WHEN DOES INCREASING MOBILIZATION EFFORT INCREASE TURNOUT? NEW THEORY AND EVIDENCE FROM A FIELD EXPERIMENT ON REMINDER CALLS

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Abstract

When does increasing mobilization effort increase turnout? Recent experiments find second calls containing a reminder to vote increase turnout beyond an initial contact. We argue existing studies cannot explain why reminder calls are effective because they test bundled treatments including a late mobilization attempt, a late mobilization attempt given earlier contact, and potentially activating reciprocity established in earlier contact. Moreover, existing work undertheorizes the causal role of reciprocity. We develop a reciprocity-based theory and design and analyze a two-round voter mobilization field experiment to test reciprocity as a mechanism explaining reminder call effects. Reminder calls increase turnout by 1.2 percentage points among subjects contacted in an earlier attempt. Enhancing reciprocity, operationalized as providing a reminder call offer during an early call, does not increase turnout beyond a second call. Lastly we fail to find heterogeneous effects of reminder calls by stated preference for a reminder or by stated vote intention.

Keywords: voter mobilization; reminder calls; intrinsic reciprocity; field experiment

Scholars and practitioners working in the domain of campaigns and elections share a growing interest in understanding which Get Out the Vote (GOTV) mobilization tactics are effective at increasing participation levels and for what reasons. Meta-analyses of prior experimental studies show that mobilization campaigns involving person-to-person contact are more effective at increasing turnout than those employing other modes of contact (Green and Gerber 2008, 2015). The interventions in these studies typically involve a single mobilization attempt. In real campaigns, however, citizens may be inundated by multiple mobilization attempts. This contrast highlights limitations to the realism of single-attempt treatments in existing mobilization experiments and to the generalizability of existing findings to many campaign contexts. This has also led to growing interest in an important question about the marginal returns to increasing the intensity of mobilization campaign efforts: Do additional attempts at contacting voters in a mobilization campaign increase turnout beyond the effects of a single mobilization attempt, and if so, why?

Despite increased interest, there are few experimental studies that address these questions. The limited work that exists involves phone-based GOTV campaigns and offers mixed findings. Early research found that a second mobilization attempt had no effect on turnout relative to an initial attempt (Green and Gerber 2001) and led to the conclusion that "contacting voters more than once prior to an election is a waste of resources" (Green and Gerber 2004, p. 78). More recent research has reported relatively large positive effects of a second round mobilization attempt on turnout beyond an initial successful call when the second call provides a reminder to vote (Michelson, Garcia Bedolla and McConnell 2009). This effect is particularly large among registrants who were reached during the initial call and who reported to the caller during that interaction that they intended to vote in the upcoming election.

Existing experimental evidence thus seems to suggest that a second round mobilization attempt occurring just prior to an election is effective at increasing turnout beyond a successful initial call, but only when the second call is a reminder call (and perhaps only among those who state they intend to vote). But the literature is unable to clarify, both theoretically and empirically, why second GOTV attempts containing a reminder to vote are effective at increasing turnout beyond an

initial and early GOTV attempt.

Theoretically, existing accounts in the literature emphasize the importance of priming different intrinsic motivations to vote (i.e., an individual's desire to vote for its own sake) to explain why second calls containing a reminder to vote are effective at inducing political participation, particularly among subjects who previously state they intend to vote. But theoretical explanations in the literature are incomplete. Despite the proliferation of theoretical and empirical research on the effects of social pressure on voting (e.g., Feddersen 2004; Gerber, Green and Larimer 2008), existing work is largely silent on the causal role of social interactions occurring between the subject and the caller from the mobilization campaign in affecting behavior by shaping subjects' potential extrinsic motivations to vote (i.e., an individual's perception of socially derived and contingent net rewards for voting).[1] In particular, we argue that reciprocity, defined as the willingness to sacrifice one's own material consumption to increase (decrease) the material consumption of others in response to kind (unkind) behavior, is an important potential feature in the reminder call treatments tested in the literature that remains underexamined. Moreover, the theoretical explanations offered in the literature for why reminder calls are effective are not unique to second round reminder calls per se and may be applied to explain the effectiveness of both second calls and generic mobilization campaigns more broadly.

Empirically, existing experimental designs test bundled treatments and do not provide leverage to test alternative causal theories explaining observed effects. The bundled treatments tested in existing experiments include a second round call; a reminder to vote; and a history of interactions occurring in the initial call that may activate a number of psychological processes causing behavior change, such as priming social incentives to vote by establishing norms of reciprocity or priming intrinsic incentives to vote conditional on the prior act of stating one's intention to vote and the desire to avoid dissonance between one's stated intentions and one's behavior. As a result, it is difficult to attribute any observed effect to any specific theoretical explanation. Additionally,

[1] See Benabou and Tirole (2003) for a detailed discussion of intrinsic versus extrinsic motivations and related social science research.

scholars have observed the fact that reminder call effects in the literature are from studies that condition on subjects saying they intend to vote and have assumed that the effects would not exist in the absence of such conditioning, leading them to emphasize theories about the role of baseline preferences toward voting (such as the role of intrinsic motivations or internal psychological processes that condition on a previously stated vote intention). However, claims about the plausibility of such mechanisms are not tested in existing studies; doing so would require directly formally testing whether there are heterogeneous second round reminder call effects by subjects' stated vote intention expressed during the first round call.

In this article, we address these concerns and make several key contributions to the literature. First, we review existing research and argue that existing experimental designs test bundled treatments and thus are unable to clarify why observed reminder call effects exists. Second, we argue that existing theoretical explanations do not fully develop the role of reciprocity as a potential explanation or link that theory to experimental design. We address the need to develop a reciprocity-based theory of reminder call effects. The intrinsic reciprocity hypothesis we develop posits that additional mobilization attempts are effective at increasing turnout if the sequence of interactions occurring between the citizen and the campaign caller establishes goodwill and a norm of intrinsic reciprocity between the parties involved such that the citizen votes in the upcoming election to fulfill an obligation to the caller. This argument builds on past research on the causal role of social incentives in inducing changes in political behavior and addresses the lack of theory in the literature on the role of reciprocity in explaining second round reminder call effects. Third, we design and analyze data from a phone-based GOTV experiment conducted by a non-profit, non-partisan organization in Colorado during the 2014 midterm election. In the experiment, the number and timing of GOTV call attempts (an early or late GOTV call) and the contents of the initial call (specifically, whether a reminder call to vote is offered in a first round call as a signal of goodwill) are randomly manipulated. Manipulating the offer of a reminder call during the early call is important because it allows us to vary whether an enhanced signal of reciprocity is sent above and beyond any reciprocity that is potentially established by the receipt of multiple GOTV

calls in which the caller provides the subject with reminders to vote. This experimental design provides leverage to isolate the causal effects of varying the level of campaign effort as a function of the number of calls, varying the timing of calls, and varying the degree to which an expectation of reciprocity is established and primed by manipulating the behavioral interactions occurring between the citizen and the campaign caller. Fourth, our design also provides leverage to test whether attempting a second round reminder call has heterogeneous effects by subjects' stated vote intention, a claim that has been advanced but not well tested in prior studies. To our knowledge, we contribute the first test of heterogeneous reminder call effects to the literature.

We report three main empirical findings. First, we find that attempting a late GOTV call increases turnout by approximately 1.2 percentage points among subjects successfully reached in an early GOTV call. This effect is smaller than some estimates previously reported in the literature, but provides additional experimental evidence supporting the argument that second round GOTV calls are effective at increasing turnout levels conditional on a successful initial contact. Second, we do not find compelling support for the intrinsic reciprocity hypothesis. The effect of a second round call on turnout is just as large when a reminder call is offered in an early call as it is when an offer is not provided in an early call. Third, we find that the effect of a late GOTV reminder call does not vary by subjects' stated vote intention. Thus, the result we observe in this study leads us to downgrade our belief that observed second round reminder call effects on turnout are attributable to either reciprocity or a class of explanations emphasizing the causative role of intrinsic motivations to vote or statements about future vote intentions.

The article proceeds as follows. We begin by reviewing prior studies assessing whether and why multiple mobilization attempts increases turnout, highlighting theoretical and empirical questions in existing research. Next, we present the intrinsic reciprocity hypothesis, which clarifies the conditions under which additional contact attempts in a GOTV campaign may increase turnout. Then, we describe the design of the experiment in detail, after which we specify our causal quantities of interest, describe the estimation and inferential strategies we employ to identify these quantities, and present results that test our theoretical arguments. Finally we discuss the implications of

our results, steps for future research, and conclude.

EXISTING RESEARCH

Does increasing mobilization effort increase turnout? The literature suggests that a second GOTV attempt providing a reminder to vote increases turnout among those successfully contacted in an earlier GOTV attempt. We briefly describe three experimental studies relevant to this argument and identify two important questions about existing research. First, we show that existing work is unable to clarify why observed effects exist because existing experiments that report positive findings involve bundled treatments that could operate through multiple hypothesized mechanisms. Second, we argue that existing theoretical explanations are incomplete because they inadequately address the role of reciprocity, a feature central to the treatments tested in existing experiments. We develop an argument about the conditions under which reciprocity may explain the effectiveness of reminder calls and multiple-attempt mobilization campaigns more broadly.

Reminder GOTV Calls Increase Turnout

Green and Gerber (2001, pp. 21-22) conducted the first field experiment to assess whether increasing mobilization effort increases participation by testing the effect of a second GOTV call relative to a single GOTV call on voter turnout among a sample of registered voters aged 18 to 30 in Fort Collins, Colorado. One of the factors in their original 2×2 factorial design randomly assigned half of the subjects to be called on Monday, the night before the election ($n = 674$), and the other half to be called on both Sunday and Monday ($n = 673$). This manipulation provides leverage to identify the effect of additionally calling on Sunday versus only calling on Monday on turnout. They find no effect of the second call on turnout relative to one call: the estimated average Intent to Treat (ITT) effect of attempting two calls is -0.3 percentage points (s.e.=2.4, not significant) relative to a one-call group mean turnout rate of 75% and the Complier Average Causal Effect (CACE) of two calls is -0.4 percentage points (s.e.=3.1, not significant; estimated proportion of Compliers = .845) (Green and Gerber 2001, p. 37, Table 7). This study is unusual in that both calls are timed to occur

proximate to the election and to each other.

In subsequent research, Michelson, Garcia Bedolla and McConnell (2009) argue instead that multiple mobilization attempts taking the form of targeted reminder calls increase turnout, and that this effect is particularly pronounced among registered voters who are reached by a phone canvasser and who state to the canvasser that they intend to vote in the upcoming election. Of the four studies reported by Michelson, Garcia Bedolla and McConnell (2009), two are relevant to the substantive quantities of interest we investigate in this paper. We briefly review the design and findings of each in turn.

