

# Media Campaign Events during the 2011 Canadian Federal Election<sup>\*</sup>

## Examining Campaign Effects with Big Data<sup>†</sup>

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### Abstract

*Election campaigns are generally understood as information-rich events with the potential to persuade, elicit learning, and set the public's political agenda. In this view, media events are understood as the primary providers of information about parties' policies and ideological positions, as well as candidates' personal traits and chances of winning. However, given the low attention many voters give to politics and the demonstrated influence of long-term political allegiances, it is questionable whether media events matter at all. Using a large-scale dataset ( $n = 565,467$ ), collected during the 2011 Canadian Federal Election, this article estimates the influence of three types of discrete media events on leader evaluations and vote intention: 1) popular talk shows; 2) the publication of polls; and 3) newspaper endorsements. We show that media events can have substantial aggregate effects. Specifically, the effects of candidate interviews and published polls appear substantial for both leader evaluations and vote choice. Specifically, the NDP 'surge' is greatly associated with these media events. In the context of a campaign that brought about remarkable changes in electoral fortunes, these findings shed light on the role of specific media events that precede substantial shifts in public opinion.*

**Keywords:** polling, elections, campaign events, leadership, time series, public opinion, canada

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Among parliamentary elections, the 2011 Canadian Federal Election stands out in demonstrating a very large and rapid shift in electoral fortunes. Campaigning on their role as economic stewards during uncertain times, the incumbent Conservative Party was rewarded with a majority government, after previously being held to two minority results. Driven by the so-called ‘Orange Crush’ and a popular leader, the New Democratic Party (NDP) advanced itself from being a historically third place party to being the official opposition, gaining 63 seats in the process. Caught in the shifting tides, and facing pressure from its left and right flanks, the Liberal Party saw its support collapse. The party returned its worst seat and vote share performance in its history. Counted among the four most successful parties in the history of electoral democracy, the party now found itself in the doldrums. The Bloc Québécois also suffered heavily from the NDP ‘surge’, as progressive voters in Quebec found a new viable option on the federal stage. Little or none of this was foreseen before the election. By all appearances, it was an election in which the campaign had substantial effects on public opinion. It thus provides fertile ground for the study of campaign effects and political communication.

To a large extent, these altered electoral fortunes and shift in the competitive setting accord well with an understanding of election campaigns as information-rich events, with the potential to persuade, elicit learning, and set the public’s political agenda (Zaller, 1989; Holbrook, 1996; Nadeau et al., 2008). In this view, media events are seen as the primary generators of information about parties’ policy positions and ideological bearings, and candidates’ personal traits and chances of winning (Iyengar and Simon, 2000). More specifically, media can influence the heuristics used by voters to align their preferences with those of parties and candidates by priming issues and leaders, and providing elite cues and contextual-objective information (i.e. ‘electability’). Given the low attention many individuals afford to politics, and the influence of long-term political allegiances and sticky preferences, there remains a question whether media events matter at all. It is this question that guides our investigation.

Using Vote Compass data collected over the course of the 2011 election campaign, this paper estimates the influence of three types of discrete media events on leader evaluations and vote intention: 1) popular talk shows; 2) the publication of polls; and 3) newspaper endorsements. Vote Compass data are particularly well-suited for studying campaign dynamics given their large daily sample sizes, which number in the thousands. To compare leader evaluations and vote intention before and after key media events, we estimate a series of Box and Tiao (1975) time series intervention models to test structural breaks in leader evaluations, expectations, and vote intention.

Contrary to conventional wisdom, we find that media events mattered substantially in this campaign. While the effects from newspaper endorsements do not appear discernible, the effects from talk shows and published polls appear substantial for both leader evaluations and vote choice. Specifically, the NDP ‘surge’ follows these media events and the evidence suggests that these events played pivotal roles in

the election. Indeed, a stylized counterfactual emerges in which the NDP's result would not have been possible without them. First, a popular Quebec talk show, *Tout le monde en parle*, allowed the NDP leader, Layton, to communicate directly to a large Francophone audience. In doing so, he could present himself more clearly as a 'Bon Jack', whose background, personality, and political positions were appealing to Francophone Quebecers. The result of this, as we show, is a sudden and positive increase in Layton's leadership evaluations among Francophone Quebecers. Second, a series of polls were released and well-publicized twelve days prior to the election. These polls all showed the NDP in second place nationally and surging in Quebec, where the NDP would experience its greatest gains. The effect of these publications was a sudden jump in vote intention for the NDP. As both the Liberal Party and Bloc Québécois came to realize, from this point onward, the logic of a single-member plurality system took effect. A two-party race resulted.

In drawing inferences from these results, we are aware that the 2011 election may present an issue of generalizability, as it may prove to be something other than a 'normal' election (Converse, 1966). This was a campaign in which substantial opinion shifts occurred. But, in some sense, this provides the perfect testing ground for media effects: if such effects are to be uncovered, it should be possible in an election in which large swings in public opinion were observed. Our findings therefore shed light on the potential for specific media events to precede large shifts of opinion amongst the electorate. Moreover, they draw attention to the fact that campaigns can have substantial effects on vote choice, contrary to theories suggesting otherwise.

This paper proceeds as follows. We first look to the campaign and media effects literature from which to frame the findings that follow. Secondly, we briefly present a stylized model of vote choice that relies only on leader evaluations and expectation. We follow this with an equally brief recounting of the media events considered in this paper, and our expectations of media effects, given our model. Thirdly, we turn to a discussion of our data and methods, before moving on to empirically test the hypothesized effect. We conclude by considering the broader implications of these findings for understanding the importance of media effects in modern campaigns.

## THEORY

### CAMPAIGN EFFECTS

The influence of political campaigns on electoral outcomes remains a long-standing division among scholars of voting behaviour. Although some have claimed that "this is a settled question" (Hillygus and Jackman, 2003, 583), there are important nuances to consider. At its most basic, there is little consensus in the literature about what

constitutes an ‘effect’ (Shaw, 1999, 30).<sup>1</sup> Just how substantive must an effect be to be considered influential? Beyond this empirical consideration, the literature continues to be informed by different understanding of how voters arrive at their decisions on election day.

### CAMPAIGNS DON’T MATTER: ACTIVATION OR CONVERSION?

Under the Columbia School’s sociological model, the existence of stable socio-demographic factors is such that campaigns have limited potential to change voter decisions (Lazarsfeld, Berelson and Gaudet, 1948). If “a person thinks, politically, as he is socially,” (Lazarsfeld, Berelson and Gaudet, 1948, 148) there is little reason that day-to-day campaign events should substantially affect electoral outcomes. Against the inherently static nature of this sociological model, the Michigan School’s socio-psychological perspective posits that the dynamics of voting behaviour follow changes in the political landscape. Although rare, changes in leaders or the rise of a salient issue may alter voting behaviour. Nevertheless, even under this view, the vast majority of voters decide how to vote before the campaign begins (Campbell et al., 1960).

