

Implementation Intentions, Information, and Voter Turnout: An Experimental Study

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Are citizens more likely to vote when they are asked to make plans about how they will cast their ballots? Such planning—typically described as “implementation intentions”—has been shown to increase many types of desirable behaviors, including exercising and healthy eating, receiving vaccinations, physical rehabilitation, and recycling. Important earlier work in political science suggests voter turnout can also be influenced by implementation intention interventions, whereby electors are prompted to “make a plan” to vote (Nickerson & Rogers, 2010), though this finding has gone largely unreplicated. At the same time, elections management bodies (EMBs) in many contexts regularly conduct informational campaigns in the period leading up to elections, though little is known about the effects of such efforts upon turnout. Using data from an online experiment conducted at the time of the 2015 Canadian Federal Election, we demonstrate that implementation intention interventions can improve voter turnout but that this effect is conditional upon electors being exposed to informational materials about how to vote in the election. When survey respondents were provided with information on voting requirements and methods, and then prompted with questions forcing them to contemplate the act of casting their ballots, we observe a sizable increase in turnout rates.

KEY WORDS: voter turnout, implementation intentions, voter information, election management bodies, online experiment

Voter participation is widely regarded as central to electoral democracy (Barber, 2003; Cavanagh, 1981; Pateman, 1970; Salisbury, 1975). Accordingly, a substantial amount of research has explored why people vote (or not) (e.g., Blais, 2001; Green & Gerber, 2008; Wolfinger & Rosenstone, 1980; Verba, Scholzman, Brady, & Brady, 1995). The most widely supported conclusions are that turnout decisions are influenced by sociodemographic characteristics (including income, education, age, gender, race/ethnicity), attitudes and beliefs (partisanship, political interest, efficacy, duty), and mobilization efforts by parties and interest groups. In relatively recent developments in this literature, experimental designs have been utilized to explore the effects of arguments and mobilization techniques (e.g., Brown, Perrella, & Kay, 2010; Davenport et al., 2010; Gerber, Green, & Larimer, 2008).

Within this emerging segment of the literature on turnout, work on the effects of asking voters to make a plan to vote—known as implementation intention interventions—represents a recent and still largely unreplicated contribution.

The focus of this study is to experimentally assess the effects on turnout of implementation intention prompts, messages deployed by an Election Management Body (EMB), and the joint effect of these two factors. Is it the case that voter mobilization campaigns are more effective when accompanied by implementation intention messages? Conversely, are implementation intention messages more potent when accompanied by informational messages of the type contained in educational materials created and disseminated by EMBs?

To answer these questions, we use data from a two-wave online survey of Canadian electors, conducted in the fall of 2015. The first wave was conducted shortly before the 2015 Canadian Federal Election and the second immediately afterwards. Specifically, we consider the effectiveness of two experimental treatments upon turnout intention (measured before the election) and reported turnout (measured after). The first treatment involves exposure to Elections Canada's mobilization materials about "being ready" to vote and how to vote—messages which are clearly linked to the concepts of implementation of intentions and planning. The second treatment is based upon two forms of implementation intention questions, the first of which is based upon Nickerson and Rogers' (2010) study and the second related to the information materials produced by an EMB. The combination of these treatments allows us to consider if and how implementation intention interventions interact with exposure to official information from an EMB to affect voter turnout, enabling us to add to the nascent literature on implementation intentions in the field of political science.

Literature Review

Often termed the intention-behavior gap, studies in social psychology have long shown a disjunction between intended desired outcomes and actual goal attainment (e.g., Gollwitzer & Oettingen, 2013; Gollwitzer & Sheeran, 2006). One means of reducing this gap is through the use of implementation intentions. Implementation intentions have been described as "if-then" plans, where actors are asked to spell out in advance how they will undertake some action (Gollwitzer & Oettingen, 2013). Articulating such a "plan" is thought to create cognitive links in memory between anticipated future actions and the behaviors required to achieve these actions, making it more likely that the behavior will take place (Rogers, Milkman, John, & Norton, 2015). The literature on the phenomenon revolves heavily around the idea of "goal attainment," and researchers have used the concept to increase the likelihood of a number of socially desirable behaviors. On a variety of fronts, including exercising and healthy eating (Achtziger, Gollwitzer, & Sheeran, 2008; Rothman et al., 2015), scholastic performance (Bayer & Gollwitzer, 2007), being vaccinated (Leventhal, Singer, & Jones, 1965), physical rehabilitation (Kersten, McPherson, Kayes, Theadom, & McCambridge, 2015), and recycling (Holland, Aarts, & Langendam, 2006), formulating a plan and thinking through the actions required to achieve some future goal have been shown to increase the likelihood of "success."

In order to reduce the intention-behavior gap, the literature differentiates between two types of intentions: goal intentions and implementation intentions (e.g., Gollwitzer, 1996, 1999). Goal intentions specify a particular behavior or outcome deemed desirable. By contrast, implementation intentions specify when, where, and how a goal intention will be realized. They have also been shown to facilitate the attainment of specified goals (Bayer & Gollwitzer, 2007). Implementation intention plans provide a "structure in which people (1) identify key opportunities or, obstacles to, taking action, (2) specify a way to respond to each opportunity and obstacle, and then (3) formalize a link between the opportunity or obstacle and the response: 'If (opportunity/obstacle) arises, then I will (respond in this way).'" (Rothman et al., 2015).

