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The Gender Gap in Political Knowledge in Canada

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The Gender Gap in Political Knowledge in Canada

by

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A THESIS

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Abstract

Since the 1990s, Canadian federal election studies show that women and men do not hold equal amounts of campaign knowledge. The political science literature suggests that changed gender roles, increased feminist socialization, and improved socio-economic resources over time should have eliminated the gender differences over time.

Acquiring and maintaining political knowledge, however, is a complex phenomenon. I argue that the gender gap can be explained by taking into account women and men's individual and aggregate-level political resources, personal motivations, cognitive engagement in electoral campaigns, and their roles as mothers and fathers. First, I test the conventional explanations of the gender gap. Using the 1997 to 2008 Canadian Election Studies, I examine the impact of the individual-level socio-economic status, gender role change, and individual political motivation on women and men's knowledge of campaign facts. Even with these factors included in the model, the gender gap in knowledge of party leaders remained ten points in favour of men and for party promises eight points in favour of men.

Two alternative explanations of the gap are then tested. First, I examine the gender gap during the five-week Canadian federal election campaign. Flooded by political coverage in media, political advertising and political discussion, the impact of gender changes across the campaign. I find that the rate change in providing correct responses is different for women and men during federal elections campaigns, which suggests that women engage later in the campaign compared

to men. The gendered rate change in providing correct responses does not change the overall gender gap, however.

Second, I test the impact of political resources at the local level on the gender gap in campaign knowledge using the 2006 Canadian Census. The analysis shows that compared to men, women's knowledge of the party leaders is positively affected by the employment rate at the constituency level. Local education rates, on the other hand, have an impact on neither women nor men's knowledge of party leaders. Women living in areas with the highest employment rate provided correct responses five percentage points higher than women living in areas with the lowest rate of employment on average.

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Chapter One: **Gender Gap in Political Knowledge in Canada**

1.1 Introduction to the Gender Gap in Political Knowledge

Across established democracies, differences between women and men's levels of political knowledge indicate that as a group men are better informed about a variety of political topics (Atkeson, 2003; Delli Carpini & Keeter, 1993, 1996; Frazer & MacDonald, 2003; Gidengil, Blais, Neviite, & Nadeau, 2004; Kenski & Jamieson, 2000; Lizotte & Sidman, 2009; Mondak & Anderson, 2004; Nadeau, Neviite, Gidengil, & Blais, 2008). Cross-national studies indicate that gender gaps in political knowledge in favour of men often range from ten to thirty percentage points (Frailie, 2014; Frazer & MacDonald, 2003; Norris & Inglehart, 2003). Women are also often found to be less interested in politics and less likely to pay attention to political news on average (Ondercin, Garand, & Crapanzano, 2011). Political knowledge is a broad concept that is related to information about "what government is and does" (Barber, 1973). Research shows that men usually know more about foreign affairs, employment, and financial issues while women typically know as much – if not more – about social welfare, health, education policies, and prominent female politicians (Dolan, 2011; Gidengil, Goodyear-Grant, Blais, & Neviite, 2005; Gidengil & Stolle, 2012; Kenski & Jamieson, 2000; Stolle & Gidengil, 2010).

The gender gap in political knowledge is important to study. When women are less engaged and less knowledgeable about important political facts, their issue preferences and political demands are not expressed as often or as vigorously as men's. Since women comprise a majority of

citizens, small disparities in political knowledge can lead to a large number of missed opportunities to influence the democratic process. Furthermore, political knowledge affects the quality of women's democratic expression. Studies by Bartels (1996), Roy (2009), and Gidengil et al. (2004) have demonstrated that informed voters make different vote choices than poorly informed voters likely because they have the necessary information to cast a ballot that accurately expresses their values, opinions, and evaluations. Simulations from the 2000 Canadian Election Study shows that the differences between actual and informed opinions are greater for women than men because women typically know less about political affairs (Gidengil et al., 2004: 87). Simulating the opinions of an informed female electorate has a stronger effect on social policy questions than it does on fiscal policy questions. The simulations show that if women were as well informed as men, the opinions of men and women would typically differ more than they do, which include opinions about user fees for visits to the doctor, defence spending, and gender roles (87). Political knowledge can help individuals make sense of existing policies and outcomes so that they can share their views with political representatives to inform meaningful policy change (Soroka & Wlezien, 2010). As long as women remain consistently less informed than men, public opinion and political representation may fail to reflect gender differences. When the preference of some women is not expressed effectively through communication with the government, lobbying efforts, and social movement activities, legislation and public policy may be less responsive to their demands.

The empirical question of *why* gender gaps in political knowledge endure is the core concern of this thesis. Decades of research have not produced a complete explanation of why women remain less engaged and knowledgeable about critical areas of government and politics. Despite their

growing political power, women as a group continue to be less politically interested, less knowledgeable, and less efficacious than men (Delli Carpini and Keeter 1996). The conventional explanations in the political science literature suggest that recent gains in women's socio-economic resources and changing gender roles should have eroded these gender differences over time. Optimism was justified for several reasons. In areas where men know more than women, most scholars patiently assumed that the gender gap would equalize as women entered the public sphere in unprecedented numbers, acquiring higher education, obtaining professional and managerial work, and earning higher levels of income (Sapiro, 1983). Changing gender roles allowed many women to shift their lives away from the home and private networks towards the public sphere of government, business, power, and influence. Yet, empirical investigation of the gender gap in political interest, political knowledge, and political efficacy has found the remarkable changes in women's lives have not had the full effect as scholars expected (Dow, 2009; Gidengil, Giles, & Thomas, 2008; Thomas, 2012).

1.2 Studying New Explanations of the Gap

Acquiring political knowledge is a complex phenomenon. Most research on the gender gap is constructed by detecting the impact of an individual's political resources on their level of political knowledge. Political resources are defined as things such as money, skills, reputation, and education level, which facilitate political engagement and achieve political action (Dahl, 1996). Political engagement factors including political interest, political discussion, and attention paid to media about political affairs are also commonly included in statistical models of political knowledge. Empirical research's partial understanding of the gender gap in political information

indicates that modeling gender differences in women and men's opportunities, abilities, and motivations to learn about political affairs has room to improve. The impact of socio-demographic and political engagement factors measured at the individual level has been shown to account for as much as half of the gender difference in political knowledge in recent studies, which leaves researchers looking for other explanations for gendered levels of political information (Delli Carpini & Keeter, 1996; Gidengil et al., 2004; Gidengil et al., 2005; Gidengil & Stolle, 2012).

In this dissertation, I approach the study of gender by making the distinction between sex and gender. Biological sex, as Mary Hawkesworth notes, is deemed fixed and immutable. It is normally assigned to a person before they are given a name (2006). Sex is a political category that carries legal status which can "determine citizenship rights, educational and employment opportunities, levels of income and wealth, and access to prestige and power" (2006: 31). Gender, on the other hand, is non-dichotomous. Gender provides an account of social and cultural experiences based on a continuum of feminine and masculine traits. More specifically, scholars study gender as "intricate connections linking psych to social organization, social roles to cultural symbols, normative beliefs to the experience of the body and sexuality" (49). The main difference between sex and gender is that sex is biologically assigned while gender can be defined internally through one's own self-conscience, and externally through collections of people through social systems (Iris, 1994).

In the past, the study of 'politics' and the 'political' have normally referred to governments, institutions, and constitutions (Beckwith 2005). These areas of public life have also been

dominated by men and masculine norms. One of the most important contributions of the study of women and politics has been to challenge the conventional definitions of politics, extending the boundaries past institution-focused, state-centric definitions. I study differences between women and men, masculine and female, because there is a gender legacy in politics. In Canada, most elected bodies are still dominated by men and masculine norms. Elections, party organizations, the legislative executive, the judiciary, and members of civil society closest to political leaders are predominately men. Media accounts of politics still use masculine references, combative adjectives, and aggressive verbs to describe events and outcomes.

The feminine norms within the political system, I argue, affect how a woman thinks about herself, and what expectations society and culture places on her as a political actor. At the same time, masculine norms affect how a man thinks about himself, and what expectation society and culture places on him as a political actor. Accordingly, in this thesis, I think of gender as dynamic “socially constructed, fluid, politically relevant identities” (Beckwith, 2005: 131). Using gender as a category permits me to delineate specific contexts in which feminine and masculine behaviour, action, and attitudes shape political phenomenon such as knowing the names of federal party leaders, and federal party campaign promises.

To study the numerous gender categories and the process by which gender affects the opportunities and expectations to learn political information would require a measure which captures the continuum of relevant gender identities in the Canadian political process. In the Canadian Election Study, the data limits the study of the various categories of gender because gender is measured as two categories, male and female. Though I am bound by this limitation of

the data, when I discuss gender and its impact, I am referring to differences in male and female identities and the way they influence the real and perceived political resources and opportunities to learn. Ultimately individuals try to minimize the cost of learning new political information. My study attempts to extend existing studies of the gender gap in political knowledge in Canada to examine gender and learning political information in the context of election campaigns, and at the constituency level.

The research on the gender gap in political knowledge has demonstrated that the standard model is limited in its explanatory effectiveness. Therefore, we need to employ a new approach to gender gap research. Some have already called for a shift towards new explanations, ones that accommodate individual political experiences within their social context (Ahn, Huckfeldt, Ryan, & Mayer, 2010; Burns, 2007; Huckfeldt, Plutzer, & Sprague, 1993; Huckfeldt & Sprague, 1995). Social context is important for gender. It can be described as a force that “arises due to social interaction within an environment” (Huckfeldt et al., 1993: 298). Social contexts vary with opportunities to obtain and share political information. Sometimes individuals control the extent to which they interact with others, and other times the process is due to environmental social processes that are not within the direct control of the individual (Ahn et al., 2010).

To this point, in political behaviour research, gendered political outcomes in political action, political behaviour and political engagement have been explained largely by individual level factors. Burns has identified the limitation of individual level analysis as one of the greatest challenges to gender research. Burns recommends that gender and politics research move towards studies, which employ a “continuous conversation” between aggregate and individual

analysis (Burns, 2007: 105). Aggregate level analysis, Burns suggests, offers “smoother data [...] which is easier to see broad structural trends. If gender is a property of groups and systems, then aggregate and systemic analyses put it easily on display” (105). She argues further that macro and aggregate level analyses also have the potential to study and theorize about political context (105). Meanwhile, she counters, individual level analyses can help aggregate level analyses by demonstrating the psychological and sociological mechanisms that motivate and direct individual behaviour. Given the individual expression of gender within societally prescribed gender norms, the two levels of analysis are necessary, she argues. The theory, tools, and results that arise from serious engagement between the two can explain “about when, for whom, and for which outcomes gender matters” (Burns, 2007: 105).

1.3 Starting the Conversation Between Individual and Aggregate Level Factors

I embrace Burns’ recommendation to study individual and aggregate levels of data to address the empirical shortcomings in existing gender gap research. The conventional individual level explanations provide a partial account of the differences between women and men, which raises the question: if current models cannot completely account for gender differences in political knowledge, then how should we broaden the study of these gender differences to account for other explanatory factors? I adopt a new approach composed of two key elements to explain gaps in political knowledge.

First, I examine the gendered role of federal election campaigns. Election campaigns are a time when individuals can learn new information, which may play a role in contributing to an

understanding of the gender gap. Campaign periods provide a context of heightened political interest. The anticipation of the election leads to greater attention paid to politics. As well, the campaign is a context where information costs are lowered because political information is relatively easy to access and political discussion is more frequent.

The hypothesis that the gender gap in knowledge should shrink over the course of the campaign is supported by the potential for women and men to learn at different rates during the campaign. There are two mechanisms supporting the expectation that the gender gap will diminish over the election campaign. The mix of information provided in the campaign will be new for some and old for others. Since men are more knowledgeable on average about federal electoral politics upon entering the election, they have less to learn while women will have relatively more to learn. While the campaign provides opportunities for all individuals to pick up new information, women can learn more. Additionally, campaigns provide an opportunity for women to be flooded with information that they might not normally come across. Information costs are lowered during the campaign for a number of reasons. Past research has demonstrated that 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 for women (Hollander, 2005). In Canada, news sources such as *Chatelaine/Châtelaine*, *Canadian Living*, *Hello! Canada*, *Elle Canada*, and *Coup de Pouce* can provide women additional political information from magazine sources that do not regularly cover politics or current affairs.

The second approach to explaining the gender gap in political knowledge examines political resources at the constituency level. For the first time, we will get a sense of the variation in

political resources from place to place and report to what extent aggregate levels of education and rates of employment affect the gender gap in political information. Living in an area that is more “resource rich” may play a role in explaining the gender gap. The expectation is that the uneven distribution of socioeconomic resources and gender roles across Canada plays an important role in maintaining gender differences.

The working hypothesis is that women will have higher levels of political knowledge than men when they live in an area with high post-secondary and employment rates. The local socio-political environment is expected to create an environment where more political information is available through interpersonal contact. The rate of post-secondary education in a geographic area provides communication and organizational opportunities to promote and share political information. The education rate encourages political learning by lowering the cost of acquiring political information given the increased likelihood that politics will be discussed within social networks. As well, there are increased opportunities for individuals to be recruited into political and non-political activities known to build civic capacity and understanding. Similarly, the employment rate varies considerably across Canada, which might also have an effect on the political information held and shared by individuals through work-related networks. High rates of employment are a political resource in a local context, like higher education, that can act as a means of lowering information costs. Women are in a position to learn relatively more than men in areas with higher rates of education and employment because they come from a starting point of knowing less about party leader and campaign promises than men. Women are expected to benefit more from a local environment where politics is more likely to be discussed and more

people are likely engaged in political organizations. Since women are less knowledgeable on average about federal electoral politics, they have more to learn from the campaign.

I show that the study of gender requires a nuanced study of women and men's experiences within various socio-political contexts in Canada. Accordingly, I examine the gender gap in political knowledge in Canada by studying two research questions. The first is *how well does do individual-level factors explain the gender gap in political knowledge?* The second research question is, *in addition to individual-level factors, how do federal election campaigns and political resources at the constituency level affect the gender gap?* Testing new hypotheses advances our approaches, models, and theories to reflect the complex nature of political knowledge.

The Canadian case warrants investigation of the gender gap in campaign political knowledge for a few key reasons. First, the Canadian case provides a reasonable comparison with other Anglo-American democracies because of the similarity in each country's women's movement. As Young writes, the emergence of the feminist movement over the past 50 years has led to similar sweeping changes in the lives of women (2000). The women's movement has been the one of the underlying causes of the precipitous rise in women's educational attainment and entry into the paid labour force. The similarities in the women's movement and the changes in women's socioeconomic status are consequential because these factors affect women's engagement in politics and specifically account for their levels of political knowledge. The results of my thesis can suggest that similar relationships exist in Anglo-American studies on the gender gap.

Federal elections are important events in the individuals' political experience. They garner much attention because advertising spans all types of media, heightening awareness of the political campaign, and imbuing many citizens with the expectation of political engagement and participation. The political environment becomes flush with new and old information about party leaders and the most important political issues. The duration of the election campaigns points to major differences among Anglo-American countries. One stark example is between the American and Canadian cases. In the United States, 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. In comparison, the Canadian campaign lasts five weeks and widespread national campaign advertising is largely confined to after the writ is dropped with the occasional interlude of political advertising and news coverage 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 finding in the United States suggests that the campaign affects the gender gap in political knowledge. The American presidential campaign is much longer than the Canadian federal campaign. An American study found that by the end of the 2000 presidential campaign, the direct effect of gender on political knowledge ceased to remain statistically significant (Ondercin et al., 2011). This means that as the campaign progressed, women provided more correct responses relative to men by the end of the campaign (2011). This rate change in responses suggests that women are later to engage in the campaign compared to men. The federal election campaign provides a clear distinction between Canada and the United States 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 is necessary to have a long-enduring campaign to affect the disparity between women and men's stocks of information. If the gender gap narrows in Canada, it suggests that the length of the campaign is not a condition of the gender gap. However, if the size of the gender gap in Canada remains unchanged over the course of the campaign it could be because of the relatively short-lived federal election campaign.

Canada also provides an excellent opportunity to examine the role of socio-political resources and the constituency level. Across Canada, the variation in education and employment rates allow me to test what effect they have on the gender gap in political knowledge. A smaller, socially homogeneous country would not lend itself to studying the impact of socio-political resources because there would not be enough variation in the local context to affect the gender gap in political knowledge.

1.4 Methodology

My approach to researching the gender gap in political knowledge begins by identifying how well existing models explain the gap, and then examining how election campaigns and riding level factors offer the potential to explain the entire gender gap in political knowledge. I employ survey data from the 1997, 2000, 2004, 2006, and 2008 Canadian Election Studies. I chose these five election studies because they were the only surveys that provided the same political knowledge questions about party leaders and campaign promises from the campaign period

survey. In total, 19,415 respondents are included in the five election studies. Repeat respondents from the 2006-2008 panel surveys are excluded. Panel surveys repeat the sample over time, often over many years. The panel respondents are excluded because their participation in the 2004 Canadian Election Study may have piqued their interest in politics, and subsequent gains in political knowledge measured in the 2006 and 2008 Canadian Election Studies may be related to participating repeatedly in the study.

These data from the campaign surveys allow me to tap into two particular areas of political knowledge. The first area is knowledge of the major federal party leaders. Recalling the names of the leaders in a multiparty system may not be easy for all respondents. Yet, given the attention given to party leaders during elections, and their importance in the parliamentary system, the measure provides a strong indication of individual's knowledge of federal politics. The second area is knowledge of the main campaign promises, which provides a measure of what the public knows about the parties' intentions should they form government. Overall, these two areas of knowledge will distinguish the people who pay attention from those who pay little or no attention to the election.

The data allow me to show how well existing models explain the gender gap. I use Ordinary Least Squares linear regression to test the gendered impact of individual level factors such as political resources, political engagement, and media consumption on the gap. The campaign period surveys provide rolling-cross sections to test the impact of gender on political knowledge across federal election campaigns. A rolling-cross section uses a sampling design to ensure that the interview day of each cross-section is composed of randomly selected respondents from the

Canadian population (Johnston & Brady, 2002). Finally, I use a multilevel linear regression to measure the impact of individual level and aggregate level political resources on the gap. Merging the 2006 Canadian Census with the Canadian Election Studies allows me to measure the gendered impact of constituency-level post-secondary education and employment rates on gender differences in political knowledge. The 2006 Canadian census is the most appropriate data to use because it overlaps well with the individual level data that comes from the 2000-2008 Canadian Election Studies.

1.5 Conclusions and Findings

I demonstrate that a socio-economic resources model -- coupled with political engagement and media consumption factors -- cannot fully explain why women know less than their male counterparts about party leaders and campaign promises. At best, the individual model commonly employed to study the gender gap accounts for a four-point reduction in the 10-point gender gap in knowledge of the party leaders. The 12-point gap in knowledge of campaign promises is reduced to seven points when the models are used to estimate the gender difference. Weighing in on the debate, existing approaches have relied largely upon accounting for gender specific levels of socio-economic factors, associational involvement, and psychological engagement with politics (Dow, 2009; Gidengil et al., 2004). These explanations provide a partial account of the differences between women and men, and raises the question: if current models cannot completely account for gender differences in political knowledge, then how should we broaden the study of the gender differences in political knowledge to account for other possible explanatory factors?

The second part of the study provides original research about the role of campaigns and the gender gap. The campaign-period survey of the Canadian Election Study allows the analysis to examine weekly level effects, to look for changes that take place in the electorate of the campaign. Using data from a series of pooled Canadian Election Studies, I test the hypothesis that federal election campaigns have a specific impact on women and men's acquisition of campaign information – the rate change in women's correct responses is higher than men's by the end of the campaign, all things being equal.

The results show that the rate at which women and men provide correct responses changes over the campaign indicating that women engage in the campaign later than men on average. The rate change in providing correct information about party leaders and promises shows that women learn more relative to men by the end of the campaign. The response rates change across the campaign because women provide more correct responses and fewer 'don't know' responses relative to men in the last three weeks of the campaign. Yet, the size of the gender gap in the knowledge of campaign promises and federal party leaders remains largely unchanged by the end of the campaign despite a host of controls.

That the gender gap remains suggests that important explanatory factors are missing from the model. The absence of the explanatory factors accounting for the gender gap is consequential, and explained in greater detail in Chapter 5.

The next hypothesis I looked at is the degree to which contexts matters. I examined the impact of the local education and employment rates in each consistency on the gender gap. The positive effect of the local employment rate on women's political knowledge shows that the variation in employment rates across Canada accounts for some variation in levels of political knowledge. My analysis indicates that women's political knowledge is positively affected by higher levels of employment at the constituency level. The local employment rate at the riding level is a political resource for women while the rate of post-secondary education at the riding level has no direct impact on the stock of women and men's political knowledge. The education rate non-finding is surprising because personal education level is the strongest predictor of political knowledge at the individual level. Notwithstanding the positive impact of employment rate on women's political knowledge, the gender gap does not change in the multilevel model of individual and constituency-level explanatory factors.

Two major contributions arise from these findings. First, the campaign and constituency level factors provide more information about the determinants of women and men's political knowledge. As previously mentioned, examining campaign knowledge across election campaigns and electoral districts allows us to understand the dynamics of gender across multiple socio-political contexts. The analysis in Chapter 4 mirrors the findings of previous studies that the conventional explanatory factors do not account for the gender gap in campaign-specific knowledge. In Chapter 5, similar to Ondercin and colleague's work (2011), the results show that the change in the rate at which women provide correct responses increases relative to men during the campaign. In the case of knowledge of party promises, the rate change leads to direct effect of gender disappearing by the end of the election campaign all things being equal. In the case of

knowledge of party leaders, the rate change is greater for women by week three of the campaign. As a results, the gender coefficient is positive in campaign's weeks four and five of the campaign. The size of the gender gap itself does not change during the campaign for knowledge of neither party promises nor party leaders, however.

Finally, in Chapter 6, the study of aggregate level political resources provides a unique approach to examining the gender gap. The findings show that on average women's campaign knowledge benefits from living in areas with higher levels of employment. Therefore, the influence of gender is not static across the 305 federal constituencies analyzed. The importance of election campaigns and political geography have been shown as important to explaining differences between women and men, but these explanations do not lead to a detectable change in the gender gap.

The methodology employed in the study of the gender gap herein can also be applied to the study of other forms of political behaviour to strengthen empirical and theoretical understanding of individuals' engagement – or lack of engagement – in elections, political parties, civic organizations and political activism, and political institutions. Women are notably absent from important elected and appointed government, industry and community bodies.

1.6 Map of Thesis

The next chapter provides a review of the key literatures and concepts that have been briefly laid out in this chapter. It provides a clear definition of political knowledge, outlines the debates and briefly examines feminist critiques about the different forms of political knowledge.

Chapter 2 provides a complete summary of current knowledge regarding the gender gap in political knowledge. Specifically, it outlines what is known and what remains to be explained by current models. As well, it provides a summary of the literature related to the role of campaigns and the impact of constituency-level factors on the gender gap in political knowledge. This information highlights why campaigns and constituency-level political resources are promising factors that can help to further explain gender gaps in political knowledge.

Chapter 3 provides a full outline of the data and methods employed in this study. The chapter is devoted to operationalizing the variables employed in the analyses herein. Furthermore, it provides an explanation of how the individual and aggregate level variables will be employed in the OLS linear regression and the multilevel linear regression analysis in the research-based chapters.

Chapter 4 focuses on how well existing individual models explain the gender gap. In studies of gender differences in national level political information, a sizable gap continues even when controlling for differences in the level of age, education, income, political interest, media exposure, parental status, social networks, and occupation (Delli Carpini & Keeter, 1996; Dolan,

2011; Dow, 2009; Frazer & MacDonald, 2003; Gidengil et al., 2004; Gidengil et al., 2005; Kenski & Jamieson, 2000). It is clear that higher levels of socioeconomic status predict higher levels of knowledge, but accounting for the differences in the level of political resources do not explain the gap between women and men. Clearly, the approach of testing explanations using individual-level political resources leaves some variance unaccounted for.

In Chapter 5, the analysis moves on to study the gendered nature of acquiring campaign information during election campaigns – to acquire new information when it is widely available. The research question here is, do federal election campaigns lead to gender-specific opportunities to learn about politics? This chapter employs rolling cross-sections to facilitate a detailed exploration of campaign learning, to capture the real-time impact of the campaigns on the gender gap.

In Chapter 6, the study turns its focus to the explanatory factors at the constituency level that affect women and men's levels of political knowledge. Current indicators of women's modernizing socioeconomic resources and political engagement factors do not account for the gender gap in political knowledge, but why? The answer may be at least partly theoretically driven. The conventional models only account for individual-level factors but the individual has been conceptually kept independent of the information costs associated with the social-political environment.

Chapter 7 summarizes how the individual and aggregate level factors are important to the gender gap in political knowledge. In Chapter 5, the results show that the rate at which women and men

provide correct responses fluctuates over the election campaigns all things being equal. This finding suggests that the relationship between gender and campaign-specific knowledge is not static. In addition, the political resources at the constituency level indicate that the experience of women is different depending upon where they live. As well, in Chapter 6, results show on average women's levels of campaign knowledge are higher in constituencies with higher levels of employment. Therefore, both election campaigns and local political resources are shown to be important to explaining differences between women and men. The implications of these findings and future areas of research are discussed. Recommendations are made to study in-depth other major explanatory factors that relate to women and men's levels of political knowledge such as the role of the media, the impact of political role models, and the flow of political knowledge in inter-personal communication.

Chapter 2: Political Knowledge and Gender

2.1 Introduction

This chapter provides a literature review of the key literature and concepts that were briefly introduced in the introductory chapter. It provides a clear definition of political knowledge, and how others have examined it in the political behaviour literature. I will describe the different approaches to operationalizing political knowledge. I will discuss what distinguishes the different forms of political knowledge, and discuss the consensus in the literature on how to operationalize political knowledge in survey research. The chapter also provides a review of the feminist critiques of the operationalization of political knowledge, and the use of “don’t know” as a response category in survey research. In light of these, I defend my operationalization of political knowledge.