The idea of minimal campaign effects is also shared by scholars working from a rational perspective. Retrospective voting (Key Jr., 1966; Fiorina, 1981) and economic voting suppose that election results are determined prior to the campaign by the incumbent’s performance in office and the state of the economy respectively. This view of campaigns is also illustrated by the relatively recent interest in the development of electoral forecasting models that aim to predict the results of an election before the campaign begins (see Lewis-Beck, 2005), most often from aggregate measures of economic performance.<sup>2</sup>

However, even if electoral outcomes are thought to be predictable, levels of party support are shown to vary throughout the campaign (Gelman and King, 1993). These changes have been attributed to an information effect (Nadeau et al., 2008). Indeed, shifts over the course of a campaign point to the puzzle articulated by Iyengar and Simon (2000): “[a] question that defies analysis is why participants in the political marketplace continue to invest at [substantial] levels when decades of academic research into the effects of media-based political campaigns purports to demonstrate that exposure to campaigns mainly reinforces voters’ pre-existing partisan loyalties” (Iyengar and Simon, 2000, 150).

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<sup>1</sup>We avoid this debate by comparing relative effects of different media events on aggregate leaders’ evaluations and vote intention.

<sup>2</sup>These measures themselves can be ‘sociotropic’ metrics, such as aggregate growth or unemployment rates, or they can be more ‘egotropic’, such as changes in personal disposable income. The conclusions are generally the same: we can predict election outcomes from very few variables, measured before the most intense periods of campaigning.

## CAMPAIGNS AS INFORMATION CAMPAIGNS: LEADERS THEN VOTE CHOICE?

A more nuanced view sees the role of election campaigns as that of information supplier. Specifically, the information about parties, candidates, and issues generated throughout a campaign is thought to assist voters in deciding how to cast their ballots. From this perspective, the media are central conduits through which voters connect their preferences to those of parties and candidates, a role that centres on 1) the priming of issues and leaders; 2) the dissemination of contextual-objective information (namely on ‘electability’); and 3) the provision of elite cues.

Related to ideas of the media’s functions are questions of how voters respond to the information generated by campaigns. Finkel (1993) advances an activation model, whereby campaigns largely serve to make voters’ pre-existing vote intentions “electorally relevant” rather than simply reinforcing them. The extent to which campaigns activate prior decisions may also vary by voter characteristics, such as political awareness. There is disagreement, however, about the nature of this relationship. Farrell and Schmitt-Beck (2002) find that political awareness increases the likelihood of activation while inhibiting the likelihood of conversion. In other words, voters who are more politically aware are more likely to draw on pre-existing vote intentions, rather than converting to a preference for another party or candidate. Hillygus and Shields (2008) introduce an added layer of nuance: under instances of “cross-pressure” (i.e. conflict between partisan identities and positions on key issue) voters with greater political awareness are more likely to recognize their incongruence and ultimately defect.

More broadly, the information-generating function of campaigns offers voters “the appropriate rationales for connecting candidates to policies, offices and voters” (Popkin, 1991, 96). Sudden and apparently random changes in political support during a campaign can therefore be considered as rational responses to the information cues provided by candidates and the media. Accordingly, Alvarez (1998) argues that voters update their perceptions of candidate positions over the course of the campaign. Again this process may vary by levels of political sophistication and education: namely, less informed voters are thought to be more susceptible to changing their views, since uncertainty remains unchanged for highly educated and informed voters. Some scholars find that moderately aware voters are most likely to be influenced by information diffusion, since it is they “who are sufficiently experienced to understand the information that is diffused but not sufficiently informed at the start to avoid being ‘surprised’” (Nadeau et al., 2008, 233). Notwithstanding such individual differences, campaigns can also alter voters’ uncertainty about the candidates, which in turn impacts the weight that voters apply to the determinants of their vote choice (Peterson, 2009).

## CAMPAIGN MEDIA EVENTS

To demonstrate the importance of media events during the 2011 federal election, we take our cue from an established definition of campaign events, as occurrences that convey “distinct political information about [...] candidates to the electorate, in particular, information that *distinguishes* between the candidates” (Shaw, 1999, 390, emphasis in original). Although specific media campaign events share this common role, they differ in how they shape the heuristics used by voters to connect personal preferences to those political choices put on offer by parties and candidates.

### POPULAR TALK SHOWS: LEADER PRIMING EVENTS

In the context of political campaigns, much of the research on popular talk shows points to their impact on the priming of leaders. Leader evaluations are seen to be increasingly important to electoral decisions (Hayes and McAllister, 1997). Candidates themselves engage in image- and issue-priming strategies, presumably with the expectation that doing so can influence their electoral fortunes: salient personality traits—namely competence, strength, warmth and trust—can affect voters’ perceptions (Druckman, Jacobs and Ostermeier, 2004). Just (1996) argues, for example, that personal considerations, such as performance- and character-based traits, are fundamental to vote choice.

Television in particular may lend to the ‘personalization’ of politics (Hart, 1999) by regularly bringing candidates’ faces, voices, and mannerisms into viewers’ homes. Some, however, see TV’s effects on voting behaviour to be exaggerated (King, 2002). As Hayes (2009) puts it: “[t]o be sure, research shows voters’ perceptions of candidates’ personal characteristics can affect vote choice, but few studies have examined whether candidate personality has indeed become more important over television’s lifespan” (Hayes, 2009, 232).

The importance of leaders holds true in the Canadian context, especially in its system of brokerage politics (Clarke et al., 1996). Leaders’ effects on vote choice may be, however, only a factor at the margins, with their importance limited to close elections (Johnston and Brady, 2002). Nevertheless, as they are more easily manipulated than other factors, perceptions of leaders tend to figure highly in campaigns (Johnston and Brady, 2002). This focus accords with the supposed ‘presidentialization’ of parliamentary elections (McAllister, 2007), and reinforces the role of the media in priming leader characteristics.<sup>3</sup>

The influence of popular talk shows, or so-called soft news, turns on two dimensions. First, talk shows allow politicians to connect with hard-to-reach voters, who tend to be more prone to persuasion (Zaller, 1992). In a media era where apathetic citizens can increasingly avoid or ‘tune out’ mainstream political media events (Baum and Kernell,

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<sup>3</sup>Indeed, the argument has been advanced that voters most highly exposed to media are more influenced by leaders than by party identification in their vote choice (Mendelsohn, 1996).

1999), the use of other venues proves useful for candidates. Baum (2005) finds that while talkshow viewers may not be the most politically-engaged citizens, they tend to vote in great numbers. Soft news can help parties and candidates reach less aware voters, a connection that may affect vote choice: “[p]olitically unaware Americans who watched daytime talk shows considered the opposition party candidates more likeable, and consequently were much more likely to cross party lines than their counterparts who did not” (Baum, 2005, 230).

Second, media visibility can have real consequences (Bartels, 1988). In the case of the NDP, for example, the party suffered from being off the media radar during the 1997 Canadian Federal Election (Nevitte et al., 2000). Soft news can help to increase a party’s exposure, especially amongst less attentive voters. Although talkshow appearances tend to focus more on issues than on candidate personality (Just, 1996), it has also been shown that issues can be used for candidate priming (Jacobs and Shapiro, 1994). Whatever the emphasis, soft news offers parties a means of boosting media visibility, and of targeting different types of potential voters.

