mail campaign. The Pasadena Area UDH also made phone calls and walked door-to-door to CDP-targeted voters who were outside the treatment and control groups of this experiment. That is, the CDP targeted a different universe of potential voters, and the Pasadena Area UDH attempted to get out the vote from the union of its target universe (on which this experiment was run) and the CDP universe. The CDP sent direct mail to its target voters regardless of their presence in this experiment's treatment or control groups.

Individual voters were aggregated to the household level, and then households were randomly assigned to treatment and control groups. Households within the control group would not be assigned to receive any contact during the course of the campaign. Households in the treatment group could be contacted in whichever way the campaign manager determined was most likely to increase turnout. This meant that the campaign was continually revising their strategies based upon their resources — the number of volunteers available, whether the weather or neighborhoods were conducive for face-to-face canvassing, the number of phone-lines available to make phone calls, and other factors. This resulted in a variety of campaign treatments over the course of a nine-week campaign.

The campaign treatments consisted of a variety of methods, all of which contained a partisan get-out-the-vote message. For individuals assigned to receive treatment, the treatments were administered in the following way: if an individual's record had an email address, then that individual was assigned to receive an email during the final GOTV push.[3] Similarly, if an individual had a phone number, then that individual was assigned to receive a phone call. Note that not all individuals assigned to receive emails or phone calls did so. Some phone numbers and email addresses were incorrect, and additionally some individuals were not able to be reached by phone. When recording contacts, an email contact was recorded if it was attempted, regardless of whether the message was delivered successfully.

The phone call procedure was split into two phases – the initial campaign phase, which took place for the first eight weeks of the campaign, and the "get-out-the-vote" phase, which was conducted during the final week of the campaign. In the first phase, the procedure with phone calls was to attempt to call each available phone number until the point at which it was either possible to speak to an individual directly or to leave a message on their answering machine. The outcome (message or speaking to a person) was recorded at the point at which the contact was successful. Individuals who directly responded that they would be positively supporting the Democratic Party in the November 2006 election were first in line to receive a second phone call during the final get-out-the-vote campaign week. Individuals who had received messages or were not reached in the initial phase were called after all the positive-responders had been attempted.[4] Phoning was done first to Permanent Absentee voters, and then to the rest of the list, without regard to voting history, gender, ethnicity, etc. There was a small program to have young volunteers call younger voters, but it wasn't large or clearly delineated from the rest of the calling.

The decision to walk a precinct was based on the number of individuals assigned to our treatment group that lived in that precinct. The campaign determined that walking in

[3]The script for each email is included in the Appendix.
[4]The script for the phone calls is included in the Appendix.

precincts with high numbers of individuals assigned to treatment would be most efficient in terms of spending resources. Additionally, walking was done only in precincts which were also targeted by the CDP – this possibly pushed them over the limit into being worth walking. No precinct was walked which was not targeted by the CDP. Most of the walkers had canvassed in previous elections, and thus were allowed to go off-script in administering the Democratic message. The new canvassers received simple training and were asked to follow a basic script outline until they were comfortable going off of it. Walkers were usually also phonebankers who knew that script and understood that the point of their contact with the voter was to identify and motivate Democratic voters to turn out to vote.

Some precincts were walked with doorhangers, using an assignment mechanism similar to that used for precinct-walking. Doorhangers went to precincts targeted by the CDP, and covered them completely. This is a non-random sample of the treatment group. Precincts with higher numbers of households in the treatment group were assigned to receive a doorhanger treatment. Due to the larger number of volunteers for GOTV weekend, as well as the relative speed of doorhangers compared with precinct walking, more precincts were walked with doorhangers than had been walked earlier in the campaign.

We then classified individuals as "treated" if they or any member of their household received any sort of treatment: an email, a phone call, an at-home visit, or a doorhanger. Each treatment consisted of a Democratic message. Note that regardless of whether a household contained a single voter assigned to the treatment group, or several voters assigned to the treatment group, the household would receive a single phone call, doorhanger, or at-home visit. This was implemented by the campaign such that the canvasser would ask to speak to any of the individuals within the household who had the appropriate voter history.

Finally, we also note one important aspect of our field experiment: all of the phone calls and door-to-door contacts were administered by volunteers. Nickerson, Friedrichs and King (2006) suggest the possibility that volunteer phone calls may be more effective

and findings from García-Bedolla, Michelson, and McConnell (2007) support this finding. We return to this point after presenting our results.

