Political Activists as Free-Riders:
Evidence from a Natural Field Experiment*

Lukas Hensel   Johannes Hermle
Anselm Rink   Christopher Roth

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Abstract

How do the decisions of citizens to engage in political activism depend on their beliefs about the engagement of others? We examine this question through a natural field experiment with a major European party during a recent high-stake election. In a seemingly unrelated party survey, we randomly assigned canvassers to true information about the canvassing intentions of their peers. Using survey evidence and unobtrusive, behavioral data from the party's canvassing app, we find that treated canvassers *reduce* their own canvassing significantly when learning that their peers engage in more canvassing than previously thought. Treatment effects are particularly large i) along the intensive margin; ii) in the final days of the campaign; iii) and for people less driven by social image concerns. The evidence implies that effort choices of political activists exhibit strategic substitutability, not complementarity.

Keywords: Political activism, natural field experiment, strategic behavior, beliefs, canvassing
JEL Classification: D74, D8, P0

1 A Field Experiment on Political Activism

Functioning democracies rely on the contributions of political activists. The impact of political activists hinges on the joint efforts of many individuals. The resulting strategic interdependence of individual actions is at the core of the collective action problem of political activism (Coate and Conlin, 2004; Feddersen and Sandroni, 2006; Oliver, 1993). This paper presents a natural field experiment to investigate how the actions of political activists depend on their beliefs about the engagement of others.

In canonical models political activism is viewed as a public goods game with incentives to free-ride (Olson, 1965; Palmfrey and Rosenthal, 1984). Such models emphasize instrumental motives and predict that political activists will decrease their effort when fellow activists contribute more to the public good. Put differently, the effort of activists should exhibit strategic substitutability. In contrast, a large literature emphasizes that political behavior is predominantly motivated by social image concerns (DellaVigna et al., 2017; Gerber et al., 2011; Green et al., 2013; McCarthy and Zald, 1977; Uhlaner, 1989) and that instrumental concerns are less important (Gerber et al., 2017). Social motives such as social image concerns (Bénabou and Tirole, 2006) or positive reciprocity (Falk and Fischbacher, 2006; Ostrom, 2000) can lead political activists to increase their effort if they expect their peers to contribute more. According to the latter models the effort of activists should exhibit strategic complementarity. Understanding the strategic nature of political activism is crucial for both informing the theoretical assumptions of models of collective action (Hardin, 2015; Olson, 1965) and designing campaigns promoting civic engagement in practice.

This paper presents a natural field experiment to test whether the behavior of political activists exhibits strategic substitutability or complementarity. In cooperation with a major political party in a Western European country, we implemented

a pre-registered field experiment in the context of a large door-to-door canvassing campaign in the run-up to a nationwide general election.[1] Specifically, we examine whether and how party supporters' canvassing effort in the campaign depends on their beliefs about the canvassing effort of their fellow party supporters. Canvassing is an important form of political behavior as it directly influences elections and political outcomes (Pons, 2018). Furthermore, from the canvassers' perspective, canvassing is of relevance, as it involves high time and potentially emotional costs.

Identifying the effect of beliefs about others' canvassing effort from correlational data involves the common challenges of causal inference. First, canvassers' effort choices might directly affect their beliefs giving rise to reverse causality. A particular concern in this context relates to motivated beliefs (Babcock et al., 1995; Di Tella et al., 2015). For instance, canvassers might overplay the participation of others to excuse their own lack of effort. Second, omitted variable bias poses a concern as active canvassers might hold selectively different beliefs. For instance, party supporters who strongly identify with their party might overestimate the effort of their peers and be more likely to canvass themselves. In correlational data, these confounds could spuriously suggest either strategic substitutability or complementarity.

Our experimental design circumvents these confounds by manipulating beliefs exogenously. Our experimental design is as follows. Using an unobtrusive survey distributed via email by the party with the stated purpose of gathering information about the campaign, we first measure party supporters' prior beliefs about the canvassing intentions of fellow party supporters. Second, we exogenously shift these beliefs in the treatment group by providing true information collected through a different survey conducted a month before the experiment. Supporters in a control group receive no such information. Third, we measure respondents' posterior beliefs about the actual canvassing turnout of fellow party supporters. Fourth, we measure respondents' intention to go canvassing. Last we collect unique, unobtrusive

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[1]We agreed to anonymize the party and the country of study.

and real-time data on canvassing behavior via the party's canvassing smartphone application through which canvassers register knocked doors.

We present six key results on the form, extent, and the comparative statics of strategic interaction of political activists. In a first step, we confirm that the exogenous belief manipulation successfully shifted canvassers beliefs.

Second, on average political activists' intentions follow the predictions of a public good game with free-riding incentives: party supporters who learn that their peers plan to exert higher effort than they thought significantly lower their intentions to engage in the party's canvassing campaign. The response is concentrated along the intensive margin. Active supporters plan to canvass 1.10 days (s.e.=0.36) less relative to a control mean of 3.38 days.

Third, we demonstrate that the reduction in intentions translates into a reduction in canvassing behavior. Using real-time canvassing data collected through the party's smartphone application, we estimate a reduction of 14.39 ($s.e. = 7.38$) canvassed doors, which is equivalent to a reduction of 45% relative to the control group mean of 38.35. Furthermore, we find a statistically significant reduction of 0.1 ($s.e. = 0.048$) standard deviations in a pre-specified index combining canvassing intentions and behavior. Our results, thus, imply that the average political activist's behavior exhibits strategic substitutability.

Fourth, exploiting the temporal variation offered by our data, we study canvassers' dynamic behavior. We document that the treatment effects on actual canvassing stem from behavior in the high-stakes phase of the campaign two weeks before the election in which overall canvassing behavior peaks.

Who drives these treatment effects? Our fifth finding stresses that the treatment effects are particularly pronounced for supporters less driven by social image concerns as proxied by prior canvassing experience, identification with the party and social connections to other party members. This is consistent with the idea that for

activists with weaker social motives, instrumental concerns lead to strategic substitutability, but that social motives can be a force for strategic complementarity. This result is of practical relevance for designing policies and campaigns motivating apathetic citizens to get engaged in the political process.

Finally, we demonstrate the methodological necessity of exogenous belief manipulation for the isolation of causal effects: in the cross-section, canvassing intentions are weakly positively correlated with beliefs about peer canvassing effort, spuriously suggesting strategic complementarity, the opposite of our experimental estimates.

Our experiment contributes to a growing literature studying the motivation of party supporters (Enos and Hersh, 2015; Perez-Truglia and Cruces, 2017) and protesters (Cantoni et al., 2016, 2017; Enikolopov et al., 2016, 2017; González, 2018; Passarelli and Tabellini, 2017). González (2018) examines rich social network data to study protest participation in Chile and provides evidence in favor of strategic complementarity in protest participation. However, the lack of belief data makes it hard to disentangle different mechanisms, such as information or social learning regarding the quality of the protest.

Closest to our paper are Cantoni et al. (2017) who study protests in the context of the Hong Kong democracy movement. Their seminal findings show that beliefs about the turnout decision of protesters causally affect people's decision to participate in a protest. In line with our results, their findings provide evidence on strategic substitutability using self-reported protest participation. Our setting and findings, however, differ in several important ways. First, our experimental data is different in two main respects: we use behavioral outcome data collected through a smartphone application rather than solely relying on self-reported behavior. Moreover, we provide evidence from a natural field experiment on behalf of the party in which participants are not aware of being part of an experiment. This eliminates concerns about experimenter demand effects (de Quidt et al., 2018).

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Second, we study participation in a two month-long campaign compared to the turnout to a single event. Hence, in addition to studying extensive margin effects, our setting also allows us to study responses along the intensive margin and dynamic effects over time. Importantly, in contrast to Cantoni et al. (2017), we do not find significant treatment effects along the extensive margin. Instead, supporters canvass on fewer days without completely abstaining from canvassing, thus reacting along the intensive margin. Turning to the dynamic effects, behavioral responses are absent right after the information provision when the campaign was in its initial phase with low levels of overall canvassing activity. Instead, treatment effects emerge 7 to 8 weeks after the treatment provision in the final stage of the campaign right before the election where canvassing activities peaked. This underscores the long-term impact of our information provision.

Third, in contrast to a student sample, our sample consists of party supporters of all ages and with diverse backgrounds. The heterogeneity in our sample allows us to shed light on comparative statics and mechanisms. In particular, we find that strategic substitutability is most pronounced for party supporters less driven by social image concerns as proxied by prior canvassing experience, identification with the party and social connections to other party members.

Fourth and more general, we analyze a setting of civic engagement in a mature democracy compared to protests in an authoritarian regime. In models of protest, the outcome of collective action is often of binary nature (a successful vs. unsuccessful revolution, e.g. Tullock (1971)). In contrast, collective action in a functioning democracy is aimed at provoking incremental advancement of societal conditions rather than rapid change. Hence, across the two settings, the production functions of the collective good are not comparable.

We also add to a more general empirical literature examining whether and how beliefs affect political behavior (Cruz et al., 2015; Gerber et al., 2017; Kendall et al.,

2014).[2] While previous studies have focused on voting and examined the role of perceptions of election closeness (Bursztyn et al., 2017), or social pressure (DellaVigna et al., 2017; Gerber et al., 2011; Green et al., 2013), we examine canvassing and investigate how beliefs about peers affect political activists' willingness to contribute to their party's campaign.[3]

Our findings also inform the theoretical literature investigating political behavior in democratic systems (Coate and Conlin, 2004; Downs, 1957; Feddersen and Sandroni, 2006). An influential account for why people engage politically is based on the importance of peer pressure giving rise to strategic complementarity (McCarthy and Zald, 1977; Uhlaner, 1989). Our finding of strategic substitutability highlights that that in addition to social image concerns, instrumental motives play an important role in motivating political activism.

Finally, we also contribute to the experimental literature on how strategic interaction and social image concerns affect public good provision (Fehr and Gächter, 2000; Gallus, 2017). While our experiment is in the context of nation-level public goods, most of the field experiments on public good provision are in the domain of charitable giving (e.g. Chen et al., 2010; Frey and Meier, 2004) or the contribution to online communities (Shang and Croson, 2009). In contrast to our results, these field experiments tend to find patterns of strategic complementarity.

This paper proceeds as follows: Section 2 provides a simple theoretical framework. Section 3 describes the setting and the experimental design. Section 4 characterizes prior beliefs and belief updating in response to the treatment. Section 5 presents the results on the impact of belief updating on canvassing intentions and effort, followed by a conclusion in section 6.

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[2]Our evidence is also related to the literature on the causal effect of canvassing on voting behavior (Kalla and Broockman, 2017; Pons, 2018) and to the literature on persuasion (DellaVigna and Kaplan, 2006; DellaVigna and Gentzkow, 2010).

[3]Our paper also speaks to the debate on selection into politics. While previous evidence has focused on the selection of politicians (Dal Bó et al., 2017) and selection into civil war (Humphreys and Weinstein, 2008), our evidence speaks to the motivation of and selection of political activists.

2   Conceptual framework

Assumptions and predictions: To motivate our empirical design and guide our empirical analysis, we present a simple partial-equilibrium model of individuals' canvassing decisions. A canvasser's utility depends on her own canvassing effort, d_i, and fellow supporters' canvassing effort, d_{-i}, according to

$$u_i(d_i) = g(d_i + d_{-i}) + \alpha_i h(d_i, d_{-i}) - c_i(d_i) \tag{1}$$

where $g(d_i + d_{-i})$ represents the instrumental utility gained from the overall level of canvassing activity, that is the utility gained from the party's electoral outcome. $h(d_i, d_{-i})$ is a term representing social image concerns. This term is weighted by an individual-specific parameter of social image concerns $\alpha_i > 0$. $c_i(d_i)$ represents individual-specific cost of canvassing. Agent i chooses d_i to maximize her utility u_i. For ease of exposition, we focus our analysis on the interior solution for the optimal effort choice d_i^*. The model yields the following result:

Result 1. *If total marginal benefits of own canvassing effort d_i are non-increasing and the marginal cost of canvassing effort are non-decreasing in d_i, the strategic interaction between supporters is determined by the relative importance of changes in instrumental and social image concerns.*

- *Effort choices will be* **strategic complements** *($\frac{\partial d_i^*}{\partial d_{-i}} > 0$)*
  iff $\frac{\partial^2 g(d_i + d_{-i})}{\partial d_i \partial d_{-i}} + \alpha_i \frac{\partial^2 h(d_i, d_{-i})}{\partial d_i \partial d_{-i}} > 0$, that is changes in social image concerns dominate changes in instrumental returns.

- *Effort choices will be* **strategic substitutes** *($\frac{\partial d_i^*}{\partial d_{-i}} < 0$)*
  iff $\frac{\partial^2 g(d_i + d_{-i})}{\partial di \partial d_{-i}} + \alpha_i \frac{\partial^2 h(d_i, d_{-i})}{\partial d_i \partial d_{-i}} < 0$, that is changes in instrumental concerns dominate changes in social returns.

Proofs of these results can be found in Appendix section B.

Thus, the expected interaction pattern depends on the cross-derivatives of instrumental and non-instrumental concerns. Instrumental concerns are likely to be a source of strategic substitutability, that is the returns to additional canvassing are concave ($\frac{\partial^2 g(d_i + d_{-i})}{\partial d_i \partial d_{-i}} < 0$).[4]

On the other hand, social image concerns captured by $h(d_i, d_{-i})$ are likely to be a source of strategic complementarity. Existing research shows that political behavior can be motivated by such social image concerns. For example, Gerber et al. (2008) and DellaVigna et al. (2017) show that social image concerns motivate people to go voting. In the context of our experiment, we expect social image concerns to increase participants' willingness to help in the campaign when they learn that more people help than they had thought. Similarly, theories of reciprocity (Falk and Fischbacher, 2006) predict that people are conditionally cooperative, another force for strategic complementarity.[5,6]

Heterogeneity by social image concerns: While the framework does not yield unambiguous predictions on the nature of strategic interactions, it does yield a clear prediction as to how the the strategic interactions should vary with the relative importance of social image concerns α_i:

Result 2. *If social image concerns are a source of strategic complementarity and instrumental returns are a source of strategic substitutability the degree of strategic substitutability (complementarity) decreases (increases) in the importance of social*

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[4]Formally, this could be derived if the marginal benefit of additional vote shares are decreasing and the returns to canvassing are non-increasing. Both of these assumptions are reasonable in our context. The party encouraged local canvassers to target the most promising areas first, which implies that the expected returns to additional canvassing in terms of vote shares are likely to decrease in the total canvassing activity. Also, the party only gains little political power from winning votes beyond a threshold that ensures that it forms part of the government.

[5]Another potential source of complementarities could arise if individuals gain utility from signaling. In this case, an increase in overall canvassing might increase the negative signal of canvassing less. However, an increase in canvassing would also decrease the positive signaling value of canvassing, leading to an ambiguous overall prediction (Bénabou and Tirole, 2006).

[6]Social learning could be another force leading to strategic complementarity: Respondents might, by learning that more people canvass, infer that the quality of canvassing is higher than previously thought.

image concerns α_i. Formally, this is given by

$$\frac{\partial \frac{\partial d_i^*}{\partial d_{-i}}}{\partial \alpha_i} = \frac{\partial^2 g(d_i + d_{-i})}{\partial d_i \partial d_{-i}} \left(\frac{\partial^2 h(d_i, d_{-i})}{\partial d_i \partial d_i} - \frac{\partial^2 h(d_i, d_{-i})}{\partial d_i \partial d_{-i}} \right) + \frac{\partial^2 c(d_i)}{\partial d_i \partial d_i} > 0 \qquad (2)$$

Proofs of this result can be found in Appendix section B.

We test this prediction empirically by estimating how the treatment effects vary with several proxies for α_i. In particular, we assume that the weight on social image concerns α_i is likely stronger for participants with more years of membership, more social connections within the political party as well as higher identification with the party.

