

# The Effect of Federal Election Campaigns on the Gender Gap in Political Knowledge

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## Abstract

A growing body of literature has examined the role that election campaigns play in informing voters and the role information plays in shaping vote choice. Typically, studies about campaign learning address the knowledge gap hypothesis that campaigns exacerbate underlying inequalities in previously held political information because the most informed individuals learn new information at a faster rate than the least informed individuals. In this paper, I examine the impact of gender on learning in federal election campaigns over a series of recent Canadian federal elections. I test the hypothesis that campaigns offer an opportunity for women to catch-up relative to men in their stocks of political knowledge in a context of elevated political interest and information. Flooded by political coverage in media, political advertising and political discussion, women may obtain information at a reduced cost, under relaxed gender role expectations. In this context, women may benefit from the closing or attenuation of the gap by the end of the campaign. The analysis shows individuals provide more correct answers and fewer don't know responses as the campaign progresses. Furthermore, the number of correct responses provided by women increases in the campaign compared to men while the number of "don't know" responses decreases relative to men. The campaign eliminates the direct effect of gender in the knowledge of party promises and leads to a gender gap in favour of women in knowledge of the party leaders at the end of the campaigns but the gender gaps in political knowledge remain unchanged.

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## Introduction

Political knowledge is an essential element of democracy. It is a keystone for many civic requisites including selecting representatives in general elections, punishing and rewarding officeholders for past performance, voting in initiatives and referenda, navigating government bureaucracies to obtain information and services, and filling civic voluntary roles in elections, government, and civil society (Delli Carpini and Keeter 1996: 4-5). Political information is not distributed uniformly across the population. While there is an important role for information elites in democracies, the disparity between information “poor” and information “rich” can lead to a distorted development and function of democracy (Nadeau et al. 2008). Many scholars have made the case for a more informed citizenry because the best-informed citizens often benefit from more access to political power; through their involvement, the political system is more apt to reflect their opinions and preferences (Gidengil et al. 2004). Delli Carpini and Keeter argue that the political system would not collapse nor cease to function if citizens did not know key pieces of political information, nor go into crisis if political engagement rates continued their generational decline. Yet, the important decisions about “authoritative allocation of goods, services, and values – decisions about who gets what, where, when, and how” would be likely improved for certain individuals with more information (1996: 60-1).

An essential part of the political behavior literature has examined the role that election campaigns play in informing voters (Tichenor, Donohue and Olien 1970; Holbrook 2002; Nadeau et al. 2008). Studies of knowledge gaps have focused on the analysis of socioeconomic factors, media attention, and prior knowledge levels to track their role in educating voters about candidates and issues. These studies have embarked on key research questions such as who receives what information and in what context does campaign learning occur? However, these studies do not examine group dynamics such as testing the differences in campaign effects between women and men. These studies treat gender as a control variable without investigating gender-specific effects. This leaves open the question of whether a high-profile campaign serves as an opportunity to increase stocks of political knowledge in women compared to men, or whether they have a neutral or negative consequence. Without such an investigation, acquiring campaign information is assumed to be the same for women and men without knowing exactly its role in the maintenance of the gender gap.

I examine the impact of federal election campaigns on the gender gap in political knowledge in four recent Canadian federal elections. The analysis tracks change in campaign-related political knowledge regarding candidates and party promises. I will test the hypothesis that campaigns offer a temporary opportunity for women to catch-up relative to men’s stock of knowledge in a context of elevated political interest and relatively easy access to political information. The expectation is that flooded by political information in media, political advertising, and political discussion, women may obtain information at little cost, under relaxed expectations

that politics is largely the purview of men which may lead to a closing or attenuation of the gap by the end of the campaign.

Evidence from the United States shows over the presidential election campaign in 2000, the direct effect of gender on political knowledge disappears at the end of the campaign (Ondercin et al. 2011). As the campaign progresses, women acquire enough political knowledge about the presidential candidates to eliminate the direct effect of gender (Ondercin et al. 2011: 735). However, this does not mean that the gender gap in knowledge is eliminated during the campaign. Instead, the finding shows that the gender gap in political knowledge is a complex process that involves accounting for differences in the mean levels of factors and the differential effects of these factors on men and women (735). The underlying process that eliminates the direct effect of gender is not tested in Ondercin and her colleague's research, however. Unpacking campaigns to understand the increase and decrease in levels of political knowledge can consider the intensity of the electoral media environment, the intensity in which individuals pay attention to the election, the types of issues placed high on the political agenda, and the presence of female leaders.

Federal elections in Canada provide a suitable context to test the impact of the campaign because large amounts of media coverage and money spent on campaign advertising lowers the cost of obtaining information. Detecting campaign-related fluctuations in gender differences in political knowledge can lead to research that unpacks what factors affect the long-lasting gender gap in political information.

### Literature on acquiring political knowledge

General accounts of political knowledge emphasize the role that opportunity, motivation and skills play in determining individual-level political knowledge (Gidengil et al. 2004). The single most important factor that distinguishes those who know the most from those who know the least is education level (51). Education is a measure that captures aspects of individuals' cognitive skills and material and social circumstances. Cognitive skills affect one's ability to obtain, synthesize and integrate political information into long-term stores. Social networks set a social expectation to discuss political affairs and increase the decrease the cost of information when it becomes available during political discussion. Higher socioeconomic status can increase the likelihood of obtaining information from a variety of sources of subscription media such as the internet, newspapers, magazines, and television or radio networks because more disposable income can make these types of subscriptions affordable (51).

The political campaign can increase individuals' opportunities to learn new information in many ways. Campaigns certainly provide new information about candidates and issues with the stump speeches, leaders' visits on the campaign trail, candidates' and leaders' debates, and mainstream political advertising (Johnston et al. 1992). Political campaigns represent an information environment that helps catapult politics to the forefront. Nightly newscasts often open their lead story with

a campaign event, newspapers devote more front stories to the development of the campaign and the issues prioritized, and party advertisement saturates largely apolitical space on television stations, radio stations and internet websites. Even media sources that do not customarily cover political figures or events start to carry stories from the campaign trail (Hollander 2005). More recently, the campaign permeates late night television, popular culture magazines, and social media feeds (Fox, Koloen and Snahin 2007).

The effect of the campaign on the acquisition of political knowledge has captured the attention of many scholars. Evidence from election campaigns shows that individuals generally learn new information pointing to the utility political campaigns provide to civics education of the mass public (Barber 1984). Campaigns, however, are not always benign. Since elections are the most likely time citizens are engaged in politics, important queries have investigated who enters the election campaign relatively information “rich” or “poor” and who makes the most informational gains compared to others. Most knowledge gap research has focused on the relationship between information acquisition and socioeconomic status. Initial accounts tested the knowledge gap hypothesis:

As the infusion of mass media information into a social system increases, segments of the population with higher socioeconomic status tend to acquire this information at a faster rate than the lower status segments, so that the gap in knowledge between these segments tends to increase rather than decrease” (Tichenor, Donohue and Olien 1970: 159-160).

The knowledge gap hypothesis makes two important assumptions about acquiring knowledge during information campaigns. First, it does not presume that lower status portions of the population remain completely unformed. Rather, the growth of knowledge is “relatively greater among the higher status segments” (160). Second, for widespread information campaigns, there is a point of diminishing returns that may be reached. The rate of information dissemination may vary by socioeconomic groups, but there can be a general ceiling effect when some items become mainstream or common knowledge (160). Both of these assumptions can be tested to some degree with available data, but more importantly they must be explicitly stated to avoid implying that the gap in knowledge grows over time with each election campaign.

Evidence of the gaps in knowledge growing particularly early in the campaign when those with higher SES notice and integrate new information at a rate higher than those with lower SES is found in the late 1980s in the United States by Moore and his associates (1987). Nadeau and his colleagues show that higher-educated individuals make more information gains than others and that campaigns can produce a knowledge gap depending upon the intensity of media signals on different issues in federal election campaigns (2008). As information becomes persistently available over a long period of time, however, either due to its relative abundance or increased interest, knowledge gaps narrow and even close as the lower SES groups

have a chance to catch-up on information (Moore 1987). Prolonged media exposure, in other words, works as a “knowledge leveler” (Tichenor et al. 1970: 170).