To provide a framework for the results chapters to follow, I also summarize the current knowledge of the gender gap in political knowledge: what is known, what remains to be explained, and how current models attempt to explain the gap. In doing so, I justify the individual level variables that will be included in the explanatory models. As well, I provide a complete summary of the literature regarding the role of campaigns in helping to explain gender gaps in political knowledge. The literature is brief, but it informs the causal mechanisms behind gender and learning new information during election campaigns. I provide my hypotheses in light of this research on the role of Canadian federal elections campaigns have on the gap in

political knowledge. Finally, I provide a complete summary of the knowledge regarding the affect of local context on the gender gap. I describe the hypothesized causal mechanism between gender and local political resources such as education and employment rates.

2.2 Operationalizing Political Knowledge

The most commonly used definition of political knowledge is that it is the store of relevant political information that can be accessed from long-term memory (Lodge & Taber, 2000). The focus is on long-term storage because fleeting information is not an adequate measure of an individual's understanding of a complex political system. Relevant political information is related to "what government is and does" (Barber 1973: 33). This includes knowing the rules and structures of government, being aware of the substance of politics such as the history and relevant facts in addition to recognizing people and parties, and knowing their history (Berelson, Lazarsfeld, & McPhee, 1954: 308). The concept of political information can be clarified further by stating what it is not. Political knowledge is not a measure of formal education, political values, belief systems, opinions, or attitudes. Nor does it presume anything about the ability of individuals to apply logic, or to employ information shortcuts (heuristics) in the absence of full information. Political knowledge is also different from political expertise. Political expertise is a set of "political choices informed by subjectively defined interests [which allow] an individual to act in accordance with her own view of the world" (Ahn et al., 2010). In sum, political knowledge is a distinct concept. It is a type of capital that facilitates the ability to think and act with "greater autonomy and authority" (Delli Carpini & Keeter, 1996: 11).

The foundational study of how to operationalize the political knowledge measure comes from American researchers Delli Carpini and Keeter (1993). They were chiefly concerned with whether citizens are knowledge generalists or knowledge specialists. That is, do people who know about one area of politics generally know about other areas of politics? Or, rather, do citizens have areas of political expertise that focus on a narrow aspect of political information? Their research suggests that people are generalists rather than area-specific experts (1993). Furthermore, Delli Carpini and Keeter conducted a factor analysis¹ to discriminate theoretically meaningful dimensions of political knowledge. The best performing item from confirmatory factor analysis included five factors, which provided theoretically meaningful dimensions of political knowledge. These factors distinguish among knowledge of *substantive issues*, *institutions and processes*, *gender-specific issues*, *public figures*, and *political parties* (1993: 1185). Gender-specific issues included knowledge of abortion and women's suffrage. Put together, these factors represent a cross section of political information that includes the people, history, issues, and parties. The following discussion in this section provides a detailed account of what is known about the dimensionality of political knowledge. It is important because it will be referred to to justify my operationalization of campaign specific political knowledge. It will also be referenced in the concluding chapter in the discussion about how to appropriately generalize the findings about the gender gap in political knowledge from the research based

¹ Factor analysis is a useful tool for investigating complex concepts because it allows researchers to collapse a large number of variables into a few underlying factors. The observed factors have similar patterns of responses that are associated with a latent variable, which is not directly measured (Jae-On & Mueller, 1978). The factor analysis provides the same number of factors as there are variables. Each factor captures a certain amount of the overall variance in the observed variables. The eigenvalue is the reported measure of how much variance the observed variables explain a single factor. An eigenvalue greater than 1 explains more variance than any single observed variable. Deciding how many factors are useful to explain a concept, and what meaning each factor represents, is left to the interpretation of the social scientist.

chapters.

Delli Caprini and Keeter's study of the dimensions of political knowledge used the 1990 and 1991 United States National Election Study surveys. The surveys provided a national sample which included 42 factual test items, offering a generous number of items to test the dimensions of political knowledge (1993: 1183). Among these items were questions asking individuals to identify major American and international political figures. As well, a slate of American-specific civics questions required respondents to correctly provide information about such things as the percentage required for Congress to override the President's veto, the means by which Supreme Court judges are nominated, and the first ten amendments of the constitution as the Bill of Rights. Knowing the dominant party in the House and Senate, and where each party falls on the right-left ideological scale were also part of the factual questions asked in the National Election Study surveys.

Upon close inspection, though, regressing these five types of knowledge against a set of demographic and psychological predictor variables showed variation across different subdomains of knowledge. On average, women were less politically informed about partisan matters and political processes than men. They were also on average more knowledgeable than men about matters of women's suffrage and abortion legalization (1993: 1185). Young adults were less informed on average about almost all aspects of politics compared to older adults, except for information about political institutions and processes (1993: 1185). Delli Carpini and Keeter suggest that civics education in primary and secondary school is the main reason why younger respondents know as much as older respondents about political institutions and processes. Partisans were more knowledgeable on average about the partisanship of Presidents R.

Nixon, F.D. Roosevelt, and H. Truman, and which party controls Congress (1993: 1185).

Therefore, along with evidence that citizens are generalists, subdomains exist in the data, which point to the need to specify how well subgroups of the population know important political facts.

Delli Carpini and Keeter speak confidently about the unidimensionality of the measurement of political knowledge at the national level. In their words, “the fact that most citizens are generalists is important methodologically and substantively. Methodologically, it allows us to assume that a scale with a limited number of factual items, if carefully constructed, can be used to approximate what citizens know more generally about national politics” (1996: 151-2). Thus, researchers can adequately measure the general concept of political knowledge with a parsimonious set of knowledge questions in survey research (1993: 1198).

Another finding from Delli Carpini and Keeter’s study relates to whether levels of political information are consistent across levels of government. Theoretically, citizens could have uneven stores of information about ‘what government is and does’ across levels of government (Delli Carpini & Keeter, 1996). For instance, the predominance of national politics in the media may make an individual more knowledgeable about national politics compared to local politics. On the other hand, citizens may be generalists, and have a more or less consistent set of political facts across levels of government – that is, those who know a lot about federal politics will likely know a lot about state/provincial, and municipal politics.

Considering a number of national, state, and local political knowledge items, Delli Carpini and Keeter found that respondents who were knowledgeable about the national government were not necessarily knowledgeable about the sub-national levels of government. The knowledge of the

state and local levels of government is structurally distinct (1993: 1185). This means that the conclusion about the dimensionality of political knowledge – that those who know one area of politics tend to know about other areas of politics – is limited to the arena of national politics (1993: 1185). These findings are extremely important because they provide the foundation for researchers to operationalize their political knowledge measures, and justify to what extent their findings can be generalized about citizens' knowledge of the federal political system.

The Delli Carpini and Keeter study (1993) has been very influential in informing the operationalization of political knowledge in other studies. The influence can be seen in nearly all political knowledge papers published since the mid-1990s. Researchers commonly justify the operationalization of their political knowledge battery of survey questions by citing Delli Carpini and Keeter's 1993 study (Dolan, 2011; Dow, 2009; Frazer & MacDonald, 2003; Gidengil & Stolle, 2012; Lizotte & Sidman, 2009; Mondak, 2001a; Ondercin et al., 2011; Roy, 2009). As well, the 1993 study is used to justify the extent to which conclusions can be generalized. Many of these studies rely upon items from national election studies, which – depending on the study – require respondents to identify leaders, institutions and processes, issues and policies, and the current political alignment; therefore, researchers normally draw conclusions specific to citizens' body of knowledge of the national political arena. Caution is normally heeded before extending conclusions to others areas such as knowledge of provincial or municipal politics.

2.3 Gender Specific Domains of Knowledge

The following section considers feminist critiques of the operationalization of political knowledge, and weaknesses arising from the common approach to measuring the stores of

information held by citizens. Feminist critiques are important to consider because those who study the gender gap in political knowledge must ensure that the gap is not an artefact of poor conceptualization, causing erroneous measurement. Feminist scholars have called for a broader definition of political knowledge, shaped by women's personal experiences. Feminist scholars have warned of the pitfalls in comparing men to women. Furthermore, they have also raised concern about measurement bias due to the reliability of "don't know" responses in survey research's design. These three critiques will be discussed in this section, linking their implications to the study of gender and political knowledge.

2.3.1 Gender Specific Domains of Political Knowledge

Feminist critiques of political knowledge research have led to calls for a broader conception of political knowledge in survey research (Stolle & Gidengil, 2010). Feminist scholars argue that the operationalization of political knowledge should expand to reflect a broader definition of the concept, and to test the possibility that women's political knowledge is informed by personal and practical experience that is unique from men's (Norris, 2000).

Addressing the criticism of quantitative studies of gender and political knowledge, Stolle and Gidengil asked respondents from Canada's two largest cities about their knowledge of health and social services, and tax credits (Gidengil & Stolle, 2012; Stolle & Gidengil, 2010). They conclude that the gender gap closes and even reverses "when individuals are queried about more practical aspects of political knowledge, such as government benefits and services" (Stolle & Gidengil, 2010: 93). Sizable gender differences in favour of men were detected in conventional

political knowledge such as identifying Judge Gomery², identifying the official opposition party in Ottawa, and identifying a current female cabinet minister.

Testing different types of political knowledge that reflect the political and social experience of women has led to an expanded definition of political knowledge. Women on average have been shown to know more than men about certain areas of politics, including some aspects of local politics, the availability of health services, and percentage of female representation in the national legislature. This area of research has shown that feminist methodological reflexivity, which scrutinizes its own research methods, has created a more accurate understanding of women and men's stores of political information. While results of these studies demonstrate that women and men do not have different domains of political knowledge, they show that women perform just as well as men – if not better – in some areas that had not been included in previous studies. Therefore, conclusions about political knowledge should be clear about the areas of politics to which they apply.

2.3.2 Comparison of Men to Women

In addition to concerns about the operationalization of political knowledge, feminists raise concerns about the comparison of men to women. This approach, they argue, positions men as the reference group, and women as 'deficient' for failing to match the knowledge levels of men.

Underlying assumptions about men setting the standard in knowledge of legislative and electoral

² In 2004, Judge John Gomery was appointed the federal Commissioner of Inquiry into the Sponsorship Program and Advertising Activities (informally called the Sponsorship Scandal). Judge Gomery examined the spending of Federal Government money in Quebec from 1993 to 2006 to raise awareness for Government of Canada activities in Quebec, and to counter actions of the Parti Quebecois of the province that worked to promote Quebec's independence.

politics is one way to view a male-as-usual norm in politics (Bourque & Grosholz, 1974). When men's attitudes and behaviours are accepted, often implicitly, as the standard by which women's attitudes are measured, there is acceptance of the male norm in power relations, and a masculine definition of democratic citizenship (Sapiro, 1983; Smiley, 1999).

While accepting the validity of this critique, this thesis takes as its first premise the idea that political knowledge is a valuable commodity. As politics and society changes, baseline data allows researchers to detect whether women or men are acting as agents of change over time. Perhaps, most importantly though, individuals need to be acquainted with basic political facts to successfully act as their own political agents: to hold elected officials accountable during elections, and to affect change in laws, programs, and policies. Political knowledge remains a strong predictor of citizens' participation and engagement in the political system. Though political knowledge has been used in the past to exclude some groups from the political process, analyzing why certain groups of citizens systematically know much less than others is a means to justify and motivate change, to make institutions and the political process more inclusive.

In an effort to understand whether women or men are the drivers behind detected changes in political knowledge this thesis will analyse, the correct, don't know, and incorrect responses for women and men separately (Frazer & MacDonald, 2003; Kenski & Jamieson, 2000; Mondak & Anderson, 2003, 2004; Ondercin et al., 2011; Sturgis, 2006; Sturgis, Allum, & Smith, 2008). Keeping the analysis separate for men and women over time during the election campaign provides a way to see if the results are driven by changes in women's behaviour, men's behaviour, or both. Furthermore, modeling the correct, incorrect, and don't know responses

separately provides a way to model the effects of the explanatory factors on each one, for women and men separately, to see if different processes occur. For all such questions, respondents are not offered a set of options from which to choose. Instead, they are asked to answer in their own words. The responses are coded as correct, incorrect, or don't know. Refused responses are coded missing. Comparing women and men's political knowledge using these three response categories provides an opportunity to measure baseline differences between men and women to estimate changes in the gender gap over the campaign period of the federal election, and across Canadian federal constituencies. Ultimately, this approach allows me to demonstrate whether men or women are driving any changes in the gender gap in campaign knowledge.

2.3.3 Reliability of "Don't Know" Responses

The development of the political knowledge measurement in survey research has occurred with a great deal of cross-fertilisation from the fields of political psychology, sociology, and educational testing (Mondak, 2004; Sturgis et al. 2008). Among the three disciplines, the primary concern is how to measure political knowledge reliability, or consistently, in public opinion surveys. There has been a longstanding debate about the way in which the survey instrument can influence the responses of those interviewed, and research has uncovered some important information about to what extent bias occurs in the comparison of women and men's levels of political knowledge. The following section outlines the debates surrounding the reliability of political knowledge measurements that relate to the "don't know" response category. It then reviews the debate surrounding Mondak and colleagues' controversial recommendation to remove the don't know response option from political knowledge survey questions. In light of

this debate, I justify keeping the don't know response category in the following analysis because respondents in the Canadian Election Studies surveys were neither encouraged nor discouraged from selecting don't know if they were not sure of the answer. We need to know the "don't know" responses because it represents the proportion of respondents who are uninformed about a specific point. In addition, this neutral approach is recommended by Luskin and Bullock who found in surveys with experimental wording that neither encouraging nor discouraging don't know responses led to the largest number of correct responses reported, and the smallest gender gaps (2011). The smaller gender gaps suggest that offering a "don't know" category may reduce random guessing, and minimize factual knowledge concealed by respondents. I will elaborate on this point below.

In survey research, item batteries have been developed to maximize the reliability of responses – ensuring that the measure provides the same results when repeated – by minimising response burden (Luskin & Bullock, 2011). Response burden is the effort required by the respondent to complete the survey (2011). Making participants feel at ease when they provide responses to political knowledge question helps measurement reliability by offering question formats with easy-to-understand response categories such as True/False, or multiple choice formats. Making respondents feel at ease is often done by prefacing political knowledge questions with a statement, which asks respondents, "if you don't know [the correct response], please just give me your best guess". The goal in survey design is to ensure that respondents report their actual understanding of political facts every time, and that they do not feel fatigue, frustration, or intimidation, which may result in systematic errors in reported factual knowledge.

Don't know responses can cause trouble with data reliability because they offer ambiguous

meanings. A don't know response can indicate uncertainty about the meaning of the question asked, ignorance about the correct response, and indecision about the correct response. In a series of articles, Mondak and his colleagues argue that the conventional way of measuring political knowledge is flawed because of the problem related to the 'propensity to guess' when a "don't know" alternative is offered as a response category. Drawing on the educational testing literature in the United States, they argue that the current orthodoxy in the measurement of political knowledge in survey research is not employing best practices from educational testing, resulting in the potential for considerable bias in the data (Mondak, 2000, 2001a, 2001b; Mondak & Anderson, 2003, 2004; Mondak & Canache, 2004; Mondak & Davis, 2001). Mondak and colleagues' main contention is that the "don't know" option, and the etiquette of encouraging respondents to reply don't know if necessary, causes a guessing response set. The guessing response set invites certain respondents -- who are more likely to hazard a guess than others -- to provide an answer based on partial information. The respondents who guess at the response are rewarded with higher knowledge scores when they convert partial knowledge into correct responses. When respondents make a blind guess, and get it correct, they are rewarded with a higher score than respondents who are less willing to take a chance at getting it right. Systematic bias creeps into data when some individuals, and groups, have different propensities to guess on political knowledge survey questions. Guessing can lead to inaccurate knowledge scores in the general population, and to inaccurate measurement of differences in knowledge levels between groups.

In American political knowledge survey questions, Mondak and his colleagues recommend eliminating the "don't know" response category (Mondak, 2000, 2001a; Mondak & Anderson,

2003, 2004). Based on a body of educational literature, their objection to offering respondents the “don’t know” option is based on a “differential propensity to guess among individuals” (Mondak, 2001a: 225). The option of a don’t know response “invites a guessing set in which respondents’ scores vary as a systematic function of personality traits” (Mondak, 2001a: 201). In other words, some people will answer a question by retrieving information from their long-term memory while others answer the question regardless of their certainty about their response (Nadeau & Niemi, 1995).

In a series of articles, Mondak and colleagues recommend a remedy to the guessing response set: the use of closed-ended items in which the don’t know response is not explicitly offered (Mondak, 2000, 2001b; Mondak & Davis, 2001). This forced choice format is designed to address two problems. The first is that it prevents blind guessing when the respondents do not know the answer. The second is that it eliminates the partial knowledge effect, where some respondents will select the don’t know response when they have a better than chance probability of selecting the correct response.

Mondak and Davis found that the impact of guessing is consequential for measuring the stock of political knowledge in the general public (2001). Their findings are based on two political knowledge survey employing a computer assisted telephone interviewing (CATI) system, which included alternate survey protocols. The first survey of 404 respondents included residents of Tallahassee, Florida in 1998. The second survey was part of the 1998 American National Election Study Pilot survey. It tested new question wording with a smaller sample of 1,203 respondents than the full National Election Study. Both surveys used a split-half design: half of the sample was encouraged to provide a don’t know as necessary, and the other half was

discouraged from providing a don't know response. Item questions in the NES Pilot Study used a mix of multiple choice and open ended formats from the Tallahassee survey. Mondak and Anderson report that in all three studies, when don't know responses were discouraged, respondents provided significantly more substantive responses than when respondents were offered the don't know option (2001). They also report that the proportion of correct answers amongst the converted don't know responses led to a high proportion of correct responses than chance alone would predict (2001).

The reanalysis of the National Election Study's Pilot data returned a different conclusion from the Mondak and Davis study (2001), however. Sturgis and his colleagues found the proportion of correct and incorrect responses to be nearly identical for the two samples (Sturgis, 2006); in other words, there was no statistically significant difference between them. In the standard condition, when don't know responses are permitted and encouraged, the post hoc distribution of don't know responses did not substantially change the results. The conclusion given by Sturgis is that survey researchers should be cautious about adopting the Mondak's forced choice recommendation for the design of political knowledge items in surveys.

2.4 Operationalization of Political Knowledge in this Dissertation

I measure political knowledge as the knowledge individuals have about national electoral politics. Communications researchers and political scientists agree that political information typologies should distinguish between general political knowledge and campaign-specific information because the two are conceptually distinct (Price & Zaller, 1993; Zaller, 1991). Converse (1962) makes the distinction between the "mass of stored information" or general

information and the “current information intake” or campaign-specific information (579). General and campaign-specific information carry different meanings. General knowledge provides a broader view of politics, capturing citizens’ political awareness and motivation, and their ability to learn the structure and process of institutions, about parties and major political figures, and major political change over time. Campaign-specific knowledge, by contrast, measures what citizens take from the campaign about the major issues and the various positions of the parties (Nadeau et al., 2008). The distinction between general and campaign-specific political knowledge is vital for analyzing election campaigns because they are critical times for citizens to engage, learn, and evaluate competing electoral options (Nadeau et al., 2008).

The measurement of political knowledge herein uses two survey questions from the campaign-period survey of the 1997, 2000, 2004, 2006, and 2008 Canadian Election Studies (CES) (Blais, Gidengil, Fournier, & Everitt, 2008; Blais, Gidengil, Nadeau, & Nevitte, 2000, 2004a, 2006; Johnston, Blais, Brady, Gidengil, & Nevitte, 1997). Reliable measures of campaign-specific political knowledge are essential for identifying why women and men might differ in their rates of campaign learning. The campaign wave of the surveys contains objective measures of campaign-specific knowledge, which makes it possible to measure fluctuations in campaign information taken in by voters. There are two types of campaign knowledge measures. From 2000-2008, respondents were asked to identify each of the main party leaders. From 1997-2006, respondents were asked about what issue positions the political parties took during the election.

These data offer an opportunity to undertake research in an area where the gender gap in knowledge has not yet been directly examined. Campaign-specific knowledge is important to

study because the campaign may be a specific context in which some segments of the population tend to acquire political information faster than other segments, creating a knowledge gap (Tichenor, Donohue, & Olien, 1970). Studies on the gap in knowledge generally focus on the knowledge gains across different levels of education. There is no known study, however, that addresses the question of whether women and men make equal information gains in campaign-specific information.

The CES item format is open-ended, with don't know responses neither actively encouraged nor discouraged. Survey questions asking about party leaders were prefaced by the following, "We're wondering how well known the federal party leaders are." The preface was followed by, "Do you happen to recall the name of the _____ Party?" Respondents were given credit for providing partial responses that indicated knowledge of the party leader. Respondents were not given credit if they received the correct answer from another person. The survey question asking about party promises did not provide a preface. The party promise questions were each phrased as, "Do you happen to remember which party promised...".

The neutral approach to don't know responses, and the open-ended format, are both favourable to studying gender differences in knowledge compared to other methods based on the findings by Luskin and Bullock (2011). In their study of closed-ended, and open-ended political knowledge questions, Luskin and Bullock examined the gender differences in the propensity to guess. For closed-ended political knowledge questions, the gender gaps were larger than the gender gaps measured in open-ended questions (Luskin & Bullock, 2011). Luskin and Bullock did not discuss why the style of questioning affected men and women differently. Perhaps the closed-

ended questions and multiple choice format provided an incentive for more men than women to convert partial knowledge into substantive responses because one response category could have appeared as the most likely response. While the measurement bias in the current study may not be entirely eliminated by adopting an open-ended item format, it is minimized compared to true/false and multiple choice item formats.

This dissertation focuses on election campaigns as information that flows due to the competition between rivals. Many questions are addressed in the chapters ahead, relating specifically to gender and campaign-specific knowledge. What is the size of the gender gap in electoral-specific information? How does it compare to other types of political information? How do the explanatory factors that have been used to account for the gender gap explain election-specific knowledge? How do election campaigns affect women and men's levels of knowledge? How does variation in political resources across Canada affect women and men's levels of campaign-specific knowledge? As part of broader body knowledge, the following analysis provides insight into the patterns of learning, and tests a series of hypotheses related to gender patterns of learning during the campaign, and across the 305 federal ridings in the Canadian provinces. But first, the analysis begins with a study of how the explanatory factors that are normally used to explain general political knowledge affect the levels of campaign-specific knowledge for women and men.

2.5 The Gender Gap in Political Knowledge

This section outlines what gender gaps in political knowledge have been found, how big they are, and to what extent contradictory evidence is found in them in cross-national research. This section will also provide information about what we do not know about the gender gap because some domains of political knowledge are rarely tested.

Across Anglo-American and European democracies, gender gaps in women and men's knowledge of political leaders and their roles, the positions taken by political parties, and the rules governing political institutions are consistent and usually between 10 and 20 points in size (Atkeson, 2003; Brickell, Huckfeldt, & Sprague, 1995; Burns, Schlozman, & Verba, 2001; Fraile, 2014; Frailie, 2014; Frazer & MacDonald, 2003; Gidengil et al., 2004; Gidengil et al., 2005; Mondak & Anderson, 2004; Mondak & Canache, 2004; Stolle & Gidengil, 2010). Men are more likely to know about national politics, the people and parties involved, and their histories. Yet contradictory evidence showing that gaps narrow and even reverse in areas related to women's political representation, and social welfare, health, and education issues has been found. In Canada, researchers consistently report a gender gap of approximately 10 to 15 points in knowledge about national level politics (Gidengil et al., 2004; Gidengil et al., 2005; Stolle & Gidengil, 2010). As discussed earlier, however, Stolle and Gidengil show that knowledge of government services and benefits about Legal Aid, health screening tests, and the Child Tax Benefit returned a gender gap of 10 points in favour of women. The results show that political knowledge items involving more practical matters cause the gender gap to reverse (Stolle & Gidengil, 2010).

In the United States, the gender gap often disappears, or reverses, on topics in which women are more directly involved, such as school-board politics (Burns et al., 2001), women's rights (Hansen, 1997), and women's representation (Dolan, 2011; Paolino, 1995). On the other hand, men tend to be better informed about national politics and issues such as defense spending and the North American Free Trade Agreement ostensibly given their greater involvement in these areas (Kenski & Jamieson, 2000).

Delli Carpini and Keeter found that on average women were as knowledgeable as men about politics at the local level (Delli Carpini & Keeter, 1996). At the national level, however, the gender gap favoured men across a number of knowledge questions. Delli Carpini and Keeter argue that local politics is closer to the private and semi-private spheres, which would make it more relevant to the lives of women (1996). Involvement with childcare services, local extra-curricular activities for children, and school-related involvement can structure knowledge about local politics in ways that do not necessarily convert to national politics (1996: 148). While women do not outpace men in the knowledge about local politics on average, Delli Carpini and Keeter's study demonstrates that women and men have similar stocks of knowledge in an area that was previously overlooked by scholars.

In her study of Americans, Kathleen Dolan measured gender differences in knowing about levels of women's representation in federal institutions (2011). The surveyed respondents were asked if they could recall the name of the speaker of the US House of Representatives (at that time, Nancy Pelosi), recall what percentage of Congress are women, name a woman member of

Congress, and recall how many women currently sit on the US Supreme Court. There were no gender differences detected other than one that favoured women for correctly answering the percentage of women in Congress. In fact, women were much less likely than men to underestimate the percentage of women elected to Congress by seven percentage points. Dolan explains that two factors can explain this. First, it could mean that women are more cognizant of female political leadership, a finding that is reflected in other studies (Burns et al., 2001; Dolan, 2011). Second, it could mean that men are less attentive to female leaders. Evidence of this comes from the survey itself. It could be the case that male respondents are less aware of female political representatives. In the survey, men were more likely to correctly identify a male Senator (70 per cent) than a female Senator (57 per cent). Fully 61 per cent of women correctly identified the name of a male and a female Senator (Dolan, 2011: 103).