3 Experimental Design

3.1 Design and Sample

Setting: Our field experiment took place in the run-up to a recent general election in a Western European country. The experiment was implemented in collaboration with a major political party to study party supporters' motivation and actual participation in the party's door-to-door canvassing campaign. The experimental manipulation was administered in an online pre-campaign survey sent out on behalf of the party roughly 8 weeks before the election. After the implementation, we tracked party supporters' canvassing effort over the campaign until the election.

During the electoral campaign almost all political parties set a novel focus on door-to-door canvassing as a means of campaigning. The party we cooperated with heavily promoted canvassing as a campaigning tool both through internal communication channels and also to the wider public through mass media. All canvassing volunteers were instructed to record all canvassed doors in a smartphone application to help the party organize this and future campaigns.

Sampling and Procedures: Our original sample consists of all party supporters who, about eight weeks before the election, had signed up to the party's email list through which internal information about the campaign, and in particular about canvassing activities, were distributed. At the beginning of the electoral campaign we contacted these supporters with an email invitation in the name of the party. The email asked supporters to participate in the survey to help organize the campaign. The invitation email was explicitly designed by the party to preserve the natural environment and ensure that participants were not aware of being part of an experiment. A reminder email was sent ten days later. In total 1,411 party supporters completed the online survey. Random assignment and experimental manipulation took place within the online survey. Our natural field setting eliminates concerns about experimenter demand effects, which are a common concern in studies investigating the role of beliefs and expectations.

Measuring and Manipulating Beliefs: We conducted the experiment to investigate how party supporters' motivation and decision to participate in the campaign depend on their belief about their peers. To do so, we first elicited participants' prior beliefs about the share of party members who intend to go canvassing. Half of all respondents were randomly assigned to receive information about the canvassing intentions of fellow party members (treatment group). The remaining half received no information (control group). More specifically, participants in the treatment group were truthfully informed that 37% of party members in a previous survey had stated to go canvassing.[7] After the experimental manipulation, all respondents were asked to estimate the share of members who will actually go canvassing.[8] Eliciting participants' posterior beliefs allows us to check whether the information

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[7] We collected this data in a separate survey amongst party members three weeks before the experiment.

[8] We did not incentivize the belief elicitation to preserve the natural context of the survey. The organizers of the campaign were concerned that incentives would be perceived as very unusual by their supporters.

provision successfully shifted beliefs.

Outcome Measures: We study the canvassing effort of party supporters in the campaign combining both survey and behavioral outcome data. We use two pre-specified self-reported measures of canvassing intentions that we collected after the treatment administration: First, we measured whether a respondent intends to do any canvassing in the campaign. This allows us to shed light on movement along the extensive margin. Second, we elicited respondents' intended number of days of participation, enabling us to analyze responsiveness to our treatment along the intensive margin.[9]

Do changes in canvassing intentions also translate into changes in canvassing behavior? To tackle this question, we draw on unique behavioral outcome data from a smartphone application distributed by the party. The party created this application to coordinate and keep track of the canvassing activities. Canvassers were instructed to use this application to register the door-to-door visits. The application allows us to assess three different pre-specified behavioral outcomes: First, the app records the number of doors people knocked on during the door-to-door campaign.[10] Second, the app records whether people knocked on any doors during the campaign. Third, the app records the number of days on which people went canvassing. Individuals who do not appear in the app-data are coded as not having canvassed.

3.2 Descriptives

Table 1 describes the sample characteristics elicited in the survey. 24% of supporters are women and the average age is 40.6 years. 83% of supporters are party members with an average membership duration of 12 years. Besides basic socio-demographic

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[9]Intended number of days for respondents who do not plan to canvass is coded as zero days.
[10]We pre-specified to winsorize this variable at the 99 percentile to deal with outliers.

information, the survey also inquired about supporters' prior canvassing experience. 38% of participants had already helped in a past campaign. This information allows us to study whether the effect sizes differ between supporters with and without prior canvassing experience. 49% of supporters intended to participate in the door-to-door canvassing with an average of 3.85 intended days. Turning to behavioral outcomes from the app, we observe much lower actual canvassing activity relative to canvassing intentions: 12% of party supporters in our sample actually participated in the campaign. Respondents canvassed on average 0.59 days and knocked on 29 doors. The unique link between the survey and the behavioral outcome data from the natural field setting allows us to study how intentions and actual canvassing behavior are related. We find a strong positive correlation between intended days and the actual number of days canvassing of $\rho =0.28$ (visualized in Figure A.1). Similarly, we find that people's intention to do any canvassing is significantly related to whether they actually canvass with a correlation of $\rho =0.33$.

[Insert Table 1 here]

Balance: Table 2 provides evidence on the integrity of randomization. For none of the covariates do we observe significant differences between the treatment and control group. We regress the treatment indicator on all covariates to test for joint significance. The p-value of this joint F-test is 0.59 suggesting that the randomization produced two highly comparable groups.

[Insert Table 2 here]

4   Belief Updating

Before turning to the analysis of treatment effects on canvassing outcomes, we briefly test for successful manipulation of beliefs.

Prior Beliefs: Figure 1 shows the distribution of prior beliefs about the fraction of fellow party members who plan to canvass. The red line corresponds to the treatment information, 37%, which is the fraction planning to go canvassing in our pre-survey. We observe that the distribution is highly right skewed. 82% of participants underestimate relative to the treatment information. The median estimate is 10%.

[Insert Figure 1 here]

Belief Updating: The key feature of our experimental design involves participants to update their beliefs after receiving the treatment information. In particular, we expect underestimators to increase their posterior belief about the fraction of fellow party members who actually go canvassing. Vice versa, we expect overestimators to decrease their posterior belief.

Figure 2 shows the joint distribution of prior and posterior beliefs split by underestimators (red dots) and overestimators (blue dots). Each dot represents one participant. Darker colors indicate participants in the treatment group, lighter colors participants in the control group. We observe that underestimators (to the left of the red line) hold an, on average, higher beliefs after receiving the treatment information. The opposite is true for overestimators (to the right of the red line).[11] Do the exogenous changes in beliefs affect party supporters motivation and actual behavior in the campaign? We tackle this question in the next section.

[Insert Figure 2 here]

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[11]This is statistically confirmed by column 1 of Appendix Table A9 which shows statistically significant treatment effects on posterior beliefs for under- and overestimators.

5 The Causal Effect of Beliefs on Canvassing

5.1 Main Results

Empirical Specification: In our analysis we focus on participants who under-estimate the share of fellow party members planning to go canvassing. We do not focus on overestimators as we lack the statistical power to estimate precisely measured treatment effects as only 18 percent of our respondents overestimated this statistic.[12] We estimate the following specification using ordinary least squares:[13]

$$Y_i = \beta_0 + \beta_1 \mathrm{T}_i + \zeta^T \mathbf{X_i} + \varepsilon_i \tag{3}$$

where Y_i is the outcome variable of interest. T_i is a dummy variable taking a value of one for people who receive the information about the share of party canvassers and zero otherwise. $\mathbf{X_i}$ is the set of control variables. Throughout the analysis, we include the following pre-specified control variables: party membership, number of years of party membership, age, sex, whether a participant has participated in a canvassing training, whether a participant has already downloaded the online application, whether a participant has participated in canvassing before this federal election, and whether a participant has participated in canvassing for this federal election. Excluding control variables does not change the results (Online Appendix Tables B8 to B17). To account for multiple comparisons, we examine the effects on a pre-specified index as a joint measure of all self-reported survey measures

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[12]We report the results for overestimators in Online Appendix Tables B2 to B7.

[13]Given the small fraction of overestimators, we estimate treatment effects splitting the sample into under- and overestimators to increase clarity of exposition. This is a slight deviation from our pre-analysis plan in which we pre-specified to estimate the effects on under- and overestimators in the same equation. Jointly estimating the treatment effects does not change the results (results available upon request from the authors).

and behavioral outcomes.[14] The key coefficient is β_1 which captures the strategic interaction between own and peer effort. If $\beta_1 < 0$, own and peer effort exhibit strategic substitutability, and if $\beta_1 > 0$ strategic complementarity.

Main Results: We study the treatment effects on our two outcome measures of intentions and actual behavior. Table 3 presents the main findings. Panel A presents the results for the sample of all underestimators. Participants who are informed that fellow party members put in more effort than they thought, on average, decrease their willingness to participate in the party's campaign. This effect prevails on the intensive but not on the extensive margin: participants intend to canvass 1.1 days (s.e.=0.36 days) less after receiving the treatment information which is equivalent to a reduction of 31% relative to the control group mean of 4 days. There is no significant extensive margin effect on the intention to engage in any canvassing with a point estimate close to zero (0.002, s.e.=0.026).

Does lower *intended* canvassing translate into lower *actual* canvassing? To investigate the impact on actual behavior, we make use of the data collected through the smartphone application employed in the campaign. In line with the results on intentions, we again do not find an extensive margin effect.[15] On the intensive margin, however, we find a significant reduction of 14 canvassed doors (s.e.=7.8 doors). This is equivalent to a 45% reduction relative to the control group mean of 38.3. Similarly, the point estimate on the impact on actual days canvassed indicates a reduction of 0.16 canvassed days (s.e.=0.159 days). This corresponds to a sizable, yet not statistically significant 25% reduction relative to the control group mean.[16]

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[14]The index takes into account (i) an indicator for whether a participant plans to go canvassing, (ii) the number of days a participant plans to go canvassing, (iii) an indicator for whether a participant knocks on any door, (iv) the number of doors a participant knocks on, (v) the number of days a participant goes canvassing. We construct the index by first standardizing each outcome using the control group mean and standard deviation, then calculating the total of the standardized variables, and finally re-standardizing the sum to have mean zero and standard deviation one.

[15]Similarly, we do not find a significant effect on app-download (Online Appendix Table B1).

[16]To show that our treatment effects are not driven by outliers, Figure A.3 presents cumulative distribution functions of intended days canvassing, actual days canvassing, and doors knocked for

Finally, we investigate the impact on the pre-specified index of all five outcomes capturing intentions and actual behavior jointly. We observe a decrease of 0.096 (s.e. = 0.047) standard deviations in this summary measure of canvassing intentions and behavior which is significant at the 5% level.[17] Taken together, these results show that increases in supporters' beliefs about their peers' efforts decreases both canvassing intentions and behavior. In summary, our results thus provide causal evidence that party supporters' intended and actual effort in their party's campaign depends negatively on their belief about fellow party members' effort. As such, our findings provide evidence on strategic substitutability in political activists' effort choices.

[Insert Table 3 here]

5.2 Heterogeneity in Treatment Effects

Treatment Effects over Time: Did our treatment have a lasting impact or did we affect behavior and intentions only temporarily? One might be worried that treated individuals forget the provided information shortly after treatment. If this were the case the treatment effects should be driven by changes in behavior shortly after the treatment was administered. To investigate this issue systematically, Figure 3a shows the average number of doors knocked on for underestimators week-by-week for the 8-week period in the run-up to the election.

We find that treatment effects are driven by changes in behavior several weeks after the treatment at a time when overall canvassing activity peaked. Overall canvassing activity strongly increases as the election comes closer.[18] However, there is a clear divergence in trends between the control and treatment groups, most

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treatment and control group.

[17]All results are also significant when analyzed using randomization inference (see Appendix Table A1).

[18]The election takes place between the end of week seven and the end of week eight, depending on when exactly supporters responded to the survey.

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noticeable in weeks seven and eight. Figure 3b shows treatment effects conditional on the pre-specified covariates obtained by estimating equation (3) separately for each week after the survey. As already suggested by the raw data, we observe a large and highly significant treatment effect in week eight after the survey. This pattern also holds for days canvassed in Figures 4a and b. The last two columns of Table 3 show the results of our main regression analysis on days canvassed and doors knocked on in week seven and eight after the treatment. The effect sizes relative to the control mean are roughly 50% for both outcomes. Both of these effects are significant at the 5% level.

[Insert Figure 3 here]

The combination of an instantaneous impact on canvassing intentions with a long-term impact on actual days over time suggests that our information provision persistently changed beliefs about fellow party members' participation in the party's campaign and produced long-lasting changes in canvassing behavior.

Subsample Analyses and Social Image Concerns: In Section 2, we outlined a simple model of canvassing effort, which posits that the extent to which party supporters have social image concerns affects whether effort choices exhibit strategic substitutability or strategic complementarity. To test this prediction, we make use of several proxies for the weight party supporters put on social image concerns. First, we assume that people with less canvassing experience, defined as not having canvassed before this electoral campaign, have fewer social image concerns. Table A7 shows descriptive evidence from a post-election survey administered two months after the election to a different sample: inexperienced individuals (i) identify 0.15 standard deviations less with the party ($p = 0.026$) and (ii) know 18 fewer party members personally when compared to experienced party members ($p < 0.01$). This suggests that social image concerns are likely weaker for inexperienced than

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for experienced supporters and that instrumental motives have higher relative importance for inexperienced supporters.[19] As a consequence, we expect strategic substitutability to be more pronounced for inexperienced supporters.

To test for differential impact of our treatment, we conduct a pre-specified subgroup analysis by splitting our sample into experienced and inexperienced supporters. Panels B and C of Table 3 report the results of the heterogeneity analysis by experience. In line with our hypothesis, supporters without prior canvassing experience exhibit a larger negative effect on intended days (-1.4 days, s.e.= 0.45) relative to experienced respondents (-0.7 days, s.e.=0.61). This pattern is even more pronounced for behavioral outcomes. Inexperienced supporters reduce their canvassing effort by, on average, -0.3 days (s.e.=0.17) and -25 doors (s.e.=9.64) which is equivalent to a reduction of 45% and 64% of the respective control group mean. The estimated effects on experienced individuals, on the other hand, are close to zero. These effects translate into differences into our pre-specified summary measure of canvassing intentions and effort. For inexperienced individuals, we obtain a highly significant treatment effect of -0.15 (s.e.=0.056) standard deviations while a negleg-ible effect for experienced supporters (-0.016, s.e.=0.086). In addition, in Appendix Figures A.4 to A.7 we study the treatment effects over time on days and doors by experience. While there are no treatment effects for experienced canvassers, we find a large over-time divergence between treatment and control for inexperienced supporters.

We consider three further pre-specified dimensions of heterogeneity as proxies for the extent of social image concerns (Appendix Tables A4 to A6). The subsample

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[19]Experienced and inexperienced supporters are also different in other dimensions. For example, it could be that inexperienced supporters are more likely to react to information. However, we find no difference in updating of posterior beliefs about the effort choices of peers among experienced and inexperienced supporters. Similarly, it could be that inexperienced supporters are more uncertain about the benefits of canvassing and learn more from the information about peers' effort choices. However, an explanation based on social learning would predict that inexperienced supporters would be more likely to exhibit strategic complementarity, the opposite of what we find in the data.

analyses split supporters by (i) party membership, (ii) party membership duration, (iii) pre-survey app-download. The results of this analysis corroborate that supporters with weaker social ties to the party (i.e. those without party membership and those with lower party membership duration) drive our treatment effects.[20] The observed heterogeneity along all pre-specified dimensions and in particular between inexperienced and experienced supporters is in line with the hypothesis that supporters less driven by social image concerns exhibit higher strategic substitutability.[21]

Comparative Statics in Party Identity and Social Connections: To provide more direct evidence on the role of social image concerns in alleviating strategic substitutability, we examine heterogeneity using two additional proxies for the weight put on social image concerns: First, the number of social connections within the party as measured by the number of party members known personally by the respondent. Second, people's identification with the party as measured by the answer to the question "How close are you to the party" on a seven point Likert-scale. We were not able to ask this question in the experimental survey, which is why we use a rich survey which collects data on social connections and identification with the party sent out to the same pool of supporters. We use this data to predict these measures within our sample using machine learning techniques.[22] We show that

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[20]For example, Appendix Table A4 finds generally larger effects for non-party members (about two to five times the size of point estimates for party members.). Splitting the sample by membership duration produces similar results (Appendix Table A5). We find large and significant impacts on intentions and behavior for newer members (including non-members) as opposed to supporters who have joined the party long ago. Appendix Table A6 splits the sample by whether supporters had downloaded the app before the treatment. We find significant effects for individuals who had not downloaded the application for the survey and insignificant effect with relatively larger point estimates for individuals who had downloaded the app (the only significant impact is on intentions). We attribute this inconclusive pattern to the fact that individuals with previous app-download are both more likely to intend any canvassing, but also more aware of the effort of their peers. For individuals without previous app-download the reverse holds. They are less-likely to intend canvassing but are likely to be less informed about the effort of their peers.