In the United States, the knowledge gap diminished in the public’s knowledge of the Bosnian war between 1992 and 1993 because the media coverage remained strong over those years (Rhine, Bennett and Flickinger 2001). Evidence of knowledge gaps narrowing after presidential debates from 1976 to 1996 shows that media coverage of major political events reduces the information inequality in the electorate (Holbrook 2002). Persistent media coverage also has salutary benefits for knowledge of non-political events. The publicity of Neil Armstrong and Buzz Aldrin’s lunar landing in July of 1969 undermined reinforcing social inequities that made more affluent individuals typically better informed about space and science (Tichenor et al. 1970). In past presidential elections, the knowledge gap about political parties did not widen in the 1980 presidential campaign and eventually shrunk in subsequent years as individuals became satiated with information and the higher SES groups experienced a ceiling in political knowledge (Miyo 1983). More recently in Canada, research shows the group that benefits the most from prolonged media exposure during the political campaign is the group just above the bottom wrung (Nadeau et al. 2008: 242).

### Gender gap in political knowledge

Election campaigns typically increase the level of political knowledge in the aggregate while existing literature shows the greatest knowledge gains are made typically by the material and cognitive rich. There are various reasons, though, the gender gap in political knowledge may not be equivalent to the other gaps in political knowledge. Most academic efforts to explain the gender gap have tried to account for the gender differences in the level and effect of material and cognitive resources along with personal interest in politics without regard to what information is absorbed and in what context this occurs. Simply put, research has not tested if the context of the campaign provides an opportunity for women to overcome social expectations and act as “political animals” as freely as their male counterparts (Susan Welch 1977).

Examining the impact of campaigns on the gender gap in political knowledge has only recently become part of academic rigor (Ondercin et al. 2011). There are a myriad of mechanisms supporting the expectation that the gender gap will diminish over the election campaign. The expectation that the effect of the campaign is conditioned by gender is based on three parts. First, campaigns provide an opportunity for women to be flooded with information that they might not normally come across. The intensity of the federal campaign may help women acquire information despite being mildly interested in the campaign. As well, coverage of the campaign in the broader media including “softer” news sources such as popular culture magazines and television programs would make political information easier to access (Hollander 2005).

The second gender-specific consideration is the impact of heightened civic expectation to pay attention to the campaign, know something about the vote choices, and cast a ballot. Women have consistently reported more often that they would feel guilty for not voting compared to men (Blais et al. 2004). This civic duty may encourage women to overcome social expectations that would otherwise prevent them from learning about the electoral and partisan facts.

Third, part of the debate about measuring political knowledge in women is how to treat “don’t know” responses (Mondak and Davis 2001). Since we are interested in the way stocks of political knowledge change over the course of the campaign, it is important to track correct, incorrect and “don’t know” responses. The campaign may have a special effect on women who may mask partial information by providing “don’t know” responses. Part of the gendered influence of the campaign, then, creates a context for women to be more confident about their responses especially near the end of the campaign where exposure to media will encourage make them to be less risk averse about providing incorrect responses. Thus the political knowledge difference between men and women requires *don’t know* responses to be monitored during the campaign.

The Canadian case warrants investigation of the gender in campaign political knowledge for a few key reasons. First, the Canadian case provides a reasonable comparison with the United States because federal elections garner much attention in both countries with election advertising spanning all types of media, heightening awareness of a political campaign, and imbuing many citizens with the expectation of political engagement and participation. Both political environments become flush with new and old information about party leaders and the most important political issues. In their study of the 2004, 2006, and the 2008 Canadian election campaigns, a group of scholars from McGill University found that the media largely reports information about the leaders and the major issues of the campaign. Not until the end of the campaign does the media turn its coverage to the horse race with reporting of polls and political jockeying for votes (Goodyear-Grant et al. 2006; Andrew et al. 2006; Andrew et al. 2008). The media’s attention on leaders and issues corresponds to the importance of leadership evaluations and issue opinions in the vote calculus (Blais et al. 2002). Thus the priority of media coverage facilitates an important part of the vote decision process, to ensure that voters have the information they need to formalize a coherent vote choice.

A major difference between the American and Canadian cases, however, is the duration of each campaign. In the United States, the campaign stretches through the primaries for the nomination of the presidential candidates through the quadrennial presidential vote in November. Candidate and third party spending in the primary system to nominate the presidential candidate is a contributing factor to a so-called never-ending campaign. Quite drastically, the Canadian campaign lasts five weeks prior to the election day and widespread national campaign advertising is largely confined to after the writ is dropped with the occasional interlude of political activity during party leadership contests. Similar to other Anglo-American

democracies such as the United Kingdom, Australia, and New Zealand, the campaign in Canada is a well-defined political event that has a set duration, a clear beginning and end.

The duration of the campaign provides a clear distinction between the two countries since the length of the campaign and the corresponding strength of the media signal may play a role in the gender gap. The comparison can shed light on the question of whether it's necessary to have a long-enduring campaign to affect the disparity between women and men's stocks of information. If there is a closing of the gap in Canada detected in this analysis, then it suggests that the length of the campaign is not a condition of the gender gap. However, if the direct effect of gender and the size of the gender gap in Canada remain unchanged over the course of the campaign it could be because of the relatively short-lived federal election campaign.

### Data and measurement

Using data from the Canadian Election Studies 1997-2006, the political knowledge of respondents is tracked using the rolling-cross section survey design to assess the influence of the campaign as it unfolds. The Canadian Election Studies were in the field nearly all five weeks of the campaign. Each day between 50-100 respondents were surveyed and the changes tracked over time are 5-day averages to ensure that sampling inconsistencies are not the cause of trends or changes in the campaign. Overall, between 3,200-4,200 respondents were interviewed during each campaign. The main independent variable is the campaign week. It is coded to represent the week from the start of the campaign. Since the number of weeks in each election are the same while the number of weeks the Canadian Election Study was in the field is different, the measure for week has been standardized on a scale from 0 (the first week) to 1 (the last week) for comparability.

The measurement of political knowledge has been the subject of major debate in political behavior given its multidimensional qualities. There are many types of political information individuals can capture and maintain over a lifetime to know "what the government is and does" (Barber 1973). Individuals are considered generalists because batteries of political knowledge tests show if an individual knows one aspect of government, they likely are familiar with other aspects. In other words, to know something of the structure of government is, for instance, a strong indicator of holding other information about the rules of the system, the substance of politics, and the notable people and political parties (Delli Carpini and Keeter 1993; 1996).

Often batteries of questions include information that captures voters' level of awareness about general political knowledge and the more specific details about the campaign; however, the operationalization of distinct general and campaign specific political knowledge is not a settled question. Converse's prescription for measuring political information of respondents during campaigns requires tapping "all the intake of political information for our respondents during any political campaign"

(1962: 582) though in his analysis he operationalizes the concept as the number of media used by individuals to estimate the information intake during the campaign. As well, Zaller's own operationalization of political information is limited because it uses a number of indicators including variables capturing respondents' likes and dislikes about the candidates (1989). Earlier generations of the Canadian Election Study from 1988, 1993 and 1997 asked respondents how well they knew individual party leaders without asking specific questions detecting if respondents could recall the name of the party leader. Clearly testing factual knowledge provides a better measure of political knowledge instead of self-evaluated or self-perceived knowledge about the leaders. While there are questions in election studies that do not directly measure respondents' political knowledge, the more concerning limitation of election study data is that they do not provide an exhaustive battery of questions that would provide a comprehensive time-series account of individual-level political information, to detect factual knowledge and how it changes over time.

More recently, studies of political knowledge have used various combinations of political knowledge questions to measure information committed to memory yet no single study combines all of the following: Knowledge questions to detect different sets of political knowledge that include questions to identify current and past political figures (Hooghe et al. 2006; Nadeau et al. 2008; Dow 2009), to recognize more enduring features of the political systems such as constitutional rights and liberties (Mondak and Anderson 2004), to recall political institutions and their roles (Butt 2001; Sturgis et al. 2007), to recognize party issue positions or interveners' positions (Sturgis et al. 2007; Nadeau et al. 2008; Mendelsohn and Cutler 2000), accessing benefits and services (Hooghe et al. 2006; Stolle and Gidengil 2010) and to link parties with their place on the Right-Left ideological scale (Mondak and Anderson 2004; Dow 2009). There are many facets of political knowledge which make researchers reluctant to combine them into single indices without clear justification. Often the variation within each type of political knowledge type is parsed-out and analyzed on its own (Mondak and Anderson 2004; Stolle and Gidengil 2010).