In the field of political science, implementation intentions have been applied (though to a limited degree) to the study of voter turnout (Loewen, Rubenson, & Martin, n.d; Nickerson & Rogers, 2010). In this context, the act of voting is viewed as the desirable “goal” to be attained. This attainment can be hampered, however, by a variety of factors, including illness, poor weather, a lack of time, or simply a lack information on where or when to vote (Pammett & LeDuc, 2003). Might it be the case that “making a voting plan” increases the likelihood that electors will overcome these issues and turnout on Election Day?

Nickerson and Rogers (2010) provide the strongest evidence of the effect of implementation intentions on voter turnout. In their study, conducted during the 2008 Democratic Party primary election in Pennsylvania, 287,000 people were randomly assigned to several experimental groups. The first treatment group received phone calls reminding them of the upcoming election, encouraging them to vote, and asking if they intended to turn out. Electors in the second, or “plan-making” group, were provided with the same information and asked the same questions, but they were also presented with three additional questions about when they would vote, how they would get to their polling place, and where they would be coming from before voting. As compared to the control group, the first treatment group saw a bump of 2.0 percentage points in turnout, while those in the “plan-making” group were 4.1 points more likely to vote than the control. Thus, asking respondents about their plan for voting was twice as effective as the standard get-out-the-vote prompts.¹

The broader implementation intentions literature considers how effects may be moderated (Sheeran, 2002). In the extant psychological literature, Sheeran identifies four types of factors (behavior types, intention type, properties of intentions, and personality and cognitive variables) that appear to influence the degree of consistency between the presence of intentions and behavior. In the context of political science and turnout, little is known about if, and how, the effect of implementation intention interventions upon turnout may be moderated. Nickerson and Rogers (2010) find that the size of the household has such an effect, but other than that, other potential moderating factors have yet to be identified.

Accordingly, the present work considers the potentially moderating role of information campaigns conducted by election management bodies (or EMB), aimed at boosting voter turnout. In Canada, Elections Canada regularly conducts information campaigns aimed at mobilizing turnout in Federal elections (the comparable provincial organizations do the same thing for Provincial elections).² To date, however, there is little work that assesses the effectiveness of these information campaigns, and what work that has been done suggests mixed or at least modest effects. In their study of Elections Canada’s 2006 and 2008 voter mobilization campaigns, McGregor and Anderson (2014) find that mobilization messages are only effective at increasing turnout among particular segments of the population with traditionally low turnout rates (Aboriginals, ethnic minorities, and disabled voters). For most electors, however, the information campaigns had no discernible impact upon turnout.

Theory

We think that the question of the effect of implementation intention interventions on turnout deserves scrutiny because of the exceptional nature of participation in intermittent elections. Consider two other activities which have been shown to increase with implementation intentions: healthy eating, exercising, and recycling. These activities share two traits which are not shared by voting. First, they are frequent. Individuals make choices about food every day. Recycling is likewise an action

¹ These estimates are derived from Nickerson and Rogers (2010) as well as later accounts of their work (see Green & Gerber, 2008).

² We note here the uniformity of the administration of federal elections across Canada. Unlike the highly localized and varied administration of national elections in the United States, federal elections in Canada are administered by a single party which engages in uniform messaging and polling practices across the country.

which includes everyday components (i.e., disposing of items in a recycling receptacle rather than a garbage receptacle) and a typically weekly or biweekly component (taking out the receptacle for pickup). Second, individuals usually know the minimally required information to undertake these actions, for example, where a grocery store is located, the nutritional value of fresh fruit and vegetables over processed foods, or what types of goods might be recyclable and where they can be disposed.

Voting shares neither of these qualities. First, it is not a frequent action. The average Canadian elector will have the chance to participate in a federal, provincial, or municipal election perhaps once a year. Second, because elections are administered by different electoral management bodies at each level of government, how and where an individual votes will differ between elections. As such, voting does not resemble the types of familiar and simple acts that have been previously shown to be affected by implementation intention interventions. While turnout is an infrequent activity, prior work does show that such interventions can affect success in the completion of even one-time activities (Dholakia & Bagozzi, 2003).³ As we discuss in greater detail below, however, our theoretical intuition is that the effectiveness of implementation intention interventions for such rare events will be most effective—and perhaps only effective—among voters who also possess the basic information required to actually make a plan about where, when, and how to cast a ballot.

The current study thus examines three related research questions. First, does exposure to an EMB's informational materials increase turnout? Second, does exposure to implementation intention interventions increase turnout? Finally, does exposure to Elections Canada's informational materials *and* implementation intention questions act jointly to increase turnout?

We have expectations regarding each of these three questions. First, there is some very modest evidence that Elections Canada's advertisements influence turnout (McGregor & Anderson [2014] have shown that the ads only affected specific segments of the population).⁴ At the provincial level, we know of only one EMB that has attempted to measure the impact of their advertising campaigns upon turnout. A survey conducted following the 2012 provincial election in Quebec revealed that 34% of voters polled credited a media campaign run by the Directeur Général des Élections du Québec for their decision to cast a ballot.^{5,6} Though such a simple approach to measuring the relationship between attitudes towards advertising and reported turnout has obvious limitations (including the possibility that two variables might be spuriously related to one another, or that responses may be influenced by normative judgments on the part of respondents regarding the proper role of government in encouraging turnout), we nevertheless begin with the following expectation:

H1: Exposure to informational materials from EMBs will be positively associated with turnout.