[21]The estimates of treatment effect heterogeneity are robust to interacting the treatment with all demeaned covariates (see Appendix Table A2).

[22]To generate the predicted values of social connectedness and identification with the party we use a LASSO algorithm to pick the best predictors for these measures from the complete set of

strategic substitutability is strongest for respondents with a low-level of predicted party identification and a low-level of predicted social connections (see Tables A10 and A11). Supporters with a 0.1sd higher predicted level of party identification exhibit a significant 0.06sd reduction of the negative treatment effect (as measured by the summary index). Similarly, a 0.1sd increase in social connections is associated with, on average, a significant 0.02sd reduction of the negative treatment effect. These comparative statics are consistent with the theoretical prediction that social image concerns are a force leading to strategic complementarity. Overall, our results suggest that there is substantial heterogeneity in the extent of strategic substitutability even within supporters of the same party. Depending on the relative strength of instrumental and social motives, the degree of strategic substitutability and potentially even the qualitative nature of the strategic interaction varies between individuals.

5.3 Interpreting Effect Sizes

IV Estimates: What is the quantitative impact of beliefs about effort of fellow party members on the decision to go canvassing? To answer this question we employ the following instrumental variable specification:

$$y_i = \pi_0 + \pi_1 \widehat{\mathrm{PB}}_i + \zeta^T \mathbf{X_i} + \varepsilon_i$$

$$\mathrm{PB}_i = \kappa_0 + \kappa_1 \mathrm{T}_i + \xi^T \mathbf{X_i} + \vartheta_i$$

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control variables and all pairwise interactions (gender, age, party membership, party membership duration, experience, and participation in the canvassing workshop). We then use the resulting LASSO coefficients to predict party identification and the number of social connections for participants of our experiment. The results of the LASSO algorithm are displayed in Appendix Table A8. While this analysis is not pre-specified, it naturally follows from the other analysis.

where PB_i is a respondent's posterior belief about the fraction of party members who actually go canvassing and all other variables are defined as before. In the instrumental variable analysis, we instrument the posterior belief with the treatment indicator. This makes sure that our estimates are solely identified from variation induced by the experimental treatment. Taking this estimate at face values, we obtain the causal impact of beliefs on respondents' effort choices.

Table 4 presents the results. For the full sample we find that a 1%-point change in beliefs about the fraction of fellow party members who go canvassing leads to a decrease in planned days of 0.22 (s.e.=0.077). We also find a decrease of 3 doors (s.e.=1.6 doors) and 0.02 standard deviations (s.e.=0.01 sd) decrease in the index per 1%-point increase in posterior beliefs. Again, respondents without prior canvassing experience are more elastic with an impact of -0.30 days (s.e.=0.11 days), relative to -0.13 days (s.e.=0.11 days) for experienced respondents. Qualitatively, we find similar but weaker results for actual canvassing as recorded by the online application. For the sample of inexperienced respondents, we find a statistically significant impact of -0.07 days (s.e.=0.04 days) and -5.6 doors (s.e.=2.32 doors) per 1%-point change in beliefs. The point estimates for experienced supporters close to zero and not statistically significant.

[Insert Table 4 here]

Comparing OLS with the IV Estimates: How different are the OLS estimates compared to the IV estimates? We find that the IV results stand in contrast to the OLS evidence based on regressions of the outcome data on the posterior beliefs of underestimators conditional on the same set of control variables in the control group. The OLS estimates in Table 5 suggest complementarity between own canvassing effort and others' canvassing intentions. A 1%-point increase in the posterior is associated with 1.2 more canvassed doors (s.e.=0.69 doors) and a

0.007sd (s.e.=0.004sd) increase in the index. For inexperienced supporters the point estimates of the positive relationship between posterior beliefs and actual canvassing behavior are even larger.

Using a Hausman-style test for the exogeneity of posterior beliefs, we reject exogeneity at the 5% level for intended days, doors, and the index.[23] The differences in results between the OLS estimates and the IV estimates could be explained by omitted variable bias. For example individuals who believe that canvassing is particularly effective might both be more likely to canvass and believe that others do the same. This divergent evidence highlights the methodological necessity of exogenous belief manipulation for the isolation of causal effects.

[Insert Table 5 here]

6 Conclusion

How does political activists' effort depend on their belief about the effort of fellow activists? This paper presents a natural field experiment to provide evidence on the strategic interdependence of political activists' actions, a key feature of the collective action problem of political activism. In collaboration with a major political party in a Western European country, we exogenously manipulated party supporters' beliefs about the canvassing effort of their peers in a large door-to-door canvassing campaign in the run-up to a nationwide general election. We study how the belief manipulation affects the effort provision of party supporters in the campaign.

Our findings overall suggest strategic substitutability in the interdependence of activists' effort: political activists lower their effort when learning that fellow party

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[23]The tests we use are defined as the difference of two Sargan-Hansen statistics: one for the equation without instruments, where the posterior is not instrumented and one for the equation where the posterior is instrumented by the treatment. Under the null hypothesis that the posterior belief is exogenous, the test statistic is distributed as chi-squared with one degree of freedom.

members are more likely to canvass. This result holds for the self-stated willingness to canvass as well as actual canvassing effort measured through a smartphone application. Treatment effects are driven by behavior several weeks after the treatment, underscoring that our intervention had a long-lasting impact beyond the intentions reported right after the treatment. Estimated effect sizes are large (up to 45% of the mean in the control group), suggesting that strategic considerations are quantitatively important in shaping political activists' motivations and behavior. Furthermore, our setting allows us to study the role of social image concerns in shaping whether activists exhibit strategic complementarity or substitutability. Consistent with our theoretical framework, we find that respondents displaying higher social image concerns are less likely to exhibit strategic substitutability. The findings provide systematic evidence on the form of strategic interdependence in political activists' effort choices and the factors underlying strategic substitutability or complementarity.

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7 Main Figures

Figure 1: Distribution of prior beliefs
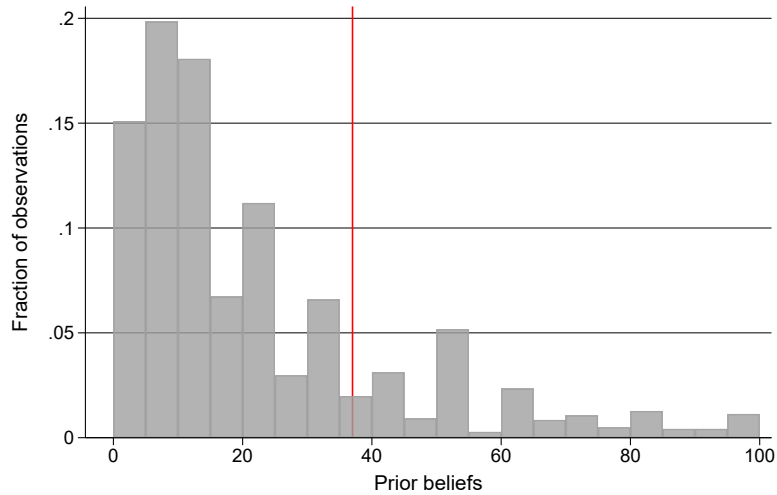
Notes: Figure 1 shows a histogram of prior beliefs about the fraction of party members who plan to go canvassing. The red line (37%) corresponds to the treatment information.

Figure 2: Prior and posterior beliefs in treatment and control group
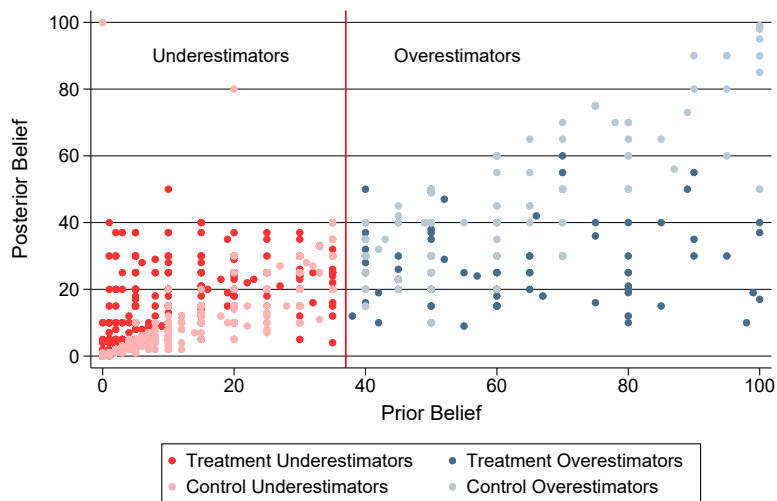
Notes: Figure 2 shows the joint distribution of prior and posterior beliefs. Prior beliefs concern the fraction of party members who plan to go canvassing. Posterior beliefs concern the fraction of party members who actually go canvassing. The red line (37%) corresponds to the treatment information. Each dot represents a participant. Red dots represent underestimators, blue dots overestimators. Lighter colors indicate participants in the treatment group, darker colors participants in the control group.

Figure 3: Doors canvassed over time: (a) raw data, (b) treatment effects
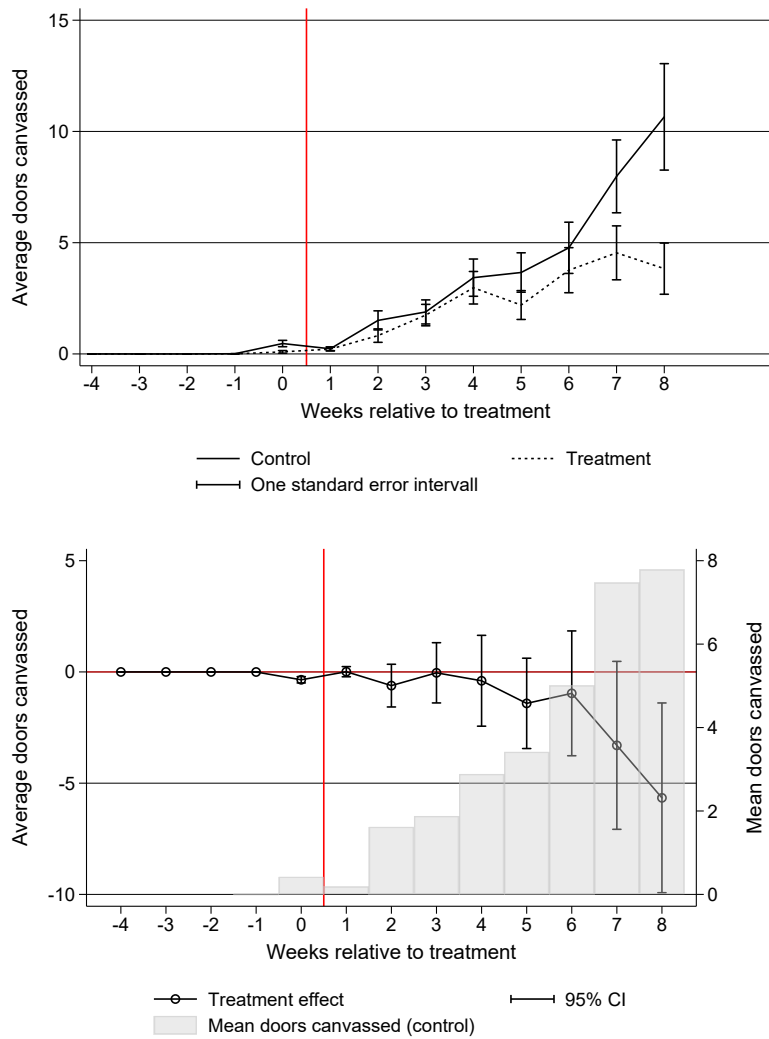
Notes: Figure 3 (a) shows the average number of doors canvassed (winsorized at the 99th percentile) for respondents who underestimate the share of fellow party members who plan to participate in the party's door-to-door canvassing campaign for each week after the treatment. Vertical red line indicates timing of treatment. Figure 3 (b) plots the estimates of treatment effects on doors canvassed (winsorized at the 99th percentile) over time for respondents who underestimate the share of fellow party members who plan to participate in the party's door-to-door canvassing campaign. Estimates are obtained using by estimating equation (3) separately for each week after the treatment. Pre-specified control variables include: party membership, number of years of party membership, age, sex, whether a participant has participated in a canvassing training, whether a participant has already downloaded the online application, whether a participant has participated in canvassing before this federal election and whether a participant has participated in canvassing for this federal election. Bars in the back ground indicate the average number of doors in the control group in a given week after the survey. Vertical red line indicates timing of treatment.

Figure 4: Days canvassed over time: (a) raw data, (b) treatment effects
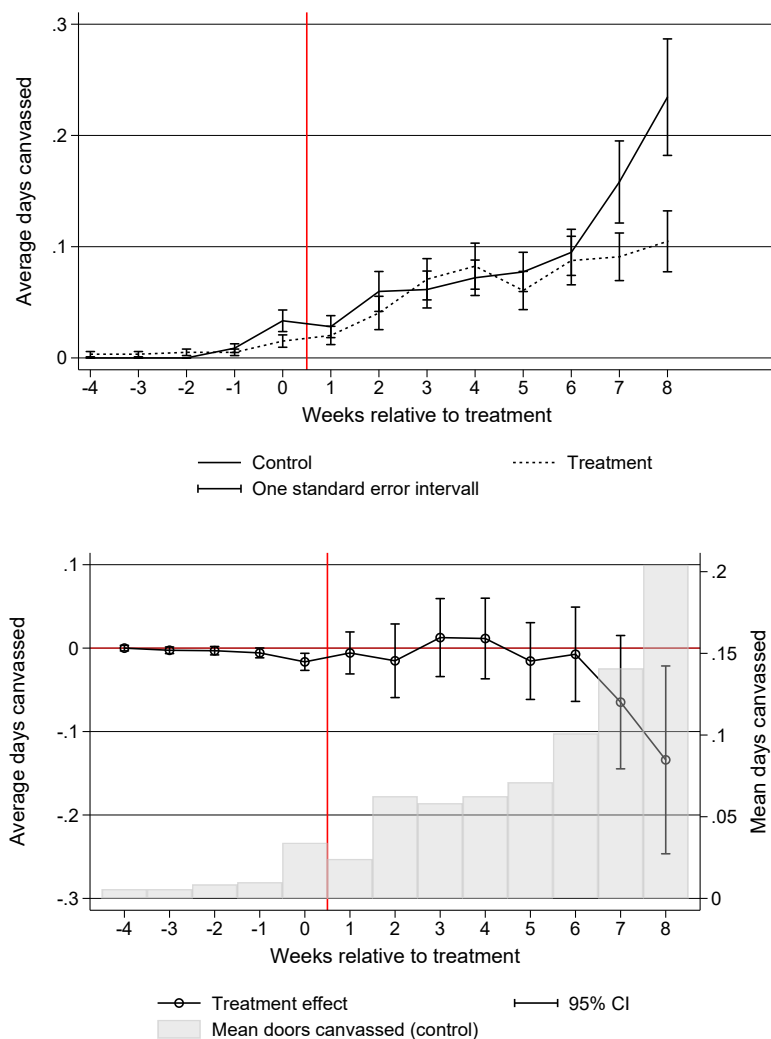
Notes: Figure 4 (a) shows the mean weekly days canvassed for respondents who underestimate the share of fellow party members who plan to participate in the party's door-to-door canvassing campaign for each week after the treatment. Vertical red line indicates timing of treatment. Figure 4 (b) plots the estimates of treatment effects on days canvassed over time for respondents who underestimate the share of fellow party members who plan to participate in the party's door-to-door canvassing campaign for each week after the treatment. Estimates are obtained using by estimating equation (3) separately for each week after the treatment. Bars in the back ground indicate the average number of doors canvassed in the control group in a given week. Vertical red line indicates timing of treatment.