3 Data

We obtained a pre-election dataset of registered voters from Political Data, Inc., a company which augments the registered voter file from Los Angeles County with a phone number and email address for each individual in the dataset when available.[5] This dataset includes the gender, partisan registration, ethnicity and age of each registered voter. Additionally, this file documents the previous elections in which each individual has turned out to vote.

We used this dataset to conduct the randomization for our field experiment in September 2006, where each household was assigned to either the treatment or control group. The campaign successfully documented whether or not each individual was contacted, and additionally, recorded the type of stimulus and date of contact. After the election had taken place, Political Data, Inc. then provided us with an updated file which recorded whether or not each individual in our dataset had participated in the 2006 general election. Thus for each registered voter within each household, we know from the post-election voter history file whether or not they participated in the 2006 general election. Based upon the randomization, we are then able to determine the effect of campaign contact on voter turnout, and we are able to condition this statement on the treatment variable to get an accurate assessment of the size of this effect. Additionally, we are able to observe differing turnout rates by time of contact as well as by type of contact. The randomization, however, occurred prior to the beginning of the experiment. Thus we are not able to necessarily infer that the timing or type of contact is the causal mechanism

[5]Political Data, Inc. (PDI) is currently the largest provider of voter information files in California, primarily providing voter information data to political consultants, campaigns and polling firms. PDI obtains voter information directly from election officials, and integrates other information not commonly found on the public voter history file. PDI updates their voter information database frequently, as often as once per month during an election. See http://www.politicaldata.com for additional information on PDI. Our pre-election dataset used for our randomization was obtained in August 2006.

for the turnout. We do however present our observational results on timing and type of contact to gain some insight into which strategies are most likely to be efficacious.

Table 1 documents the dynamics of household contacts. Each cell in the treatment group or control group category represents the number of individuals the campaign was able to successfully contact in that week (the row). Note that the campaign can select which individuals to contact in which weeks, so that while this classification has the potential to provide insight into the mechanism by which this campaign increased turnout, it is not possible to infer anything directly about the timing of the contact and the resulting vote from the analysis reported here. For example, the campaign called voters who are registered as Permanent Absentee Voters earlier in the cycle than voters who are not, on the assumption that these voters often vote before election day.

Table 1 Goes Here

Based on the information presented in Table 1 we see that the number of contacts steadily increased during the course the campaign. In the first two weeks of the experiment, the campaign contacted just over four hundred households. But by the eighth week, they contacted over thirty-five hundred households; and in the GOTV week, they contacted over fifteen thousand households. The campaign was able to make more contacts closer to the election in part because volunteers are easier to find as election day nears. Individuals were often contacted more than once during the campaign; thus in Table 1, it is likely, for example, for an individual to be contacted both in the first week and the GOTV week, but not every single voter who was contacted in the early weeks was contacted again during GOTV week. The timing of contacts is a component of the strategy for the campaign that we do not explore in depth here but anticipate exploring in future work.

Based on the data collected by the campaign, we also know the type of contact: by phone, by face-to-face canvassing (here called "walk"), by email or by a door hanger. Table 2 presents the type of contacts the campaign was able to make successfully breaking

this down further into the contacts made in the treatment and control group. Contacts made within the control group are inadvertent, but we document these contacts regardless so as to account for them when measuring the effect of the campaign. The majority of the campaign contacts in the treatment group were made by doorhanger and by phone (over 7000 contacts for each of these types), while only 1426 individuals were contacted by email and a mere 823 were contacted by face-to-face canvassing. The split for the inadvertent control group contacts is similar but much smaller — a total of 1296 individuals were contacted from the control group while 15217 individuals were contacted by from the treatment group. Note that some individuals were contacted multiple times, so that the row sum for the type of contact is not equivalent to the "any contact" cell entry. This "any contact" category will be useful to determine the effect of the campaign.