The questions included in this study's political knowledge measurement include two types of items asking respondents: 1) to recall the names of party leaders<sup>1</sup>; and 2) to match to the party with its campaign promise. The format of the response categories was open recall. Since the format was not multiple choice, or true or false type questions, it was difficult for respondents to guess and thus reward people who had simply guessed, or who had relied upon partial information to arrive at the correct answer.

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<sup>1</sup> The political knowledge index of recalling the names of party leaders includes identifying Bloc Québécois leader Gilles Duceppe for respondents from Quebec. Scores are standardized from 0-1 for all respondents.



The format of some of the campaign promises questions did not distinguish between don't know and incorrect responses in the 2004 and 2006 Canadian Election Studies. Thus, the following analysis does not include these response categories in those election studies.

To capture the effect of the campaign, only campaign-related knowledge is analyzed even though more general, non-electoral related, political knowledge questions were asked in the surveys. There is a conceptual distinction between general knowledge and campaign-specific information for a number of reasons (Nadeau et al. 2008). Nadeau and his colleagues have shown that individuals' general stock of political information typically fluctuates little during campaigns while the aggregate campaign-specific knowledge grows over time (Figure 2, p. 236). Therefore, the general political knowledge questions from the Canadian Election Survey asking respondents to recall the name of the provincial premier, the governor general and other political figures are not part of the political knowledge measurement.

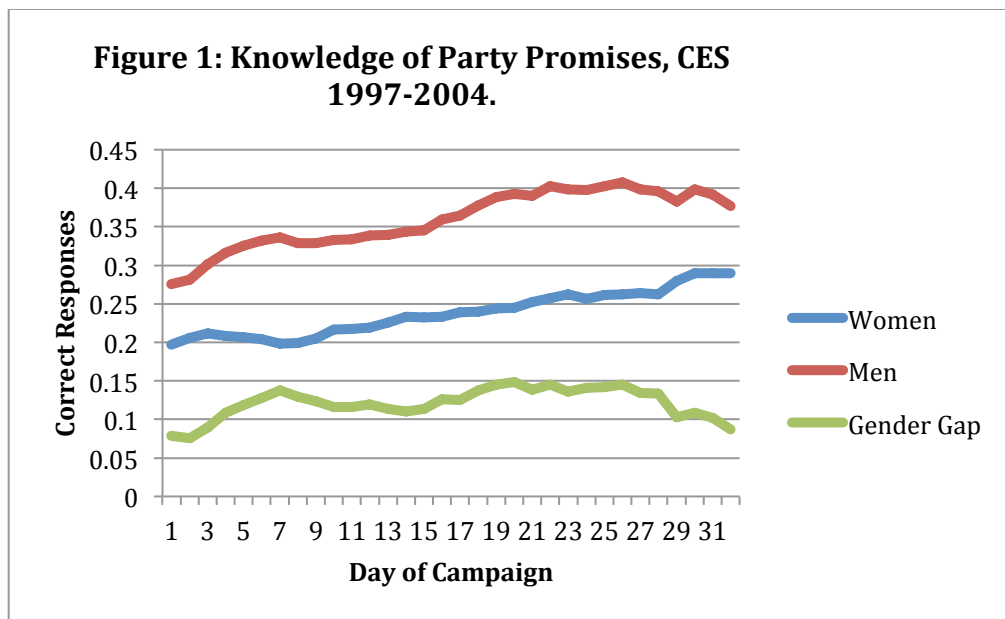
Special consideration will be given to the type of responses in the political knowledge measure of men and women. Previous research has demonstrated that gender difference in correct responses is only one area of concern. The gender gap in "don't know" responses are consequential because analyzing only correct responses does not empirically demonstrate women's propensity to be more risk averse (Mondak and Davis 2001; Mondak and Anderson 2004; Lizotte and Sidman 2009). Indeed, these studies demonstrate women are less likely than men to guess on questions for which they are uncertain. Failure to consider the "don't know" responses ignores important gendered differences caused by women's propensity to shield their partial knowledge (Lizotte and Sidman 2009).

Accordingly, the measures of political knowledge are each coded as an additive index. In each campaign, the correct responses are added together and standardized as values 0 through 1. For instance, for the party promises political knowledge measure, each correct score was given a 1 and an incorrect or non-substantive response (such as a "don't know" or "not sure") was coded a 0. Each party promise question was added in an index and standardized from 0 to 1. The same coding is used for incorrect responses and the "don't know" responses.

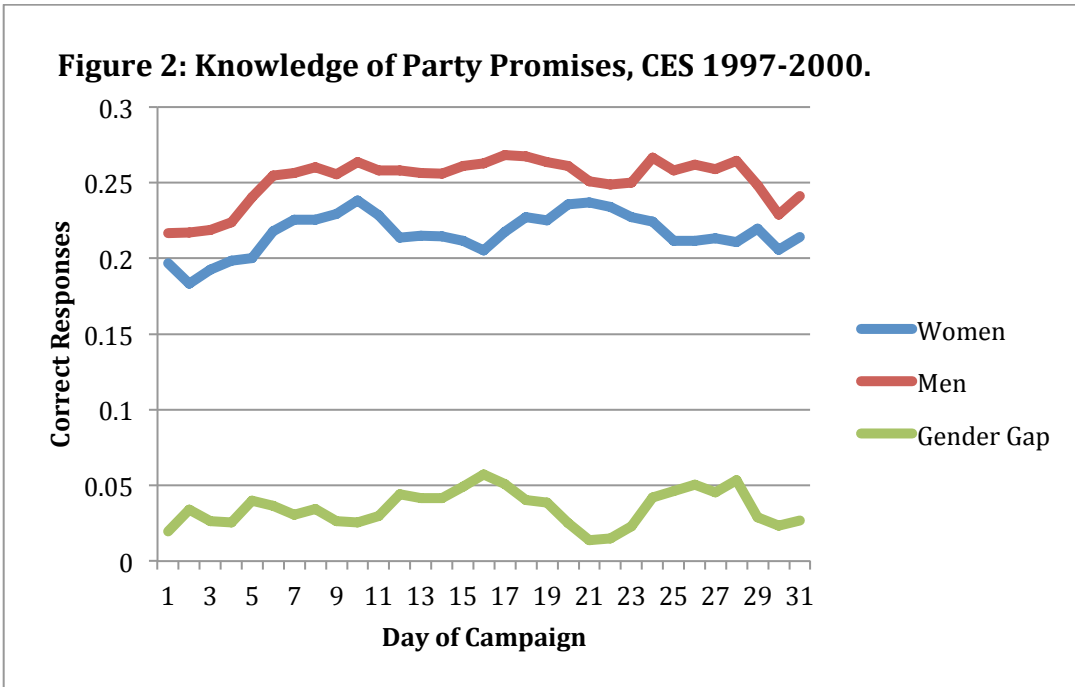
To assess the impact of campaign on the level of knowledge in the electorate, I start by tracking the gender gap in political knowledge over the course of each campaign for correct, incorrect and don't know responses. The hypothesis will be supported if the gender gap narrows from the beginning to the end of the campaign as a result of women picking up more information during the campaign than men. Thus, the first main expository method is a series of graphs with the 5-day mean value of the two measures of political knowledge on the y-axis: 1) recalling names of party leaders; and 2) party issue positions. The day of the campaign is reported on the x-axis. These graphs will be accompanied by regressions to test whether campaigns provide the opportunity to attenuate or even eliminate the gender gap in political knowledge.