## PUBLICATION OF POLLS: A CONTEXTUAL INFORMATION CUE

News media increasingly focus on horse-race coverage during elections (Just, 1996; Gilens, Vavreck and Cohen, 2007). In this context—even when issues are also featured by media—the coverage of polling results should matter to the extent that they show a shift in the competitive setting, thus changing expectations about who is winning. This phenomenon is linked to the concept of ‘electability’ typically studied in American primaries (see Rickershauser and Aldrich, 2007).

Accordingly, polling’s effects on vote choice are thought to occur by way of perceptions of viability. Experimental evidence shows that providing respondents with either encouraging or discouraging news about the standing of different candidates can produce significant shifts in perceptions of viability (Brady, 1984). This indirect effect on voting behaviour is strongest among voters most attentive to the media, as they readily assimilate information on candidates (Bartels, 1985; 1988). Moreover, “perceptions of viability interactively affect voting choice because voters who like a particular candidate are especially likely to vote accordingly” (Ansolabehere, Behr and Iyengar, 1991, 129).

A more diffuse, socio-psychological explanation for how cues about ‘electability’ or viability may influence voting behaviour is offered by Noelle-Neumann (1993). Though not specifically interested in the publication of polls, her argument is one where people are “alert to the thinking of those [around] them and are aware of changing trends; they register which opinions are gaining ground and which will become dominant” (Noelle-Neumann, 1993, 8). From this perspective, bandwagon effects stem from last-minute election swings predominantly by individuals who feel isolated, have weaker self-confidence and less interest in politics (Noelle-Neumann, 1993, 6). Whether as a more socially-oriented process or one of individual perceptions

and cognition, ‘momentum’ or bandwagon effects can result in increases or decreases in support for candidates due to campaign events (Holbrook, 1996).

## NEWSPAPER ENDORSEMENTS: AN ELITE CUE

As one of the more recognizable elite cues provided over the course of a campaign, newspaper endorsements have been shown to influence voting, although their effects vary by the credibility of the source (Chiang and Knight, 2011). Still, there are reasons to suspect why newspaper endorsement effects should be limited. First, endorsements typically occur towards the end of the campaign when ‘learning’ has already taken place (Nadeau et al., 2008). Second, readership is likely limited to voters with high political awareness, the segment of the electorate least prone to persuasion (Zaller, 1992).<sup>4</sup> Endorsements also may have limited effect due to selective exposure, since voters likely read those newspapers that advance their partisan or political views (Stroud, 2008). Finally, the effects of campaign events may be delayed by three to ten days (Shaw, 1999).

On timing, events that occur earlier in the campaign are generally thought to have greater impact than those that occur later on (Holbrook, 1996) as voters tend to ignore new information as the campaign progresses (Just, 1996). There is a body of research, however, that argues otherwise. Some have found increasing numbers of ‘late deciders’ (Abramson, Aldrich and Rohde, 1990) who are seen as calculating voters paying close attention to the campaign (McAllister, 2002) and sensitive to media effects (Fournier et al., 2003). Hence, “campaign events occurring just before election day can be decisive in a close race” (Shaw, 1999, 418). Others argue that judgements leading to vote choice are based on cognitively accessible information, not on a census of all information acquired throughout the campaign (Hayes, 2009).

Theoretically, newspaper endorsements are important components of a ‘two-step’ flow of information where opinion leaders act as critical intermediaries between political campaigns and ordinary voters (see Katz, 1957). In the context of our model, presented next, such endorsements could matter for both leader evaluations and expectations. Nevertheless, given the distinctions discussed above, it is unclear just how influential they may be in shaping election outcomes.

## VOTE CHOICE MODEL

For the purposes of this paper, we put forward a stylized model of vote choice. In this model, an individual votes for the party, represented by a party leader, which they attribute the highest leadership evaluations. Conceptually, this can be thought of as a running tally or assessment of the overall suitability of leader for office (see Fiorina,

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<sup>4</sup>There is a parallel here with traditional TV news, which has little effect on highly aware voters (Baum, 2005, 231).

1981). As such, it not only captures key leadership traits such as trustworthiness and competence, but also allows for issue proximity, economic performance, and long-term dispositions to affect evaluations, particularly in underlying levels or starting values at the beginning of a campaign. We claim, however, that the effect of leadership evaluations on vote choice is conditional on the expectation of a party winning. However well-evaluated a leader may be, voters will not cast a ballot for such a leader and their candidate if they have insufficiently high chances of winning in their constituency. Accordingly, expectations condition the effects of leadership evaluations. In the context of this model, then, if media events matter for vote choice, they can matter through increasing voters' evaluations of a leader or through increasing aggregate expectations of a party's chances of winning.

We add two caveats to this account. For the purposes of this paper, we remain agnostic as to how expectations matter: from a rationalist perspective, they could affect vote choice by increasing the potential return to one's vote by raising the probability that the vote cast will affect the outcome; from a more sociological perspective, the amount of media coverage accompanying the polls could affect vote choice by triggering a bandwagon or momentum effect. This is an empirical question, but one which we leave to further investigation. Second, we recognize that there are numerous other factors that could affect vote choice during a campaign, both theoretically and empirically. To the extent that such factors are not fed into leadership evaluations, we for the time being relegate them to the error term.

## MEDIA EVENTS AND EXPECTED EFFECTS

Our goal is to estimate the effects of three distinct media events. The first is Jack Layton's appearance on *Tout le monde en parle*, a very popular, weekly Francophone talk show. The program, which runs for 2.5 hours, is noted for both the comparatively high level of conversation and for very large audiences. It is widely believed to be an influential media source in Quebec politics, especially among Francophone voters.

Jack Layton appeared on *Tout le monde en parle* on April 3, 2011, and his performance was widely praised. It was thought to be advantageous to him as it gave him substantial opportunity to display his charismatic personality and sympathy for Quebec voters, and to clearly express his party's favourable positions towards social democratic policy and Quebec nationalism. The program, then, gave Layton a chance to link his own leadership to positions favourable to a large share of Quebec voters. Accordingly, we expect this media event to have a positive effect on leadership evaluations of Layton.

The second media event considered is the release of a series of polls on the morning of April 21, 2011, with the potential to bring about a 'second surge' in NDP support. These polls are notable for four reasons. First, they showed a marked increase in NDP support. For example, while the NDP's vote share was reported at 17.3 in a preceding

poll, released April 19, the average of these four polls was 24. In two of the four polls, the point estimate of NDP support was greater than the point estimate of Liberal support, albeit within the margin. Second, the polls had the NDP vying for first place in Quebec. Third, despite differing methodologies and sampling approaches, these polls were consistent in their estimates of NDP support, ranging from a low of 22.1 to a high of 25. Fourth, although there were polls previously that showed consistent NDP gains, the coverage given to the poll on April 21 was considerable.