8 Main Tables

Table 1: Summary statistics: full sample

	Mean	SD	Median	Min.	Max.	Obs.
Predetermined variables						
Female	0.24	0.43	0.00	0.00	1.00	1411
Age	41.04	19.30	36.00	16.00	100.00	1411
Is party member	0.83	0.38	1.00	0.00	1.00	1411
Years of party membership	12.19	14.22	6.00	0.00	60.00	1411
Has experience canvassing	0.38	0.48	0.00	0.00	1.00	1411
Participated in door-to-door workshop	0.21	0.41	0.00	0.00	1.00	1411
Downloaded app before survey	0.27	0.44	0.00	0.00	1.00	1411
Has canvassed before survey	0.08	0.27	0.00	0.00	1.00	1411
Days canvassed before survey	0.19	0.96	0.00	0.00	16.00	1411
Doors visited before survey	4.38	41.80	0.00	0.00	1071.00	1411
Intention outcomes						
Canvassing: yes	0.49	0.50	0.00	0.00	1.00	1395
Canvassing: days	3.85	7.33	0.00	0.00	60.00	1395
Behavioral outcomes						
Has canvassed after survey	0.12	0.33	0.00	0.00	1.00	1411
Days canvassed after survey	0.59	2.70	0.00	0.00	40.00	1411
Doors canvassed after survey	29.22	137.57	0.00	0.00	1045.00	1411

Notes: Table 1 presents summary statistics for the full sample of our experiment.

Table 2: Balance tests

	Treatment	Control	P-value(Treatment = Control)
Female	0.23	0.24	0.484
Age	40.27	41.81	0.136
Is party member	0.82	0.83	0.568
Years of party membership	11.73	12.65	0.223
Has experience canvassing	0.38	0.37	0.617
Participated in door-to-door workshop	0.20	0.22	0.359
Downloaded app before survey	0.29	0.26	0.195
Has canvassed before survey	0.08	0.08	0.875
Days canvassed before survey	0.19	0.20	0.719
Doors visited before survey	3.19	5.58	0.285
Prior Belief: % of party members who canvass	19.86	20.73	0.440

Notes: Table 2 presents balance tests for the treatment and control group in our experiment. Columns 1 and 2 report variable means. Column 3 report the p-value of a test of equality of means. All variables have 1411 observations. We regress the treatment indicator on all covariates to test for joint significance. The p-value of this joint F-test is 0.59.

Table 3: Main effects

	Posterior	Intentions		App Data			Index	App: Week 7/8	
	Belief	Any	Days	Any	Days	Door	Overall	Days	Doors
Panel A: All supporters									
Treatment	5.027***	0.002	-1.098***	-0.013	-0.159	-14.388*	-0.093**	-0.145**	-6.657**
	(0.543)	(0.026)	(0.361)	(0.016)	(0.159)	(7.839)	(0.047)	(0.064)	(2.814)
Control mean	9.083	0.473	4.028	0.123	0.701	38.348	-0.029	0.297	13.318
Observations	1150	1148	1148	1163	1163	1163	1148	1163	1163
Panel B: Inexperienced supporters									
Treatment	4.566***	-0.014	-1.356***	-0.010	-0.295*	-25.112***	-0.142**	-0.205***	-11.075***
	(0.738)	(0.032)	(0.447)	(0.018)	(0.171)	(9.638)	(0.056)	(0.077)	(3.474)
Control mean	9.872	0.376	3.382	0.101	0.657	39.110	-0.126	0.300	14.187
Observations	701	700	700	710	710	710	700	710	710
Panel C: Experienced supporters									
Treatment	5.675***	0.025	-0.722	-0.015	0.088	3.527	-0.012	-0.045	0.780
	(0.785)	(0.042)	(0.608)	(0.028)	(0.323)	(13.850)	(0.086)	(0.114)	(4.884)
Control mean	7.850	0.626	5.041	0.158	0.770	37.158	0.122	0.293	11.959
Observations	449	448	448	453	453	453	448	453	453

Notes: Table 3 presents treatment effects for respondents who underestimate the share of fellow party members who plan to participate in the party's door-to-door canvassing campaign. Panel A contain the whole sample of underestimating participants. Panel B contains the sample of respondents without prior canvassing experience, Panel C contains the sample of respondents with prior canvassing experience. All specifications besides the last two columns are pre-specified in the pre-analysis plan. The last two columns present treatment effects on the number of days and doors canvassed shortly in weeks 7 and 8 after the treatment (one or two week before the election). Treatment effects are obtained conditional on pre-specified control variables: party membership, number of years of party membership, age, sex, whether a participant has participated in a canvassing training, whether a participant has already downloaded the online application, whether a participant has participated in canvassing before this federal election and whether a participant has participated in canvassing for this federal election.

Table 4: IV estimates: posterior beliefs and effort

	Intentions		App Data			Index
	Any	Days	Any	Days	Door	Overall
Panel A: Main Effect (IV)						
Posterior	0.000	-0.220***	-0.003	-0.033	-2.990*	-0.019*
	(0.005)	(0.077)	(0.003)	(0.032)	(1.620)	(0.010)
Control mean	0.480	3.476	0.119	0.617	30.797	-0.071
Observations	1148	1148	1150	1150	1150	1148
Panel B: Inexperienced supporters (IV)						
Posterior	-0.003	-0.298***	-0.002	-0.066*	-5.615**	-0.031**
	(0.007)	(0.110)	(0.004)	(0.039)	(2.319)	(0.013)
Control mean	0.377	2.740	0.101	0.525	27.221	-0.183
Observations	700	700	701	701	701	700
Panel C: Experienced supporters (IV)						
Posterior	0.004	-0.128	-0.003	0.013	0.474	-0.002
	(0.007)	(0.110)	(0.005)	(0.053)	(2.366)	(0.015)
Control mean	0.641	4.627	0.146	0.759	36.402	0.103
Observations	448	448	449	449	449	448

Notes: Table 4 presents IV estimates for the impact of posterior beliefs for respondents who underestimate the share of fellow party members who plan to participate in the party's door-to-door canvassing campaign. Posterior Beliefs are instrumented with the treatment indicator. Pre-specified control variables include party membership, number of years of party membership, age, sex, whether a participant has participated in a canvassing training, whether a participant has already downloaded the online application, whether a participant has participated in canvassing before this federal election and whether a participant has participated in canvassing for this federal election.

Table 5: OLS estimates: posterior beliefs and effort (control group)

	Intentions		App Data			Index
	Canvassing: Yes	Days	Any	Days	Door	Overall
Panel A: Main Effect (OLS)						
Posterior	0.002	0.044	0.001	0.016	1.209*	0.007*
	(0.002)	(0.030)	(0.001)	(0.011)	(0.689)	(0.004)
Control mean	0.473	4.028	0.123	0.701	38.348	-0.029
Observations	562	562	564	564	564	562
Panel B: Inexperienced supporters (OLS)						
Posterior	0.002	0.026	0.002	0.026**	1.701*	0.009**
	(0.002)	(0.033)	(0.001)	(0.012)	(0.884)	(0.005)
Control mean	0.376	3.382	0.101	0.657	39.110	-0.126
Observations	343	343	344	344	344	343
Panel C: Experienced supporters (OLS)						
Posterior	0.005	0.110*	-0.002	-0.014	-0.055	0.004
	(0.005)	(0.066)	(0.003)	(0.027)	(1.073)	(0.008)
Control mean	0.626	5.041	0.158	0.770	37.158	0.122
Observations	219	219	220	220	220	219

Notes: Table 5 presents OLS estimates for the impact of posterior beliefs for control group respondents who underestimate the share of fellow party members who plan to participate in the party's door-to-door canvassing campaign. Pre-specified control variables include party membership, number of years of party membership, age, sex, whether a participant has participated in a canvassing training, whether a participant has already downloaded the online application, whether a participant has participated in canvassing before this federal election and whether a participant has participated in canvassing for this federal election.

A   Additional Figures and Tables

Figure A.1: Intentions vs. behavior (data from survey and online application)
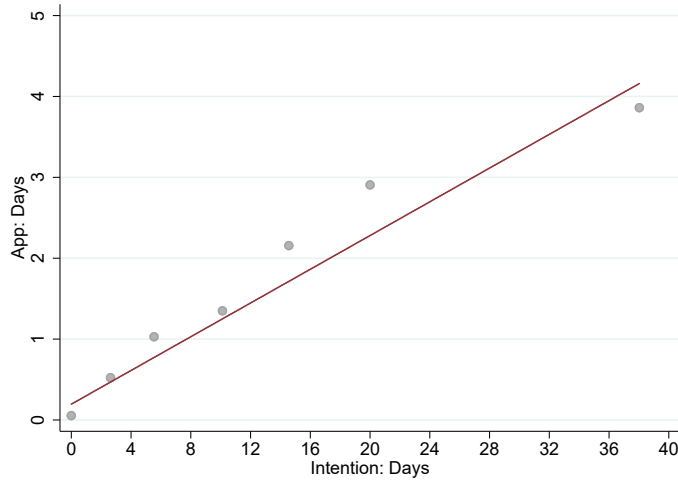
Notes: Figure A.1 shows a bin scatter plot between intended number of days and number of days canvassing as recorded through the online application. Observations are grouped into deciles of intended days.

Figure A.2: Distribution of prior beliefs by canvassing experience
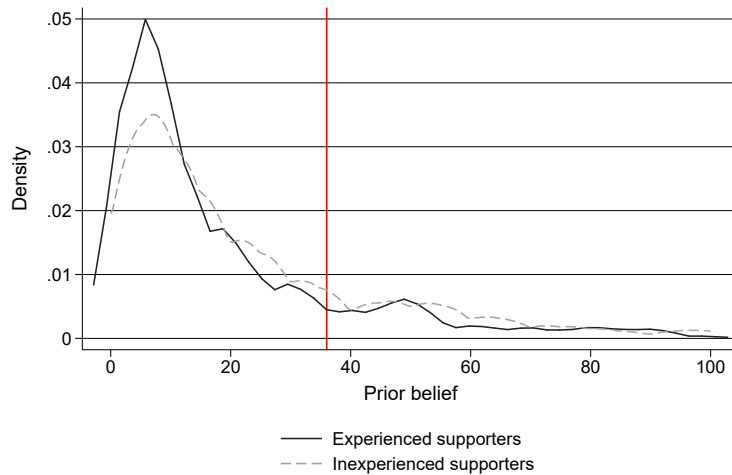
Notes: Figure A.2 shows Kernel density plots of prior beliefs split for respondents with and without prior canvassing experience. Prior beliefs concern the fraction of party members who plan to go canvassing. Red line indicates information provided through the experiment. Pre-specified control variables include: party membership, number of years of party membership, age, sex, whether a participant has participated in a canvassing training, whether a participant has already downloaded the online application, whether a participant has participated in canvassing before this federal election and whether a participant has participated in canvassing for this federal election.

Figure A.3: Cumulative distribution function of key outcomes
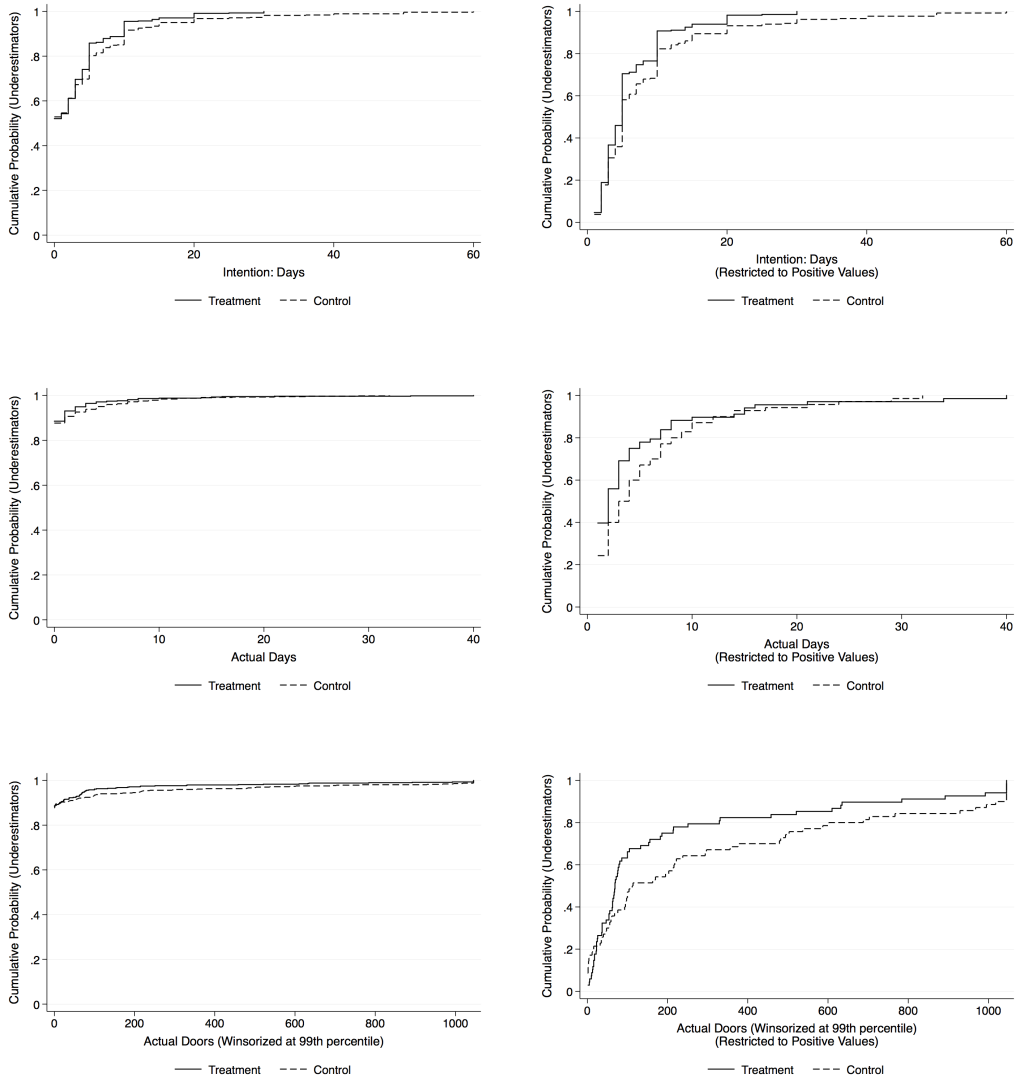
Notes: Figures A.3a-f show cumulative distribution functions (cdfs) of three key outcomes: (i) intended days canvassing, (ii) actual days canvassing, (iii) actual doors knocked on (winsorized at 99th percentile). The cdfs are plotted for underestimators. The left-sided panels show the distribution for all observations, the right-sided panels show the distribution for positive observations only.