Cross-national European studies of political knowledge are rare though contradictory evidence comes from Fraile's study of 27 European countries. Fraile found an 11 point gender gap in favour of men on questions largely capturing information about the rules and procedures of national legislatures and the European Union; however, the size of the gender gaps were not consistent across questions or countries (Fraile, 2014). While the gender gap favoured men for all seven political knowledge questions, the gender gap in identifying the Education Minister was considerably smaller, at only three points (2014: 269). In Finland, women were ahead of men by nine points in correctly identifying the education minister who happened to be a female.

The evidence provided shows that women often have more knowledge than men about government that relates to the number of women elected to legislative assemblies, and to issues and policies that are linked closely to their lives. Studying the public's knowledge of women's

political representation and government provisions is important for understanding pockets of gender-specific knowledge that are often overlooked in quantitative studies and lead to women being mislabelled as politically unsophisticated.

As noted earlier, current models of the gender gap in political knowledge account for a much as half of the gender gap, which suggests that these models have room to improve. Other notable limitations are worth noting in the gender gap literature. The first limitation is that most studies of gender and political knowledge originate from American studies and American data.

Contributions from Mondak, Delli Caprini and Keeter, and Burns and colleagues provide indepth knowledge of the gap in ways that have not yet been replicated in Western European or Anglo-American democracies where gender gaps exist. While the American case provides a starting point for studying differences between women and men, cross-national studies are necessary to examine how well conclusions from America travel to other contexts. Differences in causal models and causal mechanisms can vary from place to place because of variation in political culture, gender roles, political institutions, and political resources. Likely fruitful comparisons are possible, but until this point single country studies mostly based in America have been the norm in the political knowledge gender gap literature.

2.8 Explaining Gender Gaps in Political Knowledge

The following section provides an explanation and justification of the variables that are included in the models employed in this dissertation. Recent scholarship has led to an understanding of the major factors that shape gender differences activities such as voting (Harrell, 2009), partisanship

(Kaufmann & Petrocik, 1999) and political self-confidence (Gidengil, Giles, & Thomas, 2008b; Thomas, 2012). While there are multiple models and notable nuance in this body of work, the research is grounded in a resource model of political engagement (Burns et al., 2001; Verba, Burns, & Scholozman, 1995). The resource model of political participation focuses on three factors: 1) resources such as time, money, and skills that are often associated with socio-economic status; 2) network and associational involvement; and 3) psychological engagement with politics. These activities provide a means of recruitment into political activities. They lower the cost of engaging in and paying attention to political affairs.

In the following research chapters I employ statistical models, which are influenced by the political resource model. Similar to the factors that encourage people to be politically active, political knowledge requires the motivation, skills, and opportunities to learn about politics. I include two types of explanatory factors in my analysis: 1) socio-economic factors; and 2) political motivation factors. I also discuss the importance of the role of female political leaders as potential role models for women to become more knowledgeable about politics, and the importance of association and group membership in leading to higher levels of political knowledge. Unfortunately, the impact of female role models and the impact of associational and group membership are not included in this study because the necessary indicators are not available in the Canadian Election Study. In Chapter 7, I provide a discussion of how they can be included in future studies.

2.8.1 Socioeconomic Factors

Typically, the single most important characteristic of those with the highest level of political knowledge is advanced education (Delli Carpini & Keeter, 1996; Dow, 2009; Fournier, 2002; Gidengil et al., 2004). Education affects knowledge of politics in several ways. Formal education enhances people's literacy and cognitive ability to acquire, understand, and interpret political information (Fournier, 2002). It is also related to a higher propensity to seek new political information (Gidengil et al., 2004). For these reasons, individuals with higher levels of education often acquire more political information than others because of the lower cost of obtaining new information and integrating it with existing information (Fournier, 2002).

Education does not erase gender differences in knowledge. Using cross-sectional data, Gidengil and her colleagues (2004) found that women at the same levels of education have less knowledge of electoral politics than similarly situated men in Canada. Furthermore they report that Canadian women who had completed some post-secondary education were only as politically informed as men who had completed high school (2004: 63).

A similar finding is echoed in the American case. Men's advantage is partly derived from receiving greater knowledge returns from formal education than women (Dow, 2009). Education enlarges the gender gap because there is "something about the way that education translates into political knowledge that systematically advantages men relative to women" (2009: 132).

Education explains upwards of half the gender gap and supports the prognosis that women must become much more educated compared to men if the gender gap is to close completely (2009).

Material affluence also exerts an independent effect upon the knowledge level of individuals. Subscribing to an internet provider and purchasing a newspaper requires a monetary investment some cannot afford. Consuming written media matters -- obtaining information from newspaper and journal magazines has a greater impact than obtaining information from radio or television (Gidengil et al., 2004). Canadian women with household incomes in the top 20 per cent were no better informed than men from middle-income households (2004: 53). This gendered effect of income has also been demonstrated in the United States (Dow, 2009; Ondercin et al., 2011). These findings provide evidence that even among the socio-economic elite, women underperform compared to their male counterparts.

2.8.2 Employment

Participation in the paid labour force is one means by which individuals receive political information from colleagues or possibly through the employer itself. Employment also provides opportunities to gain civic skills such as organizing group activities, mobilizing old members and recruiting new members, setting group goals, raising funds and allocating budgets, and leading group functions. Furthermore, organizing and leading others provides the opportunity for recruitment to civic and political activity. A study by Gidengil and her colleagues shows that women who are homemakers have slightly less political knowledge than women in the paid workforce (Gidengil et al., 2004). Homemakers are a relative minority compared to the percentage of women working, so this finding has a small impact on the overall gender gap.

2.8.3 Age

Age is an important control variable for political knowledge primarily for two reasons. First, as respondents age and mature, they learn more about the political system compared to younger individuals because of the life cycle effect. The life cycle effect asserts that as individuals get older, they see a greater personal stake in government policies and law (Dalton, 2006). As individuals acquire a job and mortgage, and begin having children, their stake in government's monetary policy, tax laws, and policies related to employment and social welfare programs becomes more important. Second, the generational effect (or period effect) asserts that individuals of older generations have more political knowledge because they pay more attention to politics and they have a higher level of civic duty compared to younger generations that persist through the lifecycle. Lifecycle and generation effects are well documented in the research on voter turnout decline (Blais, Gidengil, Nadeau, & Nevitte, 2004b). Both are major explanations for the turnout decline in Canada since the 1980s.

Life cycle and generational effects are both likely at play shaping political knowledge. The difficulty is trying to disentangle their independent effects. The lifecycle and generation effects are not known for political knowledge because data are limited. Notwithstanding this, age cohort representing the generation in which respondents were born is included in the models employed in the research chapters. The reason is that the feminist movements may have had a large effect on women's level of political knowledge depending on the generation in which they came of age. Growing up after women's mass entry into the political sphere suggests that women may have more political knowledge than previous generations. It is expected that the generational effect of

age not does have as great of an impact on men. I hypothesize that women's political engagement is expected to have changed through exposure to second- and third-wave feminism (Beckwith, 1986; Gidengil et al., 2008).

2.8.4 Motherhood

Accounting for the impact of childcare responsibilities on women's lower levels of political knowledge, Gidengil and her colleagues show that employment and patterns of childrearing provide some purchase on explaining the gender difference in political knowledge (2004). Time is a resource few can afford and competing private and public responsibilities may be a particular burden to mothers. The double demand of work and family is often referred to as a mother's "double day" (Gidengil et al., 2004: 5). Many women shoulder most of the family and household responsibilities while they also largely bear the burden of caring for dependents. In the United States, evidence shows that women with children devote more work hours to the domestic sphere than their husbands, and men with children remain at work longer than their wives (Burns et al., 2001). This relationship holds even when both partners in a couple work full time (Burns et al., 2001). The duty of working mothers to spend quality time with their children can be called the "new privatization" because it demands that work duties outside the home not jeopardize time with family. Recent empirical evidence, however, does not support the explanation that the gender gap exists because women are predominantly short on time. Curiously, married and unmarried women have similar stocks of political knowledge (Gidengil et al., 2004); as well, little differentiates the political knowledge of women with young children and women without (2004). Proof of a double day effect remains elusive.

2.8.5 Region

Argued by Ronald Inglehart and Pippa Norris, culture plays an important role in gender equity and subsequent political behaviour (Norris & Inglehart, 2003). Gender roles are shaped by the predominant culture, they argue (2003: 8). Specifically, the perception of the appropriate roles for women and men in the home and family, workforce, and political sphere is shaped by social norms and dominant values in any society (2003: 8). O'Neill notes that women and men are socialized into unique private roles in Canada (O'Neill, 2002). Gender socialization is an important part of accounting for women and men's political behaviour, particularly when social circumstances and demographic factors cannot explain gender difference in political behaviour (2002). Since social culture is diverse across Canada, with women experiencing politics differently due to variation in local attitudes and gender roles, I take into account the region respondents live in as part of modelling the gender gap in political knowledge. In doing so, the models account for the regional variation in the public and private forces which shape women and men's political behaviour.

2.8.6 Language

Strong language skills are necessary to understand political affairs and their nuances. A lack of understanding of basic French or English can make it difficult to understand politics in Canada. Turns of phrases and quick references are often used in personal conversation and media reports, which can hamper efforts to absorb new information. Accordingly, the models employed in this thesis control for the first language spoken by the respondent. Non-native French nor English

speakers have difficulty providing correct political information compared to native speakers (Black, 1987).

Immigration policy in Canada most often relies on a points system, which scores applicants based on factors such as education, language skills, employment history, proof of funds, and criminal records. This process is conditioned by gender. Approximately 20 per cent of women enter Canada as the principal applicant through the economic class of immigration (Hudon, 2015). The results mean that women are much more likely to accompany their spouses to Canada. As such, they are much less likely to have the language, employment, and education requirements to find well paying jobs, which lead to greater political integration (Hudon, 2015). This gendered effect should be controlled so that it does not arbitrarily affect the estimation of the gendered effects of the other explanatory factors, or the estimate of the gender gap.

2.8.7 Religiosity

Participation in organized religion is considered a factor that encourages political knowledge. The benefits from attending religious service include building stronger organizational skills, developing civically minded habits, and generating strong connection with fellow worshipers which bring about skills and attitudes reflective of helping others (O'Neill, 2006: 188). Though the political behaviour literature views religious engagement as an important arena for the development of political skills and possible political recruitment, women's engagement in patriarchal organizations are often seen in the feminist literature as a hindrance to the goal of gender equality (O'Neill, 2006). Notwithstanding religious organizations' hierarchical and often

patriarchal structure, based on their religion-related skills and social ties, active religious observers are more likely than their non-active counterparts to partake in politics (Wielhouwer, 2009).

Furthermore, religiosity may be an important factor for the gender gap in political knowledge because women attend religious service more often than men (O'Neill, 2006). In Canada, women who volunteer through religious organizations are more engaged in the community in terms of the number of organizations for which they volunteer and the number of hours they volunteer their personal time (2006). Women religious volunteers are also more likely to vote and pay attention to current affairs than non-volunteers (2006). In the United States, the gendered effect of the religious connection to political participation has been noted by Burns and her colleagues who state that “if women were not active in what are, in many cases, male dominated religious institutions, their overall rates of political participation would be lower and the gender gap in participation would be wider” (Burns et al., 2001:376).

The link between religiosity, the strength in which religion plays an important role in one's life, and political participation leads me to believe there could also be a similar link between religiosity plays a role with political knowledge. It is expected that higher levels of political participation will also indicate higher levels of political knowledge on average. Though no study confirms this assertion about religiosity's direct effect on political knowledge, religiosity could be a reason to explain the gender gap. Therefore, religiosity will be one of the independent variables in the following gender gap models.

2.8.8 Recent Immigration

Newcomers to Canada are “significantly engaged in politics” but may also have start-up costs associated with establishing a new life that take away from learning about the Canadian political system (Black, 2011). Additionally, some newcomers will be rather unfamiliar with Canada’s constitutional monarchy, which may also delay how much they know about federal election campaigns (White, Nevitte, Blais, Gidengil, & Fournier, 2011). There is no recent study that accounts for the hardship that settling in Canada has on becoming knowledgeable of federal politics. A slightly dated study by Black suggests that knowledge of a previous parliamentary system transfers well to Canadian-specific political knowledge (Black, 1987). Consequently, I have accounted for the potential independent impact of arriving in Canada in the last ten years on the gender gap in political knowledge. In doing so, I can estimate if women and men face the same challenges to learning about the parties and people involved in election campaigns, as part of their integration into Canadian society.

2.10 Associational and Group Membership

Interpersonal contacts create channels through which useful political information and influence pass, and social network mapping research demonstrates that through gendered social networks women and men have different information shared with them (Erickson, 2004). Women and men’s social networks reflect gendered patterns of employment, recreational activity, associational membership, and kinship ties, which have potential consequences for the flow of political information (2004). Women are more likely than men to belong to community-oriented

associations that are related to kin ties and the domestic sphere. Meanwhile men's organizational and interpersonal experiences tend to revolve around economic, employment, and recreational activities (Gidengil et al., 2005) . These gendered patterns have an effect on individual levels of political knowledge. Associational and group membership provides men a greater rate of return on their political knowledge compared to women (Dow, 2009).

2.11 Political Engagement

There are several psychological orientations that facilitate political knowledge such as political interest, political self-confidence, and paying attention to the media. People who are predisposed to make a psychological commitment to following politics and making connections between their concerns and government action (or inaction) will be more knowledgeable. Men are often more engaged than women in these psychological orientations towards politics, some argue, because of gender role socialization learned in childhood and reinforced in adulthood (Steuernagel, Yantek, & Barnett, 1996). Yet differences in political self-confidence, political discussion and attention paid to the news only provide a partial explanation of the gender gap in political knowledge (Atkeson, 2003; Burns et al., 2001; Gidengil et al., 2004; Ondercin et al., 2011). As well, the knowledge gap cannot be explained by any differences in the level of political interest held by women and men (Gidengil et al., 2004). Women with high levels of interest managed to score as many correct questions about federal politics as men with middling levels of interest (2004: 52). The main point is that even if women were as committed to politics as men, the gender gap in political knowledge would remain, which means that accounting for gender

differences in political engagement explains a part of but not all of the gender gap. Therefore, political engagement is included in the following models.

2.12 Partisanship

Strong partisanship is considered an important factor in acquiring political knowledge because partisans will feel invested in their political party, and as such will keep abreast of political matters more than weak- and non-partisans. In this study, the impact of partisanship on women and men's political knowledge will be studied. Evidence is sparse regarding the impact of gender on partisan strength. The American National Election Studies report that since 1952, women consistently report weaker partisanship than men (Ferguson, 2014). While the political behaviour literature in Canada has not examined the gender gap in partisan strength to the best of my knowledge, I still believe that if Canadian women have weaker partisanship, the difference will translate into more political knowledge for men compared to women. Accordingly, I include partisan strength in the upcoming models to account for the possibility of any gender difference.

2.13 Women's Political Leadership

In addition to the political resource model, another explanation for differences in women and men's political engagement is the impact of women's role models. One of the reasons that women may not be as politically invested as men is because of the low visibility of women political leaders in the political system. Underrepresented groups such as women participate less

often because a political system dominated by white men creates a systematic psychological barrier. The contextual cue theory suggests that visible women politicians send cues to “like” members of the public that the system is inclusive and open to their political engagement and participation. The importance of “like” role models can be an important way for women to overcome lower levels of political resources and lower levels of political confidence. The presence of female political leadership has been rare until very recent. The relative absence of visible and successful women political figures may have an immediate impact on women’s democratic engagement. Atkeson (2003) finds that the political context in American senatorial and gubernatorial races has a bearing on the level of engagement of women. In races with competitive female candidates, women have higher levels of political self-confidence, discuss the election more often, and proselytize their political views more often than in contexts with the absence of a competitive female candidate. The results show that reliance upon political resource explanations are not enough to understand the factors that facilitate and promote political engagement alone.

2.14 Modelling

In studies of gender differences in national level political information, a sizable gap continues even when controlling for differences in the level of age, education, income, parental status, political interest, media exposure, parental status, social networks, and occupation (Delli Carpini & Keeter, 1996; Dolan, 2011; Dow, 2009; Frazer & MacDonald, 2003; Gidengil et al., 2004; Gidengil et al., 2005; Kenski & Jamieson, 2000). It is clear that high levels of socioeconomic status predict high levels of knowledge, but accounting for gender differences in political

resources does not fully explain the gap between women and men. Thus, the approach of testing explanations using individual-level political resources leaves some variance unaccounted for.

Empirical studies adopt a methodological approach which estimates the impact of the gendered “level and effect” of each variable on the gender gap. As discussed above, variables measuring respondent’s education level is an important part of such models. Education level can be used as an example of how the *level* and *effect* of variables are estimated. First, the estimated coefficient of a variable such as education level reports the strength, direction, and statistical significance of the relationship between education level and political knowledge. Second, including the education variable controls for the difference in women and men’s levels of education on political knowledge. On average, women may have slightly lower levels of formal education compared to men. Any impact on knowledge of this difference will be accounted for by controlling for education levels in the model. This approach is referred to as measuring the gendered impact of the *level* of women and men’s education on the gender gap. Third, the education variable also captures variation in effect but this is not evident until we use interaction terms. The education variable can be multiplied by the gender variable to estimate the gender-specific *effect* of education on women’s knowledge and men’s knowledge. In other words, an interaction term can indicate whether the relative importance of education in shaping political knowledge varies between women and men. This is commonly referred to as measuring the gendered *effect* of education level on political knowledge. When an interaction term is used, post-model estimates are used to estimate the gendered effect of education on women and men’s political knowledge. Post-model estimates also can be used to calculate the size of the gender gaps because the coefficient of gender in the models with interaction terms will only provide the

average level of political knowledge for men who fall into the reference categories. In the case of education, the reference category includes those with a high school diploma or less. The ‘margins’ command in STATA was used to estimate the post-model values reported in the analytical chapters of this thesis.

Put together, estimating the impact of multiple variables on the gender gap requires step-wise modelling to ascertain the impact of the *level* and the *effect* of each variable on the women and men’s political knowledge. Each analysis begins with a model estimating the gender coefficient without any other variables in the model to establish the size of the gap between women and men. A second model includes the gender variable and the other variables to determine the impact of the *level* and *effect* of each variable on the gap in political knowledge. The gender coefficient in the second model reports the size and statistical significance of the gender gap while controlling for those variables. A third model includes interaction terms between gender and select variables to determine the conditional gendered *effect* on women and men’s political knowledge. Again, post-model estimates confirm three things: the variable’s impact on women’s knowledge levels; the variable’s impact on men’s knowledge levels; and, the size of the gender gap given the control variables and interaction terms.

Chapter 4 provides for the first time in Canada an analysis of the impact of socio-economic and political engagement explanatory factors that affect the accumulation of campaign-specific

knowledge for women and men. It also tests competing explanations, to examine where empirical models fall short in accounting for gender differences in campaign-specific knowledge. As we will see, conventional explanations provide only a partial account of the differences between women and men. As such, if current models cannot completely account for gender differences in political knowledge, then how should we broaden the study to account for other explanatory factors? The thesis responds by providing analysis in two ways. First, the role of federal election campaigns for individuals is one opportunity to learn new information, which may play a role in contributing to the gender gap. Second, political resources at the constituency level such as the average level of post-secondary education, and the employment rate, may contribute to residents higher levels of political knowledge.

2.15 Election Campaigns and the Gender Gap

In Chapter 5, the analysis moves on to study the gendered nature of acquiring campaign information during election campaigns, when it is widely available. Campaign advertising preoccupies news coverage, and campaign signs spring up in public spaces and on supporters' private property. Newscasts prioritize coverage of party leaders and campaign events, including campaign promises, leaders' tours, public opinion surveys, and political gaffes. Spending by parties on advertising during the campaign period is substantial. In 2011, the four largest parties spent a combined total of \$6.8 million in advertising (Marland & Giasson, 2013: 397). This is approximately 40 to 50 per cent of the total spending limit according to federal law (2013). In addition to widespread advertising, a civic obligation to pay attention and form a vote decision

adds to the reasons why campaigns are important opportunities to learn about the goings-on of political affairs.

To analyze the effect of federal election campaigns, and the impact of local political resources, the dependent variable has been operationalized to include the questions in the Canadian Election Studies about campaign-related information. In this thesis, then, the study examines gender differences in knowledge about federal party leaders and federal parties' campaign promises. Using data from the Canadian Election Studies 1997-2008, the political knowledge of respondents is tracked using a rolling-cross section survey design to assess the influence of the campaign as it unfolds. The research question is: do federal election campaigns lead to gender-specific opportunities to learn about politics?

2.15.1 Campaign Learning Literature Review

The political campaign can increase 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, Blais, Brady, & Crête, 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, Koleon, & Volkan, 2007).

The political environment becomes flush with new and old information about party leaders, political issues, and campaign promises. 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 (Blake, Young, & Soroka, 2006, 2008). 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. The media's attention on leaders and issues corresponds to the importance of leadership evaluations and issue opinions in the vote calculus (Blais, Gidengil, Dobrzynska, Nevitte, & Nadeau, 2003). Thus media coverage provides information for the vote decision, to ensure that voters have the information required to cast a coherent vote choice.

The effect of the campaign on the acquisition of political knowledge has captured the attention of many scholars (Holbrook, 1996, 2002; Miyo, 1983; Popkin, 1991; Tichenor et al., 1970; Zaller, 1989). Election campaigns have a utility to offer civics education of the mass public (Barber, 1983). Furthermore, campaign-related information provides voters with the means to gather information to reward or punish elected officials for past performance (Fiorina, 1981), to match their own ideological preferences with the ones offered by political parties (Downs, 1957), or to evaluate their sense of identification with a political party (Campbell, Converse, Miller, &

Stokes, 1960). Since elections are the times when citizens are the most 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.

A number of campaign-related studies address the knowledge gap, which focuses on the relationship between information acquisition and socioeconomic status. In Tichenor and his colleagues’ words:

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 (1970: 159-60).

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 uniformed. Rather, the growth of knowledge is “relatively greater among the higher status segments” (Tichenor et al., 1970: 160). Second, for widespread information campaigns, there is a point of diminishing returns for the best-informed individuals. The rate of information acquisition 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. More importantly, though, they must be explicitly stated to avoid implying that the gap in knowledge grows over time with each election campaign because there are instances when gaps do not grow, or the best informed hit a ceiling of knowledge which provides a chance for others catch up.

Evidence from studies of gaps in knowledge show that the conclusion purported by Tichenor and his colleagues is not as simple as they state (1970). Moore and his associates demonstrate over the course of the 1978 New Hampshire gubernatorial races a more complex relationship behind campaign learning. Respondents in their study were asked to identify which candidate was closest to them on two issues. The results show an increasing information gap between high and low education voters on issues that were new and relatively complex whereas there was no change in the size of the gap in the issue that remained prominent in the media (1970).

A recent Canadian study has shown that the impact of socio-economic status on campaign learning can be mediated by the intensity of media attention. 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). Their findings show that the group that stands to benefit the most from a strong media signal is the one “that occupies the rung just above the awareness ladder” (2008: 242). In other words, if one pays a small amount of attention to politics, but is not completely tuned out, they may stand to benefit the most to a strong media signal delivering a clear message. The fact that those who are susceptible to new information can make information gains clearly indicates that information campaigns do matter.

When certain pieces of information receive sustained media attention, the knowledge gaps tend to narrow and even close as the lower SES groups have a chance to catch-up (Miyo, 1983; Moore, 1987). Prolonged media exposure, in other words, works as a “knowledge leveler” (Tichenor et al., 1970). In the United States, the knowledge gap diminished in the public’s

knowledge of the Bosnian war between 1992 and 1993 because media coverage remained strong over those years (Rhine, Bennet, & Flickering, 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 closed the gap on knowledge about the astronauts' successful landing (Tichenor et al., 1970).

Sustained media attention, and major publicity events are rare, however. Very few pieces of knowledge become widely adopted as general knowledge. The research studying the nature of fluctuations in the size and duration of knowledge gaps has demonstrated that highly publicized information or sustained publication of relatively simple issues or events are the least likely to have a knowledge gap among different socio-economic groups (Miyo, 1983). Issues and events that receive low levels of media attention and information that is complex to understand tend to have a larger persistent gap in knowledge as individuals from lower SES backgrounds remain less informed than their counterparts from higher SES backgrounds (Holbrook, 2002).

2.15.2 Hypotheses about Campaigns and the Gender Gap in Political Knowledge

In Chapter 5, I employ a rolling cross-section data to facilitate a detailed exploration of gender and campaign learning. A rolling-cross section is a series of repeated cross-sections sample using a sampling design to ensure that each cross-section is composed of randomly selected respondents from the Canadian population (Johnston & Brady, 2002). This means that the

respondent's interview date is random, as is his or her selection in the sample. The rolling cross-section is employed in the campaign-period survey of the Canadian Election Study. Using a series of campaign-period surveys, I test the hypothesis that federal election campaigns have a gender-specific impact on the acquisition of campaign information -- that women on average provide correct responses at the same rate as men by the end of the campaign. I will elaborate this hypothesis below.

Studying the impact of gender and political knowledge in election campaigns is not common. Typically, studies about campaign learning address the knowledge gap hypothesis: campaigns often exacerbate existing gaps in political information because the most informed individuals learn new information at a faster rate than the least informed individuals during the campaign period (Burns et al., 2001; Harrell, 2009; Verba, Burns, & Schlozman, 1997). A study of gender and campaign learning in the United States, however, provides evidence that in the last thirty weeks of the 2000 presidential campaign, women provided correct responses about the presidential candidates at the same rate as men (Holbrook, 1996, 2002; Tichenor et al., 1970). As the presidential campaign progressed, Ondercin and her colleagues demonstrate that the number of incorrect responses decreased for women and men while the number of correct responses increased for women only (2011). Furthermore, men provided more non-substantive responses such as "don't know" as the campaign progressed. These results show that the direct effect of gender on political knowledge is not static over the campaign.