In the first of these studies, Michelson, Garcia Bedolla and McConnell (2009) analyze data from a field experiment conducted in 2003 where the Public Interest Research Group (PIRG) targeted registered voters aged 18 to 24 residing in 60 selected precincts in New Jersey. The study involved 2,817 subjects, all of whom were targeted by PIRG in an initial round of mobilization attempts using both phone and door-to-door canvassers prior to Election Day. About half of subjects ($n = 1399$, or 49.7%) were randomly assigned to a treatment group for whom PIRG would attempt follow-up GOTV calls containing a reminder to vote on Election Day. The remaining subjects ($n = 1418$, or 50.3%) were assigned to a control group that received no follow-up call from PIRG beyond the initial GOTV attempt. Michelson, Garcia Bedolla and McConnell (2009) report that attempting a follow-up GOTV call on Election Day increases turnout by 3.8 percentage points ($p < .01$) versus a 13.2% turnout rate in the control group for whom only an initial GOTV attempt was made. They also report that among subjects who were successfully contacted in the initial call attempt and who stated during the initial call that they intend to vote in the upcoming election, the estimated ITT of attempting a follow-up reminder call on Election Day is 10.6 percentage points ($p < .01$) above a 16.9% baseline turnout rate in the control group. In contrast, among subjects who were successfully contacted in the initial call attempt and who stated that they did not intend to vote or refused to disclose their intention to vote, attempting a follow-up reminder call on Election Day decreases turnout by 3.9 percentage points (not significant) relative to a 7.3% baseline turnout rate in the control group.

The second relevant field experiment from Michelson, Garcia Bedolla and McConnell (2009) builds on the conditional ITT estimates from their youth mobilization experiment in New Jersey and assesses whether a follow-up GOTV call containing a reminder to vote on Election Day increases turnout among registered voters who are reached by a campaign canvasser in an initial contact attempt and who state that they intend to vote in the upcoming election. In this study, the Asian Pacific American Legal Center (APALC) targeted a sample of 1,901 Asian American registered voters in Los Angeles County who were successfully contacted in an initial round of GOTV calls and who had stated that they planned to vote in person at the polls in the upcoming June 2008 election. Thus, subjects randomly assigned to treatment or control all stated that they would vote prior to random assignment. Of the 1,901 subjects in the study, nearly four-fifths ($n = 1501$, or 79%) were randomly assigned to receive a follow-up GOTV call containing a reminder to vote from APALC and the remaining one-fifth ($n = 400$, or 21%) were assigned to a control group that was successfully contacted in an initial call but received no follow-up call. They estimate that attempting a follow-up call increases turnout by 5.5 percentage points ($p < .01$) versus a mean turnout rate of 14% in the control group who were contacted only in the first round of calls.

Existing Experiments Test Bundled Treatments, Not Competing Mechanisms

Existing experiments reporting increases in turnout due to an attempted second round reminder call test bundled treatments that limit the set of quantities that can be identified. Consequently, it is difficult to test competing hypothesized mechanisms explaining why effects are observed.

For example, the treatment conditions tested in the two studies by Michelson, Garcia Bedolla and McConnell (2009) are simultaneously a standard GOTV mobilization attempt with a reminder to vote occurring just before the election, receiving a follow-up call after an initial call, and a mobilization attempt conditional on a history of social interactions between the subject and the canvasser (due to successful contact in an earlier GOTV attempt). Because it is not possible to distinguish between the effect of a standard GOTV reminder call attempted just before an election (i.e., a late GOTV attempt) and the effect of a reminder call following an initial call (i.e., a

late GOTV attempt following an early GOTV attempt), it is not possible to adduce whether the reminder to vote delivered in the late GOTV attempt is effective because an initial GOTV contact was made or not. More generally, it is not possible infer whether early GOTV interactions condition the effectiveness of reminders to vote delivered in late GOTV attempts.

Given the set of quantities identified by existing experimental designs, the difficulty associated with testing competing theoretical explanations becomes evident when we consider the four hypotheses offered by Michelson, Garcia Bedolla and McConnell (2009) to frame their results. First, they argue that cognitive dissonance theory (Festinger 1957) may be applicable because subjects may feel the need to maintain internal consistency across their previous expression of their intention to vote and their subsequent behavior. Second, they conjecture that the psychological theory of the self-erasing nature of prediction (Sherman 1980) may explain observed effects. This theory posits that asking an individual to predict their future behavior might cause them to generate a mental image of engaging in that behavior, which increases the likelihood of doing the behavior of interest and rationalizing their behavior.[2] For both the first and second theoretical arguments, a second call is believed to heighten the importance of the proposed psychological mechanism. Third, they argue that the theory of reasoned action (Fishbein and Ajzen 1975) may be applicable because the GOTV reminder call may affect two psychological mediators that in turn affect behavior: one's perceived norms about voting and one's intention to vote. Lastly, the reminder call may be priming subjects to perceive the norm of voting as a socially valued act, which consequently leads subjects to vote in order to signal to others that they are compliant with norms of being a good citizen (Funk 2006; Michelson, Garcia Bedolla and McConnell 2009).

The first two hypotheses proposed – cognitive dissonance theory and the theory of the self-erasing nature of prediction – both belong to a class of theories that posit the existence of heterogeneous effects by subjects' prior commitment to vote and by subjects' prior behavior in which they imagine their future behavior, respectively. Researchers may employ one of two inferential strategies to test theories of heterogeneous effects. We argue that both strategies generate unclear

[2]See also Cialdini (1984) and Kiesler (1971).

conclusions given existing experimental designs. One inferential strategy involves using the mean ITT effect to adduce whether a theory about the existence of heterogeneous effects is valid. To use cognitive dissonance theory as an illustrative example, employing this strategy substantively implies that the treatment (i.e., the second round GOTV attempt) causes subjects who would otherwise not form a prior commitment to vote under the control condition (where only an early GOTV contact was made) to form a prior commitment to vote. However, this strategy does not lead to clear inferences because we do not observe whether the treatment does, in fact, cause the specified prior to form and whether that prior is lacking among subjects assigned to control. A second inferential strategy involves assessing heterogeneous treatment effects by formally testing treatment-by-covariate interactions where the covariate of interest is a pre-treatment quantity. The substantive implication of this approach is that a second GOTV attempt beyond an initial GOTV contact is simply an increase in the dosage of mobilization effort that potentially primes different subgroups of subjects differently, and that the treatment variable does not qualitatively affect subjects' beliefs about voting. Put differently, it is not clear whether effects are observed because people who can be contacted and state they want to vote are generally easier to mobilize or because stating that one will vote causes a second call to be better at mobilizing a person. In both studies presented by Michelson, Garcia Bedolla and McConnell (2009), the authors fail to formally test for heterogeneous effects and instead point to statistically significant estimates of the conditional mean effect of the second round GOTV call attempt among the subset of subjects successfully contacted in the first round who state they intend to vote. However, even if a formal test of heterogeneous effects were conducted, we argue that their design would not be able to clarify which set of features of the bundled treatment, if any, were at work and why. The latter two hypotheses – the theory of reasoned action and the heightened salience of voting as a socially valued act – do not uniquely explain the effects of second round reminder call attempts on turnout and are not unambiguously operationalized by the treatments tested in prior research. These explanations are arguably applicable to a wide range of treatment effects, including the effects of reminder calls that are not preceded by any prior GOTV attempt, the effects of reminder calls that are preceded by a

range of potential histories of social interaction between the caller and the subject, and the effects of GOTV treatments more generally.

Bundled treatments such as those tested in prior experiments on the effectiveness of reminder GOTV calls provide leverage to assess whether, but not why, certain interventions induce behavioral change. In order to make progress in the literature and to assess the plausibility of competing explanations for why observed reminder call effects exist, we argue for the use of "mechanism experiments" (Ludwig, Kling and Mullainathan 2011) where the experimental conditions are operationalized to map onto clearly specified alternative mechanisms that affect behavior.

Exploring the Role of Reciprocity in Reminder Calls

Our second concern with prior work is that the role of reciprocity is undertheorized when explaining observed reminder call effects despite reciprocity potentially being a feature in treatments evaluated in the literature. Specifically, the bundled treatments tested in past work include a history of social interactions over a series of mobilization attempts in which a norm of reciprocity is plausibly established when campaign callers offer to help subjects make sure they vote (Michelson, Garcia Bedolla and McConnell 2009).

We develop a reciprocity-based theory to explain second round reminder call effects, building on a rich social science literature on the influence of norms of reciprocity on behavior.[3] In earlier sociological work, Alvin Gouldner defined the norm of reciprocity as the belief that one is "morally oblige[d] ... to give benefits to those from whom he has received them" (Gouldner 1960, 174). In more recent work, economist Joel Sobel (2005) defines the concept more broadly as "a tendency to respond to perceived kindness with kindness and perceived meanness with meanness and to expect this behavior from others" (392). Sobel (2005) defines intrinsic reciprocity, a specific type of reciprocity, as "a property of preferences ... [that] depend on the consumption of others" where

[3]See, for example, Finan and Schechter (2012), Dunning and Stokes (2007), and Schaffer (2007) on the role of reciprocity in vote buying; Palmatier et al. (2006) on the role of reciprocity in marketing and consumer behavior; and Berg, Dickhaut and McCabe (1995) on the role of reciprocity in investment behavior.

one "will be willing to sacrifice his own material consumption to increase the material consumption of others in response to kind behavior while, at the same time, be willing to sacrifice material consumption to decrease someone else's material consumption in response to unkind behavior" (Sobel 2005, 392).[4]

Campaigns that contact the same citizen multiple times in a mobilization drive engage in a series of social interactions. Under what conditions, then, might these repeated interactions compel a citizen who otherwise would not vote to alter their behavior and participate in politics? We argue that this may be possible if the campaign establishes a norm of intrinsic reciprocity by credibly signaling goodwill to the citizen in earlier interactions, such that the citizen subsequently chooses to vote as an act of reciprocity toward the campaign canvasser with whom they interacted.[5] We refer to this as the *intrinsic reciprocity hypothesis* and argue that under these conditions, voting can be plausibly interpreted as an act of intrinsic reciprocity for several reasons. First, voting requires the citizen to sacrifice her own material consumption because voting is costly. While these costs are not large, this is a non-controversial claim given the time, effort, and opportunity costs involved with any form of political participation (e.g., Riker and Ordeshook 1968; Brady and McNulty 2011). Second, the act of offering a reminder call is the initial action by the caller that can enhance a norm of reciprocity, which is completed when the caller follows through such that the subject can repay their debt by doing something good for the caller, in this case voting. (Note that reciprocity may also be created simply by offering a follow-up call. As we show in our description

[4]Cox, Friedman and Gjerstad (2007) present a qualitatively similar definition. By contrast, instrumental reciprocity is conceptually similar to colloquial notions of reciprocity, and involves the exchange of benefits resulting from optimizing behavior by selfish agents, such as those who "respond to kindness with kindness in order to sustain a profitable long-term relationship or to obtain a (profitable) reputation" (Sobel 2005, 392). As we show later in the article, the design of our experiment helps minimize instrumental reciprocity as a possible explanation. Given the short time horizon between the initial contact attempt and the day of the election, there would be no reason for the citizen's decision to vote to be motivated by wanting to sustain a long-term relationship with or by wanting to obtain long-run returns from maintaining a good reputation with the campaign canvasser.

[5]Our argument is similar in flavor to game theoretic arguments about cooperation in repeated interactions where the initial establishment of favorable reputations and learning about the trustworthiness of other players generates cooperation in equilibrium (e.g., Sobel 2005, p. 420).

of the experimental design, we are also able to test this possibility and we find that the offer of a reminder call alone is not enough to increase turnout.)