Table 2 Goes Here

4 Methods and Results

To test our key hypothesis, we need to estimate the effect of the campaign contacts on turnout. We consider the individual to have been treated if that person received any campaign contact whatsoever and determine the effect of that contact on the likelihood that the person would turn out to vote. We begin by estimating the intent-to-treat effect (ITT) and the treatment-on-treated effect (TOT). The intent-to-treat effect is defined as the observed difference in turnout between those assigned to the treatment and control groups. If the contact rate is 100%, the intent-to-treat effect is identical to the treatment effect. Generally this is not the case, however, and to calculate the treatment effect we must adjust for the contact rate. The actual treatment (TOT) effect is defined as the intent-to-treat effect divided by the contact rate.[6] Again we define treatment as any campaign contact.

Formally, let Z be an indicator which defines whether or not the individual is assigned to the treatment or control. Let x denote whether the individual actually receives the

[6]For additional discussion of these quantities, see Rosenbaum (2002) or Morgan and Winship (2007).

treatment. Let y indicate whether or not the individual voted. Then the intent-to-treat effect is defined as: $ITT = E(y|Z = 1) - E(y|Z = 0)$. Following from this, then $TOT = \frac{ITT}{E(x|Z=1)-E(x|Z=0)}$. Note again that the difference between the intent-to-treat and the total-treatment-effect is that the TOT accounts for the contact rate. We can estimate TOT by regressing y on x and using Z as an instrument (e.g., Gerber and Green 2001).

We present the results for ITT and TOT in Table 3. The contact rate for the campaign here is 28%, which is consistent with previous studies in the literature, in particular given the campaign's emphasis on phone contacts. We cluster the standard errors by household to account for potential spillover effects (one individual speaking to another within the same household).[7] We estimate an ITT of 1.59 percentage points — the difference in turnout between the percent voting in the treatment group and the percent voting in the control group – which is statistically significant at traditional levels. Once we condition on the contact rate, we find an estimated TOT of 5.6 percentage points, which is again significant at traditional levels. Relative to previous studies, this is a large effect. Recall again that this effect is due to campaign contact that consisted mostly of phone calls made by volunteers. In the existing literature, the highest estimate of phone contact by volunteers is 5.0 percentage points with the inclusion of covariates (Green 2004), with the average size of an effect of 2.4 percentage points. This suggests that partisan campaign contacts, especially those spread out over the a ten week campaign and chosen by a campaign manager, may produce greater turnout effects than might be suggested by prior studies of nonpartisan campaign contact efforts.

Table 3 Goes Here

We calculate the TOT using a two-stage-least-squares estimate (2SLS), where we want to estimate the effect of a canvass contact on whether or not an individual votes in the election where the application of the contact treatment may be endogenous. In order to

[7] As we anticipate that there will be correlation in the voting decisions within a household, we want to account for this correlation in estimating robust-cluster standard errors. Thus, we can consider the variance of our estimator to be: $Var(\hat{\beta}) = (X'X)^{-1} \sum_{j=1}^{n_c} u_j' u_j (X'X)^{-1}$ where $u_j = \sum_{j_{cluster}} e_i x_i$.

implement this analysis we construct an instrumental variable for the contact using the randomization assignment — this process assures us that the assignment is statistically independent of the observables and unobservables. Our instrument here is fairly good: the correlation between the treatment assignment and any contact is .28. Note that we are assured that there is no correlation between the implementation of the campaign and the error terms, as the assignment was completed randomly prior to conducting the experiment.

We compare the 2SLS estimate of the contact effect with the 2SLS estimate of the contact effect with all available control variables as well. These include partisan registration (included here as an indicator for whether or not the individual was a registered Democrat), gender, age, ethnicity (included here as an indicator for whether or not the individual was non-Anglo; this field was enhanced by Political Data, Inc. using a database of ethnic last names and other census data) and the variable we calculated as the individual's propensity to vote. This allows us to extract the impact of some of the variables which we know tend to influence voter turnout from other models and to focus on the contact effect alone. We present these results in Table 4. We again calculate robust-cluster standard errors by household to account for potential spillover effects (one individual speaking to another within the same household). Additionally, so that we can directly compare the two models, we create indicator variables for the instances where there a missing covariate. This also allows us to observe the effect of the the indicators for the missing data; in our analysis we find that many of the missing indicators are statistically significant, which suggests that their absence from the voter file may be correlated with the voter's turnout decision.

Table 4 Goes Here

Here we still find a large effect of contact when we include the covariates — 6.56 percentage points — which is statistically significant at traditional levels, and a statistically significant effect of contact without the covariates as well (5.6 percentage points).