Examining the impact of campaigns on the gender gap in political knowledge has only recently become part of academic research (Ondercin et al., 2011). There are a number 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, the hypothesis that the gender gap in knowledge should shrink over the course of the campaign is supported by the potential for women and men to learn at different rates during the campaign. The mix of information provided in the campaign will be new for some and old for others. Since men are more knowledgeable on average about federal electoral politics upon entering the election, they have less to learn while women will have relatively more to learn. While the campaign provides opportunities for all individuals to pick up new information, women can learn more.

Second, 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 the propensity to be less interested in federal campaigns than men on average. Information costs are lowered during the campaign for a number of reasons. Past research has demonstrated that 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 for women (Hollander, 2005). In Canada, news sources such as *Chatelaine/Châtelaine*, *Hello! Canada*, *Elle Canada*, and *Coup de Pouce* can provide women additional political information from magazine sources that do not regularly cover politics or current affairs. As well, periodicals published by trade unions, professional bodies, and industry groups may provide additional information about the parties and the leaders leading up and

during the federal election campaign that may provide women with political information that they do not normally come across.

Third, part of the debate about measuring women's political knowledge is how to treat "don't know" responses (Mondak & Davis, 2001). 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 could, then, create a context for women to be more confident about their responses especially near the end of the campaign where exposure to media will encourage them to be less averse to providing incorrect responses. Unfortunately, the reasons why women and men offer don't know responses won't be evident in the survey data. It could be that the level of acceptable risk changes with political knowledge stocks or it could be that individuals know more and are thus more willing to provide a substantive response. Thus the knowledge gender gap requires don't know responses to be monitored during the campaign even though it will be difficult to distinguish between risk aversion changes, and when greater levels of information increases women's willingness to offer a correct response, or an educated guess.

2.15.3 Studying the Impact of Elections on the Gender Gap in a Comparative Context

This study examines the role of Canadian elections on the gender gap in political knowledge in comparison to the American elections for several reasons. Firstly, there are many similarities between Canada and the U.S. As Young writes, the emergence of the feminist movement over the past 50 years has led to similar sweeping changes in the lives of women in both countries (2000). Initially, the feminist movements furthered a policy agenda motivated by feminist

activists, which has been combined with an agenda to promote women among party elites and elected representatives (2000). The feminist movements have also been one of the underlying causes of the precipitous rise in women's educational attainment and entry into the labour force. The similarities in the feminist movements and changes in women's socioeconomic status are consequential because they affect women's engagement in politics and specifically account for their levels of political knowledge. Secondly, federal elections are important events in individual political experience in both countries. They garner much attention because advertising spans all types of media, heightening awareness of the political campaign, and imbuing many citizens with the expectation of political engagement and participation. Indeed, a great deal of money is spent on advertising leading up to election day.

The duration of the election campaigns points to major differences between Canada and the United States. In the United States, the campaign stretches through the primaries for the nomination of the presidential candidates and finishes on the eve of election day. Candidate and third party spending in the primary system to nominate the presidential candidates is a contributing factor to a so-called "never-ending campaign". On the other hand, the Canadian campaign normally lasts five weeks 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 compared to the United States. Canada has a well-defined political election campaign period that is swift, with a clear beginning and end.

The duration of the campaign provides a clear distinction between Canada and the United States since the length of the campaign may play a role in the gender gap. Furthermore, the media

signal may be comparatively weaker in Canada. The Canadian media is dominated by a small number of multi-media conglomerates, which deliver most of news of politics to Canadians (Gidengil, 2008). Campaign spending in Canada is largely committed to after the write is dropped. Canada certainly does not have as much political party, or third party political advertising as the US (Gidengil, 2008) The comparison can shed light on the question of whether it is necessary to have a long campaign to affect the gap between women and men's stocks of information. If the gender gap closes during Canadian election campaigns, it suggests that the length of the campaign does not condition how women learn relative to men. 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.

2.16 Local Context and the Gender Gap

2.16.1 Constituency-Level Resources and the Gender Gap

Accounts of the gender gap in political knowledge have relied upon the impact of structural and situational factors at the *individual level* with some success. The focus upon these factors is based on the understanding that public and private forces influence the political experiences of women. As O'Neill observes, "women's political engagement continues to be the result of social circumstances that reinforce patterns of difference between sexes" (O'Neill, 2002: 48). The major societal pressures to conform to gender roles are sourced privately through parenting and family expectations and publically through social, political, and economic gender norms.

In Chapter 6, the study turns its focus to the impact of explanatory factors at the constituency level that affect women and men's levels of political knowledge. I argue that gender plays a role in the acquisition of political knowledge by way of lowering the cost of obtaining information in the local socio-political environment for women. Different rates of return have been detected at the individual level, and these differences may also be shaping gendered patterns of political information at the riding level. For the first time, we will get a sense of the variation in political resources from place to place and report to what extent local levels of education and rates of employment affect the gender gap in political information.

Delli Carpini and Keeter have shown that individual-level factors such as gendered structural, situational and attitudinal factors account for half of the gender gap (1996: 205). This finding highlights a major shortcoming of modernization theory (Thomas, 2012). In Canada and abroad, researchers note that the gender difference cannot be completely accounted for by only looking at stark gender differences in individual level determinants of political knowledge: women are less interested in politics, poorer on average, or have lower levels of educational attainment, and have lower occupational status compared than men (Dow, 2009; Frazer and MacDonald, 2003; Kenski and Jamieson, 2000; Gidengil et al., 2004). Estimating the impact of living in an area that is more "resource rich" may play a role in explaining the average levels of knowledge of women and men. The expectation is that the uneven distribution of socioeconomic resources and gender roles across Canada plays an important role in maintaining gender differences in political knowledge. The hypothesis is that ridings with higher women's employment rates and higher

education levels will narrow the gender gap in political knowledge because the effect of both will provide women more opportunities to learn about politics compared to men.

Current indicators of women's improving socioeconomic status and changing gender roles only account for half of the gender gap, but why? The answer may be at least partly theoretically driven: *the conventional models only account for individual-level factors keeping the individual independent from the information costs associated with the social-political environment*. I argue that gender plays a role in the acquisition of political knowledge in that the cost of obtaining information in the local political environment might be lessened for women. Different rates of return have been detected at the individual level, and these differences may also be shaping gendered patterns of campaign information at the riding level.

2.16.2 Origins of Contextual Analysis in Political Science

From a long tradition of sociological theorists, writers such as Durkheim, Marx, and Weber have demonstrated the importance of understanding the interdependence of individuals in groups, networks, and local contexts to explain their political behavior. As Adam Przeworski notes, "Individual behaviour is not invariant from one social context to another" (1974: 28).

Contemporary examples of contextual effects analysis include the work of V.O. Key Jr. in *Southern Politics* (1949). Using a rudimentary form of multilevel analysis, Key demonstrated that racial hostility in the American South fluctuated as a function of the concentration of African-American people in local areas because larger concentrations of African-American populations at the time threatened the social, economic, and political power of white people

living in those respective areas compared to areas with smaller African-American populations. His analysis showed that white people were more likely to participate in politics if they resided in areas with higher concentrations of African-American citizens. Unlike others, Key's analysis did not root itself in the social psychology theory of prejudice; instead, it analyzed the conjunction between personal motivation and the mobilization of interests in the districts of the American South (1949). Key's work sets the foundation for contextual, multilevel methods that make inferences about aggregate and individual level influences.

Similarly, Lazarsfeld and his colleagues focused their attention on a two-step flow of communication from an opinion leader to a less politically engaged citizen (1944). They described mass politics as individuals subjected to a variety of social processes that encourage "political differences across groups and political homogeneity within groups" (Mettler & Soss, 2004). This simplified model focused upon the effect of opinion leaders -- who paid attention to politics and the media -- on those who did not pay attention to political affairs, suggesting that opinion leaders provided information and guidance to the less engaged citizens in the course of political discussion (Katz & Lazarsfeld, 1955).

The Columbia School's sociological tradition established the importance of studying familial and group influences on individual's behaviour in in the late 1940s and early 1950s (Berelson et al., 1954; Lazarsfeld et al., 1944). Although the foundation was set early, very little subsequent scholarship incorporated this focus on individual behavior within a set of interdependent relationships. More recently Verba, Schlozman, and Brady employed the Columbia School's sociological approach in the Civic Voluntarism Model, though. In early work, Verba and his colleagues explained group differences in political participation by identifying differences in the

factors that facilitate political engagement (1995). The model was extended to incorporate the gendered effect of non-political institutions such as the workplace, religious organizations, community organizations, and recreational groups to explain gender differences in political engagement (Burns et al., 2001). In all, the skills, information-sharing, and recruitment activities gleaned from non-political institutions help explain why women are less likely to be as politically active as men because men often have a higher *level* of engagement in non-political institutions. These findings are particularly important because they inform the theoretical underpinnings to justify examining the factors that facilitate learning campaign information at the riding level by setting a precedent to examine the factors that shape how skills, information-sharing, and political recruitment are shaped by specific contexts.

In Canada, studies of local gendered political engagement are rare. A study by Rankin shows that patterns of political activism differ between major Canadian cities (1996). Because of the women's movement's prior experience with the state, the political opportunities that they confront, and the particularities of the places in which they organize, patterns of activism varied between major metropolitan areas, smaller cities, and rural areas. Linking locally derived histories and political patterns with individual circumstances can be crucial in understanding differences within the Canadian women's movement (1996). The same logic applies to political knowledge as discussed in the following section.

2.16.3 Gender and Political Resources at the Local Level

Acquiring political information is a process structured by political resources and the gender roles that affect the choice to learn about politics (Burns et al., 2001; Ondercin et al., 2011; Sapiro, 2005). The effect of local social-political factors, Bowbly, Foord, and Mackenzie note, has been undertheorized, however (1982). To capture gender-specific effects, I consider the two important types of political resources at the local level: post-secondary education levels and local employment rates.

As noted earlier, formal education cultivates access to political information by fostering the cognitive skills that make the complexity of politics easier to understand (Gidengil et al., 2004). As a resource in a political context such as a federal riding, formal education develops communication and organizational opportunities to promote and share political information. Higher levels of formal education in a local area can encourage political learning by lowering the cost of acquiring political information, because of the increased likelihood that politics will be discussed within social networks, as well as the increased likelihood that an individual will be recruited into political, and non-political activities known to build civic capacity and understanding. Additionally, gainful employment varies considerably across Canada, which can have an effect on the political information that is held and shared by individuals through work-related networks. High rates of employment are a political resource in a local context, like higher education, that can act as a means of lowering information costs. The major assumption in Chapter 6, therefore, is that variation in the rates of employment and post-secondary education

will cause variation in the local social-political environment, having a direct impact upon the information costs borne by the residents in each constituency.

In Chapter 6, parenthood is also considered as a determinant of political knowledge that may have gender-specific effects on the gender gap. As discussed earlier in the chapter, the evidence from recent studies shows that the gender gap in political knowledge is not affected by parenthood. However, studying the gender gap in campaign-specific knowledge allows the parenthood hypothesis to be re-examined. By testing the conditional impact of parental status on the effect of local political resources, the analysis in Chapter 6 will show whether a cross-level interaction leads to the conditional relationship with fathers. The result will show whether fathers benefit more from local political resources than mothers. The cross-level interaction is important to examine because the impact of rates of education may be conditioned by the commitment to raising children under the age of 18 years. As well, the impact of local employment rates may be conditioned by parenting children under the age of 18 years. Time and psychological resources devoted to parenting are hypothesized to create a conditional effect on the two local political resources. A commitment to parenting is expected to have a negative effect on women and men's levels of political knowledge. The negative impact is expected to be stronger for mothers compared to fathers because of their average additional time women spend caring for children and assuming responsibilities for domestic work (Statistics Canada, 2010)

2.16.3 Multilevel Modelling and Constituency Level Political Resources

Methodologically, Chapter 6 is influenced by studies in the field of education. In education research, the multilevel models are used in a large body of research to measure school level factors on students' performance. In the 1980s and 1990s, concerns with improving students' scholarly outcomes led to research about individual schools' effectiveness. Rutter and his colleagues' seminal work identified eight characteristics that varied at the school level that had a large direct impact on the scores of students (Teddlie & Reynolds, 2000). Furthermore, an influential book by Mortimore and his colleagues, *School Matters*, brought to light key characteristics of effective and ineffective schools such as school leadership, motivation of teachers, and parental involvement (Rutter, Maughan, Mortimore, & Ouston, 1979). Modelling differences between groups becomes paramount to addressing many research questions in the field of education because the variation in the group-level variable such as school often explains a great deal of variation in the dependent variable (students' achievement scores). In Raudenbush and Bryk's discussion of their 1988 research on the math scores of students in grades one through three, they note that results using conventional regression analysis compared to multilevel modeling were startling (1992). When there was a partition in learning-rate variance into within- and between-school components, the between-school component accounted for 83 per cent of variation in students' grades across schools (Rabe-Hesketh & Skrondal, 2005). In contrast, conventional regression only detected 14 per cent of the variance across schools, which was consistent with other cross-sectional studies of school effects (2005). Studies of school-

specific effects on students' achievement scores provide insight into individuals' political knowledge by accounting for group differences in political information. Like studying students in primary and secondary schools, studying individuals who live in a particular political environment raises certain methodological questions about how individuals are nested in a hierarchy of political resources and civic expectations.

In Chapter 6, detecting the impact of political resources at the riding level on acquiring campaign-specific knowledge is possible using multilevel modelling. To capture rates of post-secondary education and employment in each federal electoral district, I employ data from the 2006 Canadian Census. The riding level factors measure rates of post-secondary education (percentage of population with a university degree) and the local rate of employment. Multilevel modelling provides insight about political behaviour that is nested in a hierarchy. A hierarchy of political experience is suspected to be at play in the gender gap in political knowledge because individuals' political experiences are nested in a local socio-political context. Ridings can be thought of as subunits of a larger political experience within a country. The socio-political context of a local riding can affect the opportunity structure to become politically informed. This type of opportunity structure may have consequences for the amount of campaign information that women and men commit to memory. I test the hypothesis that areas with higher employment rates and higher education levels have a greater positive effect on women's political knowledge compared to men's.

2.17 Conclusion

The main purpose of this chapter was two fold. First, a review of the conceptualization and operationalization of political knowledge shows that feminist scholars have levied strong critiques about what counts as political knowledge. The three feminist critiques of political knowledge lay a foundation for studying the gender gap because the size of gender gaps often depends on how political knowledge is conceptualized. The main purpose for discussing the feminist critiques is to justify the operationalization of campaign knowledge in this thesis. Studying campaign knowledge provides an opportunity to test the impact of federal election campaigns as opportunities to learn about politics. As well, the impact of local political resources can be tested to see the impact on women and men's campaign specific knowledge. Given that campaign knowledge provides only a partial view of women and men's knowledge of politics, the findings in the following chapters must not over generalize about women's lack of knowledge

Second, this chapter provides a literature review of what gaps in political knowledge have been found, what is known about the gender gap in individual level explanatory factors, and what literature supports examining the impact of election campaigns and social-political resources at the constituency level. The main hypotheses were outlined, as well. The main hypothesis about campaign learning will test whether women benefit more than men from the heightened attention and increased in flow of campaign-related information during federal elections campaigns. The main hypothesis about local political resources will test whether women benefit more than men

from living in a constituency with higher rates of employment and education. The following research chapters will report the findings paying attention close attention to how the political campaign and local constituency factors shape the gender gap in political knowledge.

Chapter 3: Methodology

3.1 Introduction

This chapter provides an outline of the data and methods employed in the subsequent chapters to assess the gender gap in political knowledge in Canada. The chapter starts by describing the data sets employed, then moves on to describe the individual level, campaign, and multilevel modelling techniques employed in the research chapters. I also provide information on the operationalization of the dependent and independent variables. Lastly, the methodology section provides a summary of the variables employed in this investigation. This information is important to establish how the data have been prepared, and how the models will assess the impact of election campaigns and local political resources on the gender gap in campaign knowledge.

3.2 Data Sets

One of the two primary sources of data employed in this thesis is the Canadian Election Study. The dependent variable and the individual level explanatory factors are measured with data from five elections studies undertaken between 1997 and 2008. The 2000 to 2008 surveys are the data sources used to measure knowledge of party leaders, and the 1997 to 2006 surveys are used to measure knowledge of party promises. Both measures have consistent question wording and response categories across all surveys, and they are taken from the campaign period surveys.

The campaign period survey's rolling cross section of small random daily samples is extremely useful in the campaign period analysis. The rolling cross section ensures that the gender gap over the campaign can be examined as the campaign progresses. The 1997 to 2006 Canadian Election Studies were in the field all five weeks of each campaign. The 2008 Canadian Election Study was in the field for a short period of the campaign, only 18 days of 35. Thus, the 2008 election study is not included in the analysis of election campaigns in Chapter 5. As well, the 2011 Canadian Election Study does not provide campaign knowledge questions in the campaign period that are equivalent to the 1997, 2000, 2004, 2006, and 2008 election studies; therefore, the 2011 election study is not part of the analysis.

During the campaign period of the survey, 50 to 100 respondents were surveyed each day. In the campaign period analysis, gender differences in knowledge of party leaders and campaign promises are tracked with 5-day moving averages in the graphs and by week in the estimated effect of campaign week on the gender gap to ensure that sampling inconsistencies are not the cause of observed trends or changes. Overall, the Canadian Election Study sample includes 3,464 respondents in 1997; 3,651 in 2000; 4,323 in 2004, 3,482 in 2006; and 4,495 in 2008.

The analysis of the role of context in shaping political knowledge relies on data from the 2006 Canadian Census to measure political resources at the riding level. Constituency level data include measures of education and employment rates. Control variables for the political competitiveness of the riding (described in Section 3.7.3), and the ridings' urbanization rate are also included. The 2006 Census data were merged with the Canadian Election Studies using the

2003 representation order. The representation order identified the constituency boundaries, and was used as the variable to merge the Canadian Election Studies data with the 2006 Census. The 2006 Census was chosen because it is the best representation of the economic condition in the ridings during the 2000 to 2008 study period. The other closest census years were 2001 and 2011.

3.3 Dependent Variables

The dependent variable in studies of the gender gap is typically a combination of campaign-related and other types of political knowledge stored in long-term memory such as identifying names of prominent cabinet ministers, identifying the level of government responsible for healthcare, and identifying international political figures. Normally political knowledge committed to long-term memory does not fluctuate during the campaign, which makes it a poor indicator of campaign learning (Nadeau et al., 2008). Thus, the dependent variable in this study makes use of campaign-related political knowledge questions that measure party leader identification and political party campaign promises. Overall, individuals tend to learn over the course of the campaign through information from a host of sources such as political party advertising, media coverage of the campaign, and third party advertising (Nadeau et al., 2008).

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; and 2) to match to the party with its campaign promise. The political knowledge index of recalling the names of party leaders includes identifying Bloc Québécois leader Gilles Duceppe for respondents from Quebec.

Scores are recoded 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 analysis does not include the don't know or incorrect responses from those election studies. As mentioned previously, the format of the response categories is open recall. Since the format was not multiple choice, or true or false type questions, it is difficult for respondents to guess correctly. As mentioned previously, respondents were coded providing a correct response if they provided a partial answer, such as knowing the party leader's first name.

Often batteries of political knowledge 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" (Converse, 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 versions 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 actually name 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. One limitation of election study data is generally that it

does not provide an exhaustive battery of questions that would provide a comprehensive account of individual-level political information, to detect factual knowledge, and how it changes over time.

To capture the effect of the campaign, only campaign-related knowledge is analyzed even though more general, non-campaign related, political knowledge questions are 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 given the focus on election campaigns.

The Canadian Election Studies provide a consistent measure of how well Canadians know the major party leaders from survey to survey. The measurement of how well Canadians know the campaign promises is not as consistent over time, however. Prior to the surveys going into the field each campaign period, the Canadian Election Studies team must determine which campaign promises are likely to be made, and which ones are likely to be widely known by Canadians.

Each election study may not include a measurement of the most relevant or widely known campaign promises. One stark example is the New Democratic Party's 1997 campaign promise to cut unemployment by half reported in Table 3.1 below. Less than ten per cent of respondents answered correctly, signifying that in hind-sight this campaign promise could have been replaced

by a more widely known campaign promise to measure Canadian's awareness of campaign messaging. Tables 3.1 through 3.5 below show that the 1997 New Democratic Party's promise was unusual to the Canadian Election Studies, though. Apart from the 1997 New Democratic Party's campaign promise, the survey questions related to campaign promises indicate Canadians generally awareness of the party promises. This general awareness suggests that the team building the survey included survey questions that make the measure of campaign promises relatively consistent and comparable across elections.

In the following tables, the various components that make up the political knowledge measure will be reported for women and men. As can be seen, women across most measures provide fewer correct responses than men on average. These crosstabulations demonstrate that women still have gains to make in many areas of political knowledge, which shows the importance of doing this research. The 1997 Canadian Election Study (CES) provides three questions about party promises during the campaign period (Table 3.1), which are used in the political knowledge index of party promise knowledge. No questions asked respondents to identify party leaders during the campaign period in the 1997 survey.

Table 3.1 shows that the rate of correct responses about party promises varies greatly. The difference appears to be based on the party that offers the promise. The campaign promise of the Progressive Conservative party was the most well-known. About 76 per cent of men and 64 per cent of women knew about the promise to lower income taxes. The gender difference was 12 points in favour of men. The promise of the Reform was less well-known but presented the largest gender difference. A majority of men, 61 per cent, knew that it was the party against

Quebec’s proposed Distinct Society status in the Charlottetown Accord. Approximately 44 per cent of women were able to identify this promise, a gender difference of 17 points. The New Democratic Party (NDP) offered the least well-known campaign promise. Nearly one in ten Canadians could recall the NDP promise to cut unemployment by half. The gender difference was smaller, only four points, with women less able to recall the promise.

Table 3.1 Political Knowledge by Gender, CES 1997

1997	Women	Men	Difference*
Promise Lower income tax 10% (Progressive Conservatives)	64	76	-12
Promise Cut unemployment by half (NDP)	8	12	-4
Promise Party against distinct society (Reform)	44	61	-17
* All differences statistically significant at $p < 0.001$			

The 2000 CES shows that a minority of respondents correctly identified the party promises (Table 3.2). Respondents were the most knowledgeable about the promise to fight biker gangs, a promise made by the Canadian Alliance and the Bloc Quebecois. This party promise returned the largest gender gap, 16 points. Respondents were the least knowledgeable about the promise to cut the debt made by the Progressive Conservative Party, which had a gender gap of 10 points. The NDP’s promise to provide a national drug plan was known by just over one-quarter of the population with a gap of 11 points in favour of men. The Liberal’s promise to spend half the budget surplus on health and other services returned a gender gap of 12 points. The gender gap ranges from 11 to 16 points, each time in favour of men.

Knowledge of the party leaders in the 2000 federal campaign shows that the majority of respondents, with the exception of women identifying the NDP leader, recognized each leader. The most popular was the Liberal leader, the Prime Minister at the time who helped his party win a majority in the 2000 federal election. The Canadian Alliance leader, Stockwell Day, and the Progressive Conservative leader, Joe Clark, were also recognized correctly by most Canadians. The long lasting careers of these three leaders, and the popularity of their respective parties did not lead to a narrowing in the gender gap. Still, more men could recognize the leaders compared to women. The leadership of Alexa McDonough, the leader of a small perpetual opposition party, did not close the gender gap in 2000, either. Still, the gender gap was 13 points in favour of men.

General political knowledge questions that target knowledge about provincial premiers, the federal finance minister, the Prime Minister during the adoption of the Free Trade Agreement, and the capital of the United States shows a similar pattern between women and men. Men provide correct responses at a higher rate than women. The gender difference ranges between 10 and 21 points. These general political knowledge questions were not used in the analysis, however.

Table 3.1 Political Knowledge by Gender, 2000 CES

2000	Women	Men	Difference*
NDP Leader	39	52	-13
PC Leader	57	72	-15
Alliance Leader	65	77	-12
Liberal Leader	80	88	-8
Bloc Leader (Quebec only)	60	73	-13
Identify Provincial Premier	77	87	-10
Identify Federal Finance Minister	57	70	-13
PM during FTA	45	66	-21
Capital of USA	79	90	-11
Promise Drug Plan (NDP)	22	33	-11
Promise Fight Biker Gangs (Alliance and BQ)	33	49	-16
Promise Cut Debt (Alliance)	13	23	-10
Promise Use half surplus for health and other services (Liberals)	29	41	-12
* All differences statistically significant at $p < 0.001$			

The pattern in recognizing federal party leaders remains largely similar through the 2004, 2006, and 2008 campaigns (Tables 3.3, 3.4, and 3.5). The majority of respondents recognize the party leaders with the exception of the NDP and the Green Party leaders. It is not until the 2006 federal election campaign that the NDP leader was recognized by a majority. Nonetheless, in most instances, the gender gap remains between 12 to 14 points in favour of men.