Figure A.4: Days canvassed over time (inexperienced supporters): (a) raw data, (b) treatment effects
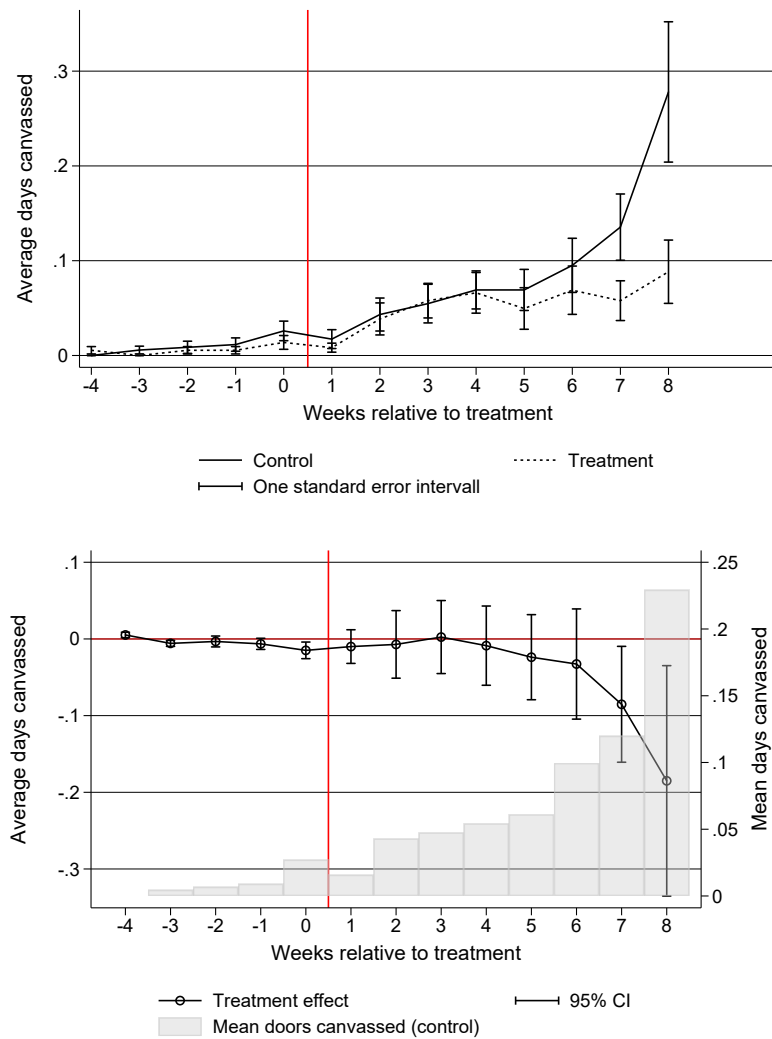
Notes: Figure A.4 (a) shows the mean weekly days canvassed for inexperienced respondents who underestimate the share of fellow party members who plan to participate in the party's door-to-door canvassing campaign for each week after the treatment. Figure A.4 (b) plots the estimates of treatment effects on days canvassed over time for inexperienced respondents who underestimate the share of fellow party members who plan to participate in the party's door-to-door canvassing campaign for each week after the treatment. Estimates are obtained using by estimating equation (3) separately for each week after the treatment. Bars in the back ground indicate the average number of doors canvassed in the control group in a given week. Vertical red line indicates timing of treatment.

Figure A.5: Doors canvassed over time (inexperienced supporters): (a) raw data, (b) treatment effects
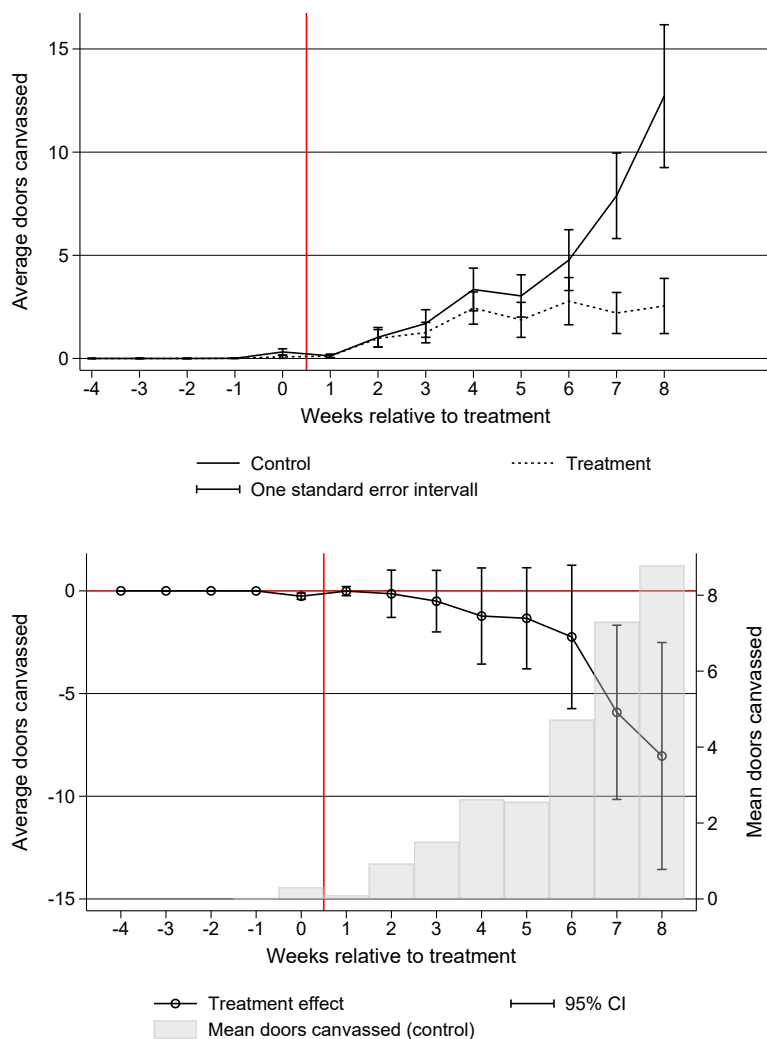
Notes: Figure A.5 (a) shows the average number of doors canvassed (winsorized at the 99th percentile) for inexperienced respondents who underestimate the share of fellow party members who plan to participate in the party's door-to-door canvassing campaign for each week after the treatment. Vertical red line indicates timing of treatment. Figure A.5 (b) plots the estimates of treatment effects on doors canvassed (winsorized at the 99th percentile) over time for inexperienced respondents who underestimate the share of fellow party members who plan to participate in the party's door-to-door canvassing campaign. Estimates are obtained using by estimating equation (3) separately for each week after the treatment. Pre-specified control variables include: party membership, number of years of party membership, age, sex, whether a participant has participated in a canvassing training, whether a participant has already downloaded the online application, whether a participant has participated in canvassing before this federal election and whether a participant has participated in canvassing for this federal election. Bars in the back ground indicate the average number of doors in the control group in a given week after the survey. Vertical red line indicates timing of treatment.

Figure A.6: Days canvassed over time (experienced supporters): (a) raw data, (b) treatment effects
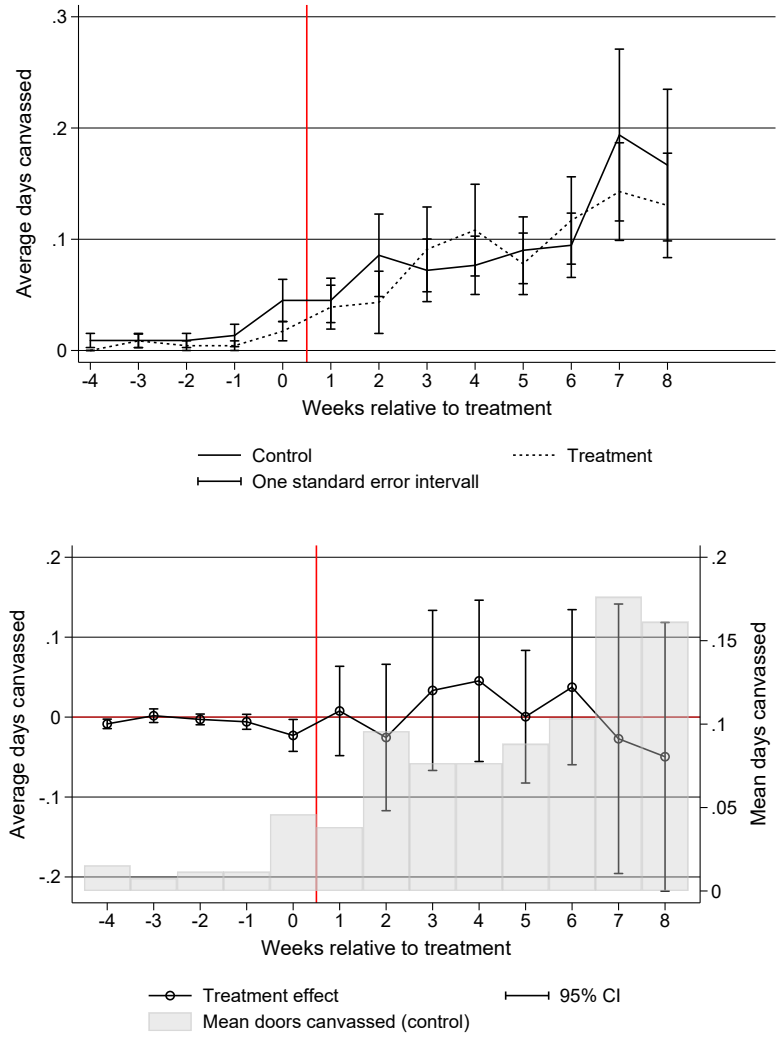
Notes: Figure A.6 (a) shows the mean weekly days canvassed for experienced respondents who underestimate the share of fellow party members who plan to participate in the party's door-to-door canvassing campaign for each week after the treatment. Vertical red line indicates timing of treatment. Figure A.6 (b) plots the estimates of treatment effects on days canvassed over time for experienced respondents who underestimate the share of fellow party members who plan to participate in the party's door-to-door canvassing campaign for each week after the treatment. Estimates are obtained using by estimating equation (3) separately for each week after the treatment. Bars in the back ground indicate the average number of doors canvassed in the control group in a given week. Vertical red line indicates timing of treatment.

Figure A.7: Doors canvassed over time (experienced supporters): (a) raw data, (b) treatment effects
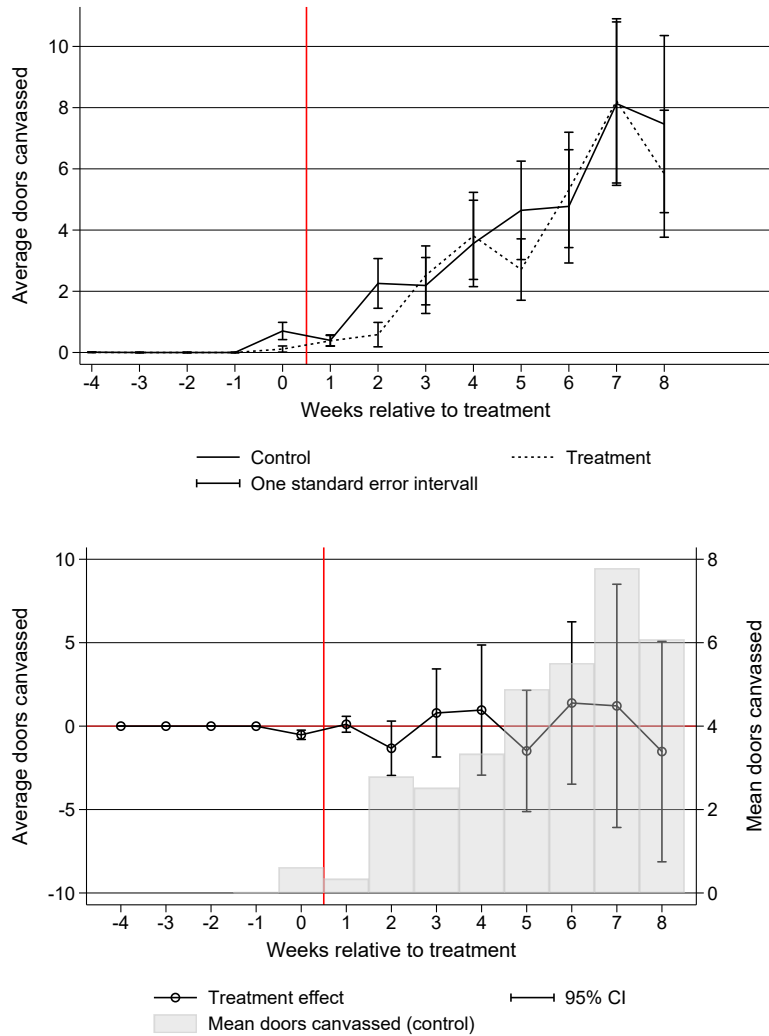
Notes: Figure A.7 shows the average number of doors canvassed (winsorized at the 99th percentile) for experienced respondents who underestimate the share of fellow party members who plan to participate in the party's door-to-door canvassing campaign for each week after the treatment. Vertical red line indicates timing of treatment. Figure A.7 plots the estimates of treatment effects on doors canvassed (winsorized at the 99th percentile) over time for experienced respondents who underestimate the share of fellow party members who plan to participate in the party's door-to-door canvassing campaign. Estimates are obtained using by estimating equation (3) separately for each week after the treatment. Pre-specified control variables include: party membership, number of years of party membership, age, sex, whether a participant has participated in a canvassing training, whether a participant has already downloaded the online application, whether a participant has participated in canvassing before this federal election and whether a participant has participated in canvassing for this federal election. Bars in the back ground indicate the average number of doors in the control group in a given week after the survey. Vertical red line indicates timing of treatment.

Table A1: Main effects - Randomization inference

| | Posterior | Intentions | | App Data | | | Index | App: Week 7/8 | |
	Belief	Any	Days	Any	Days	Door	Overall	Days	Doors
Panel A: All supporters									
Treatment	5.027	0.002	-1.098	-0.013	-0.159	-14.388	-0.093	-0.145	-6.657
	[0.0000]	[0.9283]	[0.0025]	[0.4178]	[0.3311]	[0.0701]	[0.0514]	[0.0244]	[0.0150]
Control mean	9.083	0.473	4.028	0.123	0.701	38.348	-0.029	0.297	13.318
Observations	1150	1148	1148	1163	1163	1163	1148	1163	1163
Panel B: Inexperienced supporters									
Treatment	4.566	-0.014	-1.356	-0.010	-0.295	-25.112	-0.142	-0.205	-11.075
	[0.0000]	[0.6668]	[0.0017]	[0.5956]	[0.0813]	[0.0073]	[0.0111]	[0.0050]	[0.0009]
Control mean	9.872	0.376	3.382	0.101	0.657	39.110	-0.126	0.300	14.187
Observations	701	700	700	710	710	710	700	710	710
Panel C: Experienced supporters									
Treatment	5.675	0.025	-0.722	-0.015	0.088	3.527	-0.012	-0.045	0.780
	[0.0000]	[0.5587]	[0.2330]	[0.5927]	[0.7812]	[0.7929]	[0.8852]	[0.7035]	[0.8669]
Control mean	7.850	0.626	5.041	0.158	0.770	37.158	0.122	0.293	11.959
Observations	449	448	448	453	453	453	448	453	453

Notes: Table A1 presents treatment effects for respondents who underestimate the share of fellow party members who plan to participate in the party's door-to-door canvassing campaign. p-values based on randomization inference with 10,000 draws are displayed in brackets. Panel A contain the whole sample of underestimating participants. Panel B contains the sample of respondents without prior canvassing experience, Panel C contains the sample of respondents with prior canvassing experience. All specifications besides the last two columns are pre-specified in the pre-analysis plan. The last two columns present treatment effects on the number of days and doors canvassed shortly in weeks 7 and 8 after the treatment (one or two week before the election). Treatment effects are obtained conditional on pre-specified control variables: party membership, number of years of party membership, age, sex, whether a participant has participated in a canvassing training, whether a participant has already downloaded the online application, whether a participant has participated in canvassing before this federal election and whether a participant has participated in canvassing for this federal election.