EXPERIMENTAL DESIGN

We design and analyze data from a field experiment assessing the effectiveness of different multiple-attempt GOTV strategies, where the treatment arms are operationalized to capture the effect of different mechanisms affecting political participation. The field experiment was implemented during the 2014 midterm election by the Colorado Civic Engagement Roundtable (hereafter referred to as the Roundtable), a non-partisan, non-profit organization that works together with other charitable organizations in Colorado to achieve an inclusive, just, and equitable state for all Coloradans.[6] Working with a campaign consulting firm hired to design and implement the experiment, the Roundtable randomly assigned subjects to receive mobilization calls where the number and content of calls were varied. We advised the Roundtable and the campaign consulting firm with the design of the field experiment.

Population and Subject Definition

The Roundtable targeted Latinos, African Americans, young voters between the ages of 17 and 34, and unmarried women in their mobilization campaign. Registrants who had voted in all of the last four elections and older, long-term registrants who did not vote in 2012 were excluded from the Roundtable's population of interest.

Subjects were recruited using the following procedure. First, the campaign consulting firm provided a list of 225,717 eligible registrants belonging to the Roundtable's target demographic groups. Second, households where registrants without a valid state identification number were excluded because it would be impossible to match administrative voter records back to these individuals. Registrants without a valid phone number were excluded because the mobilization attempts

[6]See `https://coloradocivicengagementroundtable.wordpress.com/our-plan/` for more information about the Roundtable's mission.

are conducted by phone. Finally, one subject was randomly sampled from each household remaining in the sampling frame.[7] The sample eligible for randomization included 139,153 subjects.

Definition of Treatments

We manipulate three features of a multiple-attempt, phone-based GOTV campaign: whether subjects are assigned to an early GOTV call, whether subjects are assigned to a late GOTV call, and whether the early GOTV call offered a reminder call. Including an offer for a reminder call in the early GOTV call script serves as a signal of goodwill from the caller to the citizen that is intended to ensure that a norm of reciprocity is established between the subject and the caller that is fulfilled by the second call. Because reciprocity may be established simply by successfully reaching a subject in an early GOTV call and in a subsequent late GOTV call, we accordingly interpret the effect of additionally providing an offer for a reminder call during the early call as the effect of an enhanced effort to establish reciprocity between the caller and the subject.

[TABLE 1 ABOUT HERE]

Table 1 summarizes the six treatment conditions in the experiment. Subjects may be assigned to an early GOTV call including a reminder call offer that is followed by a late GOTV call (Arm 1); an early GOTV call including a reminder call offer that is not followed by a late GOTV call (Arm 2); an early GOTV call without a reminder call offer that is followed by a late GOTV call (Arm 3); an early GOTV call without a reminder call offer that is not followed by a late GOTV call (Arm 4); a late GOTV call only that is not preceded by any early GOTV call (Arm 5); and a pure control condition in which neither an early GOTV call nor a late GOTV call is attempted (Arm 6).

To be clear about the inferences this design allows us to make, we draw sharp conceptual distinctions between three types of late GOTV calls. A standard *late GOTV call* is a GOTV call made just prior to Election Day that is not preceded by an early GOTV call. A late GOTV call is a

[7]There were a small number of cases where the same phone number was associated with different voters. When this occurred, we randomly sampled one registrant for each phone number such that a phone numbers are uniquely associated with subjects in the experiment.

reminder call if it is preceded by an early GOTV call that does not contain any offer for a reminder call. A late GOTV call is a *follow-up call* if it is preceded by an early GOTV call that contains an offer for a reminder call. In this case, the late GOTV call serves the purpose of following up on the reminder call offer made in the early GOTV call. We are therefore able to distinguish the effects of a reminder call (a late GOTV call that follows an early GOTV call) from the effects of a late GOTV call (that does not follow an early GOTV call). Additionally, by comparing the effects of follow-up calls to the effects of reminder calls, we are able to isolate the effect of reciprocity above and beyond providing a reminder to vote by exploiting experimental variation in whether an additional reminder call offer is included in the early GOTV call among subjects assigned to an early GOTV call followed by a late GOTV call. That is, does enhancing reciprocity increase the effectiveness of a reminder call?

Treatment Scripts

We briefly describe the contents of the treatment scripts below.[8] Professional callers employed by the campaign consulting firm made the calls and delivered the treatment scripts assigned to each subject.

For both the early GOTV call and the late GOTV call, the caller first asks to speak to the subject by name and records whether the the target subject is successfully reached. In the early GOTV script, the caller then introduces herself and her affiliation to the subject and states, "I'm with Colorado Civic Engagement. We're not asking for money. We're a nonpartisan community group working to get people voting in this upcoming election."

Subjects assigned to any condition including an early GOTV call (Arms 1-4) who are successfully reached are first read the following:

> *We wanted to remind you that Election Day is Tuesday, November 4th, and your ballot will be mailed to you next week. You can return your ballot by mail or by dropping it off at a Voter Service Center. If you prefer to vote in person, you can do so on Election*

[8]The full text of all treatment scripts may be found in the Supplemental Appendix.

Day at a polling station in your county. Remember, you can vote as early as October 20th all the way through Election Day on November 4th. Voting is one of the ways we can take control of our future and our community. Do you plan on voting in this election?

This portion of the script is similar to scripts used in standard GOTV mobilization phone campaigns that provide information about the date of the election and information about where and when to vote.[9] It also includes a persuasive sentence emphasizing the subject's ability to "take control of our future and our community" by voting. The early GOTV call script continues by asking subjects if they intend to vote in the upcoming election, and the caller records the subject's response.

At this point, the treatment script ends for subjects assigned to an early GOTV call without a reminder call offer (Arms 3 and 4). Subjects who are assigned to an early GOTV call containing a reminder call offer (Arms 1 and 2 only) are then asked whether they would like a reminder call:

If we have time the day or two before the election, would you like us to call you to remind you about the upcoming election?

and the caller records the subject's stated preference for a reminder call.

For subjects assigned to receive a late GOTV call in the days prior to Election Day (Arms 1, 3, and 5), callers are instructed to read the following script after asking for the target subject and recording whether the subject was successfully reached:

My name is [caller's name]. *I'm with Colorado Civic Engagement, a nonpartisan community group working to get people to vote. This is a reminder to vote in this November's election.*

The caller continues by asking whether the subject has voted. If the subject responds that they have not voted or refuses to answer, the caller concludes by reminding them of the date of the election and where they can drop off their ballot.

[9]Callers are trained to tell subjects who ask about voting locations to visit `www.justvotecolorado.org`, a non-partisan web resource, to find more information about voting locations and hours for both polling stations and Voter Service Centers.

Timing of Calls Relative to Election Day

At the time of the experiment, Colorado employed a no-excuse mail-in (absentee) voting system where all registered voters receive a ballot in the mail and are allowed to choose between voting by mail by Election Day, dropping off their ballot at a Voter Service Center by Election Day, or voting in person at a polling place on Election Day.[10] To allow subjects who prefer to vote by mail to do so, the late GOTV call attempts were conducted between October 28-30, 2014, or 5-7 days prior to Election Day. The early GOTV call attempts were conducted between October 10-13, 2014, or 22-25 days prior to Election Day and approximately 3 weeks before the late GOTV calls.[11]

Randomization and Measurement Procedures

Subjects were randomly assigned to one of the six treatment arms using a simple random assignment procedure where the probability of assignment to either of the conditions containing an early GOTV call with a reminder call offer is 0.25 (Arms 1 and 2) and where the probability of assignment to each of the remaining treatment conditions is 0.125 (Arms 3 to 6).

Table 2 summarizes the distribution of subjects by treatment arm. We perform a randomization check by modeling the vector of treatment assignments as a function of observed covariates using a multinomial logit regression. We fail to reject the null hypothesis that all of the covariates are jointly prognostic of treatment ($LR\ \chi^2(70) = 61.32,\ p = .76$) and infer that the randomization procedure did not fail.[12]

[TABLE 2 ABOUT HERE]

Following the election, we obtained voter files from the Colorado Department of State and matched administrative records containing turnout data to subjects in the analysis file.[13] The out-

[10]Colorado adopted a 100-percent vote-by-mail system in 2013 and began implementing this system in 2014.

[11]The 2014 midterm general election occurred on November 4, 2014.

[12]Balance tables appear in the Supplemental Appendix.

[13]For the record linkage procedure, we define a successful record match between the voter file

come measure of interest is turnout in the November 4, 2014 general election. The turnout variable is coded 1 if the subject voted in the election and 0 otherwise. We additionally collect pre-treatment covariate data from the campaign consulting firm's sampling frame, which was purchased from a political data vendor. The covariates collected for each subject include their gender, race, age, past vote history in the 2010 and 2012 primary and general elections, and the number of years since they last registered to vote.

ANALYSIS AND RESULTS

Our analysis proceeds in three stages. First, we assess the intent-to-treat effects of a late GOTV call on turnout after an early GOTV call. Second, we present a series of empirical tests of the intrinsic reciprocity hypothesis. As part of this analysis, we assess whether follow-up call effects are heterogeneous by subjects' stated preference for a reminder call, in particular whether the effects of a follow-up call are stronger among those who state they want a reminder. Finally, given the importance placed on heterogeneous effects by stated vote intention in prior work, we conduct an exploratory analysis assessing whether follow-up calls and reminder calls have differential effects by subjects' stated vote intention. For the sake of clarity, we discuss each set of empirical tests by specifying and justifying causal quantities of interest before presenting results. For all analyses, we estimate treatment effects parametrically using ordinary least squares. We employ both unadjusted and covariate adjusted estimators to assess robustness,[14] and specify the covariate adjusted estimator as the primary specification to improve precision.[15]

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and the analysis file if there is an exact match on the state voter ID field and if at least 4 of the following sets of fields match across files: first name; middle name; last name; phone number; birth year; sex; past turnout in the 2010 and 2012 primary and general elections; and city of residence.

[14]The following covariates are included across model specifications: years since voter registration date; gender; race dummies (Black, Latino, other); age; age squared divided by 100; past vote history in the 2010 and 2012 primary and general elections; and dummy variables if data are missing on any covariate.

[15]Our results are unaffected by covariate adjustment. Unadjusted estimates are presented in the Supplemental Appendix.

Intent-to-Treat Effects of Reminder GOTV Calls After an Early GOTV Call

We begin by assessing the average effect of attempting a reminder GOTV call among subjects who were randomly assigned to receive an early GOTV call, or $E[Y_i(Z^L = 1) - Y_i(Z^L = 0)|Z^E = 1]$, where Y_i is subject i's potential outcome and equals 1 if they vote in the election and 0 otherwise, Z^L denotes assignment to the late GOTV call and equals 1 if the subject is assigned to a late GOTV call and 0 if not, and Z^E denotes assignment to the early GOTV call and equals 1 if the subject is assigned to the early call and 0 if not.[16] This is the Intent-to-Treat effect that has been estimated in prior literature. To identify this quantity, we subset the sample to subjects assigned to receive an early GOTV call and estimate the following equation:

$$Y_i = \alpha_1 + \beta_1 Z_i^L + \gamma_1 X_i + \varepsilon_{1i} \quad (1)$$

where β_1 is our estimate of the ITT effect of reminder calls, X is a vector of controls, and γ_1 is a vector of coefficients on X. We additionally assess the ITT effect of attempting a reminder GOTV call among subjects who were successfully reached during the early GOTV call, or $E[Y_i(Z^L = 1) - Y_i(Z^L = 0)|D^E = 1]$, where D^E denotes receiving the early GOTV call and equals 1 if the subject received the assigned early GOTV call treatment and 0 if the subject did not receive the early GOTV call. We operationalize the receipt of the early GOTV call as the caller reaching the subject and getting through the first question in the early GOTV phone survey that confirms that the individual on the line is the targeted subject.[17] Thus it excludes subjects who could not be reached during the early GOTV call. We identify this quantity by partitioning the sample to include only subjects who received an early GOTV call and re-estimating Equation 1 among this subgroup.