Table 3.2 Political Knowledge by Gender, 2004 CES

2004	Women	Men	Difference*
NDP Leader	29	41	-12
Conservative Leader	40	54	-14
Liberal Leader	61	75	-14
Bloc Leader (Quebec Only)	65	77	-12
Identify Sheila Copps	30	42	-12
Identify Provincial Premier	57	69	-12
Identify Tony Blair	39	50	-11
Identify Federal Finance Minister	52	57	-5
Promise Inheritance Tax (NDP)	14	22	-8
Promise Reduce Wait Times (Liberals)	33	45	-12
Promise Increase AIDS funding (Liberals)	23	34	-11
Promise Military Spending (Conservatives)	30	50	-20
Promise Cut GST (Conservatives)	25	37	-12
Promise Gun Registry Eliminate (Conservatives)	29	46	-17
* All differences statistically significant at $p < 0.001$			

Table 3.3 Political Knowledge by Gender, 2006 CES

2006	Women	Men	Difference*
NDP Leader	55	68	-13
Conservative Leader	60	70	-10
Liberal Leader	74	86	-12
Bloc Leader (Quebec Only)	74	84	-10
Provincial Premier	62	75	-13
Identify Tony Blair	44	57	-13
Identify Sheila Copps	28	39	-11
Identify Judge Gomery	59	72	-13
Promise GST Cut (Conservative)	55	69	-14
* All differences statistically significant at $p < 0.001$			

The gender gaps closed in 2008 regarding questions identifying the Governor General Michaëlle Jean and the Green party leader Elizabeth May (Table 3.5). These gender differences were smaller than three percentage points and failed to reach conventional levels of statistical significance. Both of these questions asked about female political figures, which suggests that symbolic representation might help overcome political engagement barriers faced by women. Similar evidence comes from an American study that shows the gender gap in identifying world leaders narrowed significantly when respondents were asked to identify the British Prime Minister, Margaret Thatcher (Burns et al., 2001). As well, the 1993 Canadian Election Study showed that male respondents were more likely to identify male Liberal Party leader Jean Chrétien compared to female Progressive Conservative Party leader, Kim Campbell. The opposite was true for women (Burns et al., 2001: 341).

Table 3.4 Political Knowledge by Gender, 2008 CES

2008	Women	Men	Difference*
NDP Leader	64	76	-12
Conservative Leader	72	80	-8
Liberal Leader	64	77	-13
Bloc Leader (Quebec Only)	65	77	-12
Green Leader	31	34	-3
Identify Provincial Premier	63	73	-10
Identify Federal Minister	19	33	-14
Identify Governor General	38	40	-2
Identify John McCain	44	58	-14
* All differences are statistically significant at $p < 0.001$ except identifying Green Party leader and the Governor General			

In American research, Atkeson demonstrates that the presence of competitive female candidates in Congressional elections was linked to increased political engagement and knowledge of female voters in those districts (2003). In Canada, the role-modelling effect of female Members of Parliament has not been confirmed likely because less media attention is paid to individual federal candidates compared to their American counterparts (Giles, 2007). However, the absence of gender gaps in identifying Michaëlle Jean and Elizabeth May suggests a role-model effect for women in higher profile positions at the federal level might exist.

The role-model effect does not apply to all female party leaders, however. In more distant memory, while women were more likely to recall the name of the Progressive Conservative leader and Prime Minister, Kim Campbell in the 1993 federal election campaign, they were not as likely as men to correctly identify federal NDP leaders Audrey McLaughlin or Alexa McDonough in subsequent campaigns. Kim Campbell, during the 1993 election campaign, along

with Green Party leader Elizabeth May in the 2008 election campaign, carried salience with women. It is not clear why there is a difference in impact among the various female political figures, although higher levels of media attention for some women is the most likely reason for the difference.

3.4 Average Levels of Knowledge of Party Leaders and Campaign Promises

The overall gender gap in political knowledge is eleven percentage points for identifying correctly the party leaders (Table 3.6), with women providing 55 per cent correct responses and men providing 66 per cent correct responses. Incorrect knowledge about the leaders is relatively small at six per cent for women and seven per cent for men. The “don’t know” responses show that thirty eight per cent of women and twenty seven per cent of men do not know that name of party leaders on average.

Table 3.5 Political Knowledge by Gender, Select Years Canadian Election Study

	Women	Men	Gender Gap
Knowledge of Party Leaders			
Correct (2000-2008)	55	66	-11*
Incorrect (2000-2008)	6	7	-1
Don't Know (2000-2008)	38	27	11*
Knowledge of Party Promises			
Correct (1997-2006)	24	36	-12*
Incorrect (1997-2000)	22	26	-4*
Don't Know (1997-2000)	58	44	14*
Note: All cell entries are percentage points			
* Gender difference significant $p < 0.001$			
Columns do not add to 100 per cent because not all categories are included due to variation across surveys.			

Knowledge of the campaign promises is much less than knowledge of the federal party leaders. This is not entirely surprising because campaign promises will change from campaign-to-campaign and receive much less media attention than the party leaders over time. Moreover, many of the party leaders had enduring careers, some spanning from the late 1990s into the first decade of the 2000s. Fully 36 per cent of men and 24 per cent of women correctly matched the party with their campaign promise. The gender gaps in the responses show that men know more on average and that they are less likely to provide don't know or to refuse to respond. Nearly one quarter of women and men provided incorrect responses and 58 per cent of women and 44 per cent of men provided "don't know" responses.

3.5 Independent Variables

The independent variables also come from the Canadian Election Studies. All variables are taken from the campaign period survey. Where possible, variables are coded as dummy variables so that averages can be compared between the categories of that variable. Numeric variables are typically coded in terciles, for the sake of comparing equal groups across surveys.

Gender and other the socio-demographic variables are dummy coded. Respondent's gender is coded 1 for female respondents. The reference category is male respondents. The age cohorts are coded according to the generations described by Coupland (1991). The pre-Baby Boomers were born before 1945. The Baby Boomers were born between 1945 and 1959. Generation X is born between 1960 and 1969. Generation Y was born between 1970 and 1979. The 1980s cohort was born between 1980 and 1990. The reference category is respondents born before 1945. 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 household income and the middle tercile represents respondent with middle household income. The reference category is the lowest household income tercile. Employment is coded 1 for those gainfully employed, including part-time and self-employment. The reference category is respondents who are retired, or not gainfully employed. Marital status is coded 1 for those married or living with a partner. The reference category is those who are divorced, widowed, or single. Immigrating to Canada within the last 10 years is coded as a

dummy variable. The reference category includes those born in Canada or those who have lived in Canada for more than ten years. The variable detecting the presence of children is coded 1 for those living with any number of children under the age of 18. The reference category is respondents with no children, or children over the age of 18 years. Religiosity is coded 1 for those who believe that religion is very important in their lives. The reference category is those who feel religion is somewhat important, or not at all important. Partisanship is coded 1 for strong partisans and 0 for all others. The reference category is respondents who feel a sense of weak partisanship, or no partisanship.

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 general political 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 (1), discussed politics once or twice a week (2), and discussed politics several times a week (3).

The operationalization of campaign is by week given the small daily sample in the rolling cross-section of the Canadian Election Study. The variable for week is coded 0 for the first week, and 1 for the last week. Note that the coding of the values of 0 and 1 are important for the interpretation of the interaction term in the models reported in the next section. The coding

between 0 and 1 also standardizes the difference in the length of each Canadian Election Study³. The length of the campaigns in each election study was either four or five weeks. This leaves the interpretation of the mid-point ambiguous because it could mean either week two or week three of the campaign. The value of 0 and 1 are clear, however, because they represent the first week and last week of the campaign, respectively. In addition, there are too few respondents in the rolling cross section for the party leader knowledge question who provide incorrect responses to conduct a multivariate analysis. It would be impossible to detect the strength and statistical significance of the relationship with the campaign week holding all other things equal. The analysis of incorrect responses about the party promises is included, however.

3.6 Univariate Analysis

This section provides a review of the univariate analysis of the independent variables used in the analysis using data from the 1997 to 2008 Canadian Elections Studies. The description of the univariate analysis provides a reference for the average tendencies in the data employed in the analysis, which will provide the reader with the information necessary to assess the research findings. Table 3.7 presents the values for each independent and control variable used in the subsequent statistical analyses.

³ In addition to standardizing the campaign length, the OLS modeling accounts for the variance in the sample sizes during different weeks of the campaign leading to larger and smaller error variances over the full campaign. To correct for the possibility of heteroskedastic errors, the models cluster the standard errors on campaign week.

The 1997 to 2008 Canadian Election Study sample is comprised of 53.5 per cent women. The distribution of age cohorts shows that the majority of respondents come from the two oldest groups, the Pre-boomers and the Baby Boomers. Nearly one in five respondents are from Generation X. Fewer respondents, 14.9 per cent and 7 per cent, respectively, come from Generation Y and the 1980s. Most respondents have a high school degree or less. Some 31.2 per cent have college degrees or some post-secondary education experience. Fully 28.3 per cent hold university degrees. The income terciles are made of nearly three equal parts representing the low income group, those households with approximately \$40,000 or less. Middle income households earned approximately \$40,000 to \$60,000. High income households earned more than approximately \$70,000. In the sample, 61.8 per cent of respondents were gainfully employed, and 60.9 per cent were married or living with a partner. Nearly 60 per cent of respondents' mother tongue is English. Meanwhile, approximately 20 per cent of respondents cited French as their mother tongue. As well, 20 per cent of respondents cited a language other than French or English as their mother tongue.

Table 3.7 Univariate Analysis of CES 1997 – 2008

	Type of Variable	Per cent of Sample	Standard Deviation	N
Women	Dummy	53.3		19415
Pre-boomer (before 1945)	Dummy	25.8		19182
Boomer (1945-1959)	Dummy	31.2		19182
Generation X (1960-1969)	Dummy	21.1		19182
Generation Y (1970-1979)	Dummy	14.9		19182
1980s cohort	Dummy	7		19182
High School or less	Dummy	40.5		17970
College/some PSE	Dummy	31.2		17970
Degree	Dummy	28.3		17970
Low Income	Dummy	31		16894
Mid Income	Dummy	35.4		16894
High Income	Dummy	33.6		16894
English mother tongue	Dummy	59.4		19232
French mother tongue	Dummy	20.0		19232
Neither English nor French	Dummy	20.6		19232
Employment	Dummy	61.8		17986
Marriage	Dummy	60.9		18530
Immigrant before 10 years	Dummy	3.4		17493
Kids (18 years or less)	Dummy	29.9		19223
Strong Religiosity	Dummy	30.6		16902
Strong Partisan	Dummy	12.7		18081
Media Attention (0-10)	Numeric	3.3	0.04	17743
Interest (0-10)	Numeric	5.5	0.08	17970
Discuss Politics Several Time a Week	Numeric	34.8		18556
Discuss Politics Once or Twice a Week	Numeric	42.1		18556
Never Discuss Politics	Numeric	23.1		18556
Competitive Ridings	Numeric	78	0.33	305
Urbanization Rate	Numeric	77.1	0.27	305
Degree Holder Rate	Numeric	27.7	0.23	305
Employment Rate	Numeric	61.8	0.21	305

Nearly 30 per cent of the sample had children under the age of 18 years in the household, and nearly the same amount reported strong religious affinity. Much fewer respondents felt a strong partisan affinity. Approximately 12.7 per cent of the sample was strong partisans. On a scale of 0

to 10, respondents reported an average of 3.3 to paying attention to television, radio, newspaper, and online media. Canadians have middling interest in politics generally. On average, Canadian rated their interest in politics as 5.5 out of 10. Just over a third of Canadians reported discussing politics several times a week while 42 per cent reported discussing it once or twice a week. Nearly one-quarter reported never discussing politics.

Among the aggregate level data, 78 per cent of the ridings are coded as being competitive. The average rate of urbanization across the ridings is 77 per cent. On average at the riding level 28 per cent of Canadians hold degrees. The riding level employment rate is 61.8 per cent on average.

Table 3.8 Gender Gap of Independent Variables

	Average Women	Average Men	Gender Gap
Pre-boomer (before 1945)	24.3	26.5	+2.2
Boomer (1945-1959)	26.2	25.6	-0.6
Generation X (1960-1969)	21.3	20.9	-0.4
Generation Y (1970-1979)	15.1	14.7	-0.4
1980s cohort	7.3	6.8	-0.5
High School or less	40.1	40.8	0.7
College/some PSE	31.7	30.5	-1.2
Degree	30.6	26.9	-3.7
Low Income	30.1	32.3	2.2
Mid Income	37.3	34.1	-3.2
High Income	35.2	31.7	-3.5
English mother tongue	59.3	59.5	0.2
French mother tongue	18.9	21.1	2.2
Neither English nor French	22.1	19.8	-2.3
Employment	63.1	59.2	-3.9
Marriage	61.7	59.9	-1.8
Immigrant before 10 years	4.1	2.9	-1.2
Kids (18 years or less)	30.3	29.6	-0.7
Strong Religiosity	29.4	32.7	+3.3
Strong Partisan	13.3	12.5	-0.8
Media Attention (0-10)	3.6	3.0	-0.6
Interest (0-10)	7.2	4.1	-3.1
Discuss Politics Several Time a Week	37.0	32.4	-4.6
Discuss Politics Once or Twice a Week	42.4	41.7	-0.7
Never Discuss Politics	20.6	25.9	+5.3

Table 3.8 above shows that the gender gap in individual level factors is noticeable for education level, income level, rate of employment, paying attention to politics, and discussing politics.

Among these factors, men are generally more educated, have higher income, more likely to be

employed, and more likely to be interested and discuss politics. On the other hand, women tend to be slightly older on average, and are more likely to feel that religion is important to them. These gender differences are important to consider in Chapter 4, which examines the impact of the gender differences in the levels of political resources and political engagement factors.

3.7 Modelling

3.7.1 Individual Level Effects

The first investigation I undertake is examining the impact of individual level factors on the gender gap in campaign knowledge. The purpose of this investigation is to show how much of the gender gap is accounted for by the individual level factors included in traditional models. The gender gap in political knowledge, however, is a complex process, which requires models to control for the mean level differences of explanatory factors that affect women and men. To do this, as an example, a variable measuring whether an individual has obtained a university degree would be included in the model, to capture the mean level difference between women and men.

Furthermore, the models include interaction terms between the independent variables and the gender dummy variable, to assess the levels of political knowledge of women and men given the possible gendered *effect* of each independent variable. For example, an interaction term can detect if the impact of post-secondary education has a conditional impact on women and men's political knowledge. Testing the hypothesis that the impact of education may be conditioned by gender, the interaction term of post-secondary education x gender can provide information about

the strength of the impact of higher education on women relative to men. Essentially, the interaction term estimates if there is a difference in slopes between women and men.

As Brambor and his colleagues show, the interaction term in the regression equation does not tell us the effect of the campaign on female respondents (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. The 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 that the women-specific coefficient is statistically significant (2006: 60). The interpretation of the model will be elaborated upon in Chapter 4, to explain the *level* and *effect* of each independent variable women and men, and the impact on their gender gap.

The number of main and interaction effects in the estimation raises concerns about multicollinearity, which can lead to a less than 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 a sense 'too' large – they are always the 'correct' standard errors (Brambor et al., 2006: 70). 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). To measure the potential

impact of collinearity, however, I will employ a test called the Variance Inflation Factor (VIF) in the individual level effects estimation. The VIF quantifies the severity of collinearity, and is an index of how much variance in a regression coefficient is caused by collinearity (Allison, 1999). Given the number of interaction terms that I estimate, the VIF test is necessary to ensure that standard errors are not inflated, since these increase the risk of Type II errors (failing to reject the null hypothesis). Put differently, a Type II error may result in a statistically significant relationship going undetected when one actually exists.

3.7.2 Campaign Effects

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 week of the campaign. The estimation method is ordinary least squares regression. The models estimate the gender-specific effect of the campaign using an interaction term. Due to the use of an interaction term for campaign week and gender, the gender and week coefficients cannot be directly interpreted. This is because the coefficients of gender and week, and their respective standard errors, are estimates when both gender and the campaign week equal zero. In this case, the estimate for gender and the estimate for week are for men in the first week of the campaign. As described earlier, to understand the relationship depicted in a model with interaction terms, post-model estimations are used to determine the rate of learning for women and men during the campaign. Post-model estimates are also used to measure the levels of knowledge for women and men in the first and last weeks of the campaign.

3.7.3 Socio-political Context

Multilevel modelling includes both individual level and constituency level variables in a single model. To capture the variation in post-secondary education and employment rate in each district, I rely upon data from the 2006 Canadian Census. The riding level factors measuring rates of post-secondary education (percentage of population with a university degree) and the rate of employment have been recoded into deciles to compare the effects among the ridings consistently. Controls for the level of district competitiveness in each riding are also included to account for the fact that there is a great deal of variation across Canada in local races, and as such, may affect levels of political knowledge.

A dynamic measure of district competitiveness is used in the analysis that takes into account the short-term and long-term information about riding competitiveness (Bodet, 2013; Thomas & Bodet, 2013)⁴. Here, information about the 2004 and 2006 elections is used to measure the competitiveness of riding in the 2008 election. To be coded as a stronghold, ridings are identified in one of two ways. First, if the same party gathers more than 50 per cent of valid ballots, two elections in a row, the district meets the first criteria. The second criteria is that it meets the classification Bodet (2013), which uses previous vote shares for a party in the previous election (E-1) to predict the party's vote shares in the next election (E). The predicted residuals from this analysis in every district provide important information. To be coded a stronghold, the following conditions must be met: the party's residual in the district is within one standard deviation on

⁴ I greatly appreciate Marc Bodet for providing the coding for the competitive and stronghold ridings used herein.

either side of the mean residual; the party in the district gathers a vote share larger or equal to the smallest winning plurality in any district across Canada at elections E and E-1; and that no other party fulfills the first two conditions in the districts (Thomas & Bodet, 2013: 157-8).

I also include a measure of urbanization in the models. The rate of urbanization is controlled for to ensure that the relationships estimated herein are not an artifact of differences between urban and rural Canada (Turcotte, 2005). Rural residents compared to urban residents tend to have a stronger sense of belonging, are more likely than urban residents to volunteer, and know their neighbour (2005), which may affect interpersonal communication and political knowledge.

The expectation is that the gender gap in political knowledge will narrow in constituencies with higher levels of political resources such employment and post-secondary education. The local socio-political resources are expected to narrow the gender gap because they may lead to an increase in women's knowledge of campaign information relative to men. At the local level, these resources are expected to be gendered. Local areas that have higher rates of post-secondary education and employment are expected to help women more than men. When women are surrounded by more educated women, and/or employed women it will likely result in more political information flow in their personal and professional networks. One consequence of this is likely that new political information will be easier for women to access and learn. Such exposure is also expected to help women overcome the message that women tend to discuss and pay attention less about the campaign than men.

Since I am combining individual level survey data with constituency level data, I am using a multilevel model. This technique allows me to directly test the hypotheses within and across the two levels of analysis, individuals and constituencies. This technique also allows us to deal with the non-independence of cases within the constituencies which could lead to inflated estimates of statistical significance (Steenbergen and Jones 2002). Multilevel modelling provides a means to simultaneously recognize the individual survey responses and the constituency characteristics. Both are distinct sources of variation in the gender gap in political knowledge, and need to be modelled as such.

The random intercept model is used to capture the impact of individual and constituency level factors, and their respective error terms (Macherenko, 2012). Typically in studies of political behaviour, a single level regression model is used to determine the effect of the explanatory factors on individuals' political knowledge. The basic single level model is shown in Equation 3.1 with intercept B_0 , the estimated impact of an independent variable B_1X_i , and an error term e_i . The error term is noted as having a normal distribution. Two problems can arise, though, from modelling a single level. First, the standard errors can be estimated incorrectly when the data are not modelled to represent their clustered or hierarchical nature. For instance, I argue that political resources can be obtained at both the individual and constituency levels. A single level model can only provide estimates for the impact of the political resources at the individual level. Second, the single level regression model does not estimate how much variation is at each level. For example, the single level model cannot account for the political knowledge of individuals when clustered by federal constituency because the model will only provide estimates using

variation at the individual level. Therefore, the multilevel model is necessary to test hypotheses related to the impact of political resources at the constituency level on the gender gap.

Equation 3.1 Single Level Component of Multilevel Model

$$y_i = \beta_0 + \beta_1 x_i + e_i$$

$$e_i \sim N(0, \sigma^2)$$

The component capturing variation in political knowledge by riding that is added to the model is shown in Equation 3.2. In a mixed model, each constituency can have a unique intercept, which represents an upward or downward shift in knowledge levels from the overall regression line B_0 . The term u_j is the amount which the average level of political knowledge for the constituency deviates from the mean across all constituencies. Adding B_0 to u_j is the mean value for the constituency. The term e_{ij} is the error term of an individual's political knowledge score from the mean constituency value. The two error terms, u_j and e_{ij} represent the random component of the model.

Equation 3.2 Random Component of Multilevel Model

$$y_{ij} = \beta_0 + u_j + e_{ij}$$

$$u_j \sim N(0, \sigma_u^2)$$

$$e_{ij} \sim N(0, \sigma_e^2)$$

Putting the two basic equations together, Equation 3.3 estimates the riding level effect, the individual level effect, and their random terms. The fixed parts of the model include the coefficients of B_0 , B_1 , and so forth. As before, the error terms are normally distributed.

Equation 3.3 Random Intercept Model

$$y_{ij} = \beta_0 + \beta_1 x_{ij} + u_j + e_{ij}$$

$$u_j \sim N(0, \sigma_u^2)$$

$$e_{ij} \sim N(0, \sigma_e^2)$$

3.8 Conclusion

This chapter has described the two major sources of data employed in the following analysis: the 1997 to 2008 Canadian Election Studies, and the 2006 Canadian Census. It has provided

information about the coding for the dependent variable, which measures knowledge of campaign promises and party leaders. Each dependent variable comes from select years of the Canadian Election Studies: party promises from the 1997 to 2006 CES, and party leaders from 2000 to 2008. I have also explained the coding for the independent and control variables used in the research chapters. The dependent variables measuring correct and don't know responses report double-digit gender gaps. A four point gender gap was identified in incorrect information, showing that men are slightly more likely than women to associate the wrong party with the party promise. The univariate analysis provides basic information about the independent and control variables' central tendencies and measure of dispersion to aid the reader in interpreting the findings. As well, a description of the interaction terms, and the random intercept multilevel model provides a guide to the following analysis.

Chapter 4: Individual Level Factors and the Gender Gap

4.1 Introduction

Women, as a group, often lag behind men in the classroom of electoral politics. They perform less well on questions about conventional political facts than their male counterparts, a gender difference that has persisted since researchers such as sociologist Paul Lazarsfeld and colleagues introduced the sample survey as a tool to social science (Berelson et al., 1954; Campbell et al., 1960; Delli Carpini & Keeter, 1996; Frazer & MacDonald, 2003; Gidengil et al., 2005; Gidengil & Stolle, 2012; Lambert, Curtis, Kay, & Brown, 1988; Mondak & Anderson, 2004; Mondak & Canache, 2004; Mondak & Davis, 2001; Ondercin et al., 2011). In more concrete terms, the size of the gender gap captured by survey data shows that women provide fewer correct responses on political knowledge questions than men on average. The gender difference can vary in size depending upon the type of information asked of respondents (Delli Carpini & Keeter, 1996; Gidengil & Stolle, 2012; Kenski & Jamieson, 2000; Ondercin & Jones-White, 2011; Stolle & Gidengil, 2010). For electoral politics, it is typically more than ten percentage points on average across post-industrial democracies (Delli Carpini & Keeter, 1996; Frailie, 2014; Gidengil et al., 2005; Kenski & Jamieson, 2000).

The purpose of this chapter is to investigate the standard model at the individual level to identify how much of the gap in political knowledge it can explain. The analysis will start by estimating a model that will note the size of the gender gap in knowledge of party leaders and party promises without any independent variables. The analysis will proceed by modelling the independent

variables discussed in Chapter 3, to establish how much the gender differences in the level of the explanatory factors change the gap between women and men. Lastly, the analysis will include interaction terms with gender and the independent variables which have a gendered effect on political knowledge. In this last step, the gender gap will be estimated to see how well the gendered effect of individual level factors account for the gap between women and men.

Nearly three decades ago, Virginia Sapiro asked “why [do] many young women whom we would expect to have cast off the veils that have enshrouded women in the past continue to behave politically separate from the public world of men?” (Sapiro, 1983). Her study of young American women in the 1970s found that gendered social roles and fewer chances to acquire postsecondary education and participate in the workforce promoted political marginality, keeping women from acquiring the same levels of political information as men (1983: 138). Since then, there has been a great expectation of change in the political integration of women. Many close observers thought that women’s rising education levels and mass entry into the paid work would remedy gendered difference in political knowledge.

Drastic changes have taken place for women. Between 1971 and 2001, the percentage of Canadian women 15 and older with a university degree increased from three per cent in 1971 to 15 per cent in 2001 (Statistics Canada 2006). Over the same period, men 15 and older with a university degree increased from seven per cent in 1971 to 16 per cent in 2001 (2006). Canada has also seen significant increases in women’s labour force participation. To compare the change over time, in 2004, 7.5 million women 15 and over were in the paid workforce, which is double the figure from the mid-1970s (2006). In 1976, 42 per cent of women 15 and older were

employed, which increased to 58 per cent in 2004. To contrast, the proportion of employed men 15 and older decreased from 73 per cent in 1976 to 68 per cent in 2004 (2006). In 1976, women comprised 36 per cent of the workforce. In 2004, women comprise 47 per cent of the workforce (2006). Women's precipitous rise in levels of education and the paid work force not only changed the personal lives of women, it vaulted women into more prominent stations in society including politics.

More women are seeking election to public office (Trimble & Sampert, 2003), more women are seeking leadership roles within parties (Paxton & Hughes, 2007), and there has been a narrowing in the gender gap in political activity such as voting (Blais et al., 2004b; Harrell, 2009).

However, there remains an eerie similarity between the young women of then and now. The generation of "new" women Virginia Sapiro studied years ago, like young women today, are not as politically engaged as we would expect after all. Women remain less psychologically attached to electoral politics than men, marked by gender differences in political interest, political efficacy and political knowledge (Gidengil et al., 2008). This suggests that Sapiro's concerns stated over thirty years ago are still relevant in an era when citizenship is viewed by many to be gender neutral (Vickers, 1997).

The purpose of this chapter, therefore, is to probe the question of why the gender gap in political knowledge persists by investigating what factors contribute to the size, significance, and sources of the gap. Drawing insights from the different pathways to political knowledge, this chapter attempts to account for factors that explain the levels of information about electoral facts known by women and men. This chapter analyzes two types of campaign-specific information:

knowledge of federal party leaders, and knowledge of campaign promises. The findings show that gender difference in the knowledge of the federal party leaders is determined in part by gender-specific factors. Men tend to benefit more from higher levels of income, and from marriage. Meanwhile, women gain relatively more information from higher levels of education and a stronger sense of religiosity. The socioeconomic and political engagement predictors were less successful at explaining knowledge of party campaign promises. However, the results show that even with the equivalent levels of resources and motivation to learn about politics, women do not know as much about federal politics as men.