This media event had the potential to dramatically alter the course of the election. The results of these polls suggested that the NDP was eclipsing the Liberals for second place nationally and was coming head-to-head with the Bloc Québécois in Quebec. Peter Mansbridge, host of the well-respected TV news program *The National*, said of the forthcoming news the night before the polls' release:

There's one that we're hearing rumblings about tonight—this is a poll—and, while we don't place a lot of faith in polls, you can guarantee this is going to make big news tomorrow. A poll, a CROP poll, a very highly respected organization, that's going to suggest that the NDP, at least at the time the poll was done, were in first place—yes, you're hearing me right—first place in Quebec, ahead of the Bloc Québécois (Mansbridge, 2011).

It was with this poll that the label 'NDP surge' was attached to the NDP's growing electoral chances, and that which would come to define the story of the election.

The potential effect of the poll is linked to the cruel logic of the single-member-district-plurality system: no matter how much a voter prefers a third place party, there are strong incentives to vote for their most preferred option among the top two. Expressive voting potentially serves to dampen the effects of this. Nonetheless, it seems apparent that the NDP, while headed by a wildly popular leader,<sup>5</sup> were previously unable to convert this into widespread support. However, from the moment that the NDP appeared to be a viable contender for the Official Opposition and perhaps government, expectations could be significantly adjusted upwards. Provided this upward adjustment was sufficiently large and widespread, these new expectations concerning the NDP's performance could trigger a 'second surge' by providing evidence of the party's viability. Accordingly, we expect this media event to act on expectations of NDP performance and ultimately vote intention, providing a boost to the NDP's already-growing electoral chances.

The final media event of interest is the regular set of newspaper endorsements at the end of the campaign. In particular, the Toronto Star, Canada's largest paper by circulation, endorsed the NDP on April 30, 2011. Guided by the progressive "Atkinson Principles," the Star has traditionally endorsed the Liberal Party of Canada, and its

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<sup>5</sup>Harold Clarke, for example, remarks that he has never seen a leader with evaluations as consistently high as Layton's.

provincial counterpart in Ontario. A notable exception occurred in 1999, when the paper made strategic endorsements of New Democratic candidates in constituencies where they stood the greatest chances of defeating Tories running under Mike Harris' leadership. Germanely, the paper has in the past used the expectations and the logic of the electoral system to justify its endorsements. Accordingly, the Star's endorsement of the NDP communicated two messages. First, the NDP's leader and platform were worthy of endorsements on their merits. Second, a vote for the NDP would not be a wasted vote, given their favourable positioning in the polls. If such a newspaper endorsement can have an effect, we would expect this event to act on expectations of NDP performance and ultimately vote intention.

We next describe our data and the methodology we use to estimate the effects of these three events.

## DATA AND METHOD

There are currently a variety of methods capable of testing campaign dynamics using elections study survey designs. The best example is that of the "rolling cross-section" design, advocated by Brady and Johnston (2006)<sup>6</sup>, which cleverly circumvents the problem of selection bias that results from variation in the ability to reach respondents. Although the design is able to nicely approximate a representative daily sample, the study of media effects using national elections surveys has typically been plagued by a poverty in numbers.

Campaign effects, especially small ones, require relatively precise daily estimates of public opinion. Zaller (2002), for example, shows using a series of simulated "campaign exposure effects" that the statistical power of typical elections surveys is generally inadequate to detect even relatively large campaign effects. To compensate for the imprecision in estimates that results from relatively small daily samples, Brady and Johnston (2006, 165) suggest smoothing daily estimates by using data from neighbouring days. Such adjustments are often necessary because sampling error is high and campaign effect sizes relatively small. Unfortunately, by design, this smoothing shrinks the distance between neighbouring estimates and lessens one's ability to identify hypothesized structural breaks in the data.

One solution to the problem of small daily samples is simply to collect more data. This is often impractical. The inclusion of additional respondents to national elections surveys can be prohibitively costly. New types of data and new means of data collection, however, have great potential to permit the pursuit of lines of inquiry that were, until recently, constrained by small sample sizes.

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<sup>6</sup>See, also, Johnston and Brady (2002)

## THE SURVEY INSTRUMENT

To test campaign effects, we rely on data gathered from a voter engagement application, Vote Compass, that partnered with Canada's largest news media corporation, the Canadian Broadcasting Corporation (CBC), during Canada's 2011 Federal Election. The application was offered on the CBC website throughout the electoral campaign. It asked its respondents thirty policy and attitudinal questions related to Canadian politics, and collected a set of answers concerning users' socio-demographic background, voting behaviour, and evaluations of the political parties and party leaders. In total, the application collected nearly two-million responses during its thirty-seven days of operation.

The key benefit of the Vote Compass data is their size. The size of the Vote Compass dataset enables estimates of day-to-day public opinion that are much more precise than those from typical national elections surveys. Where samples from standard elections surveys range in the tens or hundreds per day, Vote Compass data number in the thousands or tens of thousands.

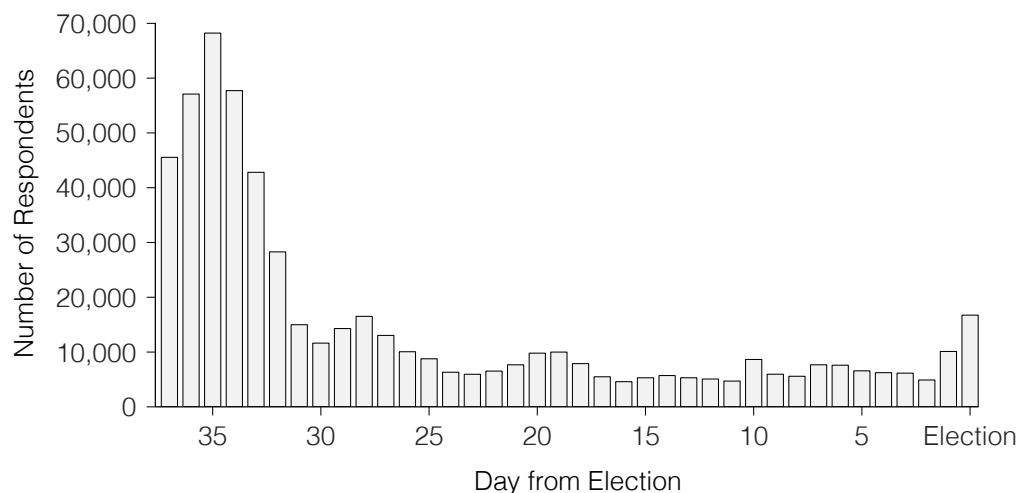
Like all new forms of data, these data must be treated with caution. Data input cannot be monitored to the same degree as person-to-person telephone surveys. However, the use of internet surveys and weighting techniques has been rapidly growing in popularity, both in academia and among commercial polling firms. Nonetheless, we take a number of conservative precautions to address potential weaknesses in the data. First, we use only those data collected from respondents who answered the full set of demographic questions. The assumption is that those who take time to answer these non-obligatory questions are using the tool for the first time and are more likely to answer other questions honestly. A respondent who is simply clicking through the tool should have little incentive to provide demographic information. Likewise, a respondent who has given their demographic data once should feel less need to give them again. Second, for weighting purposes, we obtained riding-level census data from Statistics Canada. Because the data used here are the daily estimates of mean public opinion, each day's estimate is weighted by sex, education, and age group at the riding level.<sup>7</sup> Whether the data are weighted at the riding, provincial, or national level does not change the substantive conclusions.