Table A2: Treatment effect heterogeneity for demeaned control variables

	Posterior	Intentions		App Data			Index
	Belief	Any	Days	Any	Days	Door	Overall
Treatment=1	5.029***	0.002	-1.092***	-0.013	-0.157	-14.252*	-0.092**
	(0.541)	(0.026)	(0.358)	(0.016)	(0.159)	(7.815)	(0.047)
Treatment × Female	-0.197	0.011	0.219	0.037	0.616	13.494	0.124
	(1.394)	(0.064)	(1.006)	(0.039)	(0.433)	(23.326)	(0.129)
Female	1.846*	-0.015	-0.039	-0.005	-0.088	10.026	0.001
	(1.015)	(0.046)	(0.861)	(0.026)	(0.216)	(17.402)	(0.089)
Treatment × Age	0.103**	0.002	0.024	0.001	0.008	0.625	0.004
	(0.044)	(0.002)	(0.034)	(0.001)	(0.007)	(0.399)	(0.003)
Age	0.025	-0.003**	-0.024	-0.002**	-0.015**	-1.105***	-0.007***
	(0.030)	(0.001)	(0.030)	(0.001)	(0.006)	(0.339)	(0.002)
Treatment × Member	1.968	-0.007	1.412	0.060*	0.439	22.141	0.178
	(2.150)	(0.080)	(1.183)	(0.036)	(0.361)	(23.104)	(0.131)
Member	-4.358**	0.103*	-0.472	0.030	-0.104	-8.609	0.037
	(1.753)	(0.057)	(1.077)	(0.027)	(0.337)	(22.176)	(0.117)
Treatment × Membership years	-0.073	-0.001	0.001	-0.002	-0.015	-0.377	-0.004
	(0.056)	(0.003)	(0.040)	(0.001)	(0.013)	(0.485)	(0.004)
Memberships years	-0.011	-0.003	-0.031	0.001	0.015	0.549	0.001
	(0.036)	(0.002)	(0.034)	(0.001)	(0.012)	(0.383)	(0.003)
Treatment × Canvassing workshop	-0.212	0.030	-2.284*	-0.139**	-0.647	-57.963*	-0.349**
	(1.268)	(0.068)	(1.262)	(0.055)	(0.570)	(30.898)	(0.167)
Canvassing workshop	0.697	0.247***	5.143***	0.176***	1.386***	94.375***	0.770***
	(0.765)	(0.051)	(1.112)	(0.041)	(0.372)	(24.394)	(0.126)
Treatment × Experience	0.397	0.038	0.830	0.037	0.524	39.718**	0.204*
	(1.085)	(0.059)	(0.823)	(0.036)	(0.372)	(18.174)	(0.109)
Experience	-1.631**	0.207***	0.829	-0.030	-0.425	-30.105**	0.021
	(0.676)	(0.042)	(0.698)	(0.024)	(0.276)	(14.078)	(0.083)
Treatment × Has canvassed this election	0.608	-0.040	-1.521	-0.146	-0.122	-48.063	-0.279
	(1.976)	(0.087)	(2.114)	(0.120)	(1.391)	(65.374)	(0.353)
Has canvassed this election	-0.064	0.100*	2.684	0.339***	1.851**	107.901**	0.782***
	(1.153)	(0.060)	(1.820)	(0.084)	(0.906)	(50.540)	(0.259)
Treatment × Downloaded app before survey	2.928**	0.024	0.104	0.034	0.076	7.736	0.058
	(1.262)	(0.074)	(1.018)	(0.060)	(0.463)	(26.289)	(0.153)
Downloaded app before survey	-0.879	0.231***	1.238	0.206***	0.857**	36.822*	0.488***
	(0.785)	(0.057)	(0.906)	(0.044)	(0.338)	(20.361)	(0.117)
Constant	9.056***	0.478***	4.022***	0.123***	0.693***	37.770***	-0.029
	(0.374)	(0.019)	(0.307)	(0.011)	(0.112)	(6.240)	(0.036)
R-squared	0.115	0.249	0.159	0.312	0.134	0.158	0.324
Observations	1150	1148	1148	1163	1163	1163	1148

Notes: Table A2 presents the results of a regression of the treatment dummy, all demeaned pre-specified control variables and their interactions with the treatment dummy on all pre-specified outcomes. The sample are respondents who underestimate the share of fellow party members who plan to participate in the party's door-to-door canvassing campaign. The control variables include: party membership, number of years of party membership, age, sex, whether a participant has participated in a canvassing training, whether a participant has already downloaded the online application, whether a participant has participated in canvassing before this federal election and whether a participant has participated in canvassing for this federal election.

Table A3: Treatment effects on timing of canvassing activity by canvassing experience.

	Timing of canvassing days		
	Mean day	Median day	Last day
Panel A: Inexperienced supporters			
Treatment	-9.359**	-11.043***	-10.877**
	(3.584)	(3.910)	(4.509)
Control mean	41.580	42.786	52.857
Observations	72	72	72
Panel B: Experienced supporters			
Treatment	-1.140	-0.039	-0.634
	(3.442)	(3.653)	(3.811)
Control mean	42.916	43.329	50.629
Observations	66	66	66

Notes: Table A3 presents treatment effects on the timing of canvassing activity for respondents who underestimate the share of fellow party members who plan to participate in the party's door-to-door canvassing campaign. Sample is restricted to supporters with positive canvassing activity. Panel A contains the sample of respondents without prior canvassing experience, Panel B contains the sample of respondents with prior canvassing experience. Column one shows the effect on the average time (in days) after the start of the experiment the individual's canvassing activity took place. Column two shows the effect on the median time (in days) after the start of the experiment the individual's canvassing activity took place. Column three shows the treatment effect on the timing of the last recorded canvassing day for each individual. Treatment effects are obtained conditional on the following control variables: party membership, number of years of party membership, age, sex, whether a participant has participated in a canvassing training, whether a participant has already downloaded the online application, whether a participant has participated in canvassing before this federal election, whether a participant has participated in canvassing for this federal election, dummies for the day the participant took part in the online survey.

Table A4: Treatment effects by party membership

	Posterior	Intentions		App Data			Index
	Belief	Any	Days	Any	Days	Door	Overall
Panel A: No party member							
Treatment	5.122***	0.001	-1.085***	-0.019	-0.283*	-15.962**	-0.113**
	(0.599)	(0.029)	(0.385)	(0.018)	(0.164)	(8.093)	(0.051)
Control mean	8.658	0.473	3.950	0.126	0.724	35.719	-0.033
Observations	910	908	908	920	920	920	908
Panel B: Party member							
Treatment	4.529***	0.006	-1.275	-0.003	0.135	-19.140	-0.072
	(1.304)	(0.057)	(0.970)	(0.034)	(0.364)	(20.874)	(0.114)
Control mean	10.623	0.475	4.311	0.113	0.621	47.782	-0.016
Observations	240	240	240	243	243	243	240

Notes: Table A4 presents treatment effects for respondents who underestimate the share of fellow party members who plan to participate in the party's door-to-door canvassing campaign. Panel A contains the sample of non-party members, Panel B contains the sample of party members. Treatment effects are obtained conditional on pre-specified control variables: party membership, number of years of party membership, age, sex, whether a participant has participated in a canvassing training, whether a participant has already downloaded the online application, whether a participant has participated in canvassing before this federal election and whether a participant has participated in canvassing for this federal election.

Table A5: Treatment effects by party membership duration

	Posterior	Intentions		App Data			Index
	Belief	Any	Days	Any	Days	Door	Overall
Panel A: Below med. membership dur.							
Treatment	4.612***	-0.033	-1.751***	-0.007	-0.215	-25.117*	-0.156**
	(0.797)	(0.036)	(0.542)	(0.023)	(0.229)	(12.932)	(0.071)
Control mean	9.900	0.523	4.674	0.141	0.827	52.676	0.076
Observations	575	574	574	582	582	582	574
Panel B: Above med. membership dur.							
Treatment	5.465***	0.044	-0.419	-0.020	-0.135	-5.952	-0.034
	(0.723)	(0.036)	(0.475)	(0.021)	(0.223)	(9.087)	(0.063)
Control mean	8.278	0.424	3.392	0.105	0.575	24.070	-0.133
Observations	575	574	574	581	581	581	574

Notes: Table A5 presents treatment effects for respondents who underestimate the share of fellow party members who plan to participate in the party's door-to-door canvassing campaign. Panel A contains the sample of supporters who have a below median party membership duration (including non-members), Panel B contains the sample of supporters who have above median membership duration. Treatment effects are obtained conditional on pre-specified control variables: party membership, number of years of party membership, age, sex, whether a participant has participated in a canvassing training, whether a participant has already downloaded the online application, whether a participant has participated in canvassing before this federal election and whether a participant has participated in canvassing for this federal election.

Table A6: Treatment effects by app-download

	Posterior	Intentions		App Data			Index
	Belief	Any	Days	Any	Days	Door	Overall
Panel A: No app download							
Treatment	4.341***	-0.001	-0.813**	-0.003	-0.144	-8.556*	-0.062*
	(0.664)	(0.031)	(0.404)	(0.011)	(0.093)	(4.536)	(0.038)
Control mean	9.438	0.366	2.908	0.026	0.206	10.848	-0.304
Observations	844	842	842	855	855	855	842
Panel B: App download							
Treatment	6.816***	0.000	-1.985**	-0.037	-0.119	-26.455	-0.168
	(0.839)	(0.045)	(0.786)	(0.051)	(0.531)	(26.353)	(0.142)
Control mean	8.000	0.799	7.439	0.418	2.206	121.823	0.808
Observations	306	306	306	308	308	308	306

Notes: Table A6 presents treatment effects for respondents who underestimate the share of fellow party members who plan to participate in the party's door-to-door canvassing campaign. Panel A contains the sample of supporters who had not downloaded the app before the treatment, Panel B contains the sample of supporters who had downloaded the app before the treatment. Treatment effects are obtained conditional on pre-specified control variables: party membership, number of years of party membership, age, sex, whether a participant has participated in a canvassing training, whether a participant has already downloaded the online application, whether a participant has participated in canvassing before this federal election and whether a participant has participated in canvassing for this federal election.

Table A7: Comparison of experienced and inexperienced supporters

	Experienced	Inexperienced	P-value(experienced = inexperienced)
Identification with party	0.10	-0.05	0.026
Number of known party member	47.13	29.15	0.000
Belief: canvassing among fellow members	15.24	18.57	0.012

Notes: Table A7 presents summary statistics for supporters with and without canvassing experience prior to the federal election. Columns 1 and 2 report variable means. Column 3 report the p-value of a test of equality of means. The data was collected about two months after the election. The sample is based on individuals not participating in the experiment. Row 1 shows the standardized identification with the party as measured by the answer to the question "How close are you to XXX-party?" on a seven point Likert-scale from "not at all" to "very close". Row 3 reports the self-reported number of party members individuals know personally. We observe 345 experienced and and 405 inexperienced respondents.

Table A8: Predicting Proxies for Social Concerns

	(1) Party identification (z-scored)	(2) Number known members (z-scored)
Age	0.00496	0
Is party member	0.268	0.175
Years of party membership	0	0.00987
Has experience canvassing	0.107	0.268
Female × Age	0	0.000740
Female × Member	0.109	0
Female × Years of party membership	0	0.00694
Age × Is party member	0	0.00508
Age × Canvassing workshop	0	-0.000316
Is party member × Canvassing workshop	-0.00456	0
Is party member × experience	0	0.203
Years of party membership × Canvassing workshop	-0.00116	0
R-squared	0.0399	0.187
Number of observations	938	944

Notes: Table A8 presents the results of a LASSO algorithm selecting predictors for identification with the party and social connections. The sample is obtained using a post-election survey administered two month after the election sent out the same list of party supporters. 212 participants of our experiment also participated in the post-election survey. The table displays the LASSO coefficient for the variables and interactions selected from the complete set of control variables and all pairwise interactions (gender, age, party membership, party membership duration, experience, and participation in the canvassing workshop). Column 1 displays the results for z-scored identification with the party as measured by the answer to the question "How close are you to XXX-party?" on a seven point Likert-scale from "not at all" to "very close". Column 2 presents the results for z-scored number of party members personally known by the party. Table does not include standard errors as it present LASSO coefficients.

Table A9: Treatment effects by prior beliefs

	Posterior	Intentions		App Data			Index
	Belief	Any	Days	Any	Days	Door	Overall
Panel A: Pooled							
Treatment	0.441	-0.014	-1.103***	-0.015	-0.139	-12.930*	-0.104**
	(0.797)	(0.023)	(0.365)	(0.015)	(0.136)	(6.857)	(0.042)
Control mean	16.221	0.487	3.848	0.124	0.590	29.225	-0.055
Observations	1397	1395	1395	1411	1411	1411	1395
Panel B: Under-estimators							
Treatment	5.027***	0.002	-1.098***	-0.013	-0.159	-14.388*	-0.099**
	(0.543)	(0.026)	(0.361)	(0.016)	(0.159)	(7.839)	(0.048)
Control mean	11.622	0.480	3.476	0.119	0.617	30.797	-0.071
Observations	1150	1148	1148	1163	1163	1163	1148
Panel C: Over-estimators							
Treatment	-16.686***	-0.081	-0.926	-0.029	-0.097	-9.009	-0.127
	(1.973)	(0.053)	(1.227)	(0.038)	(0.186)	(12.265)	(0.089)
Control mean	37.636	0.522	5.575	0.149	0.464	21.851	0.024
Observations	247	247	247	248	248	248	247

Notes: Table A9 presents treatment effects for the full sample. The treatment effects are for respondents who over- or underestimate the share of fellow party members who plan to participate in the party's door-to-door canvassing campaign. Panel A contains the full sample, Panel B contains the sample of underestimators, Panel C contains the sample of overestimators. Treatment effects are obtained conditional on pre-specified control variables: party membership, number of years of party membership, age, sex, whether a participant has participated in canvassing training, whether a participant has already downloaded the online application, whether a participant has participated in canvassing before this federal election and whether a participant has participated in canvassing for this federal election.

Table A10: Treatment effects by predicted party identification

	Posterior	Intentions		App Data			Index
	Belief	Any	Days	Any	Days	Door	Overall
Treatment	4.828***	-0.002	-1.250***	-0.014	-0.184	-16.512**	-0.108**
	(0.575)	(0.026)	(0.376)	(0.016)	(0.158)	(8.082)	(0.048)
Treatment × Party Identification	7.287*	0.167	5.346**	0.068	1.279*	102.717**	0.647***
	(3.809)	(0.149)	(2.322)	(0.068)	(0.762)	(41.693)	(0.250)
Party Identification	-4.851	-0.385	-10.463	0.717**	10.519***	724.411***	2.333**
	(21.557)	(0.731)	(15.098)	(0.308)	(3.248)	(182.962)	(1.183)
Control mean	9.083	0.473	4.028	0.123	0.701	38.348	-0.029
Observations	1150	1148	1148	1163	1163	1163	1148

Notes: Table A10 presents treatment effects for respondents who underestimate the share of fellow party members who plan to participate in the party's door-to-door canvassing campaign. Treatment is interacted by strength of the identification with the party as measured on a 7 point Likert-scale which is then standardized to have mean 0 and standard deviation 1. Identification with the party is not observed for participants in our experiment. We therefore predict identification with the party using a post-election survey administered two month after the election sent out to the same list of party supporters. 212 participants of our experiment also participated in the post-election survey. To generate the predicted values of social connectedness we use a LASSO algorithm to pick the best predictors for these measures from the complete set of control variables and all pairwise interactions (gender, age, party membership, party membership duration, experience, and participation in the canvassing workshop). We then use the resulting LASSO coefficients to predict social connectedness for all participants of our experiment. Treatment effects are obtained conditional on pre-specified control variables: party membership, number of years of party membership, age, sex, whether a participant has participated in a canvassing training, whether a participant has already downloaded the online application, whether a participant has participated in canvassing before this federal election and whether a participant has participated in canvassing for this federal election.