4.2 Results

4.2.1 Correctly Identifying Party Leaders

The results in Table 4.1 provide three models to explain the correct responses in identifying party leaders. The first model provides an estimate of the gender gap in correctly identifying the party leaders while controlling for the election year. The gender gap is reported as a negative value, a ten point difference with men providing 68 per cent correct responses while women provide 58 percent correct.

The second model includes the individual level factors to capture the gender difference in the level of the socioeconomic factors and psychological engagement in politics on knowledge of the party leaders. These explanatory factors account for the difference in the average levels of each attribute on knowledge of the party leaders. For example, an important gender-specific factor is

household income. Men tend to have higher household income than women on average. The income variable is coded as terciles (low, medium, high income), and then recoded into dummy variable for each category. This coding captures the effect of middle and high income earners compared to low income earners (the base category). The effect of the gender difference in income levels is hypothesized to have an effect on the gender gap in knowledge of the leaders since higher income earners tend to know more about political affairs on average. The gender gap may be caused in part by the fact the men's household income is higher than women's. If this were the case, the effect on the gender gap would be apparent in the model because the size of the gender coefficient would change and/or possibly even lose statistical significance. For this example, if income had an equalizing effect given that women make less than men on average, then the gender gap would shrink and the coefficient may even become statistically insignificant.

In Table 4.1, model two shows that the gender gap is -0.057 and statistically significant. This result indicates that controlling for the average gender differences in the explanatory factors, a gap of nearly six percentage points remains in favour of men. The results from the second model in Table 4.1 also show that the explanatory variables included in the model affect general knowledge levels of party leaders. Residents of Quebec and the West are slightly more knowledgeable than residents of Ontario and the Atlantic regions on average. Language has a bearing on political knowledge. Respondents whose main language is neither French nor English cannot name party leaders as readily. As well, baby boomers appear to be the cohort with the highest levels of political knowledge. It is not possible to know whether this is a life-cycle or cohort effect, but baby boomers know more than the oldest cohort and the younger cohorts of respondents. Higher levels of income and education are both positive factors that tend to increase

levels of political knowledge. As well, married respondents on average reported higher levels of knowledge of party leaders. The commitment to gainful employment and recent immigration to Canada, however, have a negative effect on average, as does having children under the age of 18 years at home. Meanwhile respondents who strongly believe that religion is important in their lives has no direct effect on levels of political knowledge. Nor does being a strong partisan have an effect.

Table 4.1 Gender Gap in Knowledge of Party Leaders

	Model One		Model Two		Model Three	
	Coefficient	Standard Error	Coefficient	Standard Error	Coefficient	Standard Error
Gender	-0.102*	-0.007	-0.057*	-0.008	-0.078*	-0.037
West			0.019+	-0.01	0.026+	-0.014
Atlantic			0.001	-0.014	0.023	-0.018
Quebec			0.048*	-0.015	0.047*	-0.021
French			-0.008	-0.014	0.001	-0.021
Other language			-0.032*	-0.014	-0.037*	-0.018
Baby Boomers (1945-1959)			0.027*	-0.011	0.047*	-0.016
Gen X (1960-1969)			-0.024+	-0.014	0.014	-0.019
Gen Y (1970-1979)			-0.075*	-0.014	-0.046*	-0.020
1980s			-0.078*	-0.014	-0.048*	-0.018
Mid Education			0.061*	-0.012	0.053*	-0.018
Degree			0.154*	-0.014	0.120*	-0.020
Mid Income			0.058*	-0.011	0.074*	-0.016

High income			0.056*	-0.013	0.059*	-0.018
Employment			-0.027*	-0.010	-0.036*	-0.015
Marriage			0.056*	-0.009	0.083*	-0.014
Kids			-0.057*	-0.009	-0.044*	-0.013
Religiosity			-0.015	-0.009	-0.040*	-0.014
Immigrant last 10 years			-0.085*	-0.002	-0.014*	-0.003
Strong Partisan			0.008	-0.012	0.010	-0.016
Media Attn (0-10)			0.026*	-0.002	0.016*	-0.003
Political Interest (0-10)			0.018*	-0.002	0.022*	-0.003
Discuss Politics (1-3)			0.068*	-0.007	0.054*	-0.01
west_gen					-0.013	-0.02
atlantic_gen					-0.046	-0.03
french_gen					-0.004	-0.029
otherlang_gen					-0.008	-0.029
otherlang_gen					0.018	-0.027
boomers_gen					-0.044*	-0.022
GenX_gen					-0.075*	-0.027
GenY_gen					-0.057*	-0.028
1980s_gen					-0.059*	-0.025
mided_gen					0.025	-0.025
degree_gen					0.087*	-0.028
midincome_gen					-0.027	-0.021
highincome_gen					-0.001	-0.025
employ_gen					0.006	-0.02
marriage_gen					-0.046*	-0.019
kids_gen					-0.026	-0.019

religiosity_gen					0.049*	-0.019
immigrant last 10 years_gen					0.003	-0.003
strongpartisan_gen					-0.005	-0.024
media_attn10_gen					0.022*	-0.004
interest_gen					-0.011*	-0.004
discuss_gen					0.022+	-0.013
2000	-0.058*	-0.010	-0.043*	-0.010	-0.042*	-0.010
2004	-0.115*	-0.009	-0.038*	-0.013	-0.035*	-0.013
2006	0.060*	-0.012	0.059*	-0.011	0.058*	-0.011
constant	0.680*	-0.012	0.203*	-0.023	0.214*	-0.030
N	11072		6494		6494	
R-sq	0.050		0.300		0.314	
adj. R-sq	0.050		0.298		0.309	
Table entries are unstandardized OLS coefficients, with standard errors in parentheses.						
*p<0.05, + p<0.10						

The gender specific effects of each explanatory factor are reported in model three in Table 4.1.

The variation inflation factor is reported as 8.14, which means multicollinearity is not a problem because it satisfies the requirement to remain below ten. Model 3 provides information about the gendered effect of the individual level explanatory factors. For example, if the impact of household income has gendered effect, the size and statistical significance of the gender difference will be reported as the coefficient for the interaction term. The size and the statistical significance of the main effect of household income reported can be interpreted as the marginal effect for men with controls. Where gender differences occur, the marginal effect for women is calculated by a linear addition of the main effect and the interaction term. The marginal effect for

women is estimated with standard errors to detect if the effect is statistically significant. The marginal effects for women and men, where statistically significant differences exist, are reported in Table 4.2. Comparing the size and significance of the marginal effect for men and women is important because a statistically significant interaction term does not necessarily mean that the marginal effect is statistically significant either for men or women.

The gender gap in leader name recall with the interaction terms in Model three is ten percentage points (see Table 4.3). This result indicates that the gendered level and effects of the independent variables in the model do not explain the gender gap in knowledge of party leaders. This finding replicates other studies, which examine the individual level factors on the gender gap in political knowledge (Frazer and MacDonald 2003; Dow 2009; Ondercin et al. 2011).

Table 4.1 Marginal Effects of Significant Explanatory Factors for Women and Men's Knowledge of Party Leaders

	Marginal Effect for Women		Marginal Effect for Men	
Boomers (1945-1959)	-0.003	(0.002)	0.047*	(0.016)
Gen X (1960-1969)	-0.060*	(0.002)	0.014	(0.019)
Gen Y (1970-1979)	-0.103*	(0.000)	-0.046*	(0.020)
1980s	-0.114*	(0.001)	-0.041*	(0.018)
Degree	0.210*	(0.020)	0.120*	(0.020)
Marriage	0.037*	(0.013)	0.083*	(0.014)
Religiosity	0.008	(0.013)	-0.040*	(0.014)
Media Attention	0.038*	(0.000)	0.016*	(0.003)
Interest	0.012*	(0.000)	0.022*	(0.003)
Discuss	0.076*	(0.010)	0.054*	(0.010)
Cell entries are unstandardized coefficient, with standard errors in parentheses.				

The statistically significant interaction terms in model three indicate where there are gendered effects for select socioeconomic and psychological engagement factors. The results show that men derive a larger benefit than women from being the age of the baby boomers because the marginal effect is positive and statistically significant for men while it is not statistically significant for women. The average level of political knowledge, using post-estimation predictions, show that among the baby boomers men's rate of correct responses is 68 per cent while women's is 60 per cent (results reported in Table 4.3).

Compared to women who were born before the baby boomers, women in Gen X, Gen Y, and those born in the 1980s are less likely to know the names of the party leaders. Men born in the Gen Y and the 1980s cohorts know less on average than men born before the baby boomers but this effect is more pronounced for women (Table 4.3). The gender difference in average level of correct responses is greatest at 14 points in the Gen X cohort. Women identified leaders correctly at a rate of 50 per cent while men did at a rate of 64 per cent. The gap narrows to ten points for Gen Y and the 1980s cohorts. The Gen Y cohort's average level of correct knowledge is 56 per cent for men and 46 per cent for women. Among the 1980s cohort, the levels of correct responses is lowest with men providing correct responses at a rate of 54 per cent and women at 44 per cent. These results indicate that the expectation that cohorts of women following the second wave women's movement would be as knowledgeable as men about electoral politics does not have support here. Accounting for the cohort effect does not have an equalizing effect on political knowledge of key federal politicians, either.

The marginal effect of education in Table 4.2 shows that the benefit of university education has a greater positive effect for women than men. The coefficient is statistically significant, positive, and slightly larger for women compared to men. Yet, the larger positive effect does not eliminate the gender difference in levels of knowledge. Men with university degrees provided 76 per cent correct responses while women provided 70 per cent correct responses (Table 4.3). The finding is contrary to American studies of the American electorate where men receive larger returns on higher education than women (Burns et al. 2001; Dow 2009).

Table 4.2 Average Party Leaders Correct Responses for Gendered Explanatory Factors

	Women	Men	Gap
Boomers	60	68	-8
Gen X	50	64	-14
Gen Y	46	56	-10
1980s	44	54	-10
College	51	61	-10
Degree	70	76	-6
Mid-Income	57	66	-9
High Income	64	70	-6
Marriage	56	68	-12
Religiosity	56	61	-5
Media Attention=1	37	51	-14
Media Attention=10	76	82	-6
Interest=1	34	42	-8
Interest=10	74	78	-4
Discuss=1	35	48	-13
Discuss=3	71	75	-4
Average level of knowledge post-model estimates from Model Three using 'margins' command in STATA	57	67	-10
Cell entries are percentages.			

Marriage has a larger net benefit to men's ability to recall the name of party leaders compared to women, even though marriage is a net benefit to both of them. Male respondents who feel that religion is important to them tend to know less compared to male respondents who do not feel strongly about religion. There is no direct effect of religiosity on women's level of knowledge. The results indicating that men gain more than women from marriage, and from the strength in religion's importance demonstrates that men tend to gain more from political resources compared to women.

The political engagement factors affect the political knowledge of women and men in a positive way. In fact, the highest levels of political interest, discussion of politics, and media consumption demonstrate the smallest gender gaps. High levels of political interest have a positive influence on women and men and the gender gap is four points among the most interested in politics, 74 per cent for women and 78 per cent for men (see Table 4.3). As well, the findings show that the impact of discussing politics with others is positive and similar for women and men. Among the most active men who discuss politics, 75 per cent provide correct responses while the equivalent females provide 71 per cent correct responses. At the highest level of media consumption, however, a 6 point gender gap remains.

4.2.2 Correctly Identifying Party Promises

The size of the gender gap in identifying party promises without controls is reported as 12 percentage points in Model one. Model two includes the indicators of socio-economic resources and psychological political engagement. With these controls, the gender gap is estimated as 8

points in favour of men in Model Two (Table 4.4). The impact of region indicates that residents of the west on average know more than residents in Ontario. Residents in Ontario tend to know more than residents of the Atlantic provinces. There is statistically no difference in the knowledge of the party promises between the residence of Ontario and Quebec on average. Respondents with English as their mother tongue tend to know more than respondents whose native language is something other than French or English. There is no statistically significant difference in the levels of knowledge for native English and native French speakers.

On average, the pre-boomers, baby boomers, and Gen X have the same level of knowledge of the party promises (Table 4.4). The two youngest generations, the Gen Y and 1908s cohort, know less than the pre-boomers on average. Higher education, higher income, and strong partisanship have positive effects on the knowledge of party promises. Immigration status has no discernable impact on knowledge of party promises. Marriage tends to increase knowledge levels. However, gainful employment, children in the home, and strong religiosity tends to decrease knowledge of party promises.

Table 4.3 Gender Gap in Knowledge of Party Promises

	Model One		Model Two		Model Three	
	Coefficient	Standard Error	Coefficient	Standard Error	Coefficient	Standard Error
gender	-0.121*	-0.006	-0.078*	-0.007	-0.013	-0.03
west			0.018*	-0.008	0.031*	-0.012
atlantic			-0.027*	-0.012	-0.022	-0.017
quebec			-0.019	-0.013	-0.011	-0.018
french			0.013	-0.013	0.021	-0.017
otherlang			-0.027*	-0.012	-0.041*	-0.017
boomers			0.006	-0.01	0.023	-0.015
GenX			-0.011	-0.012	0.013	-0.016
GenY			-0.045*	-0.012	-0.030+	-0.017
1980s			-0.051*	-0.011	-0.041+	-0.015
mided			0.030*	-0.01	0.032*	-0.013
degree			0.116*	-0.012	0.120*	-0.016
midincome			0.048*	-0.009	0.057*	-0.013
highincome			0.069*	-0.011	0.074*	-0.015
employ			-0.030*	-0.009	-0.043*	-0.013
marriage			0.028*	-0.008	0.049*	-0.007
kids			-0.038*	-0.008	-0.023*	-0.011
religiosity			-0.033*	-0.008	-0.049*	-0.012
immigrant last 10 years			-0.003	-0.001	-0.005	-0.002
strongpartisan			0.026*	-0.011	0.019	-0.015
media_attn10			0.014*	-0.002	0.014*	-0.002

interest10			0.023*	-0.001	0.025*	-0.002
discuss			0.047*	-0.005	0.047*	-0.008
west_gen					-0.027	-0.017
atlantic_gen					-0.009	-0.024
quebec_gen					-0.017	-0.027
french_gen					-0.015	-0.025
otherlang_gen					0.034	-0.024
boomers_gen					-0.027	-0.021
GenX_gen					-0.035	-0.023
GenY_gen					-0.018	-0.024
1980s_gen					-0.013	-0.025
mided_gen					-0.004	-0.019
degree_gen					-0.012	-0.023
midincome_gen					-0.009	-0.017
highincome_gen					-0.001	-0.021
employ_gen					0.040*	-0.017
marriage_gen					-0.042*	-0.016
kids_gen					-0.033*	-0.016
religiosity_gen					0.030+	-0.016
immigrant last 10 years_gen					-0.007	-0.022
strongpartisan_ge n					0.017	-0.021
media_attn10_gen					0.001	-0.003
interest_gen					-0.003	-0.003

discuss_gen					0.001	-0.010
1997	-0.235*	-0.008	-0.185*	-0.009	-0.185*	-0.009
2000	-0.323*	-0.007	-0.296*	-0.008	-0.296*	-0.008
2004	-0.343*	-0.007	-0.378*	-0.011	-0.378*	-0.011
Constant	0.775*	-0.007	0.489*	-0.018	0.460*	-0.024
N	15021		9850		9850	
R-sq	0.183		0.32		0.324	
adj. R-sq	0.183		0.319		0.321	
Table entries are unstandardized OLS coefficients, with standard errors in parentheses.						
*p<0.05, + p<0.10						

The gender specific effects reported in Model Three are in in Table 4.4. These coefficients report if the impact between women and men are different at conventional levels of statistical significance. The variation inflation factor is estimated as 7.89 indicating that multicollinearity is not a concern in the model. Employment, marriage, religiosity, and raising children have gendered effects. The results show that gainful employment has a net positive effect for men. As shown in Table 4.5, however, there is no effect of gainful employment on women’s knowledge of party promises. A strong sense of religiosity has a net negative effect for women and men but the effect is stronger for men. Meanwhile, the effect of raising children has a net negative effect yet the impact is stronger for women. Finally, marriage has a positive effect for men while it has no direct effect on women.

The average level of political knowledge, using post-estimation predictions, is reported in Table 4.6. The main finding shows the gender gap in Model 3 is eight points. Similar to the results in the previous section, a large gender gap in party promise recall remains in the model accounting for the gendered level and effects of the explanatory factors. Table 4.6 also shows that a ten point gap remains between women and men who are gainfully employed. As well, sizable gender gaps remain despite accounting for the gendered effect of religiosity (8 point gap), raising children (15 point gap), and marriage (13 point gap).

Table 4.4 Marginal Effects of Significant Explanatory Factors on Women and Men for Knowledge of Party Promises

	Marginal Effect for Women	Standard Error	Marginal Effect for Men	Standard Error
Employment	-0.016	(0.011)	-0.043*	(0.013)
Religiosity	-0.019*	(0.012)	-0.049*	(0.012)
Kids	-0.044*	(0.010)	-0.023*	(0.011)
Marriage	0.013	(0.010)	0.049*	(0.010)
Cell entries are unstandardized coefficient, with standard errors in parentheses.				

Table 4.5 Party Promises Average Correct Responses for Gendered Explanatory Factors

	Women	Men	Gap
Employ	32	42	-10
Religiosity	31	39	-8
Kids	27	42	-15
Marriage	33	46	-13
Average level of knowledge post-model estimates from Model Three using the 'margins' command in STATA	34	42	-8
Cell entries are percentages			

4.4 Discussion and Conclusion

The findings demonstrate clearly that a psychological-socioeconomic resource model coupled with political engagement and media consumption factors cannot fully explain why women tend to know less than their male counterparts about party leaders and campaign promises. When men and women possess roughly equal stocks of the resources that reduce the cost of acquiring political information, and when men and women are engaged in politics to the same extent, on average women scored lower than men when it comes to identifying federal party leaders and campaign promises. Even controlling for the gender specific impact of media consumption, political engagement, and an array of relevant social background characteristics, which are critical for reducing the cost of acquiring political information, did not explain fully the gender knowledge gap.

Some of the expectations about the conventional explanations were supported by the analysis, and they are worth elaborating upon. It is clear that there is a mix of factors that contribute to the gender gap. First, education has a positive effect on the knowledge levels of women and men. The additional boost women receive in knowledge of the party leaders from post-secondary education points to an area where women have made recent gains, but the effect is not the same for knowledge of the campaign promises. There is no gendered impact of formal education on knowledge of the party promises. The positive effect of education on women's knowledge of the party leaders puts into question the expectation that men consistently have an advantage from formal education. Dow's study of the American electorate showed that men's political knowledge received higher returns on post-secondary education (2009). Whether the difference in results between Canada and the United States is due to social conditions, or the measurement of political knowledge, requires further study. The results suggest that the gendered effect of education is not consistent between the types of electoral knowledge.

Second, the expectation that the younger generation of women may be more knowledgeable than older generations was not supported in this analysis. The results show that there is either a cohort specific effect, or life cycle effect in party leader recall that is not detected in knowledge of campaign promises. Younger cohorts of women tend to know less about party leaders compared to younger cohorts of men. These results are surprising because these models are theoretically grounded in the historical and cultural reasons women have received fewer opportunities to acquire political information over time. The advantages that men continue to possess seem clear but they do not provide a complete account of the persistent gender differences. In fact, one of the most puzzling findings to emerge from the analysis is the relatively small impact of the

feminist movement. In this analysis, the youngest cohorts of women remain less knowledgeable than their male peers. Indeed, we need to understand why the second and third wave feminist movements have not encouraged more women to shake the notion that politics is a field of interest worth engaging.

Third, there is evidence that the negative impact of having children at home is larger for women than it is for men regarding their knowledge of party promises. There is no gendered effect of the presence of children on the knowledge of the party leaders. Other studies have found little support for a gendered impact of family commitments on political knowledge (Gidengil et al., 2004) and political engagement (Burns et al., 2001). In regards to knowledge of campaign promises, the finding points to a double day effect. The stronger negative effect for women suggests that there could be a number of reasons why the consequences of parenthood has a slightly greater impact for women. The expectation that women's commitments outside the home should not greatly compromise family life is likely part of the causal mechanism for the gendered impact. As well, prioritizing the earning potential of the husband over the wife may be another potential influence on the gendered impact of children. These reasons are possible explanations because women may choose to prioritize their time and psychological energy on family matters over political matters.

Marriage, or living with a partner, was a positive factor for women's and men's knowledge of party leaders. The effect was slightly stronger for men. Meanwhile, marriage had a positive impact on men's knowledge of campaign promises, but no impact on women's knowledge. The results suggest that stable conjugal relationships can help individuals acquire political

information. The positive impact of stable relationships for men's knowledge of campaign promises points to a possible difference in the communication of campaign information for women and men. Currently, there is no study which addresses the flow of political communication between husband and wife. Such a study would require a measure political discussions between partners. In the study, it would be necessary to trace the direction of information flow and measure differences between women and men over time.

Regarding the importance of religion to an individual, the results show that those who report that religion is very important know slightly less about the campaign promises compared to individuals who are not affiliated, or who are seldom engaged, in their organized religion. The negative effect is slightly stronger for men than it is women. As well, a strong commitment to organized religion has a negative effect on men's knowledge of the party leaders, while it has no bearing on women's knowledge of the party leaders. In Canada, religious women are more likely than religious men to volunteer in religious and community affairs (O'Neill, 2006). The negative impact suggests that those who are involved in organized religion spend less time learning about electoral politics. This could be caused by their time commitment to the organization's activities, and perhaps focusing on matters and related information that do not directly touch federal politics. As well, the negative impact could be a sign that their energy and focus is directed towards things other than politics.

The limitations of the explanations tested in the individual level models provide direction for new research into the gender gap. New lines of inquiry, originating from the gendered effects of social and political context, are a promising area to start. The role of election campaigns is

important to study because it can have an impact on the way men and women learn about the people, the parties, the issues, and the election promises. Election campaigns can 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. As well, the influence of constituency level gender disparities in political resources, such as the local rates of postsecondary education and gainful employment, may have an important bearing in how men and women engage in learning about electoral politics. Of course, doing so requires a research design centered on comparison across contexts, different geographical places, different years, and different election campaigns. The following chapters are devoted to studying the campaign related effects, and the impact of local political context, on the gender gap in political knowledge in the Canadian case.

The final part of this analysis answers the question: if there is a persistent gender gap, so what? Indeed, the interest in the gender gap is larger than a normative concern for gender equality. Bartels (1996) and Roy (2009) have demonstrated that informed voters make different choices likely because they have the resources to more accurately express their values, opinion, and evaluations with an appropriate vote choice. In Canada, the area of greatest consequence is the expression of women and men's opinions about social welfare and fiscal policies (Gidengil et al. 2004). Women tend to hold more liberal in these areas of public policy. Given the importance of social welfare and fiscal matters in the voting calculus, women need to be informed to cast a ballot in their best interests. Even a small gender difference in political knowledge results in a noticeable mark on expressed democratic will.

Chapter 5: The Effect of Federal Election Campaigns on the Gender Gap

5.1 Introduction

An essential part of the political behavior literature has examined the role that election campaigns play in informing voters (Holbrook, 2002; Nadeau et al., 2008; Tichenor et al., 1970). Studies of knowledge gaps have focused on the analysis of socioeconomic factors, media attention, and prior knowledge levels to track the role of campaigns in educating voters about candidates and issues. These studies have embarked on key research questions such as who receives what information and who learns the most during election campaigns? They do not examine, however, group dynamics such as the differences in campaign effects between women and men. Instead, they treat gender as a control variable without investigating gender-specific effects such as the gendered impact of education, or the responsibility of raising children. This leaves open the question of whether a high-profile election campaigns serve 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.

A growing body of literature has examined the role that election campaigns 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. Evidence from the United States shows that over the 2000 presidential election campaign, the direct effect of gender on political knowledge disappears at the end of the campaign (Ondercin et al., 2011). As the campaign progresses, the rate change in which women provide correct responses over the course of the presidential campaign is higher than men's. This suggests that American presidential campaigns provide a context in which women learn relatively more than men (Ondercin et al., 2011: 735). This does not mean that the gender gap in knowledge is eliminated during the campaign, though. The gendered rate change in providing correct responses is not large enough to cause a statistically significant change in the size of the gender gap (2011). In Ondercin and colleague's study, the gender gap in political knowledge remains the same at the end of the campaign as it did at the beginning of the campaign despite the fact that the rate change in women's correct responses is higher than men's by the end of the presidential campaign (2011).

This study focuses on testing the impact of gender on knowledge of party campaign promises and federal party leaders during federal election campaigns. The analysis provides two important pieces of information. First, it reports the impact of gender across the campaign by estimating the rate change in women and men's knowledge of party leaders and promises each week of the campaign. If a gendered effect is detected, it will report that the rate change in political knowledge will be higher for women, which will suggest that women learn more relative to men as campaigns progress. If the rate change in political knowledge is higher for men, it will suggest that men learn more relative to women as the campaigns progress. If there is no gender difference in campaign learning, then there will be no rate change difference for women and men as campaigns progress. Second, the analysis estimates the size of the gender gap each week to

see if any gendered rate changes result in an increase or decrease in the size of the gender gap.

This second step is important because we need to test if any gendered learning patterns result in a change in the gender gap.

The 1997 to 2008 Canadian federal elections provide a suitable context to test the impact of the campaign because it is a time that is saturated with significant political media coverage and campaign advertising (Nadeau et al. 2008). The higher intensity of media attention and campaign advertising can lower the cost of obtaining information because individuals need to expend relatively little effort to get information about the names of the party leaders and the major party promises of the campaign. 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. By focusing on the campaign period, this chapter contributes to the knowledge of the gender gap by examining the gendered nature of learning about politics, when political interest is at its highest.