[TABLE 3 ABOUT HERE]

[16] Following Gerber and Green (2012) we denote treatment assignment using the variable Z and treatment receipt using the variable D. We apply the superscripts E, L, and O to specify treatment assignment and treatment receipt specific to the early GOTV call, the late GOTV call, and the reminder call offer if assigned to an early GOTV call, respectively.

[17] This information is collected by the caller as part of the treatment delivery protocol and thus is measured for all subjects. Details may be found in the Supplemental Appendix.

Table 3 presents our estimates of the ITT effect of attempting a reminder call on turnout among subjects assigned to an early GOTV call attempt (Column 1) and the same effect among subjects who were successfully contacted in the early GOTV call (Column 2). Among subjects assigned to any early GOTV attempt, attempting a reminder call decreases turnout levels by 0.1 percentage points on average, but this effect is indistinguishable from zero (s.e.= 0.003; $n = 104,674$). Among subjects who were successfully reached in an early GOTV call, attempting a reminder call increases turnout by 1.2 percentage points. This effect is statistically significant at the 5% level (s.e.= 0.006; $p < .05$, two-tailed; $n = 22,120$). Given a control group voting rate of 54.1%, this translates into a 2.2 percent increase in the turnout rate.[18]

Testing the Intrinsic Reciprocity Hypothesis

We then turn our attention to a series of estimates that allow us to evaluate whether the theory of intrinsic reciprocity plausibly explains the effectiveness of follow-up calls. Our inferential strategy involves testing a series of hypotheses about ITT effects among subgroups whose treatment assignment and behavior in response to early GOTV call attempts satisfy conditions that we argue are necessary to attribute the effects of attempting a follow-up call on turnout to the intrinsic reciprocity explanation. Specifically, we focus on assessing follow-up call effects under a set of conditions where subjects may credibly perceive goodwill from the caller, which then potentially induces the subject to engage in voting as reciprocal act. We then compare that estimate to the effect of attempting a reminder call on turnout among those contacted in the early call but who were not offered a reminder in the early call in order to assess the importance of the initial act of

[18]Note that we should not compare subjects in this treatment group (i.e., subjects successfully contacted in an early GOTV call followed by a reminder call attempt) to those who are not assigned to an early GOTV call followed by a late GOTV call attempt, because we cannot observe whether subjects who were not assigned to an early GOTV call would have been successfully contacted in the early GOTV call if an early call attempt had been made. Thus we cannot say whether the effect of attempting a second round call among those who are reached in an early round call exist because these subjects are the type that could be reached in an early call or because they had been reached in an early call. To distinguish these two explanations would require a different experimental design that we later describe in the Discussion section.

offering a reminder call in the early call. (Therefore we are able to difference out the effect of attempting a second call and isolate the effect of offering a reminder in the early call).

We begin this line of inquiry by examining whether, among subjects who were assigned to an early GOTV call containing a reminder call offer and who were successfully contacted in the early call, attempting a follow-up call increases participation levels. Formally we express this quantity as $E[Y_i(Z^L = 1) - Y_i(Z^L = 0)|D^O = 1]$ where D^O denotes receipt of the reminder call offer (in the early GOTV call, i.e., if $D^O = 1$ then $D^E = 1$). We identify this effect by estimating Equation 1 among subjects contacted in an early GOTV call with an offer of a reminder. In other words, this is the combined effect of reciprocity plus a reminder call.

We then estimate the effect of a follow-up call attempt among subjects who received an early GOTV call containing a reminder call offer *and* who expressed that they wanted the reminder call. Formally we express this quantity as $E[Y_i(Z^L = 1) - Y_i(Z^L = 0)|D^O = 1, W_i = 1]$ where W_i equals 1 if subject i expresses that they want a reminder call and 0 otherwise. We identify this quantity by estimating Equation 1 among subjects offered a follow-up call who requested it. We argue that the subset of subjects satisfying these conditions can be interpreted as those who are most likely to perceive a follow-up call as an act of goodwill that induces voting as a reciprocal act. If wanting (valuing) something that is offered to you enhances reciprocity, this group should experience a larger treatment effect.

We complement our primary test of the intrinsic reciprocity hypothesis with two ancillary analyses that assess how participation levels vary when either of the conditions central to our primary test of the mechanism are relaxed. We first assess whether failing to deliver a follow-up call despite the initial offer of a reminder call in the early GOTV call decreases turnout.[19] To do this, we compare average turnout rates between subjects assigned to an early GOTV call with a reminder call offer and subjects assigned to an early GOTV call without a reminder call of-

[19]This matters because whether reciprocity is established may condition on whether the caller follows through on their initial offer or whether the caller fails to do so. This also allows us to test whether merely offering a reminder induces reciprocity by comparing the effect of only an early call with a reminder call offer to the effect of only an early call without a reminder call offer.

fer, among those subjects not assigned to receive a late GOTV call. We identify this quantity, $E[Y_i(Z^O = 1) - Y_i(Z^O = 0)|D^E = 1, Z^L = 0]$, by estimating the following equation among subjects assigned to receive any early GOTV call, are successfully contacted during the early GOTV call, and are assigned to receive no late GOTV call:

$$Y_i = \alpha_2 + \beta_2 Z_i^O + \gamma_2 X_i + \varepsilon_{2i} \tag{2}$$

Finally we assess whether there is an effect of attempting reminder calls among subjects who were assigned to an early GOTV call without a reminder call offer and who were successfully contacted during the early GOTV call. In the absence of a reminder call offer in the early GOTV call, we would expect much less reciprocity to be established between the subject and the caller. We identify this quantity, $E[Y_i(Z^L = 1) - Y_i(Z^L = 0)|D^E = 1, Z^O = 0]$, by re-estimating Equation 1 among this subset of subjects.

[TABLE 4 ABOUT HERE]

Table 4 reports our estimates of these conditional ITT effects specified to test the intrinsic reciprocity hypothesis. Column 1 presents the estimated effect of attempting a follow-up call on turnout among subjects who were assigned to an early GOTV call with a reminder call offer and who were successfully contacted during the early call. We find that among this subgroup, attempting a follow-up call increases turnout levels by an average of 1 percentage point, but we fail to reject the null hypothesis that the effect is equal to zero (s.e.=0.008; $n = 14,726$).

Our primary test of the intrinsic reciprocity hypothesis is presented in Column 2, which reports the estimated effect of attempting a follow-up call among subjects who were assigned to an early GOTV call with a reminder call offer, who were successfully contacted in the early call, and who stated they wanted a reminder call. In other words this quantity captures the combined effect of a reminder call and the effect of reciprocity on turnout. We find that among those provided a reminder call offer and who wanted the reminder call, attempting a follow-up call increases turnout levels by 0.8 percentage points (s.e.=0.02; $n = 2,198$). We draw attention to the fact that

this estimate is weakly less than, and certainly no greater than, the estimated effect of a follow-up call among subjects reached in an early GOTV call with a reminder call who did not want the call (from Column 1). Thus we conclude that the effects of a follow-up call on turnout conditional on receiving an early call with a reminder call offer does not appear to depend on whether one wants a reminder call and, importantly, is not larger among those who want a reminder call.[20] We also note that while the estimated mean effects in these two analyses are comparable in magnitude to statistically significant effects in prior GOTV field experiments,[21] the estimated effects are not statistically distinguishable from zero in this study.

Columns 3 and 4 of Table 4 present two ancillary analyses assessing how turnout is affected when we relax different conditions under which we expect intrinsic reciprocity to affect turnout. In Column 3, we assess the effect of including an offer for a reminder call in the early GOTV call among those reached in the early call and not assigned to any late GOTV call. This contrast allows us to infer whether failure to follow up conditional on providing a reminder call offer in the early GOTV call has an effect on turnout as well as if merely offering a reminder (but not carrying it out) increases turnout. The effect is 0.4 percentage points (s.e.=0.009; $n = 11029$). The magnitude of this difference is substantively small, which implies that failing to follow up has no effect on turnout. In Column 4, we assess the effect of attempting a late GOTV call on turnout among subjects assigned to and successfully contacted in an early GOTV attempt but who are not offered a reminder call in the early GOTV call. This quantity allows us to infer whether, in the absence of an act of goodwill in the early call, attempting a reminder call given successful contact in an early GOTV call increases turnout. The estimated effect of the reminder call attempt among this subgroup is 1.6 percentage points (s.e.=0.011; $n = 7394$). Thus the effect of attempting a second round call is not larger (and may be smaller) when it follows an offer for a reminder call in the

[20] We refer the reader to the Supplemental Appendix where we present an additional analysis formally testing whether there are heterogeneous effects of follow-up calls by stated preference for a reminder call. We find no evidence of heterogeneous effects by subjects' stated preference for a reminder call.

[21] See Green and Gerber (2015) for a comprehensive review of this literature.

early call than when it does not. We therefore do not find evidence that enhancing reciprocity, operationalized as offering a reminder call in an early GOTV attempt, increases the turnout effects of reminder calls.[22]

Heterogeneous Effects of Follow-Up and Reminder Calls by Stated Vote Intention

Finally, we assess whether follow-up call and reminder call effects vary by subjects' stated vote intention. This analysis is motivated by prior work that has assumed that reminder calls are only effective among subjects who state they intend to vote in the upcoming election. However, the empirical claim that heterogeneous effects by stated vote intention exist has not yet been tested. Thus we conduct a series of exploratory analyses to assess whether heterogeneous effects exist. First, we assess whether follow-up calls are effective among subjects who state that they intend to vote during the early GOTV call. We identify the quantity $E[Y_i(Z^L=1)-Y_i(Z^L=0)|D^E=1,D^O=1,V_i^Y=1]$, where V_i^Y denotes a subject stating she intends to vote in the upcoming election, by estimating Equation 1 on this subset of subjects and test the null hypothesis that the coefficient on the Z_i^L variable is equal to zero. This conditional mean effect has been estimated in past studies and is of particular interest because it may be the case that a call to remind a subject to vote only works as a reminder if the subject already intends to vote.