Table A11: Treatment effects by social connectedness

	Posterior	Intentions		App Data			Index
	Belief	Any	Days	Any	Days	Door	Overall
Treatment	5.094***	0.006	-1.028***	-0.013	-0.143	-12.852*	-0.085*
	(0.537)	(0.026)	(0.360)	(0.016)	(0.162)	(7.752)	(0.048)
Treatment × N members (z-scored)	1.899	0.066	1.788**	-0.003	0.399	42.839**	0.213*
	(1.505)	(0.066)	(0.908)	(0.034)	(0.371)	(17.438)	(0.112)
N members (z-scored)	-1.366	-0.356**	-3.583*	-0.134	-0.515	-23.913	-0.502**
	(3.745)	(0.181)	(1.946)	(0.085)	(0.562)	(33.890)	(0.228)
Control mean	9.083	0.473	4.028	0.123	0.701	38.348	-0.029
Observations	1150	1148	1148	1163	1163	1163	1148

Notes: Table A11 presents treatment effects for respondents who underestimate the share of fellow party members who plan to participate in the party's door-to-door canvassing campaign. Treatment is interacted by social connectedness of individuals as measured by the z-scored number of party members known personally by the respondent. Social connectedness is not observed for participants in our experiment. We therefore predict identification with the party using a post-election survey administered two month after the election sent out to the same list of party supporters. 212 participants of our experiment also participated in the post-election survey. To generate the predicted values of social connectedness we use a LASSO algorithm to pick the best predictors for these measures from the complete set of control variables and all pairwise interactions (gender, age, party membership, party membership duration, experience, and participation in the canvassing workshop). We then use the resulting LASSO coefficients to predict social connectedness for all participants of our experiment. Treatment effects are obtained conditional on pre-specified control variables: party membership, number of years of party membership, age, sex, whether a participant has participated in a canvassing training, whether a participant has already downloaded the online application, whether a participant has participated in canvassing before this federal election and whether a participant has participated in canvassing for this federal election.

B Mathematical Appendix

We model agent i's utility of choosing her own canvassing effort d_i and fellow supporters' canvassing effort (d_{-i}) in the following way:

$$u_i(d_i) = g(d_i + d_{-i}) + \alpha_i h(d_i, d_{-i}) - c_i(d_i) \tag{4}$$

where $g(d_i + d_{-i})$ represents the instrumental utility gained from the overall level of canvassing activity, that is the utility gained from the parties electoral outcome. $h(d_i, d_{-i})$ is a term representing social concerns and is weighted by an individual specific weight α_i. $c_i(d_i)$ represents individual specific cost of canvassing. Agent i chooses d_i to maximize her utility u_i. Formally, agents choose $d_i \geq 0$ such that

$$d_i^* = \text{argmax}_{d_i} g(d_i + d_{-i}) + \alpha_i h(d_i, d_{-i}) - c_i(d_i) \tag{5}$$

For the purpose of this exposition we focus on interior solutions of this optimization problem. In this case agent i sets her canvassing effort d_i according to the following first order conditions:

$$\frac{\partial u(d_i)}{\partial d_i} = \frac{\partial g(d_i + d_{-i})}{\partial d_i} + \alpha_i \frac{\partial h(d_i, d_{-i})}{\partial d_i} - \frac{\partial c_i(d_i)}{\partial d_i} = 0 \tag{6}$$

Within further functional form assumptions there is no closed form solution for the optimal effort choice d_i^*. However, it is possible to analyze i's optimal response to changes in d_{-i} using implicit differentiation:

$$\frac{\partial d_i^*}{\partial d_{-i}} = -\frac{\frac{\partial^2 g(d_i + d_{-i})}{\partial d_i \partial d_{-i}} + \alpha_i \frac{\partial^2 h(d_i, d_{-i})}{\partial d_i \partial d_{-i}}}{\frac{\partial^2 g(d_i + d_{-i})}{\partial d_i \partial d_i} + \alpha_i \frac{\partial^2 h(d_i, d_{-i})}{\partial^2 d_i \partial d_i} - \frac{\partial c(d_i)}{\partial d_i \partial d_i}} \tag{7}$$

To further analyze the strategic interaction between canvassers we make standard assumptions that the marginal instrumental and social returns to canvassing

are non-increasing in own canvassing effort and the marginal cost of canvassing are non-decreasing ($\frac{\partial^2 g(d_i + d_{-i})}{\partial d_i \partial d_i} \geq 0$, $\frac{\partial^2 h(d_i, d_{-i})}{\partial^2 d_i \partial d_i} \geq 0$, and $\frac{\partial c(d_i)}{\partial d_i \partial d_i} \leq 0$). These assumptions immediately leads to Result 1 presented in the main text.

To analyze the role of social concerns for strategic interactions, we analyze how equation 7 varies with α_i. Taking the derivative of equation 7 with respect to α_i yields:

$$\frac{\partial \frac{\partial d_i^*}{\partial d_{-i}}}{\partial \alpha_i} = -\frac{\left(\frac{\partial^2 g(d_i + d_{-i})}{\partial d_i \partial d_i} + \alpha_i \frac{\partial^2 h(d_i, d_{-i})}{\partial^2 d_i \partial d_i} - \frac{\partial c(d_i)}{\partial d_i \partial d_i} \right) \frac{\partial^2 h(d_i, d_{-i})}{\partial d_i \partial d_{-i}} - \left(\frac{\partial^2 g(d_i + d_{-i})}{\partial d_i \partial d_{-i}} + \alpha_i \frac{\partial^2 h(d_i, d_{-i})}{\partial d_i \partial d_{-i}} \right) \frac{\partial^2 h(d_i, d_{-i})}{\partial^2 d_i \partial d_i}}{\left(\frac{\partial^2 g(d_i + d_{-i})}{\partial d_i \partial d_i} + \alpha_i \frac{\partial^2 h(d_i, d_{-i})}{\partial^2 d_i \partial d_i} - \frac{\partial c(d_i)}{\partial d_i \partial d_i} \right)^2}$$

$$(8)$$

As the instrumental concerns are over the total amount of canvassing $d_i + d_{-i}$, $\frac{\partial^2 g(d_i + d_{-i})}{\partial d_i \partial d_i} = \frac{\partial^2 g(d_i + d_{-i})}{\partial d_i \partial d_{-i}}$ holds. This simplifies equation 8 to:

$$\frac{\partial \frac{\partial d_i^*}{\partial d_{-i}}}{\partial \alpha_i} = \frac{\frac{\partial^2 g(d_i + d_{-i})}{\partial d_i \partial d_i} \left(\frac{\partial^2 h(d_i, d_{-i})}{\partial d_i \partial d_i} - \frac{\partial^2 h(d_i, d_{-i})}{\partial d_i \partial d_{-i}} \right) + \frac{\partial c(d_i)}{\partial d_i \partial d_i}}{\left(\frac{\partial^2 g(d_i + d_{-i})}{\partial d_i \partial d_i} + \alpha_i \frac{\partial^2 h(d_i, d_{-i})}{\partial^2 d_i \partial d_i} - \frac{\partial c(d_i)}{\partial d_i \partial d_i} \right)^2}$$

$$(9)$$

Assuming $\frac{\partial^2 h(d_i, d_{-i})}{\partial d_i \partial d_i} \leq 0$ and $\frac{\partial^2 h(d_i, d_{-i})}{\partial d_i \partial d_{-i}} > 0$ yields Result 2 in the main text.

C   Invitation email

Dear 'name',

the critical stage of the election campaign is imminent. We have conducted workshops in almost all constituencies and the feedback was resoundingly positive. Now it's up us. We are all out to canvass to help [party name] win the elections.

To help our campaign succeed, we ask you to respond to a short survey. We would like to know if you have any suggestions and to what extent you plan to participate in the campaign. Your answers will of course be treated confidentially.

Here is the link to the survey:

<p style="text-align:center"><u>**Survey**</u></p>

It would be great if you could support us with this survey. Just click on the link right now. The survey only takes five minutes.

D   Survey instrument

- **Introduction**

  Dear 'name',

  we are conducting a short survey among our supporters to plan our election campaign. Your participation helps us to use our campaign resources optimally. We will treat your answers confidentially. The survey only takes 5 minutes (10 questions).

  Thank you very much for your help!

- **Sex**

  What is your sex?

- **Age**

  How old are you?

- **Party member**

  Are you a member of [party name] party?

- **Years of party membership** (asked if respondent is party member)

  For how many years have you been a member of [party name] party?

- **Canvassing workshop**

  Have you ever participated in a canvassing training workshop?

- **Canvassing experience**

  Do you have experiences from canvassing in previous election campaigns?

- **Prior belief**

  Think of 100 typical [party name] party members.

  What do you think: How many of these 100 [party name] party members plan to engage in canvassing during this election campaign?

- **Treatment text**

  You said X of 100 [party name] party members.

  According to a survey of [party name] party members, 37 of 100 [party name] party members plan to engage in canvassing during this election campaign.

- **Posterior belief**

  What do you think: How many of these 100 [party name] party members will actually engage in canvassing during this election campaign?

- **Extensive margin**

  Do you plan to canvass during this election campaign?

- **Intensive margin** (asked if extensive margin is yes)

  On how many days do you plan to canvass during this election campaign?

- **Debrief**

  Now let's go! And don't forget to download the [party name]-application. Here for <u>iOS</u> and <u>Android</u>.

  With the [party name]-application you can actively participate in our election campaign and keep up to date with the campaign progress. Also, the application is fun!

E   Online Appendix Tables

Table B1 presents the treatment effects on post-treatment app-downloads. Tables B2 to B7 present the main results for individuals who overestimate the share of fellow party members who plan to participate in the party's door-to-door canvassing campaign. Tables B8 to B12 present the main results without control variables. Finally, Tables B13 to B17 display the results for individuals who overestimate the share of fellow party members who plan to participate in the party's door-to-door canvassing campaign without control variables.

Table B1: Treatment effects on app-download

	Survey	App Data		
	click on app-link	within 24h	within one week	any time after survey
Panel A: Pooled				
Treatment	-0.006	0.005	-0.005	0.010
	(0.012)	(0.008)	(0.009)	(0.014)
Control group mean	0.04	0.02	0.03	0.05
Observations	1163	1163	1163	1163
Panel B: Inexperienced supporters				
Treatment	-0.008	0.000	-0.006	-0.008
	(0.016)	(0.010)	(0.011)	(0.016)
Control group mean	0.05	0.02	0.03	0.05
Observations	710	710	710	710
Panel C: Experienced supporters				
Treatment	-0.001	0.012	-0.005	0.040
	(0.017)	(0.013)	(0.015)	(0.024)
Control group mean	0.03	0.01	0.03	0.05
Observations	453	453	453	453

Notes: Table B1 presents treatment effects on app-download data. Panel A contains the sample of all respondents who underestimate the share of fellow party members who plan to participate in the party's door-to-door canvassing campaign, Panel B contains supporters who had not downloaded the app before the treatment, and Panel C contains the sample of supporters who had downloaded the app before the treatment. Treatment effects are obtained conditional on pre-specified control variables: party membership, number of years of party membership, age, sex, whether a participant has participated in a canvassing training, whether a participant has already downloaded the online application, whether a participant has participated in canvassing before this federal election and whether a participant has participated in canvassing for this federal election.

Table B2: Treatment Effects by canvassing experience (overestimators)

	Intentions		App Data			Index
	Any	Days	Any	Days	Door	Overall
Panel A: Inexperienced supporters						
Treatment	-0.059	-1.435	-0.054	-0.182	-8.344	-0.159*
	(0.064)	(1.170)	(0.045)	(0.129)	(9.971)	(0.093)
Control mean	0.442	5.084	0.137	0.326	15.895	-0.075
Observations	168	168	168	168	168	168
Panel B: Experienced supporters						
Treatment	-0.101	-0.384	0.034	0.310	-1.601	-0.020
	(0.099)	(2.696)	(0.062)	(0.584)	(38.897)	(0.205)
Control mean	0.795	7.385	0.179	0.718	38.641	0.328
Observations	79	79	80	80	80	79

Notes: Table B2 presents treatment effects for respondents who overestimate the share of fellow party members who plan to participate in the party's door-to-door canvassing campaign. Panel A contains the sample of respondents without prior canvassing experience, Panel B contains the sample of respondents with prior canvassing experience. Treatment effects are obtained conditional on pre-specified control variables: party membership, number of years of party membership, age, sex, whether a participant has participated in a canvassing training, whether a participant has already downloaded the online application, whether a participant has participated in canvassing before this federal election and whether a participant has participated in canvassing for this federal election.

Table B3: Treatment effects by party membership (overestimators)

	Posterior	Intentions		App Data			Index
	Belief	Any	Days	Any	Days	Door	Overall
Panel A: No party member							
Treatment	-24.088***	-0.123	-4.222**	-0.022	-0.101	-11.433	-0.292*
	(4.891)	(0.121)	(1.998)	(0.076)	(0.211)	(21.474)	(0.153)
Control mean	49.556	0.528	7.722	0.194	0.500	45.111	0.190
Observations	73	73	73	73	73	73	73
Panel B: Party member							
Treatment	-13.650***	-0.075	0.880	-0.000	0.101	6.505	0.019
	(2.034)	(0.065)	(1.872)	(0.048)	(0.313)	(15.453)	(0.128)
Control mean	43.755	0.551	5.031	0.133	0.418	14.214	-0.012
Observations	174	174	174	175	175	175	174

Notes: Table B3 presents treatment effects for respondents who overestimate the share of fellow party members who plan to participate in the party's door-to-door canvassing campaign. Panel A contains the sample of non-party members, Panel B contains the sample of party members. Treatment effects are obtained conditional on pre-specified control variables: party membership, number of years of party membership, age, sex, whether a participant has participated in a canvassing training, whether a participant has already downloaded the online application, whether a participant has participated in canvassing before this federal election and whether a participant has participated in canvassing for this federal election.

Table B4: Treatment effects by party membership duration (overestimators)

	Posterior	Intentions		App Data			Index
	Belief	Any	Days	Any	Days	Door	Overall
Panel A: Below med. membership dur.							
Treatment	-20.156***	-0.112*	-1.287	-0.017	-0.189	-16.278	-0.175*
	(2.538)	(0.067)	(1.332)	(0.051)	(0.228)	(15.984)	(0.105)
Control mean	46.313	0.590	6.108	0.169	0.518	27.675	0.112
Observations	160	160	160	161	161	161	160
Panel B: Above med. membership dur.							
Treatment	-10.188***	-0.027	0.934	-0.034	-0.001	2.230	0.009
	(3.044)	(0.099)	(2.787)	(0.055)	(0.240)	(9.935)	(0.171)
Control mean	43.686	0.471	5.176	0.118	0.314	14.118	-0.071
Observations	87	87	87	87	87	87	87

Notes: Table B4 presents treatment effects for respondents who overestimate the share of fellow party members who plan to participate in the party's door-to-door canvassing campaign. Panel A contains the sample of supporters that have a below median party membership duration (including non-members), Panel B contains the sample of supporters who have above median membership duration. Treatment effects are obtained conditional on pre-specified control variables: party membership, number of years of party membership, age, sex, whether a participant has participated in a canvassing training, whether a participant has already downloaded the online application, whether a participant has participated in canvassing before this federal election and whether a participant has participated in canvassing for this federal election.

Table B5: Treatment effects by app-download (overestimators)

	Posterior	Intentions		App Data			Index
	Belief	Any	Days	Any	Days	Door	Overall
Panel A: No app download							
Treatment	-16.408***	-0.111	-1.019	-0.006	-0.022	-1.429	-0.113
	(2.350)	(0.069)	(1.295)	(0.032)	(0.067)	(2.086)	(0.087)
Control mean	45.432	0.421	3.737	0.032	0.074	2.105	-0.256
Observations	172	172	172	173	173	173	172
Panel B: App download							
Treatment	-15.388***	0.011	0.438	-0.032	-0.250	-22.830	-0.062
	(3.552)	(0.088)	(3.329)	(0.112)	(0.604)	(39.036)	(0.252)
Control mean	45.026	0.846	10.667	0.436	1.333	72.231	0.768
Observations	75	75	75	75	75	75	75

Notes: Table B5 presents treatment effects for respondents who overestimate the share of fellow party members who plan to participate in the party's door-to-door canvassing campaign. Panel A contains the sample of supporters who had not downloaded the app before the treatment, Panel B contains the sample of supporters who had downloaded the app before the treatment. Treatment effects are obtained conditional on pre-specified control variables: party membership, number of years of party membership, age, sex, whether a participant has participated in a canvassing training, whether a participant has already downloaded the online application, whether a participant has participated in canvassing before this federal election and whether a participant has participated in canvassing for this federal election.