Next, based upon Nickerson and Rogers' (2010) study, we do expect to see a positive effect upon turnout for the first group of implementation intention questions. Prior work shows that actively generating implementation intentions for even one-time behaviors is effective at fostering the cognitive

³ The context referenced in this work is short-fuse behaviors—actions that must be enacted within a limited window for success. An example from this work includes picking up course reading materials at a particular time and place (Dholakia & Bagozzi, 2003).

⁴ The aforementioned study also considers the effects of a different set of advertisements. Prior to the 2015 campaign, Elections Canada was tasked with actively encouraging voter turnout. Legislation passed shortly before the election, however, changed the mandate of the organization, which is permitted now only to run informational campaigns but is to stop short of specifically urging electors to vote.

⁵ This is according to Denis Dion of le Directeur Général des Élections du Québec, as quoted in *La Presse* (February 11, 2014).

⁶ To our knowledge, there has yet to be any research into the mechanism(s) through which informational materials provided by EMBs affect turnout. This would seem a fruitful avenue for future research.

links between an anticipated situation and behavioral intent (Dholakia & Bagozzi, 2003). So we posit that exposure to implementation intentions prompts will establish effective cognitive links for turnout decisions. We have a weaker assumption of success for the second, untested, group of questions (related to Elections Canada information materials). As for the question of which set of messages should have the greatest effect upon turnout, we have no expectations. Regardless, this leads us to expect the following:

H2: Exposure to implementation intentions questions will be positively associated with turnout.

Finally, we expect to see an interactive effect between exposure to informational materials and implementation intention interventions. In particular, we suggest that implementation intention prompts will be more effective for turnout among those respondents who are also exposed to Elections Canada's informational flyers. We suggest that exposure to information materials has two effects upon the efficacy of implementation intention interventions. First, the provision of information regarding the materials needed to vote (identification requirements, dates for advance voting, etc.) lessens the costs required to collect information to form a turnout plan. Second, respondents prompted to devise a turnout plan will be more certain of how to carry out their plan based on the information provided in the flyer prompts. Both of these factors may serve to make respondents more confident about their ability to formulate a high-quality plan and to make it immediately. This should make them more likely to actually turn out. We might also state that while turning out to vote is a comparatively simple task and relatively little is asked of the voter in terms of the act, the decision criteria that goes into the content of the choice once at the ballot box is far from a simple task. For this reason, the combined effects of implementation intention interventions and information from flyers contribute to lessening the overall cognitive demands of navigating a complex environment within which a vote is cast. Those individuals who have a relatively high level of information of the behavior we are trying to encourage should be influenced more by such interventions than will those with less information.

We note as well that previous work on implementation intentions suggests that information on how to successfully carry out the action is in fact required to form an effective plan. As Rogers et al. (2015) note, the first notable implementation intention experiment (Leventhal et al., 1965) provided subjects with the information required to form an effective plan to receive an inoculation. Closer to our study, Rogers and Nickerson's (2010) control condition, to which treatments were added, appears to contain at least some of the information required to know when to vote. More generally, Rogers et al. (2015) note that effective plan making is more likely when individuals have information on the "when, where, and how" of the action they wish to undertake. This leads us to our final expectation:

H3: The effect of either implementation intention messages will be increased by the provision of information about how to vote.

Data and Methodology

Our study relies on a two-wave online panel survey⁷ in which we embed two different sets of experimental treatments. Survey respondents, of whom there were 1,454, were interviewed in the days leading up to the October 19th Canadian Federal Election, and 67% of respondents also

⁷ The survey was coded through the Qualtrics interface. The sample was purchased from and the data were collected on our behalf by Survey Sampling International.

completed the postelection wave of the survey, administered shortly after Election Day.⁸ Our design was executed in the context of a real election campaign using materials provided by the national EMB itself. Accordingly, our experiment has arguably high construct and external validity.

The case of Canada and the mobilization campaign by Elections Canada in 2015 are particularly well suited to the study of implementation intention interventions. The thrust of the information campaign was “being ready” to vote; its goal was to equip voters with the necessary information to be able to cast a ballot. Such a goal was particularly germane in the 2015 electoral cycle because of changes introduced by the *Fair Elections Act*. Passed in 2014 by the governing Conservative Party, the *Fair Elections Act* introduced a number of changes to the regulatory environment of federal elections in Canada. Of particular note for individual voters, the *Act* demanded that voters prove their identity by requiring government-issued photo identification confirming their address and ending the use of “vouching” for someone’s identity or simply using a voter information card.⁹ These changes were controversial, well-publicized, and may well have contributed to a general sense of confusion over what were approved sources and means of proving one’s identity at the polling station. For these reasons, Elections Canada’s mobilization and information efforts as well as implementation intentions to vote are particularly worthy of study.