This implies that the covariates are themselves not driving the results and that the campaign is effective at increasing turnout. Note that here we have included an individual's propensity to vote as one of the covariates. We find a positive and statistically significant effect; individuals who are likely voters are again likely to turnout to vote. We observe a positive and statistically significant effect of being a registered Democrat (although the effect size is very small), a positive and statistically significant effect of age (which again is consistent with our expectations that older voters are more likely to go to the polls), and a negative and statistically significant effect for non-Anglo ethnicity, which is also consistent with our expectations.

Table 5 describes the mobilization effects of volunteer phone banks as estimated in previous studies. Our effect, 6.56 percentage points with covariates, is slightly larger than the magnitude of campaigns with volunteer phone banks, which is 5.0 percentage points with covariates (Green 2004). One possibility is that the volunteers here are of particularly high quality, and their ability to go off script and engage voters in conversation is particularly efficacious. This would correspond with findings in Nickerson (2007), where the quality of the phone call is key in determining turnout. But note that our study does not consist entirely of phone calls.

Table 5 Goes Here

At the very least, this is a campaign which has generated large turnout effects relative to those estimated in the earlier GOTV literature. Therefore, although our randomization is not conducted with respect to type of contact, vote history, or timing, we investigate each of these campaign strategies to determine to what extent the effect of the campaign may be attributed to each. Although we are unable to draw causal claims in all of these instances due to the lack of randomization, we are able to document which characteristics are most highly correlated with the increased turnout. We first determine to what extent the treatment effect may be ascribed to the type of contact and then go on to examine each of the different campaign strategies in turn. The mechanisms — type of contact, timing, and who is contacted — may influence the campaign's success but are not randomly

assigned and thus cannot provide causal inferences, however, the correlations between turnout and the time of contact or turnout and the type of contact can be useful in ascertaining insight into the campaign's success.

We first present Table 6 which describes the method(s) by which each individual was contacted by the campaign. Some individuals were contacted with multiple methods; a very small number were contacted with three or four different approaches. Again, it is not possible to draw inferences from any analysis presented here on the turnout resulting from these methods because they were not randomly assigned. However, it is possible to observe which methods are most correlated with an increase turnout and potentially ascribe the campaign's success to either the choice of those methods for those voters or for the efficacy of the method itself.

Table 6 Goes Here

The majority of the contacts are made by a single type of campaign strategy — by either a doorhanger, a phone call, an email or a door-to-door canvasser. The remaining contacts mostly consist of a combination of two methods (predominantly phone call and doorhanger). We classify the treatment into five categories — one for each of the individual contact methods (doorhangers, emails, phone calls or door-to-door canvassing) and one if an individual was contacted by any mix of the prior four.

We present a summary of turnout rates by treatment type in Table 7, where we look at the differences in the rates at which individuals turned out to vote by the type of treatment conditional upon having received a campaign contact. Doorhanger contacts were made the most frequently but had the lowest observed turnout (51.00%), while phone calls were made almost as frequently had had the highest turnout (66.66%). This is surprising in contract to the rest of the literature which tends to ascribe the highest turnout rates to door-to-door canvassing (here an observed 63.62% turnout). Email contact and multiple types of contact had similar rates of turnout has well (approximately 59%), which are both interesting results: email contact is associated with a higher level of turnout than

expected, but this may simply be due to characteristics of the population which was able to receive an email and thus merits future analysis. That multiple contacts produced a similar effect on turnout indicates that two types of campaign contact may not have a simple additive effect on participation rates.

Table 7 Goes Here

We next examine the effect of phone calls in greater depth as we can take advantage of the fact that we know the mechanism by which individuals in the experiment were assigned to receive a phone call from the campaign. If it is the case that an individual had a phone number in the dataset, they were assigned to receive a phone call. Therefore, we are again able to rely upon a 2SLS estimate of the effect of contact where we create a new instrument using both an indicator for whether or not an individual had a phone number in the dataset and the random assignment variable. We can then examine the effect of a phone call on turnout. Here we find that there was a 8.1% treatment-on-treated effect from phone calls, with a standard error of .01.[8] The campaign manager's choices appear to have been very good — phone call contact was highly effective at getting out the vote and these contacts produced turnout rates greater than suggested in previous research on the effect of volunteer phone calls on voter mobilization. As we explore this finding further an interesting note is that within the group of individuals contacted by phone calls, we do observe higher percentages of individuals voting who actually spoke to a volunteer as opposed to those who were simply contacted by leaving a message on an answering machine. Table 8 presents these results. This again suggests that phone calls completed by motivated volunteers are likely to be very effective. When we compare our finding to the existing literature, this also suggests that by allowing the campaign manager to choose whom to call, the effect of volunteer phone calls increases.[9]