Another potential concern is that there are differences among the type of respondents across time. The number of respondents using the tool was at its peak immediately after the application was launched; was lower and relatively consistent throughout the campaign; and shows a mild increase in the few days before and on election day itself. Those with higher political interest and new-media usage are presumed to be more likely to use the tool earlier in the election. Testing of campaign effect hypotheses should nevertheless be possible because these differences in political

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<sup>7</sup>The weights are as follow: sex (male, female), age group (18-24, 25-34, 35-44, 45-54, 55-65, 65+), and education (Below high school, High school, Technical/Community college/Cégep/Collège classique, Bachelor's degree, Graduate school) applied at the riding level.

FIGURE 1: RESPONDENTS ACROSS TIME



interest and media usage should vary smoothly across days. Therefore, where political interest and media usage will vary smoothly, breaks in the time series can be identified as real differences in the population. The findings do not rest solely on the assumption of respondent similarity across days. To show the plausibility of the findings, we show empirically that structural breaks do not occur where they would had the sample been systematically different on either side of a campaign event.

## METHOD

To determine the effects of campaign events throughout the election on vote choice, expectations, and leadership evaluation, we estimate a series of time series intervention models (Box and Tiao, 1975). These models test for the existence of structural breaks in public opinion time series data by comparing the level of support before and after key campaign events. Each campaign event has the potential to cause an immediate shift in public opinion. A good talk show performance, for example, might be expected to cause a spike upward in respondents' evaluations of a leader following the appearance. Whether this jump in leader evaluation occurs can then be tested by modeling an intervention in the time series after the event.

Box and Tiao (1975) intervention models are considered quasi-experimental to the extent that a break in the time series can be identified with an event preceding it. This requires that the cause of any break relies on firm theoretical grounding. Whether one accepts the argument is dependent on how reasonable the link is between a campaign event and the observed change in public opinion. At the same time, time series models have the benefit of accounting for the many small campaign events, or random shocks, to the series, and to time dependence in the data.

Therefore, for each time series, we diagnose an appropriate ARIMA model to account for any time dependence in the series before testing the hypothesized intervention. Each campaign event is then modeled as a binary variable that takes the value of one immediately after a campaign event. Expected permanent linear effects can be modeled by coding every day following an event as one, and days preceding it as zero. In such cases, the effect of a campaign event is assumed to persist over time. Temporary campaign effects can be coded with a “pulse,” and therefore only the day immediately following an event is coded as 1. Furthermore, effects with non-linear forms can be modeled with “transfer functions” that test, for example, whether there is an immediate jump in the series, but whose effect trails off or gains in magnitude. Because we have no prior expectations about functional form, we model ‘step’ functions for each intervention, and visually examine the series to determine whether non-linear forms appear more appropriate.

The nature of the time series data used here test indirect and direct effects simultaneously. We cannot know, for example, who the treated portion of the sample are, who was affected through social diffusion or other indirect means, and who remained untreated. The estimates are therefore of the *aggregate* effects of campaign events on the population. Although the diffusion of campaign effects is interesting in itself, the aggregate estimate is generally that of most interest: it is that which is most consequential to the electoral outcome itself.

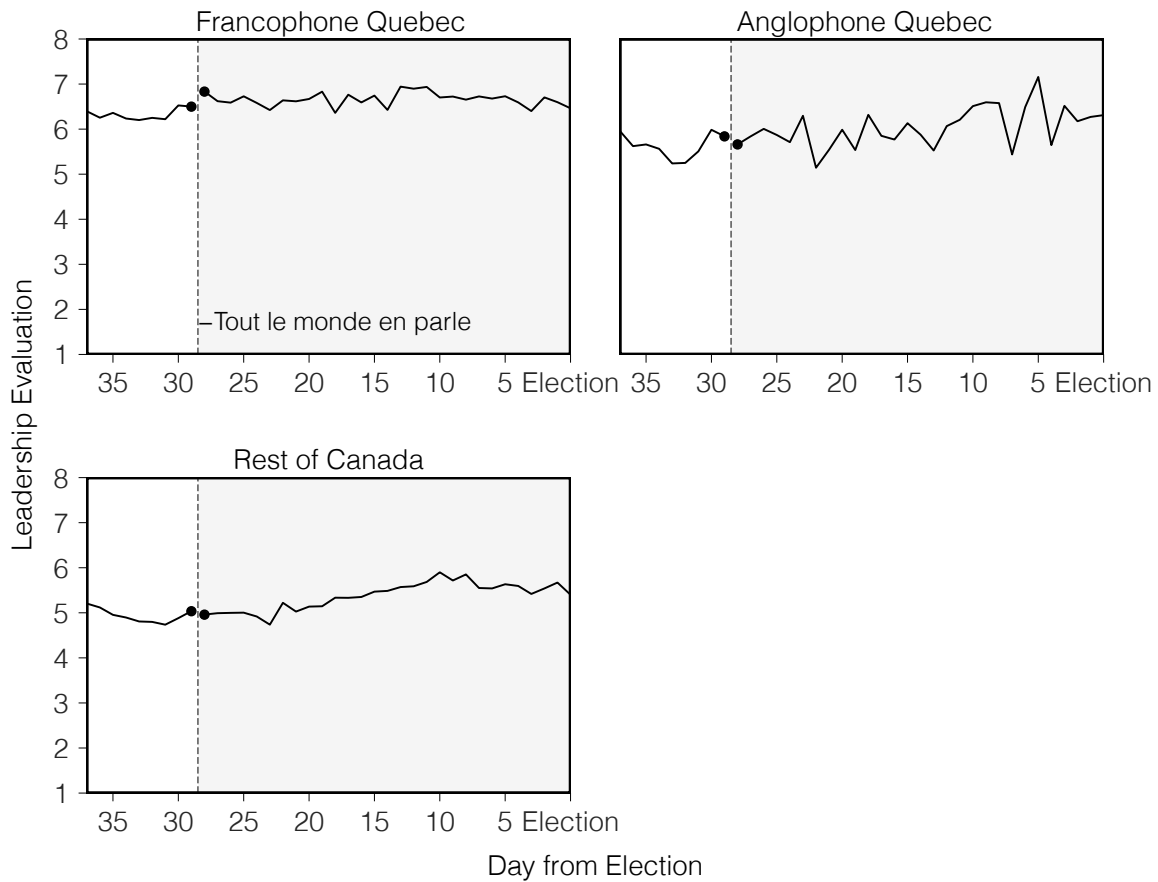
## RESULTS AND ANALYSIS

To anticipate the results, our main findings are as follows: first, we demonstrate that Jack Layton’s appearance on *Tout le monde en parle* increased his leadership evaluations and the NDP’s vote share among francophone Quebecers. Second, we show that the release of the NDP ‘surge’ polls caused a large shift in respondents’ expectations that the NDP candidate would win their riding, in the NDP’s vote share, and in Jack Layton’s leadership evaluation. The effects are largest in Quebec, but have spillover into the rest of Canada. Finally, we find no significant break in Jack Layton’s evaluations and the NDP’s vote share among the readership of the Toronto Star, which endorsed the NDP. To demonstrate the plausibility of the effects, we test throughout for interventions where theoretically they should not be expected. Our results are robust to a variety of such checks on the data.