Respondents were randomly assigned on the basis of two manipulations. The first was exposure to two informational fact sheets or flyers created by Elections Canada. Half of respondents were assigned to see the two flyers, while the other half were kept in control and thus saw nothing. The second manipulation, independent of the first, was to one of three implementation intention conditions: implementation intention message 1, implementation message 2, or control. We thus have a 2×3 design with roughly evenly sized groups. A multinomial logistic regression of treatment condition on sociodemographics—age, gender, education, income, and visible minority status—suggests balance between the groups.¹⁰ We are thus confident that any observed differences in the turnout patterns of these groups are a result of our experimental treatments.

In our first treatment condition, respondents were shown informational materials from Elections Canada, the arms-length government agency responsible for the administration of federal elections in this country. Respondents were exposed to two posters, in the language of their choice (French or English): The first encourages respondents to “get ready to vote” (*préparez-vous à voter*) and provides information on how to register, reminds voters to watch for their voter information card in the mail and to ensure that they bring the correct ID to the polling booth. The second flyer informs electors that there are four potential ways to vote (on Election Day, in advance polls, by mail, or at an Election Canada office outside of advance polling days). These materials were publicly available on Elections Canada’s website. To maximize message reception and acceptance, participants were asked to summarize the central point of the posters in a single statement.¹¹

Our second manipulation is meant to evaluate the effect of implementation intention questions upon turnout. The first treatment group was presented with the same series of questions asked by Nickerson and Rogers (2010): “If you decide to vote in the upcoming federal election: Around what time do you expect you will head to the polls on Election Day? Where do you expect you will be coming from when you head to the polls? What do you think you will be doing before you head out to the polls?” The second treatment group was presented with three questions, this time related

⁸ The first wave was administered October 9–17, and the second from October 21 to October 28.

⁹ The practice of vouching allowed for a registered and confirmed voter to “vouch” for the identity of another voter who did not possess the correct pieces of identification to confirm their identity and residence.

¹⁰ None of the variables included in the model reach statistical significance in any of the group-wise comparisons. The chi-square value of the multinomial model’s likelihood ratio is 20.00, $p = 0.75$, and R-squared value is a 0.0043. Full model results found in Appendix B.

¹¹ More precisely, respondents were prompted with the following (and an open-ended text box): “During each federal election, Elections Canada runs informational campaigns. In the box below, please type what you believe to be the main message of the ad below.”

Table 1. Experimental Setup

		Implementation Intentions		
		Nickerson and Rogers (2010) Questions	Elections Canada Questions	Control
Exposure to flyers	Yes	261	234	232
	No	230	254	243

specifically to Elections Canada’s voter-information campaign. “If you decide to vote in the upcoming federal election: What piece(s) of ID are you going to take with you to the polls? Will you vote on Election Day, at advance polls, by mail, or at an Elections Canada office? Will you read your voter information card prior to heading to the polls?” These implementation intention scripts are intended to prompt individuals into thinking about how they will overcome common obstacles to voting (such as time taken to vote, identification requirements, and information related to where and how to vote).

The variation between these two treatments is intended to determine whether contemplating some of the factors covered by Elections Canada’s informational campaign has a different effect than the standard implementation intention questions. All questions were open ended; for our purposes, it is not the answers that were important, simply the fact that respondents answered at all. We consider below whether the treatments had effects independently or in interaction with one another.

Our sample thus consists of six groups, with variation on exposure to the Elections Canada flyers and implementation intention questions. Table 1 shows a 2×3 matrix representing the experimental groups (entries report the sample sizes of each group).¹²

We measure the effect of these two types of treatments upon two separate, though related, outcome variables: turnout intention and reported turnout.¹³ Turnout intention was measured in the preelection wave of the survey, immediately after exposure (or not) to treatments. Reported turnout is measured in the second wave of the survey, conducted after Election Day. Considering both outcome variables allows us to determine if treatment effects are immediate or delayed in nature.

As a final note, we recognize that voters tend to be overrepresented in election studies of this nature, and our dataset is no exception (the actual turnout rate in the 2015 Canadian election was 68.3%, as compared to 88.9% in our postelection sample). We suspect that this overrepresentation may be due to several factors common to all studies like ours, including sampling bias (voters are more likely to participate in a survey of this nature), a Hawthorne effect (whereby participation in a political study increases the likelihood of voting), or misreported voting (nonvoters succumbing to social desirability pressures and stating that they voted). We see no reason why these factors would influence the effects of our treatments upon reported turnout. Sampling bias should be irrelevant in this regard, as all respondents agreed to participate in the study long in advance of receiving treatments, while we expect that Hawthorne effects would apply equally to all survey participants of a political survey of this nature. Finally, social desirability pressures should not differ between groups, as the treatments are all value-neutral with respect to the act of voting. As such, we proposed that any observed differences between our experimental groups to be the result of treatments, rather than methodological artefacts.

¹² Sample sizes are from a preelection questionnaire (fewer respondents completed the postelection questionnaire). Post-election sample sizes can be found in Table 4.

¹³ Both turnout variables are based upon the following question: “In each election, we find that a lot of people are not able to vote because they were not registered, they were sick or they did not have the time. On Election Day, are you planning to vote (turnout intention)/did you vote (reported turnout)?”