### Variation in political knowledge during campaign

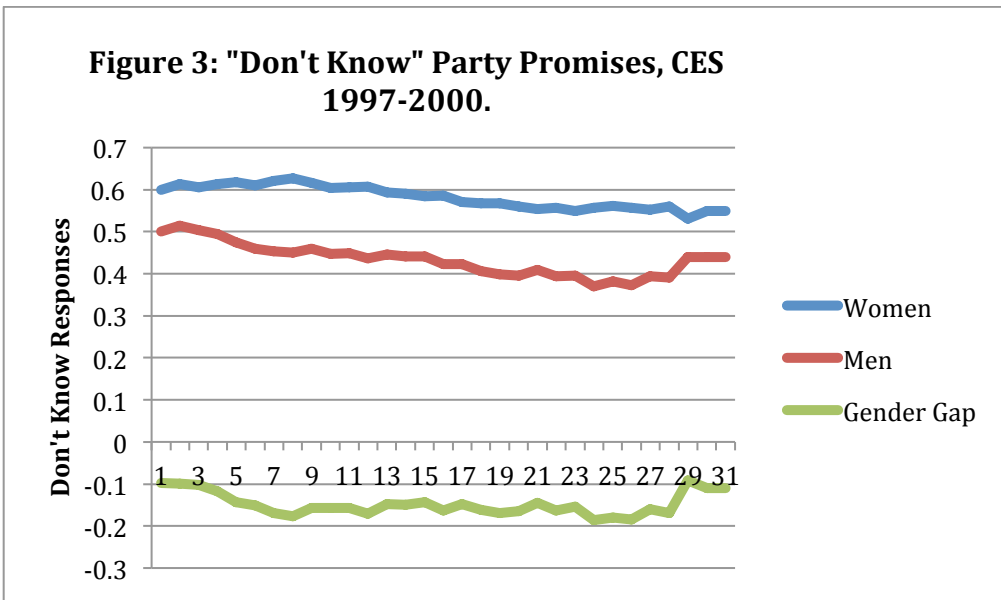
The gender gap in knowledge of party promises during the campaigns was calculated using 5-day moving averages and subtracting women's values from men's values. Figure 1 shows a sizable gender difference in associating the political party with the appropriate party promise. The gender gap in the campaign begins and ends with about ten percentage points, but the gap increases to fifteen percentage points in the middle of the campaign. Overall, Canadians learn about party promises. Both men and women gain about ten percentage points from the beginning to the end of the campaign. The growth of the gender gap through the election to fifteen percentage points before decreasing to ten percentage points shows that men pick up some new information at a faster rate than women but women are able to make up some ground in the last week of the campaign.



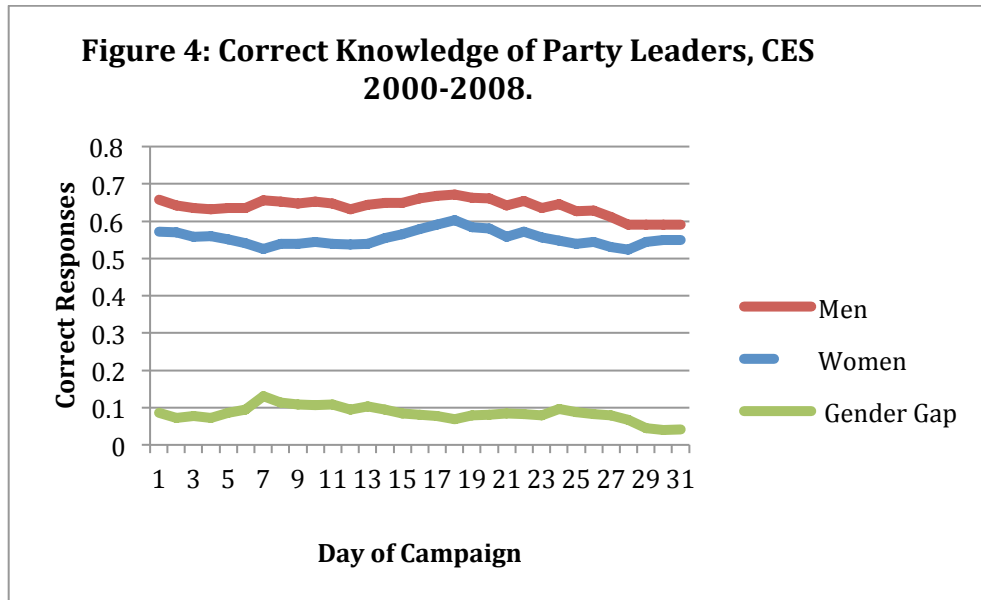
Among Canadians, the rate of incorrect responses is considerable. Individuals generally name the incorrect party one out of four times in Figure 2. The level of misinformation is quite stable over the entire campaign. Men's correct response rate in the first week was 22% and 24% during the last week. Women's knowledge of the party promises in the first week was similar at 20% and 21% in the last week. The gender gap peaks at five percentage points and decreases to a negligible level around week three and again at the end of the campaign. The positive value indicates that men are slightly more likely to provide an incorrect response compared to women.



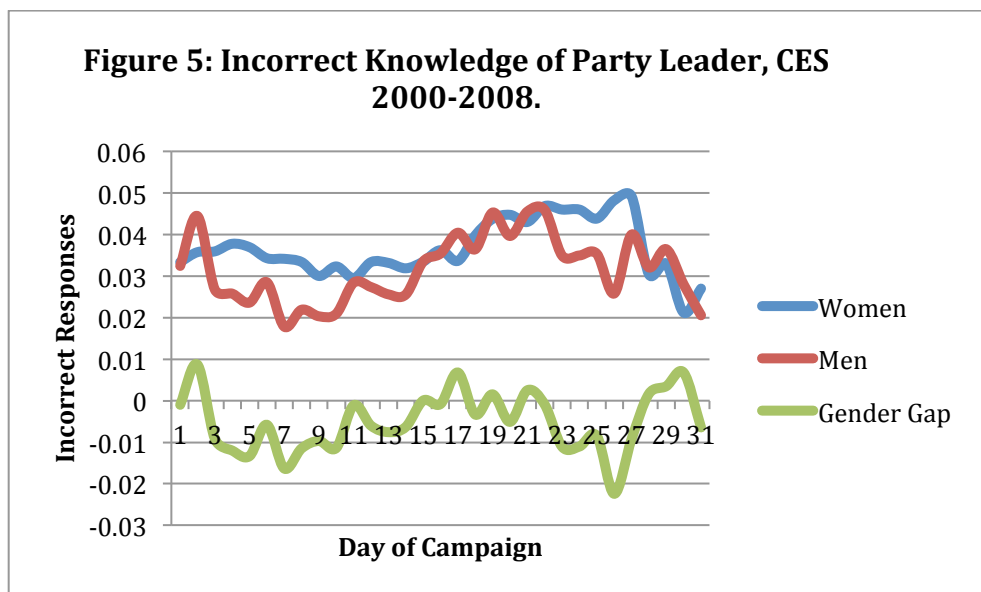
Most Canadians provide “don’t know” responses to questions about political parties and their campaign promises. There is a decrease of about ten percentage points in women’s propensity to provide don’t know responses by the end of the campaign while there is a corresponding decrease of about five percentage points for men in Figure 3. The gender gap grows to as large as twenty percentage points in the last week of the campaign and narrows to ten percentage points in the last days. The negative value of the gender gap shows that women are more likely to provide don’t know responses compared to men.



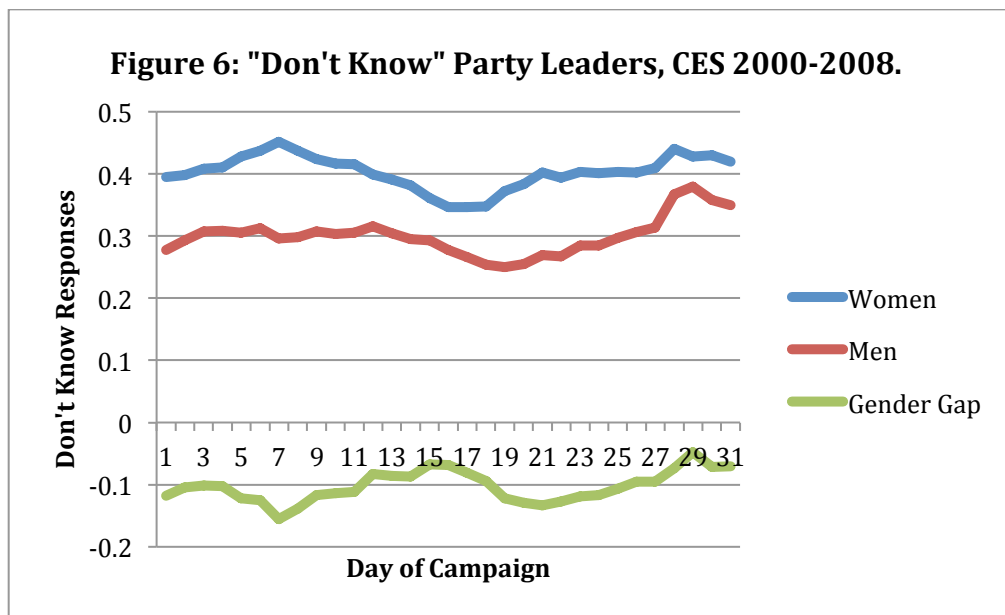
Canadians are much more knowledgeable about the names of the party leaders than they are about the parties' promises. A large majority of respondents correctly identified the party leaders in Figure 4. There was not a great deal of learning over the campaign yet the small increase in women's learning relative to men's narrowed the gender gap at the end of the campaign to four percentage points.