We then formally test whether heterogeneous follow-up call effects exist among subjects successfully contacted in an early GOTV call and whether heterogeneous reminder call effects exist among subjects successfully contacted in the early call. For both of these subgroups, we estimate

$$Y_i = \alpha_3 + \beta_3 Z_i^L + \beta_4 V_i^Y + \beta_5 V_i^U + \beta_6 Z_i^L \cdot V_i^Y + \beta_7 Z_i^L \cdot V_i^U + \gamma_3 X_i + \varepsilon_{3i} \quad (3)$$

where V_i^Y equals 1 if the subject was contacted during the early call and stated they intended to vote and 0 otherwise; and V_i^U equals 1 if the subject was contacted during the early call but did not explicitly state whether they intended to vote and 0 otherwise. The omitted reference category

[22]Either reciprocity does not matter or the early call with the reminder call offer plus the follow up call is not sufficient to induce reciprocity.

is comprised of subjects who were successfully contacted in the early call and stated they did not intend to vote in the upcoming election. For each of these analyses, we test the null hypotheses that $\beta_6 = \beta_7$, $\beta_6 = 0$, and $\beta_7 = 0$ to compare average follow-up and reminder call effects between subjects who were successfully contacted during the early call but who have different stated vote intentions.

[TABLE 5 ABOUT HERE]

Column 1 in Table 5 presents the estimated effect of attempting a follow-up call on turnout among subjects who received an early GOTV call with a reminder call offer and who stated during the early call that they intended to vote in the upcoming election. Among this subgroup, attempting the follow-up call increases turnout levels by 1.3 percentage points (s.e.=0.008, $n = 11794$) but this difference is not statistically distinguishable from zero. In Columns 2 and 3, we report heterogeneous effects of attempting a follow-up call and a reminder call, respectively, on turnout by stated vote intention among subjects who were (Column 2) and were not (Column 3) offered a reminder call as part of the early GOTV call script. These analyses also condition on subjects who were successfully reached during the early call. As shown in Column 2, among subjects who were contacted and offered the reminder call offer in the early call, the effect of attempting a follow-up call is 3.0 percentage points larger on average for subjects who stated they intend to vote than for subjects who stated they did not intend to vote, and 3.5 percentage points larger for subjects who did not disclose their vote intention than for subjects who stated they did not intend to vote. However, neither of these mean effect estimates are statistically distinguishable from zero. Column 3 shows that among subjects who were contacted and not offered a reminder call in the early call, attempting a reminder call is 3.9 percentage points larger on average for subjects who stated they intend to vote than for subjects who stated they did not intend to vote, and 5.4 percentage points larger for subjects who did not disclose their vote intention than for subjects who stated they did not intend to vote. Similarly, these effects are not statistically distinguishable from zero. Thus while intending to vote seems to be a strong predictor of turnout[23] and despite the emphasis in

[23]The main effect is large, positive, and statistically significant at the 1% level in both Columns

prior work placed on claims suggesting the contrary, we do not find evidence that the effect of attempting a follow-up or reminder call varies by stated vote intention.

DISCUSSION

Despite considerable interest in whether increasing targeted mobilization effort increases turnout, credible research on the topic remains sparse. To date, two small-scale field experiments by Michelson, Garcia Bedolla and McConnell (2009) have found that second round mobilization attempts are effective at increasing turnout only when the second call serves as a reminder to vote. However these studies test bundled treatments that are unable to disentangle the effects of a late GOTV attempt occurring just prior to the election, the effects of a late GOTV attempt that follows an earlier GOTV attempt, and the effects of reciprocity established over the course of multiple GOTV attempts on turnout. In addition to a lack of empirical clarity about why reminder calls are effective at increasing turnout, existing theoretical literature has largely overlooked the role of reciprocity in explaining observed effects. In this paper, we address both of these concerns. We present a novel theory about the causal role of reciprocity in multiple-attempt mobilization campaigns. We also design and analyze data from a field experiment conducted during the 2014 midterm election in Colorado that allows us to isolate these effects and, in turn, make inferences about the validity of competing hypotheses explaining observed reminder call effects.

Our findings make three contributions to the literature. First, we show that attempting a late GOTV call conditional on a successful early GOTV call increases turnout levels by 1.2 percentage points. In contrast, when we condition on subjects assigned to an early GOTV call (pooling across successful and unsuccessful contact in early calls), attempting a reminder call has no effect on turnout. The substantive and practical implication of this result is that reminder calls should only be attempted among subjects who are successfully contacted in an initial call attempt and not among those who are unsuccessfully reached in the initial round of calls. This finding bolsters earlier experimental results showing that the direction of the effect of a reminder call on turnout

2 and 3.

levels is positive, but the magnitude of our effect is far more modest than estimates reported in prior experiments on the effectiveness of reminder calls.[24] The difference in the magnitude of the reported effects across studies may arise from multiple factors including sampling variability, differences in the demographic profile of the targeted populations across studies, and differences in the salience of the elections associated with each study.

Second, we extend the literature by developing and empirically testing the intrinsic reciprocity hypothesis, which argues that follow-up calls are effective at increasing turnout levels if the history of interactions between a caller and a campaign caller credibly establishes goodwill and a norm of intrinsic reciprocity such that the citizen votes as an act of reciprocity toward the caller. To test our hypothesis, we assess the effect of attempting a follow-up call among subjects offered a reminder call in an early call and among subjects who were offered the reminder call and wanted it. We interpret these subgroups as subjects whose interactions with the caller during the early call have the greatest potential to establish goodwill and a norm of intrinsic reciprocity between the subject and the caller to induce them to vote as a reciprocal act. We find that attempting a follow-up call among subjects who are contacted in the early call and are provided with a reminder call offer generates a mean increase in the turnout rate by about 1 percentage point. When further conditioning on subjects who state that they want the reminder when provided with a reminder call offer in the early call, we observe a similar result: attempting a reminder call among this subgroup increases turnout by 0.8 percentage points. However, we fail to reject the null hypothesis that the mean effect is equal to zero for both of these groups. We additionally assess the importance of enhancing reciprocity (through the reminder call offer in the early GOTV call) by comparing the effect of attempting a second round call after an early call with a reminder call offer to the effect of attempting a second round call after an early call without a reminder call offer. We do not find that enhancing reciprocity by offering a reminder call increases the effect of a late GOTV call that

[24]By comparison, Michelson, Garcia Bedolla and McConnell (2009) report that reminder calls increase turnout by 3.8 points in the New Jersey PIRG experiment targeting young voters in 2003 and by 5.5 points in the study targeting Asian American registered voters in Los Angeles County in 2008.

follows an early call.

We offer two alternative interpretations of observed results that deserve further exploration in future research. The first interpretation is that a positive effect of the combined reminder call and reciprocity treatment exists but we are simply unable to detect that it is statistically distinguishable from zero in this study due to a lack of statistical power resulting from the relatively small sample sizes that remain after conditioning on successful early call contact, including a reminder call offer in the early call, and the subject stating that they wanted the reminder call. If this is the case, then a larger field experiment replicating the design of this experiment could provide more compelling evidence to test the intrinsic reciprocity hypothesis.

The second interpretation is that the intrinsic reciprocity hypothesis may be true, but the the treatments in this study were not optimally designed to test our theory. We provide two possible explanations why a null effect might be observed under the present design and describe alternative experimental designs that may provide better leverage to test the intrinsic reciprocity hypothesis. First, it may be the case that being offered a reminder call and wanting a reminder call did not establish a norm of intrinsic reciprocity and goodwill between the subject and the campaign caller. This may be because subjects doubted the sincerity of the reminder call offer and, more generally, the intentions of the mobilization campaign's agent. In the context of electoral campaigns, citizens likely understand that politicians and campaign organizations undertake a range of efforts to mobilize voters. In turn, subjects may not have believed that the reminder call offer was intended for their benefit, but rather for the benefit of the organization conducting the mobilization campaign.

A second potential explanation is that the combination of the early call with the reminder call offer and the follow-up call attempt was successful at establishing goodwill and a norm of intrinsic reciprocity, but these conditions were not sufficient to compel subjects to reciprocate by changing their voting behavior.[25] As past work by Whatley et al. (1999) has shown, even though people may

[25] Alternatively, it may also be the case that an early call (without a reminder call offer) followed by a reminder call is sufficient to establish some reciprocity. Nonetheless, if greater reciprocity increases the effectiveness of second calls and if the early call with an offer of a reminder generates more reciprocity than an early call without that offer, this design would still allow us to estimate the effect of the marginal increase in perceived reciprocity.

strongly internalize the norm of reciprocity, engaging in norm-compliant reciprocal behavior is more likely to occur in a public context than in a private context because people seek social rewards for engaging in reciprocal behavior and seek to avoid the social costs of failing to reciprocate when monitored by others. The treatments in this experiment may not have adequately primed social incentives to vote because the treatment conditions involved private interactions between the subject and the caller and because the subject may not have expected anyone to monitor whether they voted in the election.[26]

Another fruitful direction for future research involves testing a placebo-controlled design that includes a treatment condition where subjects may be assigned to a first round call that has nothing to do with voter mobilization. Designs including a placebo first round call would provide leverage to assess conditional effects of attempting a second round call by varying prior interactions, to make credible inferences about the importance of prior interactions in multiple-attempt GOTV campaigns (rather than merely being the type of person one can contact in an early call), and to better isolate the effect of the late GOTV call on turnout.

Finally, we provide the first assessments of heterogeneous follow-up call and heterogeneous reminder call effects in the literature. Specifically, we examine whether reminder call effects vary by subjects' stated demand for a reminder and by subjects' stated vote intention. For both sets of analyses, we find no statistically significant differences in the effect of a follow-up or reminder call on turnout relative to an early call by subjects' stated preference for a reminder or by subjects' stated vote intention. While the present design cannot answer questions about the causal role of subjects' stated vote intention and is unable to distinguish sorting from treatment (i.e., whether it

[26]We hypothesize that had our treatment been delivered in a more public manner, such as in a town hall setting or through an in-person caller conducting a door-to-door mobilization campaign, the observed effects of the follow-up call attempt among subjects who were offered and wanted a reminder call might have been larger and statistically distinguishable from zero. Similarly, if the multiple-attempt GOTV campaign were deployed by a civic organization with strong pre-existing social ties with subjects, the follow-up call treatment may be more effective at cuing social pressures to comply with norms of intrinsic reciprocity by voting. In addition, follow-up call campaigns may also be more effective at compelling citizens to vote as a reciprocal act if it is conducted by the same organization over multiple election cycles, because social pressure is more likely to arise in repeated interactions than in one-shot interactions (Caporael et al. 1989).

is stating one's vote intention or being the type of person who would state one's vote intention that matters), our results cast doubt on the claim implicit in the literature that the effects of reminder calls vary by stated vote intention. However, the magnitudes of the estimates on the interaction terms are substantively large given the magnitude of other GOTV treatment effects in the literature, which suggests that the present design may be underpowered and that larger and better powered replication experiments may detect heterogeneous effects that are statistically distinguishable from zero.

REFERENCES

Benabou, Roland and Jean Tirole. 2003. "Intrinsic and Extrinsic Motivation." *Review of Economic Studies* 70(3):489–520.

Berg, Joyce, John Dickhaut and Kevin McCabe. 1995. "Trust, Reciprocity, and Social History." *Games and Economic Behavior* 10:122–142.

Brady, Henry E. and John E. McNulty. 2011. "Turning Out to Vote: The Costs of Finding and Getting to the Polling Place." *American Political Science Review* 105(1):115–134.

Caporael, Linnda R., Robyn M. Dawes, John M. Orbell and Alphons J. C. van de Kragt. 1989. "Selfishness examined: Cooperation in the absence of egoistic incentives." *Behavioral and Brain Sciences* 12:683–739.

Cialdini, Robert B. 1984. *Influence: The New Psychology of Modern Persuasion*. New York: Quill.