Table 2. Turnout (Intention and Reported) by Exposure to Elections Canada Flyers

	Flyers	Control	Difference
Turnout intention	78.95 (<i>N</i> = 727)	79.09 (<i>N</i> = 727)	-0.14
Reported turnout	88.91 (<i>N</i> = 514)	88.96 (<i>N</i> = 489)	0.05

* $p < 0.10$, ** $p < 0.05$.

Table 3. Turnout (intention and reported) by Exposure to Implementation Intention Questions

	Group 1 Nickerson and Rogers (2010) Questions	Group 2 Elections Canada Questions	Group 3 Control	Difference (1-2)	Difference (1-3)	Difference (2-3)
Turnout intention	81.26 (<i>N</i> = 491)	79.92 (<i>N</i> = 488)	75.79 (<i>N</i> = 475)	1.34	5.35**	4.13*
Reported turnout	89.88 (<i>N</i> = 326)	91.18 (<i>N</i> = 340)	85.76 (<i>N</i> = 337)	-1.30	4.12*	5.42**

* $p < 0.10$, ** $p < 0.05$.

Results

To begin, we examine the independent effects of exposure to the Elections Canada flyers and implementation intention questions upon intended and reported turnout, testing Hypothesis 1. To that end, Table 2 shows the rates of turnout on the basis of exposure to the Elections Canada flyers and reveals the difference in intended and reported turnout rates between the two experimental groups (we estimate the statistical significance of these differences using chi-square tests).¹⁴

Put succinctly, Table 2 reveals that exposure to the two pieces of Elections Canada literature employed here, on their own, had no effect upon turnout in the 2015 Canadian federal election. There is no difference between the treatment and control groups with respect to either turnout intention or reported turnout, suggesting that the flyers alone had neither short- nor long-term effects.¹⁵ Our data thus provide no support for Hypothesis 1. This is not to rule out the possibility that Elections Canada's larger information campaign (which included a variety of advertisements through various media) had no impact upon turnout. However, we find no evidence that the two specific pieces of literature to which survey respondents were exposed had an independent effect.

To evaluate Hypothesis 2, we determine the effect of our implementation intention treatments independent of the effect of the Elections Canada flyers. Table 3 shows the results of this analysis, again reporting values for the turnout variables for each experimental group, as well as the differences between groups. The first implementation intention treatment group was exposed to the same questions used by Nickerson and Rogers (2010), while the second was asked the aforementioned questions specifically relevant to Elections Canada's informational materials.

¹⁴ As we have directional expectations for our effects, all analysis is based upon one-tailed tests of significance.

¹⁵ Readers will notice that reported turnout rates are higher than turnout intention. We expect that this is due to survey attrition, with voters more likely than abstainers to complete the second (postelection) wave of the survey. We do not expect this difference to bias our analysis of treatment effects. Readers may also notice that, despite our use of random selection, the size of the "reported turnout" groups in Table 1 varies, with the control group having roughly 5% fewer respondents than the treatment group. Given our assumption that voters are more likely to complete the post-election survey, such a difference might cause one to doubt the null results for the reported turnout results in Table 1; in essence, if nonvoters in the control group were particularly likely to drop out, this might conceivably lead us to overestimate turnout among the control group. For two reasons, we are confident that, even if such an effect does exist, it is not enough to account for the observed null results. First, there is no statistically significant difference in the rate of completion of the postelection survey and exposure to the Elections Canada flyers. Thus the difference in sample size is statistically insignificant. Second, we estimated the rate of turnout for the control group in this category if it had the same sample size as the treatment, assuming that the additional respondents had voted at the national average rate of 68.3%. The estimated turnout rate decreases slightly to 88.0%, a value which remains statistically indistinguishable from the turnout rate for the treatment group.

Table 4. Turnout by Exposure to Flyers and Implementation Intention Questions

		Group 1 Nickerson and Rogers (2010) Questions	Group 2 Elections Canada Questions	Group 3 Control	<i>Difference</i> (1–2)	<i>Difference</i> (1–3)	<i>Difference</i> (2–3)
Turnout intention	Flyers	80.84 (<i>N</i> = 261)	82.05 (<i>N</i> = 234)	73.71 (<i>N</i> = 232)	–1.21	7.13*	8.34**
	No flyers	81.74 (<i>N</i> = 230)	77.95 (<i>N</i> = 254)	77.78 (<i>N</i> = 243)	3.79	3.96	0.17
	<i>Difference</i>	–0.9	4.1	–4.07			
Reported turnout	Flyers	90.91 (<i>N</i> = 176)	92.22 (<i>N</i> = 167)	83.63 (<i>N</i> = 171)	–1.31	7.28**	8.59**
	No flyers	88.67 (<i>N</i> = 150)	90.17 (<i>N</i> = 173)	87.95 (<i>N</i> = 166)	–1.5	0.72	2.22
	<i>Difference</i>	2.24	2.05	–4.32			

* $p < 0.10$, ** $p < 0.05$.