The small movement in the values for the incorrect responses is because there are too few observations to provide a strong trend line in Figure 5. Few Canadians provided incorrect responses; the gender difference is negligible with the exception women's incorrect edging upwards slightly compared to men's at the beginning of the third week. Again, these observations are not frequent enough to make reliable interpretations about change over time.



For non-substantive responses, men provided nearly one-third of the don't know responses and women provided nearly two-fifths of the don't know responses when asked to identify leaders. In Figure 6, the gender gap over the course of the campaign decreases three percentage points from ten percentage points at the start to seven percentage points the end of the campaign. The negative value of the gender gap means that women are more likely to provide don't know responses than men. It appears that the small increase of knowledge for women near the end of the campaign comes from women and men providing fewer don't know responses. However, women provide fewer non-substantive responses at a slightly higher rate than men.



The knowledge of party promises and party leaders and the difference between women and men show a few important trends. First, men and women learn about campaign promises and party leaders over the campaign on account of providing fewer don't know responses. The level of misinformation appears to remain stable over the campaign as well. The gender gaps show a slight narrowing by the end of the campaign for correct, incorrect, and don't know responses which points to the possibility that women make up some ground by election day compared to men; however, the gender gap is not eliminated entirely. Whether the gender gap persists through the campaign with a host of controls remains to be tested in the multivariate portion of the analysis that follows.

### Multivariate analysis methods

To assess whether there is a gender-specific difference in the influence of campaign week on women and men's political learning, a host of controls are included in a multivariate model that tests for the gendered impact of the week of the campaign.

The estimation method is ordinary least squares regression. This choice is based on a larger discussion of the appropriate way to model the dependent variable. Political knowledge could be an ordinal variable that requires a different method of estimation such as ordered logit or ordered probit (Ondercin et al. 2011). As well, the indices of the dependent variables could be modeled using grouped multinomial logit as recommended by Mondak (1999) and Barabas (2002). The trouble with these approaches is they violate the independence of alternative assumptions (IIA) concerning the relationship between response categories and women's propensity to choose the "don't know" response as a risk-averse strategy. Men on average are more likely to hazard a guess based on partial knowledge compared to women and thus are more likely to receive a correct response for only partial information (Lizotte and Sidman 2009; Mondak and Anderson 2004).

The potential of a non-linear relationship between campaign week and political knowledge was also tested. The functional form of the relationship was modeled in three different ways. The first is a linear increase in political knowledge measured by the variable coded as the week of the campaign. The second way is by adding a logged value of the campaign week. The third is by adding a squared value of the campaign week to capture the diminishing effect of campaign week by the last week of the campaign. The results show that neither the logged values nor the squared values of the campaign week were statistically significant. The coefficients of the logged and squared values did not indicate diminishing returns with the passing of time.

The coding of the campaign effect by week is justified by the small daily sample size of the rolling cross-section. The small sample size keeps the rolling cost section reasonable in the cost of the survey. Yet, the sample size comes at the cost of statistical power in a model with a large number of control factors. The statistical power is maintained when the campaign is divided into weeks but runs out of observations when the unit of time is made smaller. The variable for week is coded 0 for the first week and 1 for the last week. The other values for week lie between 0-1. This approach standardizes the difference in the length of each Canadian Election Study. The length of the campaigns in each election study was either four or five weeks. In addition, there are not enough cases in the rolling cross section to investigate the impact of the campaign on incorrect responses to the questions. Since there are too few incorrect responses, it would be impossible to detect a statistically relationship with the campaign week holding all other things equal.

The gender and other the socio-demographic controls are dummy coded. Respondent's gender is coded 1 for female respondents. Education is captured by two dummy variables. The first variable is coded 1 for respondents with some college or university experience or a college or technical school degree. The second variable is coded 1 for university graduates. The reference category is respondents with high school education or less. The income variables are coded as two dummies as well. The highest tercile represents respondents with high income and the middle tercile represents respondent with middle income. The reference category is the

lowest income tercile. Employment is coded 1 for those gainfully employed. Marital status is coded 1 for those married or living with a partner. The variable detecting the presence of children is coded 1 for those living with any number of children under the age of 18. Religiosity is coded 1 for those who believe that religion is very important in their lives. Partisanship is coded 1 for strong partisans and 0 for all others.

The coding for media attention is an additive score of the consumption of four types of media: television, radio, newspaper, and online media. Each type of media consumption was reported as a score from 0 (no attention) to 10 (high attention). The scores were added to make an index out of 40 and then divided by four to create a scale from 0-10. The political campaign interest variable is coded on a scale from 0 (low interest) to 10 (high interest). The variable measuring how often individuals discuss politics is coded on a scale of one to three: never discussed politics during the campaign (1), discussed politics once or twice (2), and discussed politics several times (3).

## Findings

### *Correct Party Promise Responses (1997- 2004)*

Canadians only have partial information about campaign party promises. On average correct response rate in each election was estimated at approximately 30% with the host of controls. The marginal effects for women and men<sup>2</sup> along with the gender gaps at the beginning and the end of the campaigns are reported in Table 1. The presence of the interaction term between campaign week and gender means that the marginal effects cannot be directly interpreted. In the estimated models, the effects reported are for men in the first week of the campaign (when gender=0 and campaign=0). To make sense of the interaction term, the marginal effect for men and women are calculated separately.<sup>3</sup> The same is true for the gender gap in the first and the last week of the campaign.

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<sup>2</sup> As Brambor and his colleagues show, the interaction term does not tell us the effect of the campaign week variable on female respondents. This type of linear interaction model requires estimates of the linear combination (the addition) of the coefficient of the main effect and the coefficient of main effect's interaction term (the conditioning effect of gender). The linear combination of the two terms requires a re-estimation of the standard errors to verify the women-specific coefficient is statistically significant (2006). The magnitude and statistical significance of the interaction terms simply tells us whether there is a substantive difference in the effect between men and women and whether that difference is statistically significant.

<sup>3</sup> The marginal effect for men in the full model is the estimate and standard errors for the "week" variable. The marginal effect for women is the linear combination of "week" plus the interaction term "gender\*week." The t-test reported -- detecting the gender difference in campaign learning -- is the p-value for the interaction term "gender\*week". The gender gap in the first week is the estimate for "gender" and the gender gap in the last week is the linear combination of "gender" plus the interaction term "gender\*week." The gender gap in the first week is the coefficient and standard error for the "gender" variable. The gender gap in the last week of the campaign is the linear combination of "gender" plus "gender\*week."

The average marginal effect of campaign on correct party promise responses is not statistically significant for either women or men between 1997 and 2004<sup>4</sup>. The effect of the campaign is reported as 0.015 but the estimate fails to reach conventional levels of statistical significance. The marginal effect for men is 0.035 and also fails to reach convention levels of statistical significance.

Table 1: Campaign Effects on Men and Women and Gender Gaps in Political Knowledge (1997-2006).

Dependent Variable	Elections	Marginal Effect Women	Marginal Effect Men	Gender Gap First Week	Gender Gap Last Week
Correct Party Promises	1997-2004	0.015	0.035	-0.068*	-0.087*
Don't Know Party Promises	1997-2000	-0.086*	-0.088*	0.097*	0.098*
Correct Party Leaders	2000-2006	0.021	0.004	-0.064*	-0.048*
Don't Know Party Leaders	2000-2006	-0.024	-0.017	0.059*	0.052*

Not surprisingly, with no detectable effect of the campaign on either women or men, there is no statistically detectable change in the gender gap in the first week of the campaign compared to the last week of the campaign. In Table 1, the gender gaps are reported as -0.07 in the first week and -0.09 in the last week of the campaign. The results show that the campaign does not have a discernable impact on the information learned about party promises. Simply, individuals bring their information to the campaign and there is not gendered effect in learning and no corresponding change in the gap which is maintained around eight percentage points in favour of men.