Cox, James C., Daniel Friedman and Steven Gjerstad. 2007. "A tractable model of reciproicty and fairness." *Games and Economic Behavior* 59(1):17–45.

Dunning, Thad and Susan Stokes. 2007. "Persuasion vs. Mobilization." Working Paper. Yale University.

Feddersen, Timothy J. 2004. "Rational Choice Theory and the Paradox of Not Voting." *Journal of Economic Perspectives* 18:99–112.

Festinger, Leon. 1957. *A Theory of Cognitive Dissonance*. Palo Alto: Stanford University Press.

Finan, Frederico and Laura Schechter. 2012. "Vote-Buying and Reciprocity." *Econometrica* 80(2):863–881.

Fishbein, Martin and Icek Ajzen. 1975. *Belief, attitude, intention, and behavior: An introduction to theory and research*. Reading, MA: Addison-Wesley.

Funk, Patricia. 2006. "Modern Voting Tools, Social Incentives and Voter Turnout: Theory and Evidence." Working Paper. Presented at the Annual Meeting of the American Economic Association, Chicago, IL.

Gerber, Alan S. and Donald P. Green. 2012. *Field Experiments: Design, Analysis, and Interpretation*. New York: W. W. Norton.

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

Gouldner, Alvin W. 1960. "The Norm of Reciprocity: A Preliminary Statement." *American Sociological Review* 25(2):161–178.

Green, Donald P. and Alan S. Gerber. 2001. "Getting Out the Youth Vote: Results from Randomized Field Experiments." Yale University: Technical Report.

Green, Donald P. and Alan S. Gerber. 2004. *Get Out the Vote: How to Increase Voter Turnout*. Washington DC: Brookings Institution Press.

Green, Donald P. and Alan S. Gerber. 2008. *Get Out the Vote: How to Increase Voter Turnout*. 2nd ed. Washington DC: Brookings Institution Press.

Green, Donald P. and Alan S. Gerber. 2015. *Get Out the Vote: How to Increase Voter Turnout*. 3rd ed. Washington DC: Brookings Institution Press.

Kiesler, Charles A. 1971. *The Psychology of Commitment: Experiments Linking Behavior to Belief*. New York: Academic Press.

Ludwig, Jens, Jeffrey R. Kling and Sendhil Mullainathan. 2011. "Mechanism Experiments and Policy Evaluations." *Journal of Economic Perspectives* 25(3):17–38.

Michelson, Melissa R., Lisa Garcia Bedolla and Margaret A. McConnell. 2009. "Heeding the Call: The Effect of Targeted Two-Round Phone Banks on Voter Turnout." *Journal of Politics* 71(4):1549–1563.

Palmatier, Robert W., Rajiv P. Dant, Dhruv Grewal and Kenneth R. Evans. 2006. "Factors Influencing the Effectiveness of Relationship Marketing: A Meta-Analysis." *Journal of Marketing* 70(4):136–153.

Riker, William H. and Peter C. Ordeshook. 1968. "A Theory of the Calculus of Voting." *American Political Science Review* 62(1):25–42.

Schaffer, Frederic Charles, ed. 2007. *Elections for Sale: The Causes and Consequences of Vote Buying*. Boulder, CO: Lynne Rienner Publishers.

Sherman, Steven J. 1980. "On the Self-Erasing Nature of Errors of Prediction." *Journal of Personality and Social Psychology* 39(2):211–221.

Sobel, Joel. 2005. "Interdependent Preferences and Reciprocity." *Journal of Economic Literature* 43(2):392–436.

Whatley, Mark A., J. Matthew Webster, Richard H. Smith and Adele Rhodes. 1999. "The Effect of a Favor on Public and Private Compliance: How Internalized is the Norm of Reciprocity?" *Basic and Applied Social Psychology* 21(3):251–259.

TABLES

Table 1: Definition of Treatment Arms by Treatment Components

		Treatment Components		
		Attempt Early GOTV Call		
Arm	Treatment Description	Standard GOTV Message	Reminder Call Offer	Attempt Late GOTV Call
1	Early GOTV call including reminder call offer followed by a late GOTV call	✓	✓	✓
2	Early GOTV call including reminder call offer **not** followed by a late GOTV call	✓	✓	
3	Early GOTV call **without** a reminder call offer followed by a late GOTV call	✓		✓
4	Early GOTV call **without** a reminder call offer **not** followed by a late GOTV call	✓		
5	Late GOTV call only			✓
6	Pure Control			

Source: Authors' summary of treatment arms.

Table 2: Distribution of Subjects by Treatment Arm

Treatment Arm	N	Percent
1: Early GOTV call including reminder call offer followed by a late GOTV call	34,987	25.1
2: Early GOTV call including reminder call offer **not** followed by a late GOTV call	35,099	25.2
3: Early GOTV call **without** a reminder call offer followed by a late GOTV call	17,411	12.5
4: Early GOTV call **without** a reminder call offer **not** followed by a late GOTV call	17,177	12.3
5: Late GOTV call only	17,275	12.4
6: Pure Control	17,204	12.4
Total	139,153	100

Source: Authors' calculations.

Table 3: Estimated ITT Effects of Attempting a Late GOTV Call on Turnout among Subjects Assigned to and Contacted in an Early GOTV Call Attempt

Variable	Assigned to Receive Early GOTV Call (1)	Assigned to and Contacted in Early GOTV Call (2)
Attempted Late GOTV Call	-0.001	0.012
	[0.003]	[0.006]**
Years Since Registration Date	-0.004	-0.004
	[0.000]***	[0.001]***
Years Since Registration Date Missing	-0.245	-0.322
	[0.028]***	[0.058]***
Gender=Male (1=Yes)	-0.004	-0.01
	[0.003]	[0.006]*
Gender=Unknown (1=Yes)	-0.059	0.035
	[0.107]	[0.241]
Race=Black (1=Yes)	-0.101	-0.089
	[0.004]***	[0.009]***
Race=Latino (1=Yes)	-0.091	-0.076
	[0.004]***	[0.009]***
Race=Other (1=Yes)	-0.055	-0.048
	[0.008]***	[0.015]***
Age in Years	0.010	0.008
	[0.001]***	[0.001]***
Age Missing	0.073	0.066
	[0.058]	[0.110]
Age Squared/100	-0.004	-0.003
	[0.001]***	[0.001]*
Voted in 2012 General Election (1=Yes)	0.230	0.226
	[0.003]***	[0.008]***
Voted in 2010 General Election (1=Yes)	0.230	0.214
	[0.004]***	[0.008]***
Voted in 2012 Primary Election (1=Yes)	0.180	0.182
	[0.008]***	[0.015]***
Voted in 2010 Primary Election (1=Yes)	0.090	0.092
	[0.007]***	[0.014]***
Constant	0.037	0.131
	[0.012]***	[0.026]***
Observations	104,674	22,120
Adjusted R-squared	0.157	0.144
Reference Group Mean	0.46	0.541

Standard errors in brackets
*** p<0.01, ** p<0.05, * p<0.1

Table 4: Estimated ITT Effects Testing the Intrinsic Reciprocity Hypothesis

	Conditional on Receiving Early GOTV Call			
Variable	Offered Reminder (1)	Offered and Wanted Reminder (2)	Not Assigned Late GOTV Call Attempt (3)	Not Offered Reminder in Early Call (4)
Attempted Late GOTV Call	0.010	0.008		0.016
	[0.008]	[0.020]		[0.011]
Assigned Reminder Call Offer in Early GOTV Call			0.004	
			[0.009]	
Years Since Registration Date	-0.004	-0.007	-0.005	-0.005
	[0.001]***	[0.002]***	[0.001]***	[0.001]***
Years Since Registration Date Missing	-0.309	-0.314	-0.303	-0.339
	[0.071]***	[0.122]**	[0.095]***	[0.099]***
Gender=Male (1=Yes)	-0.018	0.033	-0.002	0.005
	[0.008]**	[0.020]*	[0.009]	[0.011]
Gender=Unknown (1=Yes)	0.050		0.001	0.015
	[0.282]		[0.354]	[0.480]
Race=Black (1=Yes)	-0.104	-0.088	-0.077	-0.057
	[0.012]***	[0.027]***	[0.013]***	[0.016]***
Race=Latino (1=Yes)	-0.084	-0.055	-0.073	-0.062
	[0.011]***	[0.026]**	[0.012]***	[0.015]***
Race=Other (1=Yes)	-0.060	-0.027	-0.043	-0.022
	[0.019]***	[0.052]	[0.022]**	[0.027]
Age in Years	0.007	0.008	0.006	0.01
	[0.002]***	[0.004]**	[0.002]***	[0.002]***
Age Missing	0.063	0.081	0.062	0.058
	[0.150]	[0.293]	[0.168]	[0.166]
Age Squared/100	-0.001	-0.002	0	-0.005
	[0.002]	[0.005]	[0.002]	[0.003]*
Voted in 2012 General Election (1=Yes)	0.236	0.234	0.232	0.207
	[0.010]***	[0.026]***	[0.012]***	[0.014]***
Voted in 2010 General Election (1=Yes)	0.209	0.211	0.216	0.224
	[0.010]***	[0.027]***	[0.011]***	[0.014]***
Voted in 2012 Primary Election (1=Yes)	0.192	0.197	0.194	0.158
	[0.019]***	[0.053]***	[0.022]***	[0.027]***
Voted in 2010 Primary Election (1=Yes)	0.081	0.077	0.097	0.115
	[0.017]***	[0.048]	[0.020]***	[0.025]***
Constant	0.153	0.091	0.157	0.086
	[0.032]***	[0.081]	[0.037]***	[0.044]*
Observations	14,726	2,198	11,029	7,394
Adjusted R-squared	0.145	0.14	0.144	0.144
Reference Group Mean	0.543	0.528	0.539	0.539

Standard errors in brackets
*** p<0.01, ** p<0.05, * p<0.1

Table 5: Estimated ITT Effects of Attempting a Late GOTV Call on Turnout, by Stated Vote Intention among Subjects Assigned to and Contacted in an Early GOTV Call Attempt