I examine the impact of federal election campaigns on the gender gap in political knowledge in four recent Canadian federal elections, 1997 to 2006. The 2008 Canadian Election Study was not in the field for the entire campaign, so I am unable to analyze campaign changes. My analysis tracks change in campaign-related political knowledge regarding party leaders and party promises. I test whether campaigns offer an 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 campaign information. The hypothesis is that flooded by campaign information in media, political advertising, and political discussion, women obtain more information relative to men.

Women may experience lower information costs because of the relative increase in political information available during the campaign through media, political advertising, and personal contacts. Since women on average are less interested and engaged in electoral politics, they may be more receptive to new campaign information because it is more readily available, and there is a heightened interest in the campaign and the election outcome (Ondercin et al. 2011).

This chapter adds to the literature on campaign learning by examining the impact of gender on learning in federal election campaigns over a series of recent Canadian federal elections. The analysis looks at the impact of gender on correct, incorrect, and don't know responses in campaign-related political knowledge. The week-by-week results show that there is a gender difference in the rate change in knowledge of party promises. The rate change in correct responses is greater for men than women in the first two weeks of the campaigns. In weeks three through five, there is no gender difference in the rate change of providing correct responses. Weeks one through three of the campaigns showed that the rate change was larger for women compared to men in providing don't know responses. Likewise, there is no gendered rate change in correctly identifying party leaders by the middle of the campaign. Post-model estimates show that women learn slightly more information compared to men about the party leaders and party promises. The slight increase in knowledge over the campaigns for women is not great enough change the size of the gender gaps in identifying party leaders and party promises, however. The information acquired in the latter stages of the campaign suggests that women act more economically with their time and resources to gather information about party leaders and party promises.

To assess the impact of campaigns 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 data are 5-day moving averages calculated without controls. 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 than men. Thus, the first main expository method is a series of graphs with the 5-day moving averages of the two measures of political knowledge on the y-axis: 1) recalling names of party leaders; and 2) recalling party promises. The day of the campaign is reported on the x-axis. These graphs report women and men's levels of knowledge without controls. They are accompanied by regressions to test whether campaigns provide the opportunity to attenuate or even eliminate the gender gap in political knowledge.

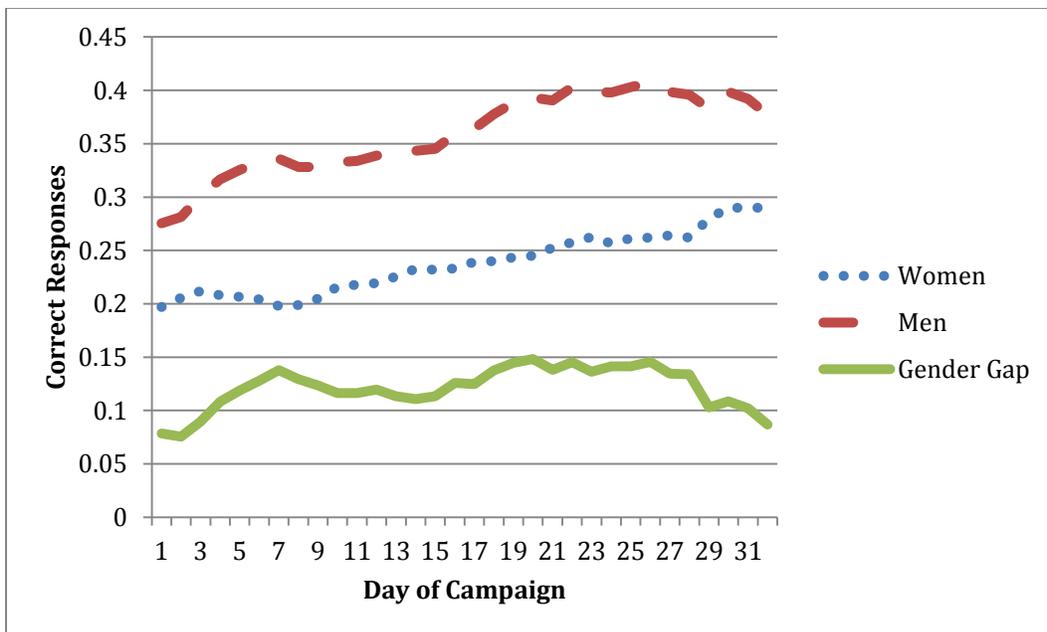
5.2 Variation in Campaign Knowledge

The gender gap in knowledge of party promises during the campaigns was calculated using 5-day moving average and subtracting women from men's values at each data point. A positive gender gap means that men score higher on a given measure. Figure 5.1 shows a statistically significant gender difference in matching the correct political party to the party promise provided. Over the course of the campaign, Canadians learn about party promises. Both men's and women's respective knowledge increases by approximately ten percentage points from the beginning to the end of the campaign. Women begin the campaign providing 20 per cent correct responses (0.20) on average, which grows to 29 per cent correct responses by the end of the campaign (0.29). Men show a relatively similar increase in knowledge of party promises. Men

begin the campaign answering 27 per cent of the questions correctly (0.27) on average. This grows to 37 per cent by the end of the campaign (0.37).

The gender gap fluctuates during the campaign. The gender gap is seven percentage points (0.07) at the beginning of the campaign and eight percentage points at its end (0.08). It grows to fifteen percentage points (0.15), which is nearly double the size of the gap at the beginning of the campaign, and stays at this size for a significant portion of the second half of the campaign. The gender gap decreases, though, to approximately ten percentage points (0.10) in the last week of the campaign. The increase in knowledge for women is steady and starts at week two.

Figure 5.1 Knowledge of Party Promises, Canadian Election Study (CES) 1997-2004



The next figure compares gender differences in providing incorrect responses. Figure 5.2 shows that nearly one quarter of Canadians give incorrect responses when asked about party promises⁵. The level of misinformation is more or less stable over the entire campaign and the gender gap itself is small. Men's incorrect response rate in the first week was 22 per cent and 24 per cent during the last week. Women's lack of knowledge of the party promises in the first week was similar at approximately 20 per cent and 21 per cent in the last week. The size of the gender gap of two percentage points at the beginning of the campaign and three points at the end of the campaign does not meet conventional levels of statistical significance. The gender gap peaks at five percentage points at day 16 and again at day 28. It decreases to two percentage points in week three and fluctuates back to three percentage points at the end of the campaign.

⁵ The incorrect responses from the 2004 CES are not part of this graph because the response categories from this election study combined the incorrect and "don't know" responses into a single category. The graph uses responses from the 1997 and 2000 CES to track incorrect knowledge of party promises during the campaign.

Figure 5.2 Incorrect Responses to Party Promise Questions, CES 1997-2000

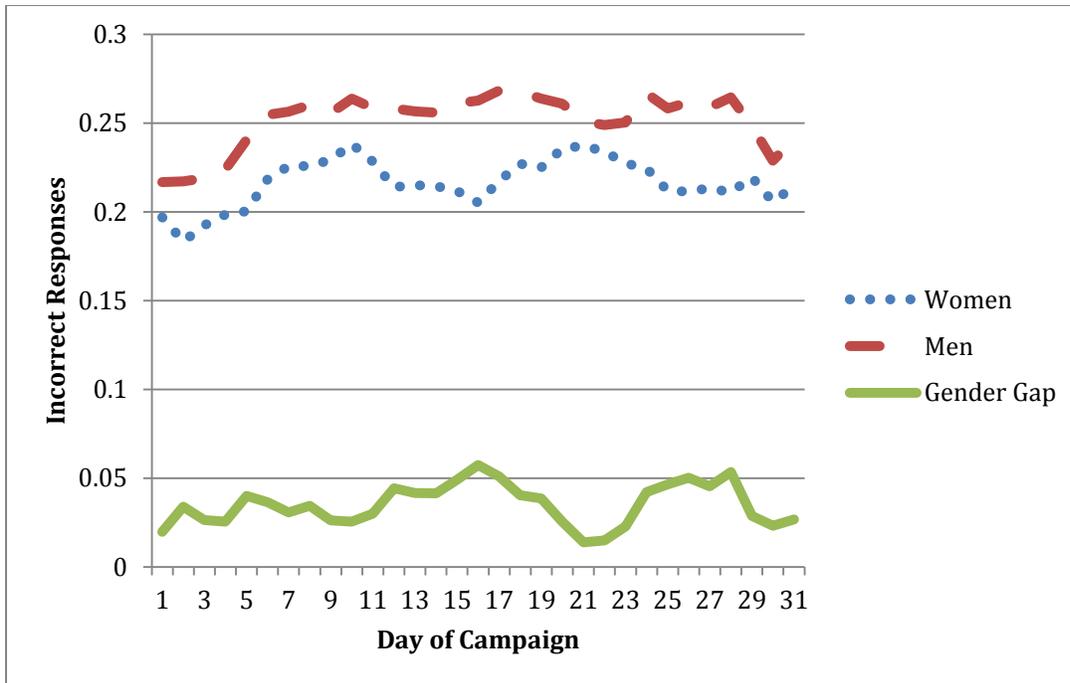


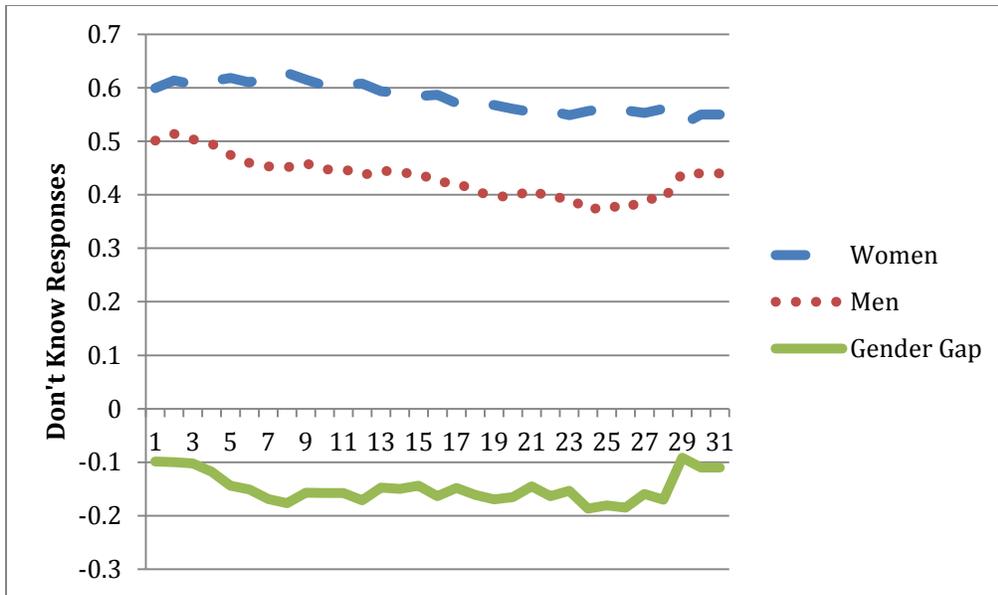
Figure 5.3 shows that at least half of Canadians provide “don’t know” responses to questions about campaign promises. At the beginning of the campaign, 60 per cent of women provide don’t know responses while 50 per cent of men do the same. Over the campaign, though, men and women are less likely to provide don’t know responses. There is a decrease of about five percentage points, from 60 per cent to 55 per cent, in women’s propensity to provide don’t know responses over the campaign. Likewise, there is a six percentage point decrease in don’t know responses from men over the campaign, from 50 per cent to 44 per cent.

The gender gap is negative in this chart because women are more likely than men to provide don’t know responses. In Figure 5.3, the scale of the y-axis is much larger than the scale in other figures so it may not be immediately apparent that the gender gap begins at ten percentage points

and grows to 20 percentage points in the fourth week of the campaign. The gender gap narrows to 11 percentage points in the last days of the campaign, which is the same size as the beginning of the campaign. The middle of the campaign is when there is the greatest gap between women and men, which supports the notion that women lag in knowledge acquisition.

The results from the don't know responses indicate that the increase in correct responses is the result of either people learning campaign information or people becoming more certain about their knowledge of campaign facts. In other words, over the campaign, people may provide more correct responses because they are more certain about their answer so they provide a correct response instead of a don't know response. The rise in the percentage of correct responses does not appear to be driven by individuals converting misinformation into correct information since the rate of misinformation provided in the campaign is quite stable.

Figure 5.3 Don't Know Party Promises, CES 1997-2000

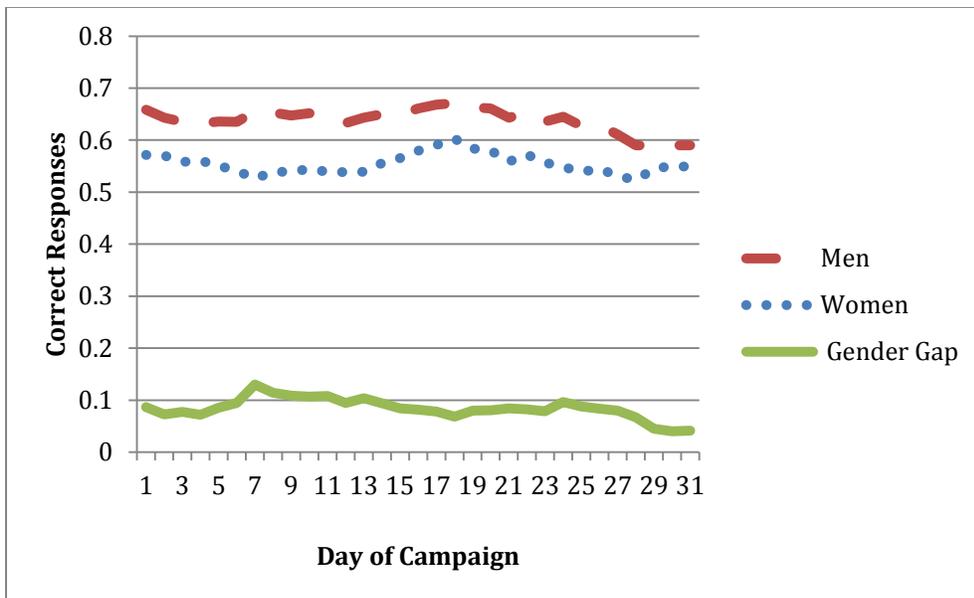


Moving to the gender differences in knowledge of party leaders, Figure 5.4 shows that Canadians are more knowledgeable about party leaders than they are about party promises when compared to the similar figure for party promises. A large majority of respondents, just over 60 per cent, correctly identify the party leader. Oddly, there is a decrease in the correct rate of response from men during the campaign. The decrease is difficult to visually detect because of the large scale used in the y-axis yet 67 per cent of men provide correct responses at the start of the campaign while 60 per cent of men provide correct responses at the end of the campaign⁶. The rate of correct responses decreases for women but the decrease is smaller than men's. The campaign started with 58 per cent correct responses and ends with 55 per cent correct responses. The

⁶ Note that the downward trend in men's knowledge is not driven by a single election but rather from two elections. The election campaign in 2000 shows a downward trend in men's knowledge in the first two weeks of the campaign. Furthermore, in the 2004 campaign the downward trend in men's knowledge occurs at the beginning of the third week and lasts until the end of the campaign. Results not shown.

decrease in men's correct response rates is the main reason for the decrease in the gender gap. For most of the campaign the gender gap remains at ten percentage points. In the last days of the campaign, due to men providing fewer correct responses, and women providing more correct responses, the gap decreases to three points.

Figure 5.4 Correct Knowledge of Party Leaders, 2000-2006



In Figure 5.5, the movement in the values for the incorrect responses appears larger than in the other figures because the scale of the y-axis is the smaller. Nonetheless, the trend shows that fewer than five per cent of Canadians provide incorrect responses when it comes to identifying party leaders. This remains consistent over the entire campaign. Women begin providing incorrect responses at a rate of three per cent. By the end of the third week of the campaign this increases to five per cent. By the end of the campaign, it returns to three per cent. Men are similar by initially providing incorrect responses at a rate of three per cent which goes up to just

under five per cent at the end of week three. Again, it returns to two per cent at the end of the campaign. The gender difference is negligible and only achieves statistical significance by the third week of the campaign. In sum, it appears that few respondents are mistaken about the names of the party leaders and that misinformation about the names of the leader is largely not differentiated by gender.

Figure 5.5 Incorrect Knowledge of Party Leaders, CES 2000-2006

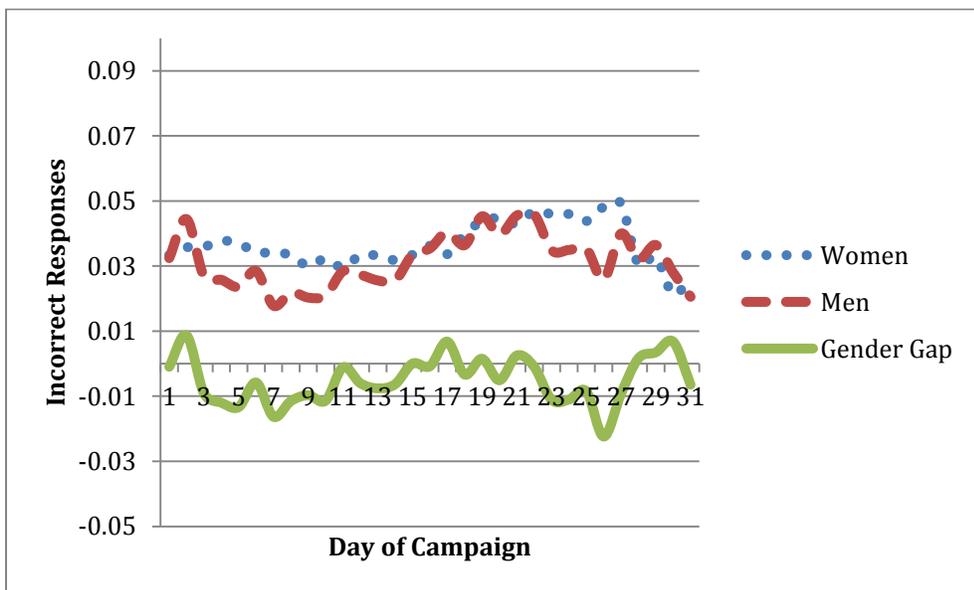
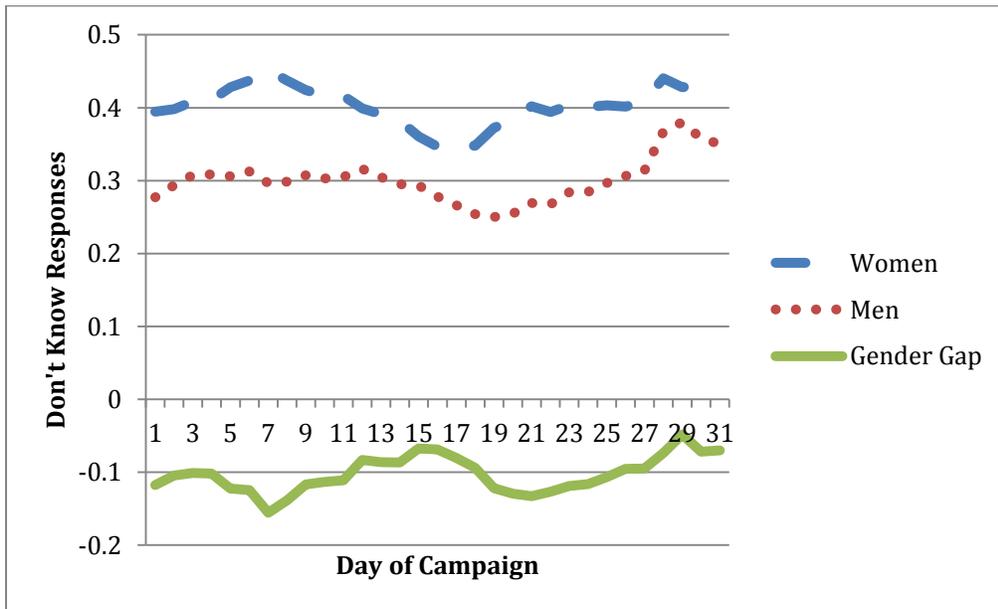


Figure 5.6 shows that nearly one-third of men and two-fifth of women fail to offer any response when queried about the identity of party leaders. Fully 28 per cent of men offer a don't know response which increases to 35 per cent at the end of the campaign. Meanwhile, women stay more or less the same. In the case of women, 39 per cent provide a don't know response at the beginning of the campaign. This moves to 35 per cent in the middle of the campaign before returning to about 42 per cent at the end of the campaign.

The gender gap in don't know responses over the course of the campaign starts at eleven percentage points and decreases to seven percentage points. The negative value of the gender gap means that women are more likely to provide don't know responses than men. The gender gap at the end of the campaign closes (moving from a negative value closer to zero) because of the increasing rate of men's don't know responses near the end of the campaign. The gap is largest at the end of the first week of the campaign (15 points) because women provide don't know responses at a rate of 45 per cent compared to men which are at 30 per cent.

Figure 5.6 Don't Know Party Leaders, CES 2000-2006



The difference between women and men's knowledge of party promises and party leaders over the campaign shows a few important trends. First, the rate of correct responses increases by

nearly ten percentage points for both women and men from the beginning to the end of the campaign. Whether this is a case of an impressive amount of learning is debatable. It appears to be a modest amount, though, given that at the end of the campaign more than half of Canadians remain unsure as to the main party promises. Over the campaign, the trends in the incorrect and don't know responses suggest that men and women provide more correct responses about the campaign promises on account of providing fewer don't know responses. There is evidence of a very small conversion of incorrect responses to correct responses during the campaign, which is supported by the fact that the level of misinformation remains more or less stable over the campaign for each gender.

Second, the same level of campaign learning is not reflected in knowledge of party leaders. The difference between the two types of knowledge may reflect in the media coverage of the two, and the longevity of party leaders. In the case of party leaders, there is more consistent media coverage during the campaign and outside of the campaign compared to the media coverage of party promises. Party promises are in news feeds during the campaign, but the party leaders still dominate news coverage. Finally, the relatively long tenure of each party leader in their post – mainly the leadership of Paul Martin, Stephen Harper, Jack Layton, and Gilles Duceppe - leads to higher levels of knowledge compared to knowledge of the campaign promises.

Third, the gender gap in identifying the party leaders shows a slight narrowing in correct responses from nine percentage points at the beginning of the campaign to five percentage points at the end of the campaign. The gap grew to its largest, 12 percentage points, on day seven of the campaign, because women were not as quick as men to gather information about the campaign.

The gap narrows at the end of the campaign, though, because of the decrease in men's correct responses and not because of women's increase in correct responses.

Fourth, the gender gap in identifying party promises tells a different story. The gap itself remains consistent at seven percentage points at the beginning of the campaign and eight percentage points at the end of the campaign. The gap grows to 15 percentage points by the end of the second week of the campaign showing that women picked up new information at the end of the campaign relative to men who showed their greatest information gains by the 20th day of the campaign.

Whether the gender gap and its campaign dynamics are detectable with a host of controls remains to be tested in the multivariate portion of the analysis that follows. It tests the campaign's influence on women and men's knowledge levels by estimating the impact of gender on knowledge of party leaders and party promises for each week of the campaign.

5.3 Multivariate Analysis Methods

The following section provides the results of the analysis which estimates the rate at which women and men learn campaign promises and party leaders' names during the campaign. The estimation method is Ordinary Least Squares (OLS) linear regression. This choice is based on a larger discussion about the multiple ways to model the dependent variable. Political knowledge could be treated as an ordinal variable that requires a different method of estimation. Treating the variable as having ordered response categories such as don't know, incorrect, and correct lends

itself to estimation methods such as ordered logit or ordered probit (Ondercin et al. 2011).

Ordered logit and probit relaxes the assumption that the distance between the three categories are equal. Alternatively, political knowledge could be treated as an interval level variable that has a value of zero and has equal distance between values. Equivalent research in the American case has shown that the substantive results using ordered probit is the same as the results using the OLS estimates. There are potential drawbacks, however, to using an ordered logit or probit model. In the ordered logit or probit models, it is easy to violate the independence of irrelevant alternative assumptions (IAA) when categories of the dependent variable are similar to each other. Violation of the IAA assumption may occur when using dependent variable as an ordinal level of measurement when one response category (i.e. don't know) is a close substitute for another response category (i.e. correct) particularly if respondents guess at the answer (Ondercin et al. 2011). The reason OLS is preferred is because it is a suitable way to estimate the three dependent variables: correct knowledge, incorrect knowledge, and don't know responses (Sturgis et al. 2008).

The potential of a non-linear relationship between campaign week and political knowledge was tested. The functional form of the relationship was modeled in three different ways following the methodology used by Blais and his colleagues (2004) to detect linear, logarithmic, and curvilinear relationships. The first is a linear increase in political knowledge measured by the variable coded as the week of the campaign. The linear model assumes that the effect of the campaign is monotonic through the campaign. The second way is by logging the value of the campaign week. It assumes that the effect of the campaign is greater at the beginning than at the end. The third is by adding a squared value of the campaign week in addition to the campaign

week variable to test for a curvilinear relationship if the effect of the campaign decreases in the latter stages of the election. While testing the three functional forms, a linear relationship was detected, and neither the logged values nor the squared values of the campaign week were statistically significant.

5.4 Results

5.4.1 Campaign Effects on Women and Men's Knowledge of Party Promises

Table 5.1 reports the summary results of the multivariate models of the gender gap in political knowledge over the course of the federal election campaign. As discussed in Chapter 3, the models estimate the gender-specific rate change using an interaction term. Due to the presence of the interaction term between campaign week and gender, the gender and week coefficients cannot be directly interpreted. This is because the coefficients of gender and week, and their respective standard errors, are estimates when both gender and the campaign week equal zero. In this case, the estimate for gender and the estimate for week are for men in the first week of the campaign. To understand the relationship depicted in the model with the interaction term, post-model estimations are used to determine the rate change for women and men during the campaigns which are reported in Table 5.1. Post-model estimates are also used to measure the levels of knowledge for women and men in the first and last weeks of the campaigns, which will be reported as the gender gap in the first and last weeks of the campaigns in Table 5.1. It is important to note that the coefficients reported in Table 5.1 are estimated average values across campaigns, and do not provide a week-by-week indication of the gender rate change in

knowledge. To overcome this weakness, the gender rate changes estimated week-by-week will be discussed in Section 5.5 with reference to Figures 5.7 through 5.11. But first, the average effect of campaigns will be discussed in this section, to see if acquiring new campaign information is gendered.