[8]This calculation incorporates all the 43562 observations who have a phone number and relies upon conditional random assignment. We have 6,246 individuals who received a phone call in this group and of those, 4164 voted. Including all the control variables into this regression results in a 7.0% treatment-on-treated effect, with a standard error of .01.

[9]Note also that turnout was higher among the population with a working phone line and an answering

Table 8 Goes Here

We will now examine the extent to which vote history or timing determines to what extent the campaign is effective. We first present results where we separate individuals who were contacted during the campaign by category — new registrants, unlikely voters, low propensity voters, and high propensity voters. We calculate a voters' propensity to vote by looking at the number of statewide California elections in which they participated out of the number for which they were eligible based upon their registration date over the last six elections.[10] Note that this campaign was particularly interested in the population of occasional voters and hence chosen a selection of individuals (from which the randomization occurred) who had some history of participating in politics but were not the individuals who were likely to always participate. Recall that the universe of voters studied consists of voters selected to meet certain voting history criteria, plus voters who share a household with such a voter. This strategy was designed to maximize Democratic turnout; within a population of individuals who are already likely to vote, the campaign's efforts would not likely result in large numbers of additional votes. A byproduct of this strategy is that it is easier to measure the effect of additional stimulus to get out to the polls.

Here we have a total population of 57,682 individuals. We define a new registrant as someone who has not been eligible to participate in any elections before, an unlikely voter as an individual who has not voted in any of the elections for which they were eligible, a low propensity individual as someone who has voted in at least one, but less than 50% of the elections for which they were eligible (since November 2002), and a high propensity individual as someone who has participated in 50% or more of the elections for which they were eligible (since November 2002). Note that we classify an individual as newly registered if they had registered after November 2005 but had yet to vote (for

machine or live contact than it was among the voting population as a whole, an indication of the kind of selection bias we cannot control for in this experiment.

[10]These included the November 2002 General Election, October 2003 Special Election, June 2004 Primary Election, November 2004 General Election, November 2005 Special Election and the June 2006 Primary Election.

example, in the June 2006 election). Note that Political Data, Inc. obtained their dataset from the Los Angeles County Registrar-Recorder's office in August 2006. This implies that this classification of newly registered voters may be somewhat different than the population of individuals who might register in the days and weeks immediately before an election, and thus these results may not apply to those voters if they are different than the population of newly registered voters in this study.

Table 9 Goes Here

Looking at the efficacy of the campaign for the new registrants in Table 9, we find a positive and statistically significant (at traditional levels) *large* effect of campaign contact. Our estimated ITT is 6.26 percentage points and our estimated TOT is 24.24 percentage points. This is an sizeable effect, and contrasts starkly against the treatment effects for the other groups. The unlikely voters have no statistically significant effect of contact, while the low propensity voters have a large and statistically significant effect (14.63 percentage points for TOT) and the high propensity voters have a statistically significant, but smaller effect (3.34 percentage points for TOT). However, it is important to draw cautious inferences about these differences in treatment effects across voter propensity. The type of treatment each individual received was not randomly assigned, and thus merits further investigation.

We also examine when the campaign chose to contact each of these individuals. Here we produce a classification for whether an individual was contacted early in the campaign (in weeks 1-5), in the middle of the campaign (in weeks 6-8), or during the final get-out-the-vote drive (week 9). Thus we have 3353 individuals who were contacted in the early campaign, 5784 individuals who were contacted in the middle campaign, and 16593 individuals who were contacted during the final GOTV week. Note that individuals can be contacted multiple times over the course the campaign so that these classifications are not exclusive. We then look at the marginal effect of each of these classifications on the turnout decision, conditional upon being contacted. We use early contact and phone call

contact as our two base comparison categories. We anticipate that later contact will be more effective (and thus we will observe positive and statistically significant coefficients for middle and GOTV contact).