	Conditional on Receiving Early GOTV Call		
Variable	Offered Reminder in Early GOTV Call and Intends to Vote	Offered Reminder in Early GOTV Call	Not Offered Reminder in Early GOTV Call
Attempted Late GOTV Call	0.013	-0.017	-0.024
	[0.008]	[0.028]	[0.040]
Subject's Stated Vote Intention in Early Call = Yes		0.198	0.172
		[0.021]***	[0.029]***
Subject's Stated Vote Intention in Early Call = Unknown		0.064	0.034
		[0.025]**	[0.035]
Attempted Late GOTV Call * Intends to Vote		0.030	0.039
		[0.029]	[0.042]
Attempted Late GOTV Call * Vote Intention Unknown		0.035	0.054
		[0.035]	[0.050]
Years Since Registration Date	-0.005	-0.004	-0.005
	[0.001]***	[0.001]***	[0.001]***
Years Since Registration Date Missing	-0.339	-0.282	-0.340
	[0.093]***	[0.070]***	[0.098]***
Gender=Male (1=Yes)	-0.020	-0.018	0.002
	[0.009]**	[0.008]**	[0.011]
Gender=Unknown (1=Yes)	0.07	0.062	0.123
	[0.335]	[0.279]	[0.476]
Race=Black (1=Yes)	-0.118	-0.105	-0.056
	[0.013]***	[0.011]***	[0.016]***
Race=Latino (1=Yes)	-0.091	-0.082	-0.059
	[0.012]***	[0.011]***	[0.015]***
Race=Other (1=Yes)	-0.04	-0.045	-0.018
	[0.022]*	[0.019]**	[0.027]
Age in Years	0.006	0.006	0.009
	[0.002]***	[0.002]***	[0.002]***
Age Missing	0.073	0.040	0.081
	[0.172]	[0.149]	[0.164]
Age Squared/100	0	-0.001	-0.004
	[0.002]	[0.002]	[0.002]*
Voted in 2012 General Election (1=Yes)	0.245	0.224	0.198
	[0.011]***	[0.010]***	[0.014]***
Voted in 2010 General Election (1=Yes)	0.195	0.203	0.220
	[0.011]***	[0.010]***	[0.014]***
Voted in 2012 Primary Election (1=Yes)	0.173	0.187	0.151
	[0.020]***	[0.019]***	[0.027]***
Voted in 2010 Primary Election (1=Yes)	0.077	0.077	0.108
	[0.019]***	[0.017]***	[0.025]***
Constant	0.208	0.005	-0.034
	[0.036]***	[0.037]	[0.051]
Observations	11,794	14,726	7,394
Adjusted R-squared	0.138	0.162	0.159
Reference Group Mean	0.311	0.311	0.347

Standard errors in brackets
*** p<0.01, ** p<0.05, * p<0.1

Supplemental Appendix for:

WHEN DOES INCREASING MOBILIZATION EFFORT INCREASE TURNOUT? NEW THEORY AND EVIDENCE FROM A FIELD EXPERIMENT ON REMINDER CALLS

FOR ONLINE PUBLICATION ONLY

May 12, 2016

This appendix contains the following material:

A TREATMENT SCRIPTS

A.1 Early GOTV Call Script

GROUPCODE 01: **Early GOTV call with info and offer of reminder call**
GROUPCODE 02: **Early GOTV call with only information and NO offer of reminder call**

Intro: *Hi, could I speak to [name1] or [name2]?* **(Please enter id number of target reached)**

01 Target on line
20 Refused
21 Do not call
22 Not voting
23 Already Voted
FDISPS 30-86 ARE FINALIZED RECORDS BUT DON'T COUNT AS CONTACTS
30 Early Hangup [enter ID1 into ID field]
31 Language Barrier [enter ID1 into ID field]
32 Target Deceased [enter ID1 into ID field]
35 Privacy Manager [enter ID1 into ID field]
80 Wrong Number [enter ID1 into ID field]
81 Disconnected Number [enter ID1 into ID field]
82 Fax/Modem [enter ID1 into ID field]
83 Fast Busy [enter ID1 into ID field]
84 Telephony Error/Circuits Busy [enter ID1 into ID field]
85 Changed Number [enter ID1 into ID field]
86 Tri-tone/No longer in service (catch all) [enter ID1 into ID field]

Q1: *My name is [caller's name]. I'm with Colorado Civic Engagement. We're not asking for money. We're* ***a nonpartisan community group*** *working to get people voting in this upcoming election.*

We wanted to remind you that Election Day is Tuesday, November 4th, and your ballot will be mailed to you next week. You can return your ballot by mail or by dropping it off at a Voter Service Center. If you prefer to vote in person, you can do so on Election Day at a polling station in your county. Remember, you can vote as early as October 20th all the way through Election Day on November 4th. Voting is one of the ways we can take control of our future and our community.

1 Target still on line
9 Terminated

Q2: *Do you plan on voting in this election?*

1 Yes
2 No
3 Uncertain
4 Wouldn't disclose
9 Terminated

GROUPCODE 01: **[GO TO Q3]**
GROUPCODE 02: *Thank you for your time and goodbye*. [END OF CALL]

Q3: *Ok, thanks. If we have time the day or two before the election, would you like us to call you to remind you about the upcoming election?*

1 Yes: *Okay, I've recorded that you'd like a reminder call. Thank you for your time and goodbye.*
2 No: *Okay. Thank you for your time and goodbye.*
3 Other: *Okay. Thank you for your time and goodbye.*
9 Terminated

A.2 Late GOTV Call

Intro: *Hi, could I please speak to [name1] or [name2]?* **(Please enter id number of target reached)**

01 Target Reached: **[GO TO Q1]**
20 Refused: *Thank you for your time. Goodbye.*
21 Do Not Call: *Thank you for your time. Goodbye.*
FDISPS 30-86 ARE FINALIZED RECORDS BUT DON'T COUNT AS CONTACTS
30 Early Hangup [enter ID1 into ID field]
31 Language Barrier [enter ID1 into ID field]
32 Target Deceased [enter ID1 into ID field]
35 Privacy Manager [enter ID1 into ID field]
80 Wrong Number [enter ID1 into ID field]
81 Disconnected Number [enter ID1 into ID field]
82 Fax/Modem [enter ID1 into ID field]
83 Fast Busy [enter ID1 into ID field]
84 Telephony Error/Circuits Busy [enter ID1 into ID field]
85 Changed Number [enter ID1 into ID field]
86 Tri-tone/No longer in service (catch all) [enter ID1 into ID field]

Q1: *My name is [caller's name]. I'm with Colorado Civic Engagement, a nonpartisan community group working to get people to vote. This is a reminder to vote in this November's election.*

1 Target still on line
9 Terminated

Q2: *Have you already voted?*

1 Yes: *That's great! Thank you for your time. Have a great day. Goodbye.*
2 No: *Ok, you still have time. Remember you can drop off your ballot at any Voter Service Center through November 4th. Thank you for your time. Have a great day. Goodbye.*
3 Refused/Wouldn't Disclose: *Ok, you still have time. Remember you can drop off your ballot at any Voter Service Center through November 4th. Thank you for your time. Have a great day. Goodbye.*

A.3 Background Information Provided to Callers in Both Call Scripts

BACKGROUND:

Callers should be very familiar with the script and Q&A and be able to comfortably answer questions based on the material. The script and Q&A should be rehearsed more than once prior to making calls. It is imperative that callers do not deviate from the script as written.

This call is part of a large field experiment and the results of these calls will be closely reviewed. For the experiment to work, callers must stick to the script. Voters will be getting different versions of this script and experts will look at the voting records after the election to measure which script had a larger impact.

- **Who are you calling with?**

  I'm calling with Colorado Civic Engagement. We are a nonprofit and nonpartisan organization dedicated to increasing political participation in our state. We are not calling on behalf of any candidate or ballot measure. We just want people to vote.

- **Who is paying for this call?**

  Paid for by Colorado Civic Engagement.

- **Where are you calling from?**

  Do Not Disclose your location. If anyone asks where you are calling from please say: "I'm sorry, for security reasons, I'm not able to disclose my location."

- **What is the purpose of this call?**

  The purpose of this call is to provide a community service to voters in Colorado. We are not endorsing any candidate or ballot measure. We just want you to vote on Tuesday, November 4th.

- **When is Election Day?**

  Tuesday, November 4th

- **VOTING INFORMATION: Where do I find the nearest early vote center and hours of operation?**

  `www.justvotecolorado.org`

B HETEROGENEOUS EFFECTS OF FOLLOW-UP CALLS BY STATED PREFERENCE FOR A REMINDER CALL

We assess whether follow-up call effects are materially different conditional on whether a subject is reached in the early call and on the subject's stated preference for a reminder call. Specifically, we examine differences in follow-up call effects between those who were reached in the early GOTV call and wanted the reminder call, those who were reached in the early call and didn't want the reminder call, those who were reached in the early call but did not report whether they wanted a reminder call, and those who were not reached in the early call. We estimate the following equation restricting the sample to subjects who were assigned to an early GOTV call containing a reminder call offer:

$$Y_i = \alpha_4 + \beta_8 Z_i^L + \beta_9 C_i^W + \beta_{10} C_i^D + \beta_{11} C_i^U + \beta_{12} Z_i^L \cdot C_i^W + \beta_{13} Z_i^L \cdot C_i^D + \beta_{14} Z_i^L \cdot C_i^U + \gamma_4 X_i + \varepsilon_{4i} \quad (4)$$

where C_i^W equals 1 if the subject was successfully contacted by the caller during the early call and wanted the reminder call and 0 otherwise; C_i^D equals 1 if the subject was successfully contacted in the early call and did not want the reminder call and 0 otherwise; and C_i^U equals 1 if the subject was successfully contacted in the early call and it is unknown whether they wanted the reminder call and 0 otherwise. The omitted reference category is comprised of subjects who were not successfully contacted during the early GOTV call.

We formally test the null hypotheses that $\beta_{12} = \beta_{13}$; $\beta_{13} = \beta_{14}$; and $\beta_{12} = \beta_{14}$ to compare average follow-up call effects between subjects with different preferences for receiving reminder calls among those who were reached in an early GOTV call with a reminder call offer.[27] Additionally we formally test the null hypotheses that $\beta_{12} = 0$; $\beta_{13} = 0$; and $\beta_{14} = 0$ to compare average follow-up call effects between subjects who received an early GOTV call with a reminder call offer (who wanted a reminder call, did not want a reminder call, and did not report a reminder call preference, respectively) and subjects assigned to an early GOTV call containing a reminder call offer who were not successfully contacted in the early call.

Table A1 reports the estimated effects for this analysis. We focus in particular on the estimated coefficients on the interaction terms that assess, among subjects assigned to an early GOTV call with a reminder call offer, the differences in the mean effects of attempting a reminder call by whether the subject was reached and if so, their stated preference for a reminder call. We observe no statistically significant differences at the 5% level in the average effect of attempting a reminder call between subjects who were not reached during the early call and subjects who were reached with varying stated preferences for a reminder call. Relative to the subgroup who was not successfully contacted during the early call, the effect of attempting a reminder call on turnout is 1.5 percentage points larger (s.e.=0.2) among subjects who were contacted and who wanted a reminder call, 1.8 percentage points larger (s.e.=0.01; p<.1) among subjects who were contacted and who did not want a reminder call, and 5.7 percentage points larger (s.e.=0.05) among subjects

[27] Among subjects who were reached in an early GOTV call with a reminder call offer, testing $\beta_{12} = \beta_{13}$ compares average follow-up call effects between those who wanted a reminder call and those who did not want a reminder call; testing $\beta_{13} = \beta_{14}$ compares average follow-up call effects between those who did not want a reminder call and those who did not report a reminder call preference; and testing $\beta_{12} = \beta_{14}$ compares average follow-up call effects between those who wanted a reminder call and those for whom a reminder call preference is not reported.

who were contacted but did not provide a preference for a reminder call. We similarly observe statistically insignificant differences in the estimated mean effects of attempting a follow-up call between reminder call preference subgroups among those contacted during the early call because the p-values corresponding to tests of the null hypotheses $\beta_{12} = \beta_{13}$, $\beta_{13} = \beta_{14}$, and $\beta_{12} = \beta_{14}$ are all well above 0.05. We thus fail to find evidence of heterogeneous follow-up call effects on turnout by subjects' stated preference for a reminder call.