In contrast to the null results in Table 2, Table 3 reveals statistically significant effects for both treatment groups and for both outcome variables. As compared to the control group, both sets of implementation intention questions were associated with increases in turnout intention and reported turnout. The size of the effects were the same for both treatments (just over 4 percentage points), with no statistically significant differences observed on either turnout measure, and are strikingly similar to the 4.1-point effect observed by Nickerson and Rogers (2010). Of note, we find that both types of messages affect both intended and reported turnout. Such a finding suggests that implementation intention questions had an immediate effect and that this effect lasted until Election Day. The data are thus congruent with Hypothesis 2.

So what then about the interaction of the flyers and implementation intention questions? Table 2 suggests that, on their own, Elections Canada’s informational flyers had no effect. Might it be the case that they do if combined with implementation intention questions? To consider this, we present Table 4, which shows rates of turnout (intention and reported) for each combination of the experimental treatments.

Simply put, the results in Table 4 suggest that the implementation intention treatments only had an effect upon those participants exposed to the Elections Canada flyers, providing support for Hypothesis 3. Among those participants who saw the informational materials, the effect of both implementation intention treatments was over 7 percentage points, on both turnout intention and reported turnout. In the absence of exposure to the flyers; however, the implementation treatment had no effect on either indicator of turnout. This finding suggests that the effect of implementation intentions is conditional upon having sufficient information to plan effectively for the act in question.¹⁶

We wish to note one final consideration about the longevity of the observed effects. Our study employs two cross-sectional dependent variables, but it is conceivable that treatments may lead to behavioral changes *between* survey waves. One possibility is that exposure to our treatments might

¹⁶ We recognize the possibility that some survey respondents who viewed the Elections Canada materials may have anticipated that our study was aimed at identifying the relationship between exposure to the materials and turnout. Such individuals may theoretically be more likely to state that they plan to vote or have voted, which would provide an alternative explanation for our findings. We are unable to disentangle such effects from those theorized in our article. For two reasons, however, we are skeptical that such an effect is responsible for the observed results. First, even if such an effect existed, we would expect it to be strongest in the first wave of the survey (when respondents were exposed to the ads). Given that the second survey was conducted several days later, we should anticipate such an effect to weaken, and possibly disappear, by the time the second wave of the questionnaire is administered (particularly since both waves consisted of dozens of additional questions not considered in the present study, so respondents may not easily be able to determine the purpose of this particular survey experiment). If we were to observe an effect with turnout intention, but not reported turnout, there would therefore be some cause for concern. As the results stand, however, this is not the case—the same relationship was observed for both intended and reported turnout. Second, there is already a well-known social-desirability bias to report that one plans to vote or has voted. Survey respondents who hoped to “impress” the researchers would already be expected to respond to this pressure, regardless of exposure to the educational materials.

increase the likelihood of responding immediately to the turnout intention questions, but this effect may weaken, or “wear off,” by Election Day. The results above seem to suggest that our effects are long lasting, but this type of “conversion” is worth examining in greater detail. We conducted a brief analysis to test for such effects, replicating the results from Tables 2 and 3 above, limiting the sample only on those respondents who stated that they intended to vote in the preelection wave. Among this subset of survey participants, neither of our treatments was associated with a difference in turnout, as reported in the postelection survey. In other words, the effects of the treatments did not appear to “wear off” by Election Day. The effects of our experimental treatment were thus relatively long-lasting.

We ran a similar longitudinal analysis focusing only upon those respondents who stated in the preelection survey that they did not intend to vote. This time, the purpose was to determine if exposure to treatments had a “delayed effect,” perhaps affecting reported turnout more strongly than turnout intentions. On this matter our data are suggestive, though sample-size limitations make us hesitant to draw authoritative conclusions. Our dataset includes only 190 respondents who stated in the preelection survey that they did not intend to vote and for whom we also have postelection turnout responses. Among these respondents, we find that exposure to the Elections Canada materials is not associated with postelection reported turnout (thus indicating no delayed effect). However, there is limited evidence that the implementation intention questions (pooling these respondents) are associated with increased levels of turnout ($p = 0.094$). Such a finding points to the importance of further research into the temporal dimensions of implementation intentions and political behavior. Put another way, more research is required to determine if the effects of such treatment may take some time to “sink in.”

Conclusions

Drawing upon insights from the psychological literature on the concept of implementation intentions, our experimental study adds to the growing scholarship on the effects of government-run public-education programs upon voter turnout. More specifically, we have discovered that exposure to the Elections Canada informational materials, on their own, have no discernible effect upon turnout. However, when also asked to engage with questions about the process of voting, individuals who saw the flyers did report higher rates of turnout. We also find that the two types of implementation intention questions had the same effect upon turnout, despite the fact that one group of questions was designed specifically to complement the Elections Canada flyers. Such a result may suggest that the very act of consciously reflecting on the voting process affects turnout rates, regardless of which aspects of the process are contemplated. The effects of these treatments were both immediate and long lasting.

Why is it that our experimental treatments only have effects when both are present? Why might we only observe effects upon turnout among those individuals who have seen the Elections Canada informational materials *and* who are asked questions about their intentions to vote? One possible answer to this question lies in the complexity of the action serving as our outcome variable. At first glance, the act of voting may seem relatively simple; you go to the polling booth, show identification, and then cast a ballot. As noted above, however, changes were made to the registration process and identification requirements in the months leading up to the 2015 federal election. These changes received a great deal of attention in the media. Indeed, the informational materials developed by Elections Canada, and presented to survey respondents here, were meant to address some of these changes.