Table 10 Goes Here

In Table 10 we present the ordinary-least-squares coefficients for the variables described above.[11] The timing variables (middle and GOTV) have coefficients which are consistent with our expectations — it appears that the marginal effect of contacting a voter later in the campaign is positive.[12] Like the type of treatment discussed above, the timing of treatment in our field experiment was not randomly assigned, and thus producing a better estimate for how the timing of treatment influences voter mobilization should be the subject of future research.

Thus we find the campaign has a large effect on turnout relying upon a range of techniques and delivering a partisan message. The campaign manager's strategies and choices appear to do better than a typical nonpartisan door-to-door canvassing experiment. We found that phone calls are particularly effective at increasing turnout. We present observational evidence with respect to the timing of the delivery of the campaign contact (closer to the election appears better) and with respect to the type of voter who should be targeted (new registrants have the largest effect).

5 Conclusion

The Pasadena Area United Democratic Headquarters runs a campaign generally similar to the one described in this paper every two years, typically targeting "occasional voting Democrats". One of their motivations in undertaking this experiment was to evaluate the efficacy of the campaign's chosen strategy and methods. In particular, they wanted

[11] We also analyze this model in a binary choice setting and a logistic framework but present the OLS coefficients here for ease of interpretation. There is no qualitative difference between the binary choice and OLS results.

[12] We replicate this model including all the covariates for each voter but find that the results do not change substantively. This results are available from the authors upon request.

to know whether their selection criteria for targeting voters was effective, and whether particular kinds of voters were more or less affected by the campaign's efforts.

We have shown that the Pasadena Area UDH increased turnout in the 2006 general election by roughly 852 votes.[13] The campaign was effective in increasing turnout among newly registered voters. (Recall that these were not voters registered by the campaign, but rather voters who had newly registered before the campaign began.) These voters, while a small population (less than 4% of the treatment group), accounted for about 12% of the campaign's total increase in voter turnout. The campaign reaped its greatest rewards among low propensity voters who had voted at least once, a population made up largely of voters who had voted 2 or 3 times in the preceding 6 elections. This population accounted for over 60% of the campaign's net effect, while making up 31% of the treatment group. While the campaign's effect on higher-propensity voters was small when expressed as a percentage point increase, the size of this universe meant that it accounted for a larger number of additional votes than the newly registered voter group.

We have also shown that campaign contact in the last few weeks before the election, and contact with a volunteer by telephone (relative to other means of contact), are associated with increases in voter turnout. Given the relative ease of finding volunteers for the finals weeks of a campaign, and the low cost of volunteer phone calls relative to others methods of voter contact, this experiment indicates that partisan get-out-the-vote campaigns can be highly effective without exorbitant costs. Again we are cautious about extrapolating these results to other settings and elections, but for this local election and partisan context, the campaign was effective at mobilizing the base.

This campaign had total expenses of about $48,000 in 2006.[14] With a treatment effect of 5.6%, this implies that each of the additional 852 votes that the campaign successfully turned out cost approximately $57.34 per vote. Note that this cost includes all campaign overheard, and as such is not directly comparable to many of the "cost per vote" calcula-

[13]The campaign effect is 5.6% of the 15217 voters in the treatment group who were contacted.

[14]Of that, $9,000 was rent, $18,500 was staff/consultants, $3,800 was fundraising, and $5,000 was other overhead (insurance, utilities, etc). The total phone bill was about $4,100. Additionally all printing costs were covered by the California Democratic Party.

tions described in much of the academic literature. Subtracting overhead costs of $36,300 from the campaigns' total expenses, we calculate a cost per vote of only $13.73. The campaign's volunteer phone banks with experienced and enthusiastic volunteers were very cost effective.

The principal finding of this paper is that the campaign manager was able to make reasonable choices and turn out voters at levels exceeding those seen in many academic studies. This suggests that there may be an aspect of campaign craft which goes into the creation and development of mobilization efforts which accounts for their varying levels of success. This also suggests that academic work may underestimate the actual effect of real-world voter mobilization efforts. In our study, we also explored the potential effect of the timing of voter contact, the type of voter contact, and how contact interacts with voting propensity. We found that volunteer phone contact to low propensity voters immediately before the election appears to have been particularly efficacious. In particular however, this study may have high rates of turnout because of the freedom allocated to the campaign manager to make choices about how to allocate resources. Future research should determine the mechanisms by which this happens, which may provide future insights into the intricacies of voter behavior.