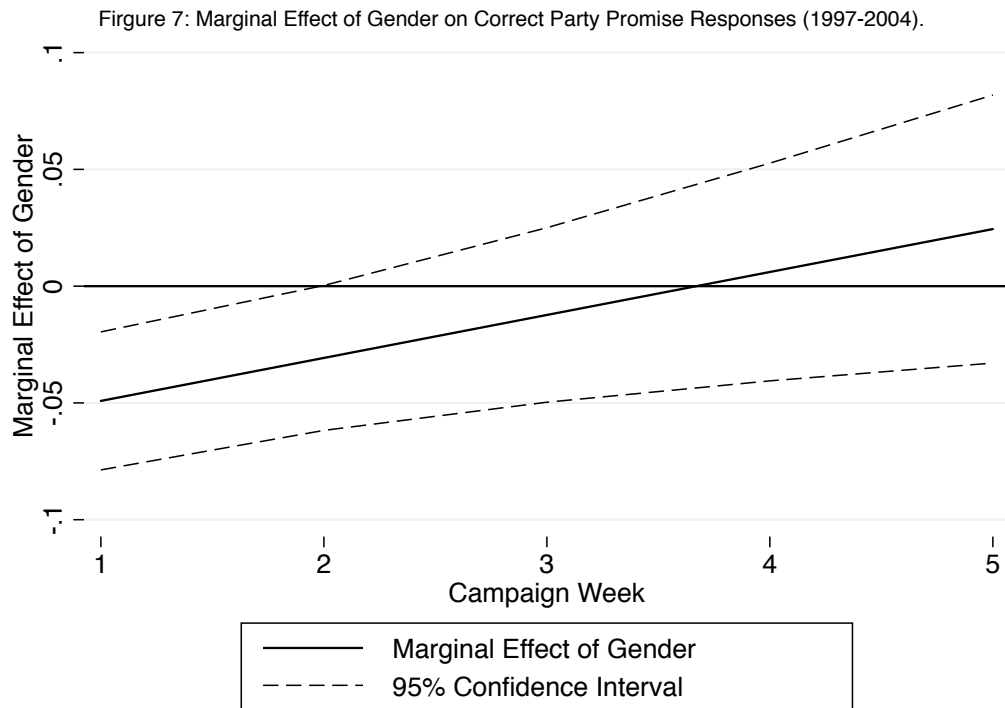
The lack of a direct effect of gender during the campaign detected above and reported in Table 1, however, is an average effect over the campaign. Upon closer inspection, the effect of gender varies over the course of the campaign as evidenced in Figure 7 below. The marginal effect of gender is statistically significant and shows that women know less than men about party promises. As the campaign enters

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<sup>4</sup> The number of main and interaction effects in the estimation raises concerns about multicollinearity which leads to a less efficient model. Brambor and his colleagues discuss how these concerns have been overstated. They provide a reminder that: "Even if there is really high multicollinearity and this leads to large standard errors on the model parameter, it is important to remember that these standard errors are never in an sense 'too' large – they are always the 'correct' standard errors. High multicollinearity simply means that there is not enough information in the data to estimate the model parameters accurately and the standard errors rightfully reflect this" (2006:70).



week two, the direct effect of gender disappears. This nuance was not detectable in the average marginal effects of the campaign reported in Table 1. To discern why women caught up to men in campaign learning, the next section analyzes the role of don't know responses for women and men.



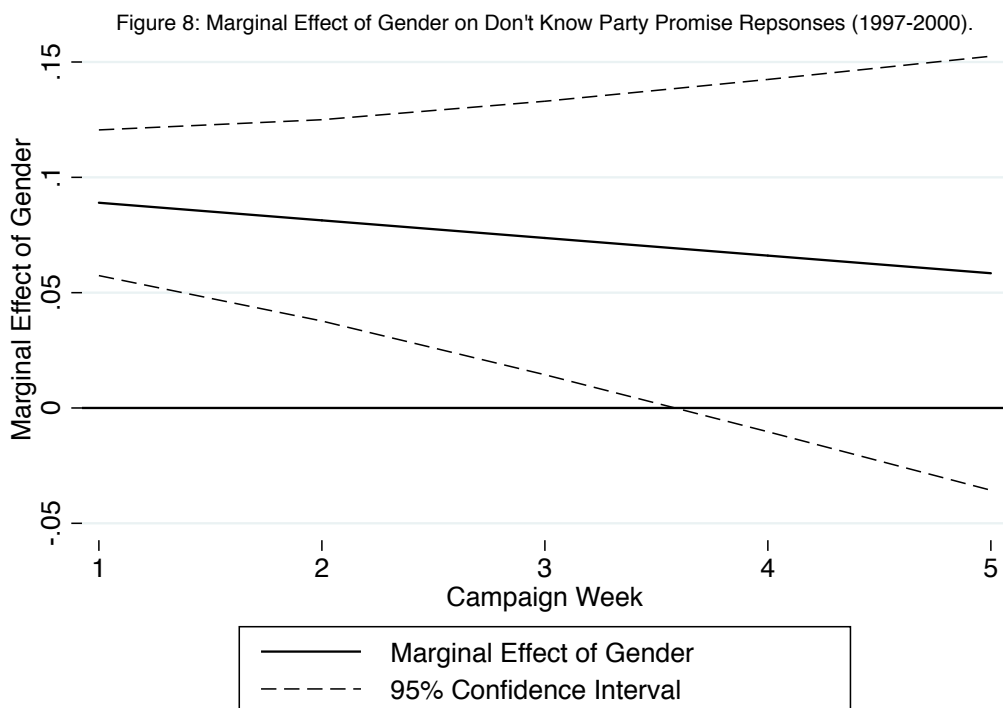
*Don't Know Party Promise Responses (1997- 2000)*

Nearly half of the respondents in the 1997 and 2000 campaigns were unable to correctly identify the party campaign promise with the correct party. It appears that the impact of the campaign on women and men's don't know responses happens to be quite substantial.

According to the findings reported in Table 1, the average marginal effect of the campaign on women is -0.086 which means women gave fewer don't know responses over the course of the campaign. The same holds for men. Men on average gave fewer responses during the campaign; on average the don't know responses decreased by nine percentage points (reported as -0.088 in Table 1). Since the average effect of the campaign appears to be the same for men and women, there is no change in the gender gap. The gap holds steady at ten percentage points which means that women on average provide more don't know responses than men.

The impact of the campaign over the course of the election has a gendered effect that is not detected in the average effects reported in Table 1. The marginal effect of gender on don't know responses in the first two three weeks of the campaign shows

that women give more don't know responses than men in Figure 8. After week three, however, the marginal effect of gender shows that men and women are no different in their propensity to give don't know responses to questions about party's campaign promises. This trend across the campaign lends evidence to the reason why the marginal effect of gender ceased to matter for correct party promise responses at the end of the campaign: women's increasing propensity to provide correct responses comes from a decrease in the propensity to provide don't know responses. Whether this change in women's responses is due to increasing confidence through the election campaign, or simply to the increase in their knowledge about party promises, it shows that the campaign can be a context that eliminates the direct effect of gender.