Accordingly, our implementation intention treatments might only have an effect when the action being considered is fully understood by respondents. Those participants exposed to the information treatment will have greater information of the voting process than those who are not. When the former

group is asked to contemplate the process of voting through the implementation intention questions, their deliberations will be made on the basis of a relatively high level of information about the action. This difference may indeed lead to deliberations having a greater impact upon the likelihood of undertaking the act of voting. In contrast, if little is known about the act under consideration, deliberations will be made on the basis of less information and thus may be less effective. Future research is required to test our explanation in more detail and to identify the exact mechanisms through which implementation intention treatments affect behaviors in high- and low-information settings. Our results nevertheless point strongly to one factor that might influence the effectiveness of implementation intention considerations: information about the act under consideration.

Regardless of the explanation for our findings, however, the results of our study have implications for actors tasked with conducting informational campaigns in the period leading up to elections (particularly if the goal of such campaigns is to encourage voter turnout). Our experiment, conducted in the context of a real election and using actual materials from a government agency, suggests that the effectiveness of such informational campaigns hinges upon the extent to which electors actively contemplate the act of voting and do so with accurate information. One question for those interested in increasing turnout therefore becomes how to encourage such contemplation. Regardless of the answer to this question, however, our data suggest that educating the public about the requirements of voting is a necessary condition for such contemplation to have an effect. In a context such as the 2015 Canadian federal election, where electoral rules had recently been changed, providing electors with information on the voting process appears to have been an important, though insufficient, condition for boosting voter turnout.

We wish to conclude with a discussion of the generalizability of our findings. We have argued above that our use of information materials from an actual EMB, and data collected during the course of a real national election, endows our findings with high external validity. Still, we do not assume that our results will hold in all contexts. We do, however, expect that they would hold in elections where eligibility or identification or registration rules have recently changed or are unclear. Such elections are far from rare, with many American states, for example, debating the merits of changing identification requirements in recent years. In the face of such uncertainty about voting rules, we expect exposure to information and implementation intention interventions to increase voter turnout. The applicability of our findings to other settings should be tested with replication studies.

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Appendix A

Elections Canada Advertisements

Flyer #1

Get ready to vote

- Make sure you're registered
- Watch for your voter information card
- Check that you have the right ID



Ready to vote
Elections Canada

elections.ca

Préparez-vous à voter

- Assurez-vous d'être inscrit
- Surveillez l'arrivée de votre carte d'information de l'électeur
- Assurez-vous d'avoir les bonnes pièces d'identité



Prêt à voter
Elections Canada

elections.ca

 Make sure you're registered

Check your registration if you've moved, never voted before or are a student living away from home.

Go to elections.ca/register now. It's easy and will save you time when you go vote in the upcoming federal election.

 Watch for your voter information card

If you're registered, you will get a voter information card in the mail after the election is called. It tells you when and where to vote.

Check your name and address on the card. If there are errors, or if you don't receive a card, go to elections.ca or call us to update your information.

 Check that you have the right ID

Here are your options:

Show one piece of government-issued ID with your photo, name and address. For example: your driver's licence.



OR

Show two pieces of ID. Both pieces must have your name, and one must also have your address. For example: your health card plus a utility bill, or your student card plus a bank statement.

OR

Take an oath. Show two pieces of ID with your name and have someone who knows you attest to your address. This person must show proof of identity and address, and be registered in the same polling division. This person can attest for only one person.

Go to elections.ca for the full list of accepted ID, details on accessibility, and to learn about the many ways you can vote.

 Assurez-vous d'être inscrit

Vérifiez votre inscription si vous avez déménagé, n'avez jamais voté ou êtes un étudiant qui ne vit pas à la maison.

Allez à elections.ca/inscription dès maintenant. C'est facile, et vous gagnerez du temps lorsque vous irez voter à la prochaine élection fédérale.

 Surveillez l'arrivée de votre carte d'information de l'électeur

Si vous êtes inscrit, vous recevrez une carte d'information de l'électeur par la poste après le déclenchement de l'élection. Elle vous indique où et quand voter.

Vérifiez votre nom et votre adresse sur la carte. S'il y a des erreurs, ou si vous ne recevez pas de carte, allez à elections.ca ou appelez-nous pour mettre à jour vos renseignements.

 Assurez-vous d'avoir les bonnes pièces d'identité

Voici vos options :

Présentez une pièce d'identité délivrée par un gouvernement portant vos photo, nom et adresse. Par exemple, votre permis de conduire.



OU

Présentez deux pièces d'identité. Toutes les deux doivent porter votre nom, et l'une d'elles doit aussi porter votre adresse. Par exemple, votre carte d'assurance-maladie et une facture de services publics, ou votre carte d'étudiant et un relevé bancaire.

OU

Prêtez serment. Présentez deux pièces d'identité portant votre nom et demandez à une personne qui vous connaît d'attester votre adresse. Cette personne doit présenter une preuve d'identité et d'adresse et être inscrite dans la même section de vote que vous. Elle ne peut attester l'adresse que d'une seule personne.