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7 Script

7.1 Email Script

"Dear NAME,

Tomorrow, Tuesday November 7th, is a critical day for our state and our country. Only rarely do we, as voters, a clear opportunity to change the direction of our government. The last few years have been years of disappointment, with a continuing quagmire in Iraq, state and federal deficits as far as the eye can see, and our health care system in crisis.

It is critical that you vote to support Democrats.

The polls will be open tomorrow from 7 AM to 8 PM. Your polling place is:
DESCRIPTION
ADDRESS

You are receiving this email from the Pasadena Area United Democratic Headquarters because you supplied your email address when you registered to vote. This is a one-time email; we will not subscribe you to any lists or give your email address to anyone else.

We've included a short Democratic voter guide at the end of this email. Please print it out and bring it with you to the polls.

If you would like to help us contact other local voters to get out and vote, or would like more information about our Democratic candidates, please give us a call at (626) 683-8124.

Thank you for your support,

Tim Wendler

Chair, Pasadena Area United Democratic Headquarters Steering Committee

2006 CALIFORNIA DEMOCRATIC VOTER GUIDE:

Governor: Phil Angelides

Lt. Governor: John Garamendi

Secretary of State: Debra Bowen

Controller: John Chiang

Attorney General: Jerry Brown

Treasurer: Bill Lockyer

Insurance Commissioner: Cruz Bustamante

Board of Equalization, District 4: Judy Chu

California State Assembly (44th District): Anthony Portantino

U.S. Senator: Diane Feinstein

U.S. Congress (29th District): Adam Schiff

U.S. Congress (26th District): Cynthia Matthews

U.S. Congress (31st District): Xavier Becerra

U.S. Congress (32nd District): Hilda Solis

Pasadena Area United Democratic Headquarters (FEC ID# C00380568, FPPC ID# 1258461)

http://www.pasadenademocrats.com

(626) 683-8124

P.O. Box 70052

Pasadena, CA 91117-7052

Not approved by any candidate, candidate's committee, or ballot measure committee."

7.2 Phone Script

"Hi, my name is [volunteer name], and I'm a volunteer calling from the Pasadena Democratic Headquarters. May I please speak with [taregt voter name]?

I'm calling this evening to remind you of the election coming up on Tuesday, November 7th, and to ask if we can count on you to vote for Phil Angelides for Governor, Anthony Portantino for Assembly, and the rest of the Democratic ticket. Can we count on you?

[mark Y/N/U, etc].

Thank you, and we'll see you at the polls on Tuesday, November 7th."

8 Tables and Figures

Table 1: Unique Individual Contacts by Week

Week	Treatment Group	Control Group	Total
Week 1	335	12	347
Week 2	93	0	93
Week 3	425	0	425
Week 4	1829	11	1840
Week 5	674	50	724
Week 6	1432	99	1531
Week 7	735	64	799
Week 8	3595	166	3761
GOTV Week	15140	1453	16593

Each cell entry represents the number of individuals the campaign was able to successfully contact in that week. Note that some individuals may have been contacted multiple times within a single week which here is represented as a single unique contact in that week.

Table 2: Types of Contact

Contact	Treatment	Control	Total
Phone	7722	440	8162
Walk	823	79	902
Email	1426	183	1609
Doorhanger	7313	700	8013
Any Contact	15217	1296	16513

Each cell entry represents the number of contacts the campaign was able to make successfully. Individuals may have been contacted by multiple forms and thus for clarification the any contact field represents the number of unique contacts made by the campaign and is not a sum of the values above.

Table 3: Summary: Campaign Effect on Turnout

N in Treatment Group	41683
N in Control Group	15999
N in Treatment Group who are Actually Treated	15217
N in Control Group who are Inadvertently Treated	1296
N who Voted in Treatment Group	24805
N who Voted in Control Group	9266
Percent Voting in Treatment	59.51%
Percent Voting in Control	57.92%
Percent Contacted in Treatment	36.51%
Percent Contacted in Control	8.10%
Contact Rate	0.28
Estimated Intent-to-Treat Effect	1.59
Standard Error of Intent-to-Treat Effect	0.46
Estimated Treatment Effect	5.61
Standard Error of Estimated Treatment Effect	1.80

Note: Standard errors are robust and clustered by household.