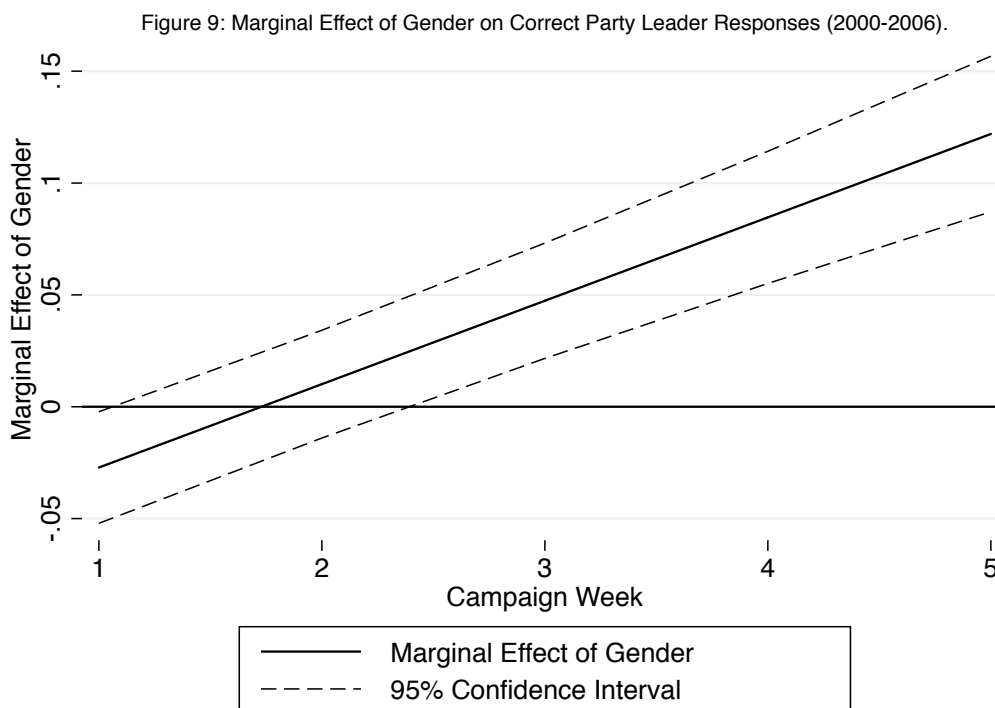


*Correct Party Leader Identification Responses (2000-2006 CES)*

The following examines the impact of the campaign on women and men's ability to identify party leaders. Canadians are quite knowledgeable about the party leaders. On average, individuals correctly identify the name of the party leaders 61% of the time. Yet, the average impact of the campaign upon identifying party leaders correctly is not detectable for men or women. Neither group receives a statistically significant benefit to their stores of knowledge from the campaign (Table 1). While the effect of the campaign is negligible, so is the change in the gender gap from the first week to the last week of the campaign. The gender gap starts at six percentage

points and only ticks away to five percentage points which shows now statistical change at all.

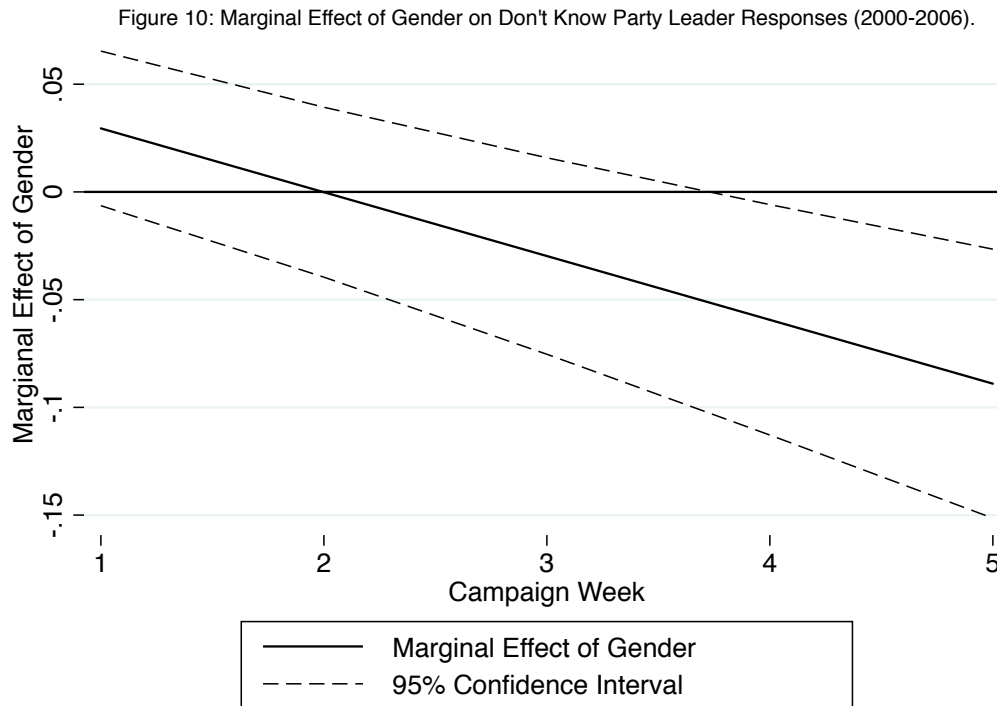
The marginal effect of gender during the campaign, however, shows that gender has no bearing on correctly identifying party leaders in the first two weeks of the campaign in Figure 9. Yet, after week three, there is a positive and statistically significant slope which indicates that women provide more correct responses than men when differences in levels of socio-demographic and political engagement factors are controlled. This is the first evidence to suggest that the context of the election campaign can provide a net benefit to women compared to men in an area of political knowledge that is nearly always dominated by men.



### *Don't Know Party Leader Identification Responses (2000-2006 CES)*

Similar to the above, on average, the campaign does not have a net benefit in reducing the don't know responses provided by women and men during the campaign. The campaign also does not have a detectable impact upon the gender gap which stayed more or less around five percentage points in favour of men (Table 1). The marginal effect of gender during the campaign shows that gender only begins to affect the propensity to provide don't know responses in the last week of the campaign. The marginal effect of gender in Figure 10 is shown as negative and statistically significant which means that women are less likely than men to provide don't know responses at the end of the campaign. This lends some

evidence to the notion that women provided more correct responses than men at the end of the campaigns, in part, because they translated don't know responses into substantively correct responses.



### Discussion

The main conclusion from the foregoing is that the effect of the campaign relates to two types of important electoral knowledge: identifying party leaders and party campaign promises. The last weeks of the campaign proved to be positive for women compared to men in correctly identifying the party leaders. As well, during the campaign, the effect of gender ceases to matter in correctly identifying parties' electoral promises. The levels of information individuals brought to the campaign were more or less the same levels of information individuals took away at the end of the campaign. The starkest finding is that while the levels of information do not change, the direct effect of gender is changes during the campaign in ways that are not detectable by simply looking at average effects. This analysis shows that the gender gap in political knowledge is a complex phenomenon that includes the analysis of gender-specific effects, gender-specific levels, and the political context, of multiple factors.

The results appear to be driven by women translating don't know responses in identifying party leaders and party promises throughout the campaign into correct responses. There are two plausible mechanisms to explain the change over time.

First, women may become more confident through the campaign which results in women reporting knowledge that they were hesitant to report earlier. Second, women may simply be learning campaign-related information faster than men either because women have more to learn or because the information-rich campaign and its heightened interest is encouraging women to pick up more information relative to men. The outcome, however, remains clear. The direct effect of gender ceases to exist in correctly identifying party promises near the end of the campaign. Furthermore, the impact of gender in identifying party leaders shows a “reverse gender gap” because women near the end of the campaign correctly name of party leaders at a higher rate than men. The emergence of this reverse gender gap shows that with the expectation to engage in electoral politics, women can outperform men.

The maintenance of the gender gap occurs during the inter-election period when men collect more information than women about electoral politics warrants attention. The gender gap does not change through the campaign which suggests that men bring more information with them to the campaign and that they do not pick up more information relative to women during the campaign. Media viewing habits, discussion habits, and higher levels of political interests are the most likely reasons why the gap is maintained in the inter-election period. Studying these forms of political engagement and their effect upon political knowledge will lend important information about the maintenance of the gender gap. From the foregoing, it appears that the election campaign does not contribute to the gender gap, nor does it eliminate it. Instead, factors that shape political knowledge between election campaigns appear to be the focus of future inquiry.

In comparison to the American presidential election, there are two important features that arise from this analysis. First, the findings in the Canadian federal elections are in some ways more robust than the findings reported by Ondercin and her colleagues (2011). In the American study, a series of five questions were combined in an additive index to serve as the dependent variable. Respondents were asked which candidate was the son of a former senator, which candidate is a born again Christian, which candidate favours large tax cuts, which candidate favours increased social security, and which candidate supported a concealed hand gun law. Each question provided two response categories, the main presidential candidates: George W. Bush or Al Gore. This gave respondents a 50-50 chance of providing a correct response.