### TALK SHOWS AND LEADERSHIP EVALUATIONS

We begin by testing whether Jack Layton’s appearance on *Tout le monde en parle* had an effect on his leadership evaluation and the NDP’s vote share in Quebec. First, we subset the data into those respondents from outside and inside Quebec, and secondly, for those within Quebec, the data are subsetted by those who used the French- and

FIGURE 2: JACK LAYTON LEADERSHIP EVALUATIONS



English-language Vote Compass application. Creating these subgroups enables us to show the plausibility of the effect: because *Tout le monde en parle* is exclusive to francophone Quebec, any effect should appear among francophones in Quebec, but not among other respondents. The data on leadership evaluation for Jack Layton are presented graphically in Figures 2.

Visual inspection suggests that Layton's leadership evaluation experienced an increase immediately following his appearance on *Tout le monde en parle* among francophone respondents. We determine the appropriate ARIMA models and test whether the breaks are significant. The results from these intervention models are presented in Table 1. As we can see, Layton's leadership evaluations and vote share increased significantly among francophone Quebecers in the time period immediately following *Tout le monde en parle*. As expected, there was no equivalent change among English Quebecers or among those in the rest of Canada, who we assume, were unlikely to have been affected by the show. Similarly, the Bloc Québécois leader Gilles Duceppe sees an increase in his leadership evaluation, although not his vote share, following his

TABLE 1: TOUT LE MONDE EN PARLE

Model	Francophone Quebec	Anglophone Quebec	Rest of Canada
<u>LEADERSHIP EVALUATION</u>			
Jack Layton	0.0333*** (0.0113)	0.0055 (0.0227)	0.0079 (0.0135)
Gilles Duceppe	0.0312** (0.0142)	-0.0272 (0.0254)	0.0224** (0.0108)
Michael Ignatieff	-0.0001 (0.0163)	0.0147 (0.0250)	0.0249 (0.0170)
<u>VOTE SHARE</u>			
NDP	0.0547** (0.0248)	0.0029 (0.0378)	-0.0148 (0.0144)
Bloc Québécois	0.0148 (0.0254)	0.0083 (0.0114)	
Liberal	0.0088 (0.0156)	0.0412 (0.0305)	-0.0141 (0.0189)

Standard errors in parentheses.

\* $p < 0.1$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$  (two-tailed)

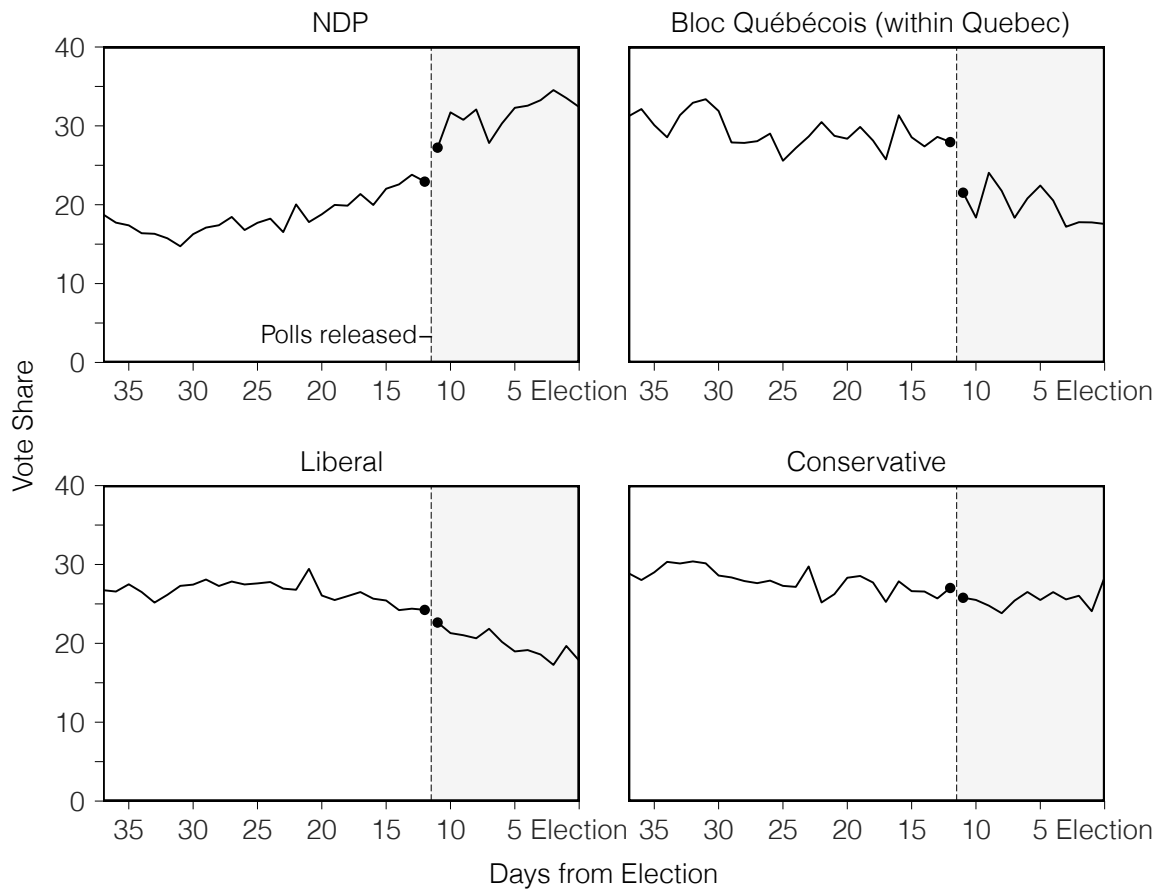
own appearance on *Tout le monde en parle* a week later. Curiously, Gilles Duceppe's evaluation significantly rose in the rest of Canada the day following his appearance, although this presumably is due to sampling variation.<sup>8</sup> There is no evidence that Michael Ignatieff's evaluation was affected by his appearance on the show.

## POLLING DATA AND VOTE SHARE

We next test whether the release of polling data showing the NDP's growth in the polls had an effect on vote choice. Information showing increasing support for a party that was formerly thought not to be competitive in the election should increase that party's ability to gain votes by making it appear as a newly viable option. These data are presented graphically in Figure 3. As is evident from the graphics, there is a distinct break eleven days before the election, the day that the polling information was released to the public and the beginning of the NDP 'surge' coverage. The expectation is that the NDP gained vote share at the expense of the Bloc Québécois and Liberals, but not the Conservatives: any shift toward the NDP should result from a realignment of the more left-wing parties. A break in the Conservative vote share would therefore question the plausibility of the results.