Table 4: 2SLS Coefficients: Campaign Effect on Turnout

Variable	Without Covariates	With Covariates
Contact	.056*	.0657*
	(.018)	(.0165)
Democratic Registration		.01**
		(.0052)
Missing Registration		.52*
		(.014)
Female		-.003
		(.0036)
Missing Gender		-.04*
		(.014)
Age		.002*
		(.0001)
Missing Age		.11*
		(.011)
Propensity to Vote		.601*
		(.007)
Missing Propensity to Vote		.525*
		(.008)
Non-Anglo		-.018*
		(.005)
Missing Race		.02*
		(.006)
Constant	.575*	.156*
	(.006)	(.008)
N	57682	57682
Root MSE	.4924	.45352
Clusters	38591	38591
* = $\alpha = .05$		
** = $\alpha = .10$		

The instrument used here is the random assignment. Standard errors are robust and clustered by household.

Table 5: GOTV Literature: Mobilization Effect of Volunteer Phone Calls

Authors	Effect Size (SE)	Population
Green (2004)	5.0	New Jersey young voters
	(1.8)	
Ramirez (2005)	4.6	Precincts with more than 70% Latino voters
	(1.84)	
Nickerson (2006a)	4.5	6 US cities
	(1.7)	
Nickerson, Friedrichs & King (2006)	3.5	Young Michigan voters
	(1.7)	
Wong (2005)	2.9	Asian Americans in Los Angeles County
	(2.1)	
Nickerson (2007)	.05	18 US counties
	(.7)	
McNulty (2005)	-3.7	UC Berkeley Cal Dems
	(2.5)	

Table 6: Type of Contact Received by Treatment Assignment

Contact	Control Group	Treatment Group
Doorhanger	632	5892
Email	171	963
Phone Call	346	5961
Door-to-Door Canvass	41	418
Doorhanger + Email	9	153
Doorhanger + Phone Call	53	1137
Doorhanger + Door-toDoor Canvass	0	43
Email + Phone Call	3	244
Door-to-Door Canvass + Email	0	16
Door-to-Door Canvass + Phone Call	35	292
Doorhanger + Email + Phone Call	0	35
Doorhanger + Email + Door-to-Door Canvass	0	1
Email + Phone Call + Door-to-Door Canvass	0	12
Door-to-Door Canvass + Doorhanger + Email + Phone Call	0	2
Total	1290	15169

Each category is exclusively defined. Each cell entry refers to the number of individuals who were contacted by the method(s) displayed in the first column.

Table 7: Vote Rates by Type of Campaign Contact

Type of Contact	N Treated	N Voted	Observed Turnout
Email	1134	680	59.96%
Walk	459	292	63.62%
Phone	6307	4204	66.66%
Doorhanger	6524	3327	51.00%
Mixed	2035	1206	59.26%
Total	16459	9709	58.99%

Note that individuals in this sample were all those assigned to receive a campaign contact.

Table 8: Percentage Turnout by Type of Phone Contact: Volunteer or Message

Phone Contact	N	Vote	Percentage
Message Left on Machine Only	1256	732	58.28%
Spoke to a Volunteer at Some Point	6307	4204	66.66%

Table 9: Treatment, Contact, and Turnout by Four Categories of Propensity-to-Vote

Propensity	Treatment	Control	Contact (Treat)	Contact (Control)	Vote (Treat)	Vote (Control)	ITT	TOT
New Registrant (0/0)	1593	376	589	42	947	200	6.26	24.24
							(2.86)	(11.06)
Missed all eligible (0/N)	4068	1546	1311	146	1038	390	.29	1.27
							(1.3)	(5.7)
Low propensity ($< .5$)	13029	4940	4737	519	6100	2126	3.78	14.63
							(.83)	(3.21)
High propensity ($>= .5$)	22993	9137	8580	589	16720	6550	1.03	3.34
							(.56)	(1.8)

Table 10: OLS Coefficients: Marginal Effect of Campaign Strategy and Timing on Turnout

Variable	Coefficient
Middle Contact	.031*
	(.010)
GOTV Contact	.033*
	(.013)
N	16513
Root MSE	.48688
* = α = .05	

The comparison category here is early contact. The dependent variable is an individual's turnout decision. The population includes all individuals who were successfully contacted.