Allez à elections.ca pour obtenir la liste complète des pièces d'identité acceptées, des renseignements sur l'accessibilité, et pour en apprendre davantage sur les différentes façons de voter.

elections.ca | 1-800-463-6868 | TTS 1-800-361-8935


Flyer #2

4 ways to vote


Vote on election day
October 19, 2015




Vote on an advance voting day
Away or busy on election day?
You can vote on October 9, 10, 11 or 12



Vote at any Elections Canada office across Canada
Go before the deadline —
6:00 p.m., Tuesday, October 13




Vote by mail
Apply by 6:00 p.m. on
Tuesday, October 13




Ready to vote
October 19, 2015

Contact Elections Canada for everything you need to know to be ready to vote.
elections.ca | 1-800-463-6868 | TTY 1-800-361-8935




Quatre façons de voter


Le jour de l'élection
Le 19 octobre 2015




Les jours de vote par anticipation
Vous serez absent ou occupé
le jour de l'élection?
Vous pouvez voter les
9, 10, 11 ou 12 octobre



À n'importe quel bureau d'Élections Canada au pays
Présentez-vous avant 18 h,
le mardi 13 octobre




Par la poste
Présentez votre demande
avant 18 h, le mardi 13 octobre



Prêt à voter
Le 19 octobre 2015

Communiquez avec Elections Canada pour obtenir toute l'information dont vous avez besoin pour être prêt à voter.
elections.ca | 1-800-463-6868 | ATS 1-800-361-8935



Appendix B

Experimental Group Balance Check: Multinomial Logistic Regression

Table B1 shows the results of a multinomial logistic regression model to confirm balance between experimental groups. Each series of entries in the table represents a comparison between two groups (for a total of 15 group-wise comparisons). Rows of groups represent the baseline category, to which the other group (represented by the columns) is compared.

Legend

- Group 1 No flyers, no message
- Group 2 No flyers, Nickerson & Rogers messages
- Group 3 No flyers, Elections Canada messages
- Group 4 Flyers, no message
- Group 5 Flyers, Nickerson & Rogers messages
- Group 6 Flyers, Elections Canada messages

Table B1. Comparison of Experimental Groups on the Basis of Sociodemographic Characteristics

	Group 2	Group 3	Group 4	Group 5	Group 6
Base Group 1 Age (years)	-0.01 (0.01)	0.00 (0.01)	-0.00 (0.01)	0.00 (0.01)	0.00 (0.01)
Gender (female)	-0.10 (0.20)	0.16 (0.19)	0.10 (0.19)	0.13 (0.19)	-0.04 (0.20)
Education (University educated)	0.05 (0.20)	-0.22 (0.19)	0.16 (0.20)	0.10 (0.19)	-0.17 (0.20)
Income (above median)	0.18 (0.34)	-0.16 (0.36)	0.06 (0.34)	0.40 (0.32)	0.21 (0.35)
Visible minority	0.29 (0.20)	0.01 (0.20)	0.03 (0.20)	0.04 (0.20)	0.14 (0.20)
Constant	0.11 (0.38)	-0.02 (0.37)	0.03 (0.37)	-0.23 (0.37)	-0.21 (0.38)
Group 2 Age		0.01 (0.01)	0.00 (0.01)	0.01 (0.01)	0.01 (0.01)
Gender		0.26 (0.20)	0.20 (0.20)	0.23 (0.19)	0.05 (0.20)
Education		-0.28 (0.20)	0.11 (0.20)	0.04 (0.20)	-0.22 (0.20)
Income		-0.35 (0.35)	-0.12 (0.33)	0.22 (0.31)	0.04 (0.34)
Visible minority		-0.28 (0.20)	-0.26 (0.21)	-0.25 (0.20)	-0.16 (0.32)
Constant		-0.13 (0.37)	-0.08 (0.38)	-0.34 (0.37)	-0.32 (0.38)
Group 3 Age			-0.01 (0.01)	0.00 (0.01)	0.00 (0.01)
Gender			-0.06 (0.19)	-0.03 (0.19)	-0.21 (0.20)
Education			0.38 (0.20)	0.32 (0.19)	0.06 (0.20)
Income			0.23 (0.36)	0.57 (0.34)	0.38 (0.36)
Visible minority			0.02 (0.20)	0.03 (0.20)	0.13 (0.20)
Constant			0.05 (0.37)	-0.21 (0.37)	-0.19 (0.38)
Group 4 Age				0.01 (0.01)	0.01 (0.01)
Gender				0.03 (0.20)	-0.15 (0.20)
Education				-0.06 (0.20)	-0.33 (0.20)
Income				0.34 (0.32)	0.15 (0.34)
Visible minority				0.01 (0.20)	0.11 (0.21)
Constant				-0.26 (0.37)	-0.24 (0.38)
Group 5 Age					0.00 (0.01)
Gender					-0.18 (0.19)
Education					-0.26 (0.20)
Income					-0.19 (0.32)
Visible minority					0.10 (0.20)
Constant					0.02 (0.38)

Note. Entries report coefficients and standard errors (in parentheses). * $p < 0.05$.

Model statistics

- Likelihood ratio $\chi^2 = 20.00$
- Likelihood ratio p -value = 0.75
- Pseudo $R^2 = 0.0043$
- $N = 1,306$