<sup>8</sup>There are 13 estimates in this paper in which we expect an insignificant effect in order to show the

FIGURE 3: VOTE SHARE AT APRIL 20TH POLL RELEASE



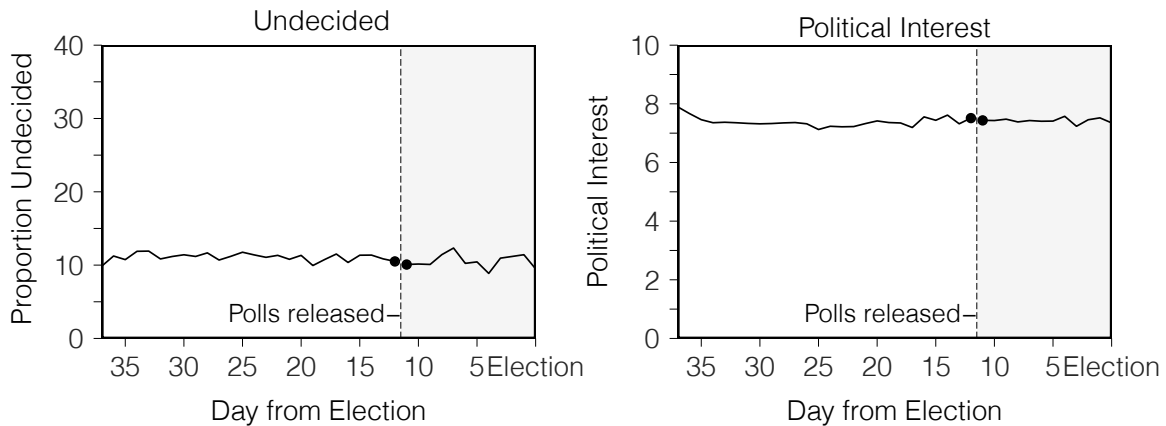
These graphs show the census-weighted vote share proportion for each of the parties, calculated per day, and are relative to all possible choices including political parties, ‘undecided’, ‘spoiled ballot’, and ‘will not vote’. Data are weighted by education, sex, age, and province. Weights are calculated and applied for each day of the series.

To test which breaks in each series are significant, we again apply an intervention model to each series. These results are presented in Table 2. As expected, the effect from the polls on vote share is significant and positive for the NDP, significant and negative for the Liberals and Bloc Québécois, and insignificant for the Conservatives. The effect for the NDP is estimated as being 8.5 percentage points, a substantial change in reported vote share.<sup>9</sup> These NDP gains were made at the expense of the Bloc Québécois and Liberals. As expected, the change in the Conservative vote share

plausibility of our findings. All 12 others are insignificant ( $p > 0.10$ ) as expected.

<sup>9</sup>Because we estimate opinion shifts for all voters, rather than those who voted on election day, this shift is likely to have been somewhat smaller in relation to the final result. Adjusting the constant to accord with the final election vote shares, the NDP increase is estimated at 7.2%.

FIGURE 4: UNDECIDED AT APRIL 20TH POLL RELEASE



These graphs show the census-weighted mean proportion of undecideds, calculated per day, and weighted by education, sex, age, and province. Weights are calculated separately for each day of the series.

is not significantly different from zero.

Following our model, the increase in vote share should be accompanied by an increase in leadership evaluations. As we see again in Table 2, the release of these polls led to an increase in Jack Layton's evaluations and a reduction in those evaluations of the Bloc Québécois and Liberal leaders. Affirming the plausibility of these results, there was no significant shift in the evaluation of the Conservative leader.

Also, as Table 3 shows, the absolute effect of the poll release in Quebec for the NDP's vote share is larger than that in the rest of the Canada.

## NEWSPAPER ENDORSEMENTS

As noted above, the Toronto Star endorsed the NDP, for the first time ever, just three days before the vote. Such an endorsement can convey two types of information of interest to us. First, it can convey that Jack Layton and his party are deserving of the votes of those who read the Star. This could have the effect of increasing the NDP's vote share. The endorsement could also communicate that voting for the NDP would not be wasting one's vote, particularly given the Toronto Star's historical concern for the strategic incentives of our electoral system. To test this, we group respondents by the newspaper they say that they get the majority of their news from, and take the time series of the party endorsed by the respective newspaper. The hypothesis is that there should be an increase in endorsed-party vote share immediately following the endorsement. The data are shown graphically in Figure ??.<sup>10</sup> Intervention model

<sup>10</sup>As can be seen, there is much sampling variation among some of the newspaper respondents due to the small sample size of readers in the data. This results in less precise estimates compared to those

TABLE 2: APRIL 20TH POLL RELEASE

<b>Model</b>	<b>Vote Share</b>	<b>Leader Evaluation</b>
NDP	0.0853*** (0.0148)	0.0264** (0.0109)
Bloc Québécois	-0.0557*** (0.0171)	-0.0586*** (0.0052)
Liberal	-0.0432*** (0.0136)	-0.0378** (0.0136)
Conservative	-0.0236 (0.0209)	-0.0210 (0.0126)

Standard errors in parentheses.

Bloc Québécois estimates for Quebec only.

\* $p < 0.1$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$  (two-tailed)

TABLE 3: APRIL 20TH POLL RELEASE  
(WITHIN QUEBEC)

<b>Model</b>	<b>Vote Share</b>	<b>Leader Evaluation</b>
Francophone Quebec	0.0974*** (0.0237)	-0.0018 (0.0083)
Anglophone Quebec	0.1376*** (0.0409)	0.0371 (0.0213)
Rest of Canada	0.0759*** (0.0146)	0.0337** (0.0124)

Standard errors in parentheses.

\* $p < 0.1$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$  (two-tailed)

results can be found in Table 4. We find no significant effect on the vote share among readers of the Toronto Star or the other newspaper endorsements tested, aside from the Globe & Mail, which shows a significant increase ( $p < 0.10$ ).