Table A1: Estimated ITT Effects of Attempting a Late GOTV Call on Turnout, by Stated Preference for a Reminder Call among Subjects Assigned to an Early GOTV Call with a Reminder Call Offer

Variable	(1)
Attempted Late GOTV Call	-0.006
	[0.004]
Contacted in Early GOTV Call and Wanted Reminder Call	0.072
	[0.014]***
Contacted in Early GOTV Call and Did Not Want Reminder Call	0.090
	[0.007]***
Contacted in Early GOTV Call and Reminder Call Preference Unknown	0.030
	[0.037]
Attempted Late GOTV Call * Contacted and Wanted Reminder Call	0.015
	[0.020]
Attempted Late GOTV Call * Contacted and Did Not Want Reminder Call	0.018
	[0.010]*
Attempted Late GOTV Call * Contacted and Reminder Call Preference Unknown	0.057
	[0.050]
Years Since Registration Date	-0.004
	[0.000]***
Years Since Registration Date Missing	-0.244
	[0.036]***
Gender=Male (1=Yes)	-0.003
	[0.004]
Gender=Unknown (1=Yes)	-0.022
	[0.125]
Race=Black (1=Yes)	-0.101
	[0.005]***
Race=Latino (1=Yes)	-0.090
	[0.005]***
Race=Other (1=Yes)	-0.053
	[0.009]***
Age in Years	0.009
	[0.001]***
Age Missing	0.063
	[0.071]
Age Squared/100	-0.004
	[0.001]***
Voted in 2012 General Election (1=Yes)	0.226
	[0.004]***
Voted in 2010 General Election (1=Yes)	0.230
	[0.005]***
Voted in 2012 Primary Election (1=Yes)	0.186
	[0.009]***
Voted in 2010 Primary Election (1=Yes)	0.078
	[0.008]***
Constant	0.031
	[0.015]**
Observations	70,086
Adjusted R-squared	0.162
H_0: $\beta_{12} = \beta_{13}$ p-value	0.881
H_0: $\beta_{13} = \beta_{14}$ p-value	0.441
H_0: $\beta_{12} = \beta_{14}$ p-value	0.430

Standard errors in brackets
*** p<0.01, ** p<0.05, * p<0.1

C ADDITIONAL TABLES AND FIGURES

Table A2: Balance Table. Cells report means with standard deviations in brackets.

	Treatment Group					
	Early Call with Offer followed by Late GOTV Call	Early Call with Offer not followed by Late GOTV Call	Early Call without Offer followed by Late GOTV Call	Early Call without Offer not followed by Late GOTV Call	No Early Call and Late GOTV Call Only	No Early Call and No Late GOTV Call
A. Baseline Characteristics by Treatment Assignment						
Years Since Registration Date	7.0827	7.079	7.0354	7.0807	7.0364	7.1045
	[5.418]	[5.4326]	[5.4004]	[5.4277]	[5.4424]	[5.4336]
Years Since Registration Date Missing	0.0035	0.0028	0.0035	0.0036	0.0035	0.0025
	[.0592]	[.0528]	[.0591]	[.06]	[.0593]	[.0499]
Gender=Male (1=Yes)	0.4272	0.4309	0.4319	0.4391	0.4307	0.438
	[.4947]	[.4952]	[.4953]	[.4963]	[.4952]	[.4962]
Gender=Unknown (1=Yes)	0.0002	0.0002	0.0001	0.0002	0.0002	0.0002
	[.0141]	[.0141]	[.0076]	[.0153]	[.0152]	[.0132]
Race=Black (1=Yes)	0.1574	0.1567	0.1572	0.155	0.1531	0.1555
	[.3642]	[.3635]	[.364]	[.3619]	[.36]	[.3624]
Race=Latino (1=Yes)	0.1747	0.1739	0.1777	0.1783	0.1751	0.1762
	[.3797]	[.379]	[.3823]	[.3828]	[.3801]	[.381]
Race=Other (1=Yes)	0.0379	0.0365	0.0371	0.036	0.0398	0.0378
	[.1909]	[.1876]	[.189]	[.1864]	[.1956]	[.1907]
Age in Years	32.7525	32.6217	32.7061	32.7606	32.6202	32.6081
	[10.9949]	[10.9041]	[11.0591]	[10.9673]	[10.9663]	[10.8657]
Age Missing	0.0007	0.0009	0.0008	0.0007	0.0007	0.0006
	[.0262]	[.0297]	[.0283]	[.0264]	[.0263]	[.0253]
Age Squared/100	11.9361	11.8307	11.9199	11.9353	11.8433	11.8135
	[9.3675]	[9.2866]	[9.4792]	[9.3631]	[9.4195]	[9.2456]
Voted in 2012 General Election (1=Yes)	0.7238	0.7273	0.7174	0.7236	0.7161	0.7259
	[.4471]	[.4453]	[.4503]	[.4472]	[.4509]	[.4461]
Voted in 2010 General Election (1=Yes)	0.2207	0.2166	0.2157	0.2179	0.2118	0.2176
	[.4147]	[.4119]	[.4113]	[.4128]	[.4086]	[.4126]
Voted in 2012 Primary Election (1=Yes)	0.0395	0.0387	0.0388	0.0378	0.0398	0.0388
	[.1947]	[.1928]	[.193]	[.1907]	[.1954]	[.1931]
Voted in 2010 Primary Election (1=Yes)	0.0552	0.0555	0.0544	0.0565	0.0544	0.0553
	[.2284]	[.229]	[.2269]	[.2309]	[.2267]	[.2285]
B. Contacted in Early Call by Random Assignment to Late GOTV Call if Assigned to Any Early GOTV Call						
Contacted in Early GOTV Call (1=Yes)	0.21	0.2103	0.2151	0.2124	–	–
	[.4073]	[.4075]	[.4109]	[.409]		
C. Stated Preference for a Reminder Call by Random Assignment to Late GOTV Call if Assigned to Early GOTV Call with a Reminder Call Offer						
Subject Contacted in Early Call and Wanted Reminder Call (1=Yes)	0.031	0.0317	–	–	–	–
	[.1733]	[.1753]				
Subject Contacted in Early Call and Didn't Want Reminder Call (1=Yes)	0.1506	0.1511	–	–	–	–
	[.3577]	[.3581]				
Subject Contacted in Early Call and Preference Uncertain/ Wouldn't Disclose/Terminated Call (1=Yes)	0.0053	0.0044	–	–	–	–
	[.0727]	[.0659]				
D. Stated Vote Intention by Random Assignment to Late GOTV Call if Assigned to Any Early GOTV Call						
Subject Contacted in Early Call and Said Would Vote (1=Yes)	0.1675	0.1691	0.1731	0.1689	–	–
	[.3734]	[.3748]	[.3783]	[.3747]		
Subject Contacted in Early Call and Said Would Not Vote (1=Yes)	0.015	0.0148	0.0144	0.016	–	–
	[.1215]	[.1206]	[.1192]	[.1253]		
Subject Contacted in Early Call and Vote Intention Uncertain/ Wouldn't Disclose/Terminated Call (1=Yes)	0.0275	0.0264	0.0276	0.0276	–	–
	[.1636]	[.1604]	[.1639]	[.1638]		
Observations	34987	35099	17411	17177	17275	17204

Table A3: Unadjusted Estimates of ITT Effects of Attempting a Late GOTV Call on Turnout among Subjects Assigned to and Contacted in an Early GOTV Call Attempt

Variable	Assigned to Receive Early GOTV Call (1)	Assigned to and Contacted in Early GOTV Call (2)
Attempted Late GOTV Call	-0.001	0.013
	[0.003]	[0.007]**
Constant	0.46	0.541
	[0.002]***	[0.005]***
Observations	104,674	22,120
Adjusted R-squared	0	0
Reference Group Mean	0.46	0.541

Standard errors in brackets
*** p<0.01, ** p<0.05, * p<0.1

Table A4: Unadjusted Estimates of ITT Effects Testing the Intrinsic Reciprocity Hypothesis

	Conditional on Receiving Early GOTV Call			
Variable	Offered Reminder (1)	Offered and Wanted Reminder (2)	Not Assigned Late GOTV Call Attempt (3)	Not Offered Reminder in Early Call (4)
Attempted Late GOTV Call	0.012	-0.001		0.017
	[0.008]	[0.021]		[0.012]
Assigned Reminder Call Offer in Early GOTV Call			0.004	
			[0.010]	
Constant	0.543	0.528	0.539	0.539
	[0.006]***	[0.015]***	[0.008]***	[0.008]***
Observations	14,726	2,198	11,029	7,394
Adjusted R-squared	0	0	0	0
Reference Group Mean	0.543	0.528	0.539	0.539

Standard errors in brackets
*** p<0.01, ** p<0.05, * p<0.1

Table A5: Unadjusted Estimates of ITT Effects of Attempting a Late GOTV Call on Turnout, by Stated Preference for a Reminder Call among Subjects Assigned to an Early GOTV Call with a Reminder Call Offer

Variable	(1)
Attempted Late GOTV Call	-0.005
	[0.004]
Contacted in Early GOTV Call and Wanted Reminder Call	0.091
	[0.015]***
Contacted in Early GOTV Call and Did Not Want Reminder Call	0.127
	[0.007]***
Contacted in Early GOTV Call and Reminder Call Preference Unknown	0.073
	[0.040]*
Attempted Late GOTV Call * Contacted and Wanted Reminder Call	0.004
	[0.022]
Attempted Late GOTV Call * Contacted and Did Not Want Reminder Call	0.02
	[0.010]*
Attempted Late GOTV Call * Contacted and Reminder Call Preference Unknown	0.081
	[0.054]
Constant	0.437
	[0.003]***
Observations	70,086
Adjusted R-squared	0.01
$H_0 : \beta_{12} = \beta_{13}$ p-value	0.491
$H_0 : \beta_{13} = \beta_{14}$ p-value	0.265
$H_0 : \beta_{12} = \beta_{14}$ p-value	0.183

Standard errors in brackets
*** p<0.01, ** p<0.05, * p<0.1

Table A6: Unadjusted Estimates of ITT Effects of Attempting a Late GOTV Call on Turnout, by Stated Vote Intention among Subjects Assigned to and Contacted in an Early GOTV Call Attempt

	Conditional on Receiving Early GOTV Call		
Variable	Offered Reminder in Early GOTV Call and Intends to Vote	Offered Reminder in Early GOTV Call	Not Offered Reminder in Early GOTV Call
Attempted Late GOTV Call	0.012	-0.009	-0.02
	[0.009]	[0.030]	[0.043]
Subject's Stated Vote Intention in Early Call = Yes		0.272	0.232
		[0.022]***	[0.031]***
Subject's Stated Vote Intention in Early Call = Unknown		0.102	0.058
		[0.027]***	[0.037]
Attempted Late GOTV Call * Intends to Vote		0.022	0.035
		[0.032]	[0.045]
Attempted Late GOTV Call * Vote Intention Unknown		0.038	0.054
		[0.038]	[0.053]
Constant	0.583	0.311	0.347
	[0.006]***	[0.022]***	[0.030]***
Observations	11,794	14,726	7,394
Adjusted R-squared	0	0.03	0.025
Reference Group Mean	0.311	0.311	0.347

Standard errors in brackets
*** p<0.01, ** p<0.05, * p<0.1