Table B6: Treatment effects on app-download (overestimators)

	Survey	App Data		
	click on app-link	within 24h	within one week	any time after survey
Panel A: Pooled				
Treatment	-0.003	0.014	0.009	-0.021
	(0.029)	(0.025)	(0.026)	(0.033)
Observations	248	248	248	248
Control group mean	0.06	0.03	0.04	0.08
Panel B: Inexperienced supporters				
Treatment	-0.003	0.058*	0.051	0.043
	(0.033)	(0.032)	(0.032)	(0.041)
Observations	168	168	168	168
Control group mean	0.05	0.01	0.02	0.05
Panel C: Experienced supporters				
Treatment	-0.009	-0.068*	-0.068*	-0.132**
	(0.058)	(0.040)	(0.040)	(0.051)
Observations	80	80	80	80
Control group mean	0.08	0.08	0.08	0.15

Notes: Table B6 presents treatment effects on app-download data. Panel A contains the sample of all respondents who overestimate the share of fellow party members who plan to participate in the party's door-to-door canvassing campaign, Panel B contains supporters who had not downloaded the app before the treatment, and Panel C contains the sample of supporters who had downloaded the app before the treatment. Treatment effects are obtained conditional on pre-specified control variables: party membership, number of years of party membership, age, sex, whether a participant has participated in a canvassing training, whether a participant has already downloaded the online application, whether a participant has participated in canvassing before this federal election and whether a participant has participated in canvassing for this federal election.

Table B7: Instrumental variables estimates: posterior beliefs and effort choices (overestimators)

	Intentions		App Data			Index
	Any	Days	Any	Days	Door	Overall
Panel A: Main Effect (IV)						
Posterior	0.005	0.055	0.002	0.006	0.541	0.008
	(0.003)	(0.071)	(0.002)	(0.012)	(0.761)	(0.005)
Control mean	0.480	3.476	0.119	0.617	30.797	-0.071
Observations	247	247	247	247	247	247
Panel B: Inexperienced supporters (IV)						
Posterior	0.003	0.077	0.003	0.010	0.448	0.009*
	(0.003)	(0.065)	(0.002)	(0.007)	(0.564)	(0.005)
Control mean	0.429	4.655	0.125	0.268	12.810	-0.119
Observations	168	168	168	168	168	168
Panel C: Experienced supporters (IV)						
Posterior	0.008	0.032	-0.003	-0.027	0.112	0.002
	(0.008)	(0.207)	(0.005)	(0.044)	(2.595)	(0.015)
Control mean	0.722	7.532	0.200	0.875	40.837	0.328
Observations	79	79	79	79	79	79

Notes: Table B7 presents IV estimates for the impact of posterior beliefs for all overestimators (Panel A) and inexperienced overestimators (Panel B), and experienced overestimators (Panel C). Posterior Beliefs are instrumented with the treatment indicator. Pre-specified control variables include party membership, number of years of party membership, age, sex, whether a participant has participated in canvassing training, whether a participant has already downloaded the online application, whether a participant has participated in canvassing before this federal election and whether a participant has participated in canvassing for this federal election.

Table B8: Main effects (no controls)

	Posterior	Intentions		App Data			Index	App: Week 7/8	
	Belief	Any	Days	Any	Days	Door	Overall	Days	Doors
Panel A: All supporters									
Treatment	4.982***	0.013	-1.081***	-0.009	-0.166	-14.784*	-0.082	-0.144**	-6.764**
	(0.547)	(0.030)	(0.390)	(0.019)	(0.168)	(8.456)	(0.057)	(0.067)	(2.944)
Control mean	9.083	0.473	4.028	0.123	0.701	38.348	-0.029	0.297	13.318
Observations	1150	1148	1148	1163	1163	1163	1148	1163	1163
Panel B: Inexperienced supporters									
Treatment	4.641***	0.002	-1.259***	0.001	-0.258	-23.253**	-0.111	-0.190**	-10.656***
	(0.736)	(0.037)	(0.482)	(0.023)	(0.190)	(10.407)	(0.070)	(0.082)	(3.679)
Control mean	9.872	0.376	3.382	0.101	0.657	39.110	-0.126	0.300	14.187
Observations	701	700	700	710	710	710	700	710	710
Panel C: Experienced supporters									
Treatment	5.517***	0.029	-0.810	-0.023	-0.021	-1.482	-0.037	-0.072	-0.656
	(0.794)	(0.045)	(0.642)	(0.033)	(0.312)	(14.327)	(0.096)	(0.114)	(4.883)
Control mean	7.850	0.626	5.041	0.158	0.770	37.158	0.122	0.293	11.959
Observations	449	448	448	453	453	453	448	453	453

Notes: Table B8 presents treatment effects for respondents who underestimate the share of fellow party members who plan to participate in the party's door-to-door canvassing campaign. Panel A contain the whole sample of underestimating participants. Panel B contains the sample of respondents without prior canvassing experience, Panel C contains the sample of respondents with prior canvassing experience. All specifications besides the last two columns are pre-specified in the pre-analysis plan. The last two columns present treatment effects on the number of days and doors canvassed shortly in weeks 7 and 8 after the treatment (one or two week before the election).

Table B9: Treatment effects by party membership (no controls)

	Posterior	Intentions		App Data			Index
	Belief	Any	Days	Any	Days	Door	Overall
Panel A: No party member							
Treatment	5.025***	0.010	-1.082**	-0.021	-0.317*	-17.831**	-0.113*
	(0.607)	(0.033)	(0.420)	(0.021)	(0.178)	(8.819)	(0.061)
Control mean	8.658	0.473	3.950	0.126	0.724	35.719	-0.033
Observations	910	908	908	920	920	920	908
Panel B: Party member							
Treatment	4.953***	0.025	-1.049	0.038	0.429	-1.564	0.044
	(1.229)	(0.065)	(0.976)	(0.044)	(0.454)	(23.001)	(0.146)
Control mean	10.623	0.475	4.311	0.113	0.621	47.782	-0.016
Observations	240	240	240	243	243	243	240

Notes: Table B9 presents treatment effects for respondents who underestimate the share of fellow party members who plan to participate in the party's door-to-door canvassing campaign. Panel A contains the sample of non-party members, Panel B contains the sample of party members.

Table B10: Treatment effects by party membership duration (no controls)

	Posterior	Intentions		App Data			Index
	Belief	Any	Days	Any	Days	Door	Overall
Panel A: Below med. membership dur.							
Treatment	4.697***	-0.022	-1.687***	0.003	-0.187	-23.340*	-0.133
	(0.816)	(0.042)	(0.580)	(0.029)	(0.248)	(14.146)	(0.088)
Control mean	9.900	0.523	4.674	0.141	0.827	52.676	0.076
Observations	575	574	574	582	582	582	574
Panel B: Above med. membership dur.							
Treatment	5.248***	0.047	-0.485	-0.021	-0.146	-6.317	-0.033
	(0.728)	(0.042)	(0.520)	(0.024)	(0.226)	(9.210)	(0.072)
Control mean	8.278	0.424	3.392	0.105	0.575	24.070	-0.133
Observations	575	574	574	581	581	581	574

Notes: Table B10 presents treatment effects for respondents who underestimate the share of fellow party members who plan to participate in the party's door-to-door canvassing campaign. Panel A contains the sample of supporters who have a below median party membership duration (including non-members), Panel B contains the sample of supporters who have above median membership duration.

Table B11: Treatment effects by app-download (no controls)

	Posterior	Intentions		App Data			Index
	Belief	Any	Days	Any	Days	Door	Overall
Panel A: No app download							
Treatment	4.238***	0.011	-0.719*	-0.002	-0.142	-8.305*	-0.051
	(0.669)	(0.033)	(0.415)	(0.011)	(0.095)	(4.548)	(0.040)
Control mean	9.438	0.366	2.908	0.026	0.206	10.848	-0.304
Observations	844	842	842	855	855	855	842
Panel B: App download							
Treatment	7.042***	-0.038	-2.589***	-0.071	-0.463	-44.511	-0.307*
	(0.882)	(0.048)	(0.854)	(0.056)	(0.546)	(28.324)	(0.158)
Control mean	8.000	0.799	7.439	0.418	2.206	121.823	0.808
Observations	306	306	306	308	308	308	306

Notes: Table B11 presents treatment effects for respondents who underestimate the share of fellow party members who plan to participate in the party's door-to-door canvassing campaign. Panel A contains the sample of supporters who had not downloaded the app before the treatment, Panel B contains the sample of supporters who had downloaded the app before the treatment.

Table B12: Treatment effects on app-download (no controls)

	Survey	App Data		
	click on app-link	within 24h	within one week	any time after survey
Panel A: Pooled				
Treatment	-0.009	0.004	-0.006	0.009
	(0.011)	(0.008)	(0.009)	(0.014)
Control group mean	0.04	0.02	0.03	0.05
Observations	1163	1163	1163	1163
Panel B: Inexperienced supporters				
Treatment	-0.013	-0.001	-0.007	-0.011
	(0.016)	(0.010)	(0.011)	(0.016)
Control group mean	0.05	0.02	0.03	0.05
Observations	710	710	710	710
Panel C: Experienced supporters				
Treatment	-0.001	0.012	-0.006	0.041*
	(0.016)	(0.013)	(0.016)	(0.025)
Control group mean	0.03	0.01	0.03	0.05
Observations	453	453	453	453

Notes: Table B12 presents treatment effects on app-download data. Panel A contains the sample of all respondents who underestimate the share of fellow party members who plan to participate in the party's door-to-door canvassing campaign, Panel B contains supporters who had not downloaded the app before the treatment, and Panel C contains the sample of supporters who had downloaded the app before the treatment.

Table B13: Treatment Effects by canvassing experience (overestimators, no controls)

| | Intentions | | App Data | | | Index |
	Any	Days	Any	Days	Door	Overall
Panel A: Inexperienced supporters						
Treatment	-0.031	-0.988	-0.027	-0.135	-7.100	-0.100
	(0.077)	(1.368)	(0.051)	(0.133)	(10.562)	(0.117)
Control mean	0.442	5.084	0.137	0.326	15.895	-0.079
Observations	168	168	168	168	168	168
Panel B: Experienced supporters						
Treatment	-0.145	0.290	0.040	0.306	4.286	0.009
	(0.101)	(2.736)	(0.090)	(0.631)	(34.890)	(0.240)
Control mean	0.795	7.385	0.179	0.718	38.641	0.309
Observations	79	79	80	80	80	79

Notes: Table B13 presents treatment effects for respondents who overestimate the share of fellow party members who plan to participate in the party's door-to-door canvassing campaign. Panel A contains the sample of respondents without prior canvassing experience, Panel B contains the sample of respondents with prior canvassing experience.

Table B14: Treatment effects by party membership (overestimators, no controls)

	Posterior	Intentions		App Data			Index
	Belief	Any	Days	Any	Days	Door	Overall
Panel A: No party member							
Treatment	-23.204***	-0.122	-4.884**	-0.032	-0.068	-20.544	-0.311
	(4.422)	(0.118)	(1.883)	(0.091)	(0.302)	(30.511)	(0.213)
Control mean	49.556	0.528	7.722	0.194	0.500	45.111	0.177
Observations	73	73	73	73	73	73	73
Panel B: Party member							
Treatment	-14.163***	-0.012	1.561	0.010	0.101	5.175	0.080
	(2.122)	(0.077)	(1.690)	(0.053)	(0.320)	(15.464)	(0.140)
Control mean	43.755	0.551	5.031	0.133	0.418	14.214	-0.019
Observations	174	174	174	175	175	175	174

Notes: Table B14 presents treatment effects for respondents who overestimate the share of fellow party members who plan to participate in the party's door-to-door canvassing campaign. Panel A contains the sample of non-party members, Panel B contains the sample of party members.

Table B15: Treatment effects by party membership duration (overestimators, no control)

	Posterior	Intentions		App Data			Index
	Belief	Any	Days	Any	Days	Door	Overall
Panel A: Below med. membership dur.							
Treatment	-20.015***	-0.084	-1.225	0.024	0.097	-1.316	-0.061
	(2.539)	(0.079)	(1.396)	(0.061)	(0.334)	(19.849)	(0.146)
Control mean	46.313	0.590	6.108	0.169	0.518	27.675	0.104
Observations	160	160	160	161	161	161	160
Panel B: Above med. membership dur.							
Treatment	-10.381***	0.002	1.212	-0.062	-0.092	-4.507	-0.021
	(3.085)	(0.110)	(2.727)	(0.060)	(0.235)	(11.464)	(0.186)
Control mean	43.686	0.471	5.176	0.118	0.314	14.118	-0.079
Observations	87	87	87	87	87	87	87

Notes: Table B15 presents treatment effects for respondents who overestimate the share of fellow party members who plan to participate in the party's door-to-door canvassing campaign. Panel A contains the sample of supporters that have a below median party membership duration (including non-members), Panel B contains the sample of supporters who have above median membership duration.

Table B16: Treatment effects by app-download (overestimators, no controls)

	Posterior	Intentions		App Data			Index
	Belief	Any	Days	Any	Days	Door	Overall
Panel A: No app download							
Treatment	-16.471***	-0.070	-0.438	-0.006	-0.022	-1.054	-0.062
	(2.419)	(0.075)	(1.192)	(0.025)	(0.056)	(1.574)	(0.080)
Control mean	45.432	0.421	3.737	0.032	0.074	2.105	-0.270
Observations	172	172	172	173	173	173	172
Panel B: App download							
Treatment	-17.415***	-0.041	-0.889	-0.019	0.111	-7.786	-0.072
	(3.376)	(0.089)	(3.014)	(0.116)	(0.717)	(43.106)	(0.264)
Control mean	45.026	0.846	10.667	0.436	1.333	72.231	0.775
Observations	75	75	75	75	75	75	75

Notes: Table B16 presents treatment effects for respondents who overestimate the share of fellow party members who plan to participate in the party's door-to-door canvassing campaign. Panel A contains the sample of supporters who had not downloaded the app before the treatment, Panel B contains the sample of supporters who had downloaded the app before the treatment.

Table B17: Treatment effects on app-download (overestimators, no controls)

	Survey	App Data		
	click on app-link	within 24h	within one week	any time after survey
Panel A: Pooled				
Treatment	-0.003	0.014	0.009	-0.021
	(0.029)	(0.025)	(0.026)	(0.033)
Observations	248	248	248	248
Control group mean	0.06	0.03	0.04	0.08
Panel B: Inexperienced supporters				
Treatment	-0.003	0.058*	0.051	0.043
	(0.033)	(0.032)	(0.032)	(0.041)
Observations	168	168	168	168
Control group mean	0.05	0.01	0.02	0.05
Panel C: Experienced supporters				
Treatment	-0.009	-0.068*	-0.068*	-0.132**
	(0.058)	(0.040)	(0.040)	(0.051)
Observations	80	80	80	80
Control group mean	0.08	0.08	0.08	0.15

Notes: Table B17 presents treatment effects on app-download data. Panel A contains the sample of all respondents who overestimate the share of fellow party members who plan to participate in the party's door-to-door canvassing campaign, Panel B contains supporters who had not downloaded the app before the treatment, and Panel C contains the sample of supporters who had downloaded the app before the treatment.