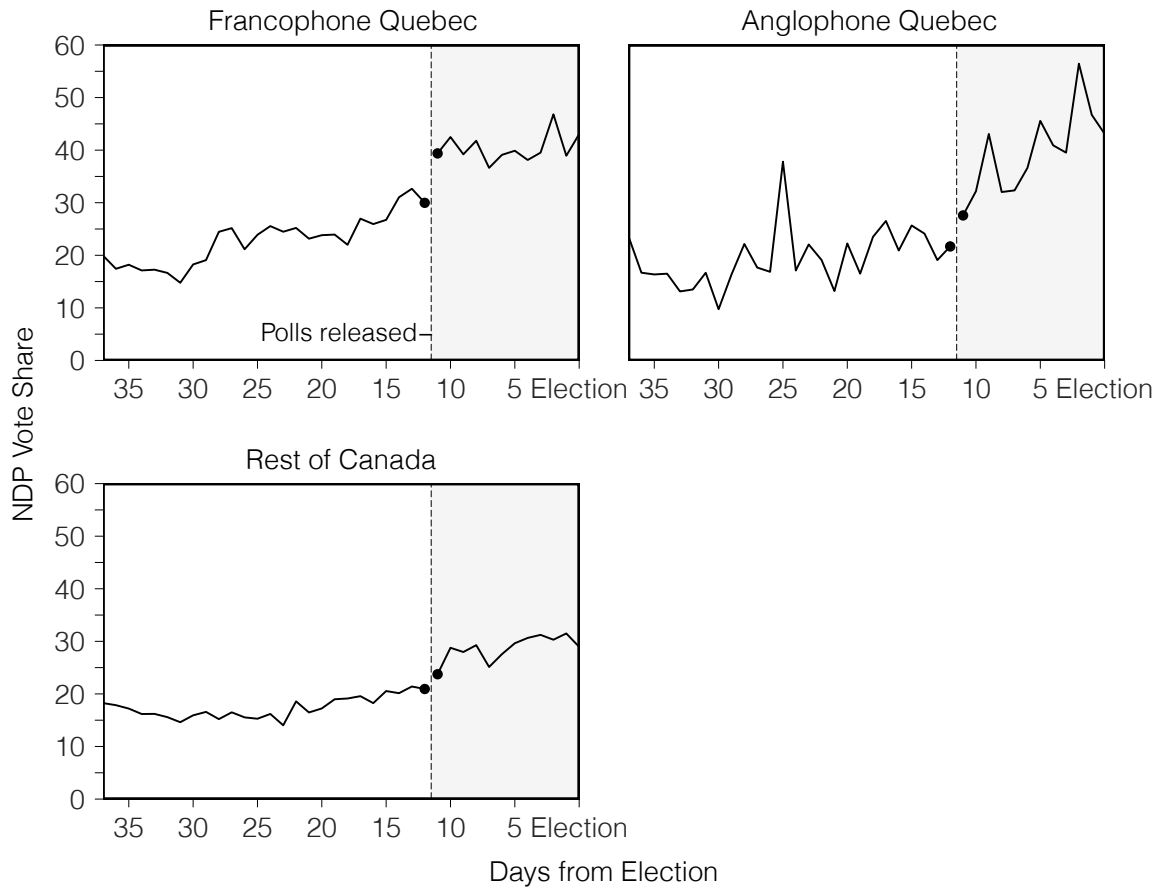
## DISCUSSION AND CONCLUSION

This paper forwards conclusions of general interest for scholars of elections and specific interest for students of Canadian elections. Generally, we demonstrate that, given sufficient statistical power, substantial media effects can be uncovered. In particular, we demonstrate that aggregate vote choice is responsive both to leader-focused talk

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in previous sections, where the sample sizes were much larger.

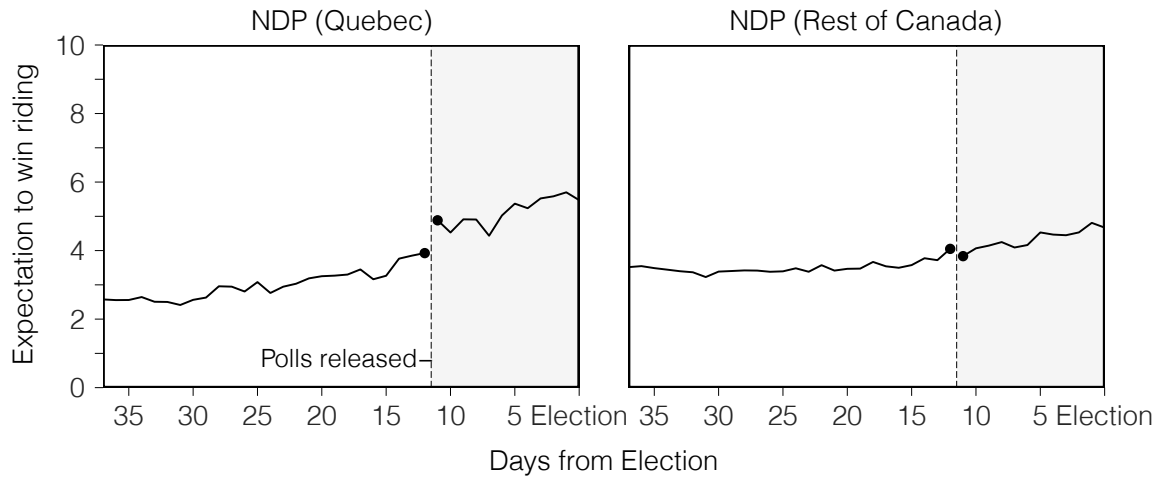
FIGURE 5: APRIL 20TH POLL RELEASE IN QUEBEC



shows and to the release of polling information. Particular to Canadian elections, we demonstrate that these two events introduced shocks in the components of the NDP's support. Specifically, the release of a series of polls caused an increase in their vote share that we estimate at 8.5 percentage points. As importantly, this vaulted them into second place, after which their fate seemed written. An exceptionally popular leader, Layton, put to voters the proposition that they did not need to strategically plump their vote with a markedly less desirable leader of a more centrist party. With this strategic logic set, and endorsed by the mechanics of our electoral systems, Layton capitalized. While it remains to be seen in coming elections, this could very well mark a major shift in Canadian politics, with our politics realigning along an economic rather than linguistic-social dimension, and the NDP permanently replacing the Liberal Party as the main competitor of the Conservatives.

Our paper has apparent limitations. First, as argued above this was in no fashion a 'normal' election. It follows that the particular events which we have examined may not represent 'average' media events. Put differently, the external validity of our

FIGURE 6: NDP EXPECTATIONS TO WIN RIDING



findings is certainly open to question. Second, our results rely on aggregate vote share, though they clearly borrow theoretical intuitions from the study of individual voters. It follows, then, that our results may be subject to problems of ecological inference. We take this as a problem of internal validity, which we will address in future work.

With these considerations in mind, our findings nonetheless hold implications for understandings of the importance of media events in modern campaigns. First, in demonstrating that media events can precede large shifts in opinion amongst the electorate, the question of causal mechanism naturally follows. Much of the work on polling effects, for example, points to their importance as contextual-information cues. However, polling results may also trigger a shift in media frame and result in more coverage of a particular candidate and party. Second, and following from this observation, a deeper understanding of the mechanisms of momentum/bandwagon effects is warranted. In particular, do they result from shifts in salience, the strategic setting or elite approval? What role do opinion leaders play and how important are local social networks? While our findings do not speak to these questions directly, they do provide a basis for future exploration. ■

TABLE 4: NEWSPAPER ENDORSEMENTS &amp; VOTE SHARE

<b>Newspaper</b>	<b>Endorsed Party</b>	<b>Vote Share</b>
Toronto Star	NDP	0.0122 (0.0219)
Le Devoir	Bloc Québécois	-0.0705 (0.0885)
Globe & Mail	Conservative	0.0347* (0.0198)
Gazette	Conservative	0.0316 (0.0865)
The Sun	Conservative	-0.0827 (0.0658)

Standard errors in parentheses.

\* $p < 0.1$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$  (two-tailed)

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