In contrast, Canada’s multi-partisan system makes it more difficult to respond to political knowledge questions because knowledge is required of at least four party leaders and four parties to answer the questions correctly. Furthermore, the open-ended response style left little room for guessing a response from a list of names. The fractionalized party system has been shown to place a high demand on each voter to acquire information before casting his or her vote (Roy 2009). Thus the cost of acquiring political information is quite high in Canada compared to the United State. Furthermore, the style of response categories offered in the American study

further distinguished learning in the American campaign because it was easier to answer the questions.

The second American-Canadian comparison is that both types of election campaigns have a bearing on gender and political knowledge even though the American presidential campaign is much longer. In both cases, the marginal effect of gender ceases to matter at the end of the campaign as voters are pushed to pay closer attention and formulate or reaffirm their vote decision. This suggests that the direct effect of gender disappears because of the context of the national campaign and not the duration of the campaign. This is encouraging because it suggests that the phenomenon detected in the United States is not unique to that country or type of electoral system.

The research in this area still has room to grow because of the intertwined relationship between political knowledge and other forms of political engagement. This study treated political engagement as control factors to rule out the possibility that women were less likely to discuss politics, have interest in the campaign, and pay attention to the media. In doing so, this study suggests that other factors such as gender roles and civic expectations were part of the reason gender ceased to be a factor in explaining political knowledge near the end of the campaigns. Yet, more can be done to study the effects of campaign on political engagement by treating political engagement as the dependent variable. It could be the case that the campaign has a similar effect on these types of political engagement which would also suggest that the heightened civic engagement of an election may lead to a gendered effect in these types of political behaviour as well.

### Conclusion

This study has brought attention to the contextual relationship between gender and political knowledge. Within federal election campaigns in Canada, the heightened engagement and heightened civic expectation improve women's stocks of knowledge compared to men. The traditional negative effect of gender on women vanishes and even reverses in one instance over the course of the campaign. It suggests that context matters: where the conditions are encouraging for political engagement, women can overcome the larger power dynamic which often leads them refraining from their full participation, expression, and articulation of political facts. While the gender gap in political knowledge still exists at the end of the campaign, the evidence is able to address the question of what if? What if women found themselves in an environment that relaxed traditional gender roles and encouraged political engagement? The answer is that they would be just as knowledgeable, if not more knowledgeable, on average than their male counterparts.

Appendix

Table A1: Effect of Campaign on Correct Party Promises Responses, 1997-2004.

	1997-2004
Dependent Variable: Correct Party Promise Responses	
Gender	-0.068*
	(0.017)
Week	0.035
	(0.039)
West	0.018*
	(0.007)
Atlantic	-0.026*
	(0.010)
Quebec	-0.019
	(0.020)
French	0.013
	(0.019)
Other Language	-0.027
	(0.018)
Boomers	0.006
	(0.012)
Gen X	-0.011
	(0.008)
Gen Y	-0.045*
	(0.011)
College	0.030*
	(0.009)
Degree	0.116*
	(0.010)
Mid-income	0.047*
	(0.013)
High-income	0.068*
	(0.008)
Employed	-0.030*
	(0.007)
Marriage	0.028*
	(0.005)
Kids	-0.038*
	(0.009)
Religiosity	-0.033*
	(0.007)
Strong Partisan	0.026

	(0.014)
Gender*Week	-0.019
	(0.020)
Media Attention	0.014*
	(0.002)
Campaign Interest	0.024*
	(0.002)
Discuss Politics	0.046*
	(0.005)
1997	-0.185*
	(0.056)
2000	-0.297*
	(0.054)
N	9850
R-square	0.321
Adj. R-square	0.319
Marginal effect of campaign on women	
	0.015
	0.050
Gender gap at the end of the campaign	
	-0.087
	(0.001)*
Standard errors in parentheses	
+ p<0.10	
* p<0.05	



Table A2: Effect of Campaign on Don't Know Party Promises Responses, 1997-2000.

	1997-2000
Dependent Variable: Don't Know Party Promise Responses	
Gender	0.097*
	(0.014)
Week	-0.088*
	(0.029)
West	-0.008
	(0.010)
Atlantic	0.049*
	(0.012)
Quebec	-0.020
	(0.021)
French	-0.039+
	(0.017)
Other Language	-0.015
	(0.018)
Boomers	0.047*
	(0.013)
Gen X	0.066+
	(0.026)
Gen Y	0.101*
	(0.017)
College	-0.044*
	(0.015)
Degree	-0.133*
	(0.014)
Mid-income	-0.039*
	(0.008)
High-income	-0.042*
	(0.007)
Employed	-0.008
	(0.007)
Marriage	-0.016
	(0.020)
Kids	0.026
	(0.016)
Religiosity	0.020
	(0.011)
Strong Partisan	-0.021

	(0.017)
Gender*Week	0.002
	(0.015)
Media Attention	-0.024*
	(0.002)
Campaign Interest	-0.022*
	(0.002)
Discuss Politics	-0.060*
	(0.016)
1997	-0.140*
	(0.011)
N	5400
R-square	0.248
Adj. R-square	0.245
Marginal effect of campaign on women	
	-0.086*
	0.016
Gender gap at the end of the campaign	
	-0.098*
	0.023
Standard errors in parentheses	
+ p<0.10	
* p<0.05	

Table A3: The Effect of the Campaign on Correct Party Leader Responses, 2000-2006.

	2000-2006
Dependent Variable: Correct Party Leader Responses	
Gender	-0.064*
	(0.014)
Week	0.004
	(0.013)
West	0.037*
	(0.004)
Atlantic	-0.010
	(0.010)
Quebec	0.033+
	(0.017)
French	0.011
	(0.014)
Other Language	-0.014
	(0.011)
Boomers	0.039*
	(0.014)
Gen X	-0.002
	(0.009)
Gen Y	-0.044+
	(0.022)
College	0.047*
	(0.008)
Degree	0.135*
	(0.008)
Mid-income	0.062*
	(0.007)
High-income	0.061*
	(0.013)
Employed	-0.034*
	(0.008)
Marriage	0.055*
	(0.007)
Kids	-0.060*
	(0.009)
Religiosity	-0.013
	(0.012)

Strong Partisan	-0.005
	(0.011)
Gender*Week	0.017
	(0.016)
Media Attention	0.025*
	(0.001)
Campaign Interest	0.021*
	(0.002)
Discus Politics	0.070*
	(0.009)
2000	-0.226*
	(0.006)
2004	-0.189*
	(0.011)
N	7639
R-squared	0.320
Adj. R-square	0.318
Marginal effect of campaign on women	
	0.021
	(0.022)
Gender gap at the end of the campaign	
	-0.048
	(0.004)*
Standard errors in parentheses	
+ p<0.10	
* p<0.05	

Table A4: The Effect of the Campaign on Don't Know Party Leader Responses, 2000-2006.

	2000-2006
Dependent Variable: Don't Know Party Leader Responses	
Gender	0.059*
	(0.018)
Week	-0.017
	(0.019)
West	-0.030*
	(0.006)
Atlantic	0.004
	(0.012)
Quebec	-0.033
	(0.018)
French	0.004
	(0.015)
Other Language	0.014
	(0.014)
Boomers	-0.031*
	(0.010)
Gen X	0.011
	(0.007)
Gen Y	0.070*
	(0.023)
College	-0.050*
	(0.010)
Degree	-0.150*
	(0.010)
Mid-income	-0.053*
	(0.008)
High-income	-0.054*
	(0.012)
Employed	0.031*
	(0.007)
Marriage	-0.061*
	(0.010)
Kids	0.060*
	(0.009)
Religiosity	0.015
	(0.010)
Strong Partisan	0.002

	(0.015)
Gender*Week	-0.007
	(0.021)
Media Attention	-0.030*
	(0.002)
Campaign Interest	-0.020*
	(0.002)
Discus Politics	-0.067*
	(0.009)
2000	0.125*
	(0.009)
2004	0.174*
	(0.010)
N	7639
R-square	0.314
Adj. R-square	0.312
Marginal effect of campaign on women	
	-0.024
	0.022
Gender gap at the end of the campaign	
	0.052*
	(0.001)
Standard errors in parentheses	
+ p<0.10	
* p<0.05	

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