Table 5.1 Campaign Effects on Men and Women, and the Gender Gap in Political Knowledge, CES 1997-2006 (Post-Model Estimates)

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*
Incorrect Party Promises	1997-2000	0.016	0.016	-0.026*	-0.026*
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*

Note: * = $p < 0.05$

Table 5.1 shows provides a summary of the results from the models reported in Tables 5.2 through 5.6. The first dependent variable listed, correct party promises, shows that there is no change in the rate of learning across the campaign as shown as the marginal effect of women and men. Estimating the rate of learning over the course of the campaign on women and men requires two steps. First, from Table 5.2, the marginal effect and the conditional standard error are calculated for women by estimating the linear combination of the terms “week” and

“gender*week.”⁷ The effect of the campaign on women is 0.015 (on a scale of 0-1) and is not statistically significant as reported in Table 5.1. Second, the marginal effect for men is reported as the estimated value for “week” since the term “week” captures the effect of the campaign week on gender when the value of gender is zero (Brambor et al., 2006). This means that the estimated coefficient for the impact of the campaign on men is 0.035 which is reported in Table 5.1; however, it is not statistically significant. This indicates, with a host of controls, there is no gender discrepancy in the rate of learning party promises on average during the campaign. The absence of a gender difference is confirmed by the interaction term in Table 5.2. The gender*week term is not significant, verifying that there is no gender difference in the rate of learning over the course of the campaign.

⁷ The `lincom` post-estimation command in STATA 12 is used to calculate marginal effects and conditional standard errors.

Table 5.2 Gendered Effect of Campaign on Correct Party Responses, CES 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* (0.01)
Quebec	-0.019 (0.020)
Francophone	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)
1980s	-0.055* (0.012)
College	0.030* (0.009)
Degree	0.116* (0.010)
Mid-income	0.047* (0.013)
High-income	0.068* (0.008)
Employed	-0.03* (0.007)
Marriage	0.028* (0.005)
Kids	-0.038* (0.009)
Religiosity	-0.033* (0.007)
Immigrant	-0.026 (0.051)
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)
Constant	-0.047***
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<0.1 * p<0.05	

The other important piece of information in the model is the size of the gender gap at the beginning and at the end of the campaign. This is important because it will provide information as to whether any gender information gains cause a change in the gender gap. The variable measuring campaign week was coded 0 for the first week of the campaign and 1 for the last week of the campaign to aid in this interpretation. The gender gap in the level of knowledge in the first week of the campaign is reported as the coefficient of the gender term. The gender coefficient captures the difference in knowledge levels between women and men when the value of week is zero (Brambor et al., 2006). In Table 5.1, the gender gap is reported as -0.068, which is a gender difference of nearly seven percentage points. The negative value indicates that women know less

than men on average. The value is statistically significant indicating that the beginning of the campaign starts with a seven point advantage for men.

At end of the campaign, the gender gap is estimated as the linear combination, and estimation of the standard errors, of the gender term and the interaction term. The gender gap is estimated when the value of the variable “week” equals 1. Table 5.1 shows that the gender gap in the last week of the campaign is -0.087. This statistically significant estimate means that in the last week of the campaign women’s knowledge of party promises was nearly nine percentage points lower than men’s on average. Using a Wald test, the gender gap estimated at the first week of the campaign is not different from the gender gap estimated in the last week of the campaign at the 95 per cent confidence level (results not shown).

5.4.2. Incorrect Responses for Party Promises

Similar to the estimated effect on correct responses, on average the campaign does not have an effect on women and men’s incorrect responses to questions on party promises. The estimated effect reported in the summary Table 5.1 is 0.016 (on a scale of 0-1) for women and men respectively, which can be interpreted as an increase in providing incorrect responses by 1.6 points during the campaign for both men and women. Neither of the two coefficients is statically significant. The gender*week interaction term is not statistically significant as shown in Table 5.3 below.

In Table 5.1, the gender gap in the first week of the campaign and the last week of the campaign are both reported as -0.026. This value shows that there is over a two point gender difference in incorrect knowledge of party promises over the campaign. The negative value indicates that women provide fewer incorrect responses than men on average. In sum, there is no change in the average incorrect responses provided by women and men throughout the campaign.

Table 5.3 Gendered Effect of Campaign on Incorrect Party Promises Responses, CES 1997-2000

	1997-2000
Dependent Variable: Incorrect Party Promise Responses	
Gender	-0.026* (0.019)
Week	0.016 (0.028)
West	0.002* (0.080)
Atlantic	-0.016 (0.012)
Quebec	0.028* (0.010)
Francophone	0.026* (0.012)
Other Language	0.040+ (0.016)
Boomers	-0.014* (0.009)
Gen X	-0.011 (0.010)
Gen Y	-0.020 (0.012)
1980s	-0.014*(0.011)
College	-0.003 (0.009)
Degree	-0.011 (0.012)
Mid-income	-0.002 (0.010)

High-income	-0.014 (0.009)
Employed	0.005 (0.004)
Marriage	0.006 (0.009)
Kids	-0.006 (0.008)
Religiosity	0.006 (0.009)
Immigrant	-0.005 (0.004)
Strong Partisan	0.023* (0.004)
Gender*Week	0.001 (0.015)
Media Attention	0.009* (0.002)
Campaign Interest	0.007* (0.002)
Discuss Politics	0.031 (0.017)
1997	0.024 (0.013)
Constant	0.103* (0.042)
N	5400
R-square	0.048
Adj. R-square	0.044
Marginal effect of campaign on women	0.016 (0.037)
Gender gap at the end of the campaign	-0.026* (0.011)
Standard errors in parentheses	
+ p<0.10 * p<0.05	

5.4.3 Don't Know Party Promises

The rate of providing don't know responses for women and men across the campaigns are also reported in Table 5.1. For men and women, the effect is reported -0.086 for women and -0.088 for men. The negative values indicates that the campaign leads to a reduction of don't know responses by nearly nine percentage points for women and men. There is no gender difference in don't know responses over the federal election campaigns because the gender*week interaction term in Table 5.4 is not statistically significant.

The gender gap remains consistent in the first and last week of the campaign as reported in Table 5.1. The size of the gender gap is nearly ten percentage points in the first and last week of the campaigns. On average, women provide a greater share of don't know responses compare to men.

Table 5.4 Gendered Effect of Campaign on Don't Know Party Promises Responses, CES

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)
Francophone	-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)
1980s	0.013* (0.016)
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)
Immigrant	0.025 (0.030)
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	-0.06* (0.016)
1997	-0.14* (0.011)
Constant	0.957 * (0.039)
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	

5.4.4 Knowledge of Party Leaders

The estimates reported in Tables 5.1 and Table 5.5 show that women on average do not learn about the leaders of the campaign. The marginal effect for men is reported as 0.004 and is not statistically significant in Table 5.1. Meanwhile, the marginal effect for women is 0.015 and not statistically significant. This indicates, with a host of controls, there is no gender discrepancy in the rate of learning party promises on average during the campaign. The absence of a gender difference is confirmed by the interaction term in Table 5.5. The gender*week term is not significant, verifying that there is no gender difference in the rate of learning over the course of the campaign.

As well, the gender gap remained consistent from the beginning to the end of the campaign. The gap is reported as -0.064, which is a 6.4 percentage point difference at the beginning of the week. Women reported fewer correct responses than men on average. The gender gap was slightly smaller in the last week of the campaign at -0.048 or a 4.8 point difference. There size of the gender gap in the first week is not different from the size of the gender gap in the last week of the campaign because the Wald test did not achieve statistical significance at the 95 per cent confidence level (result not shown). Similar to the results reported for recalling party promises, the campaign does not close the gender gap in recalling the names of party leaders.

Table 5.5 Gendered Effect of the Campaign on Correct Party Leader Responses, CES

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)
1980s	-0.039+ (0.018)
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)
Immigrant	-0.002 (0.004)
Strong Partisan	-0.005 (0.011)

Gender*Week	0.017 (0.016)
Media Attention	0.025* (0.001)
Campaign Interest	0.021* (0.002)
Discuss Politics	0.070* (0.009)
2000	-0.226* (0.006)
2004	-0.189* (0.011)
Constant	0.158* (0.031)
N	7639
R-squared	0.32
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	

5.4.5 Don't Know Party Leaders, CES 2000-2006

The last set of estimations in Table 5.1 show that the campaign does not have a direct effect on women and men's don't know party leader responses. The estimations for men is -0.017 and for women is -0.024, and neither are statistically significant. The gender gap remains between five and six percentage points at the beginning and at the end of the campaign. The campaign does not have a gendered effect on the average rate of don't know responses about party leaders.

**Table 5.6 Gendered Effect of the Campaign on Don't Know Party Leader Responses, CES
2000-2006**

	2000-2006
Dependent Variable: Don't Know Party Leader Responses	
Gender	0.059* (0.018)
Week	-0.017 (0.019)
West	-0.03* (0.006)
Atlantic	0.004 (0.012)
Quebec	-0.033 (0.018)
Francophone	0.004 (0.015)
Other Language	0.014 (0.014)
Boomers	-0.031* (0.01)
Gen X	0.011 (0.007)
Gen Y	0.070* (0.023)
1980s	0.064* (0.018)
College	-0.05* (0.01)
Degree	-0.15* (0.01)
Mid-income	-0.053* (0.008)
High-income	-0.054* (0.012)
Employed	0.031* (0.007)
Marriage	-0.061* (0.01)
Kids	0.060* (0.009)
Religiosity	0.015 (0.010)
Immigrant	0.004 (0.008)

Strong Partisan	0.002 (0.015)
Gender*Week	-0.007 (0.021)
Media Attention	-0.03* (0.002)
Campaign Interest	-0.02* (0.002)
Discuss Politics	-0.067* (0.009)
2000	0.125* (0.009)
2004	0.174* (0.010)
Constant	0.759* (0.033)
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	

5.5 The Marginal Effect of Gender by Week of the Campaign

The lack of a gendered effect of the campaign on the rate of learning information detected above is telling but it only provides a limited understanding of the effects of the campaign. It is important to note that the campaign effect estimated in the models is an estimate of the average effect for women and men over the entire campaign. This is a major limitation. Until now, I have assumed that estimating average effects over the campaigns provides adequate insight into gendered political learning, but this may not be the case. The next part of the analysis, therefore,

estimates the gendered impact of learning during the campaign on a week-by-week basis. A much different relationship emerges for the marginal effects of gender across the weeks of the campaign for correct, incorrect, and don't know responses. The following models detect the rate change in the type of responses provided by women and men each week of the campaign. The results show that the rate of learning is gendered because the rate change in providing correct responses fluctuates by campaign week.

5.5.1 Correct Party Promise Responses

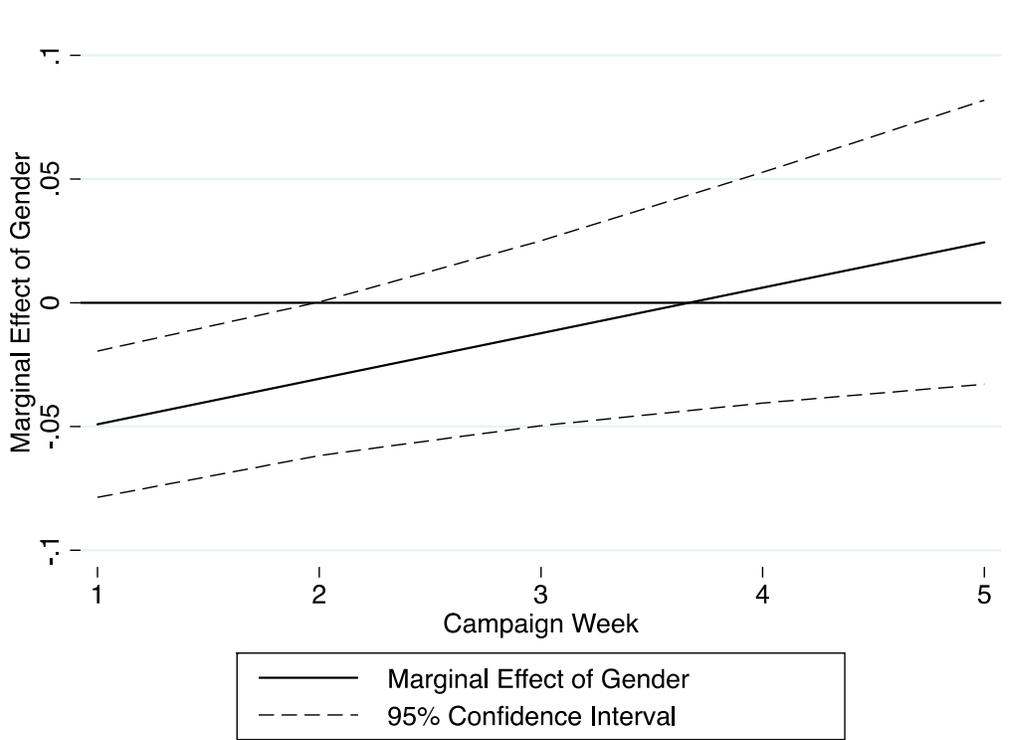
Figure 5.7 reports the marginal effect⁸ of gender over the campaign for correct knowledge of the party promises. The marginal effect is discrete change in the rate in which women and men provide correct responses estimated each week of the campaign. Figure 5.7 provides four important pieces of information. First, if women's rate change in providing correct responses is larger than men's, the value will be positive. Second, if men's rate change is larger than women's, the value will be negative. Third, if the rate change is the same for women and men, the value will be zero. Fourth, the estimate is statistically significant when the confidence interval does not contain the zero line.

At the beginning of the campaign, the value is negative and statistically significant, which indicates that the rate of learning is less for women compared to men. The rate change in providing a correct response is larger for men than women. By the second week of the campaign,

⁸ The `plotmargins` command was used to generate Figures 5.7 through 5.11.

the upper confidence interval crosses the zero line, and the rate change for women and men is no longer statistically significant at conventional levels. The confidence interval contains the zero value for the remaining portion of the campaign, and the rate change in providing correct responses about party promises is the same for women and men.

Figure 5.7 Marginal Effect of Gender on Correct Party Promises, CES 1997-2004

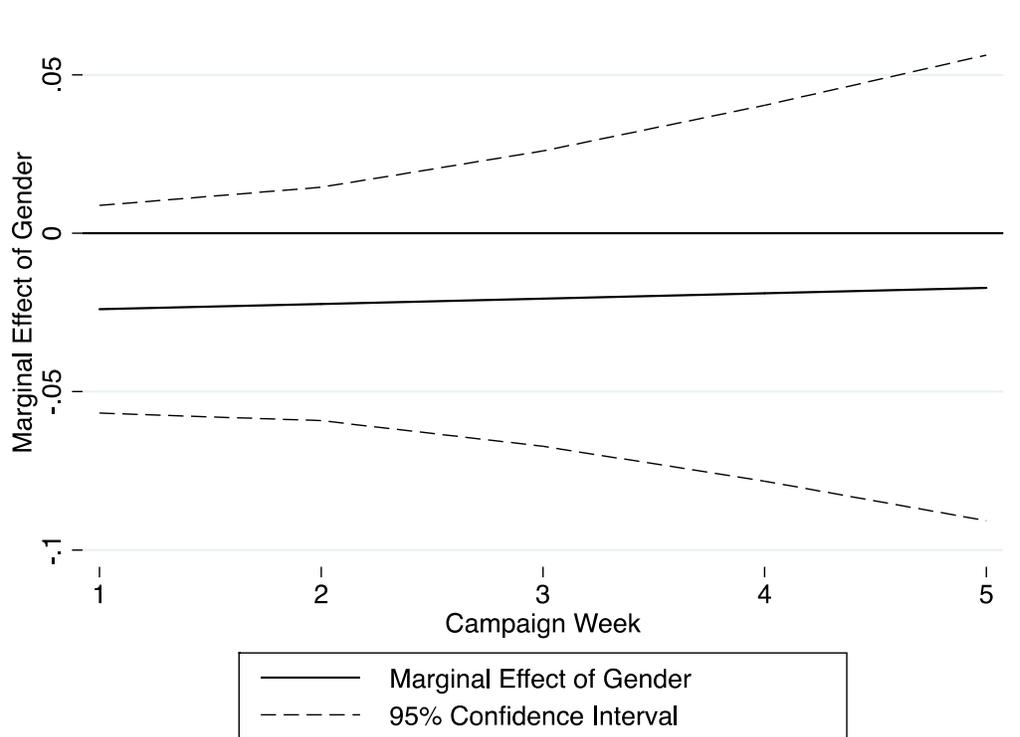


5.5.2 Incorrect Party Promise Responses

Nearly one in five Canadians is misinformed about the campaign-related party promises. Yet there is no gender effect in the rate change in providing incorrect responses for women and men

(see Figure 5.8) because zero remains within the confidence intervals in the week-by-week estimates.

Figure 5.8 Marginal Effect of Gender on Incorrect Party Promises, CES 1997-2000

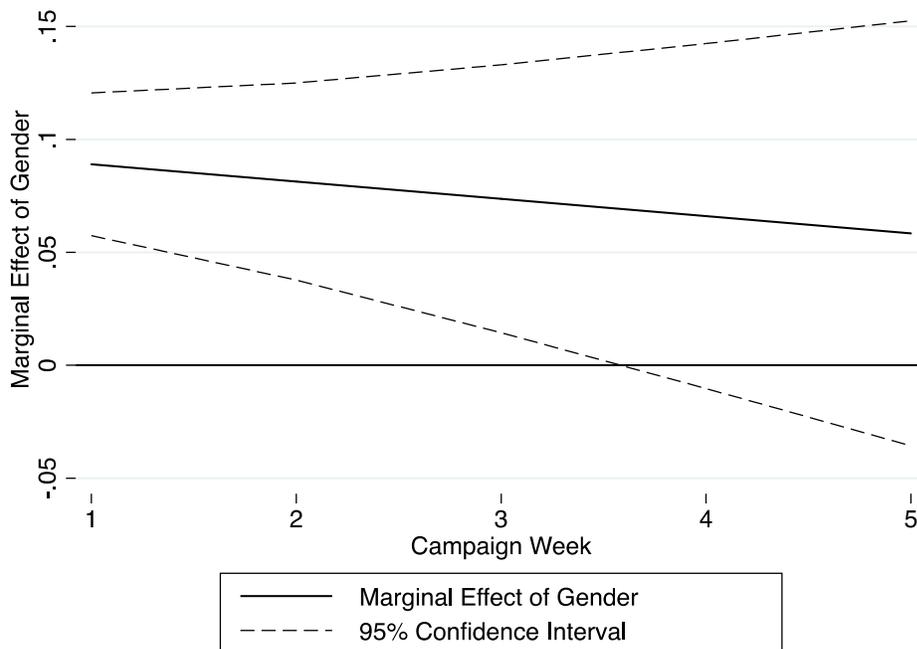


5.5.3 Don't Know Party Promise Responses

Over half of Canadians responded to questions about party campaign promises by providing a don't know response. While knowledge of party promises is held only by a minority of citizens, the gender effect on the propensity to provide a don't know response varies through the campaign (Figure 5.9). The marginal effect of gender in the first three weeks of the campaign

shows that the rate change in providing don't know responses was higher for women compared to men. By the end of week three, however, the marginal effect of gender disappears, as the confidence interval contains the zero line.

Figure 5.9 Marginal Effect on Gender on Don't Know Party Promises, CES 1997-2000

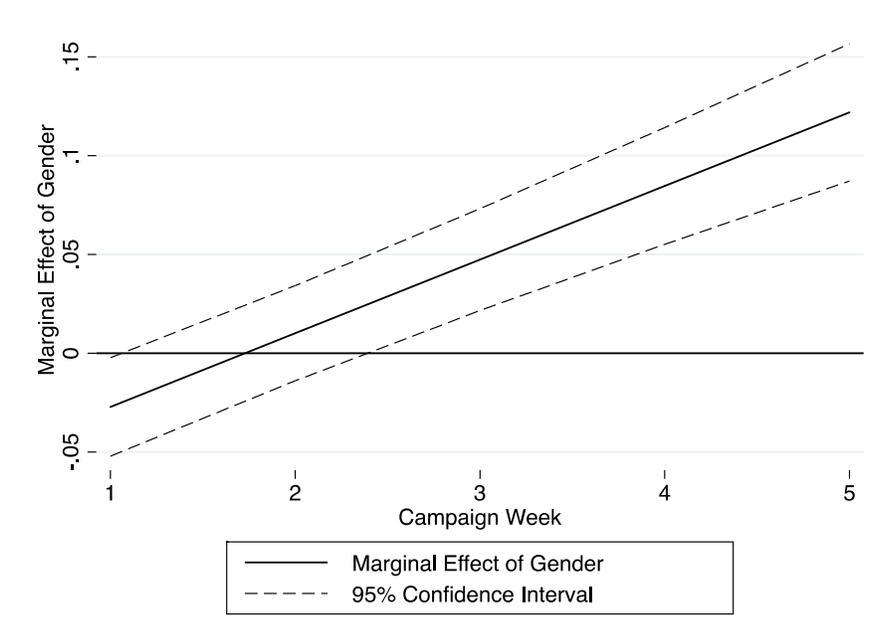


5.5.4 Correct Party Leader Responses

At the beginning of the campaigns, there is no gender difference in the rate change of providing correct responses because the confidence interval contains the zero value (see Figure 5.10). By week three, though, the positive slope indicates that the rate change in correct responses is

greater for women than men. Women’s relatively higher rate change continues until the last week of the campaigns.

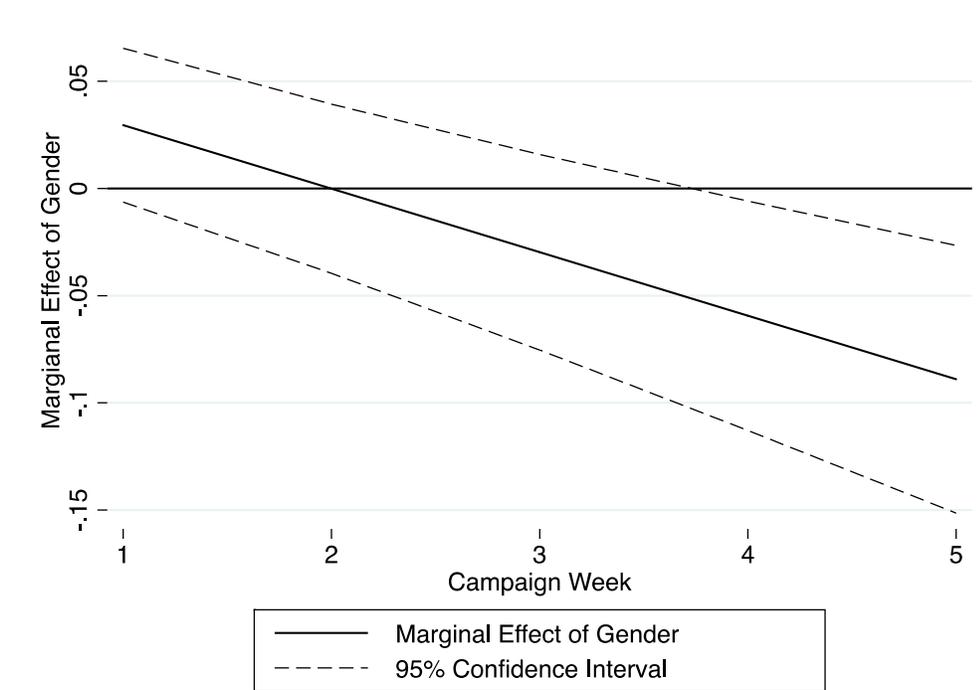
Figure 5.10 Marginal Effect of Gender on Correct Party Leader Responses, CES 2000-2006



5.5.5 Don’t Know Party Leader Responses

The difference in the rate change in which women and men provide don’t know responses about party leaders is reported in Figure 5.11. Until week four, the confidence interval contains the zero line meaning that there is no rate change difference between women and men. A gender difference emerges in the last week of the campaign, when the difference becomes negative. The negative value indicates that men’s rate change in providing don’t know responses is relatively higher than women’s in weeks three, four, and five of the campaigns.

Figure 5.11 Marginal Effect of Gender on Don't Know Party Leaders, CES 2000-2006



5.11 Discussion

In this chapter, the separate analyses of correct responses and don't know responses each week of the campaign have been important to identify gendered learning over election campaigns. The week-by-week analysis provides a clearer picture of campaign learning than the uncontrolled 5-

day moving averages, and the multivariate regression which estimates an average level of learning across the five-week campaign.

In the week-by-week analysis, the results suggest that the rate change of providing correct and don't know responses about party leaders depends on gender. There was no difference in the rate change in providing correct responses for women and men in weeks one and two of the campaigns. Women's rate change was larger than men's in weeks three through five, however. The don't know responses were not gender in weeks one through three in regards to knowing party leaders. In the last two weeks of the campaigns, the rate change of providing don't responses was higher for men than women.

In regards to correctly knowing party promises, during the first week of the campaign, the rate change was greater for men than women. There was no gender difference in the rate change in weeks two through five. The rate change in providing don't know responses was higher for women than men until week four. After week four, there was no gender difference in the don't know responses to knowing party promises.

Though gender differences in campaign learning have been detected, it is not precisely clear why this has taken place. For example, two possible interpretations arise from the rate change in knowledge of party leaders in Figure 5.10. First, the rate change in weeks three through five of the federal election campaigns could be an indication that women increased the rate at which they provided correct responses, while the rate change for men remained the same, decreased, or increased but not as quickly as women's rate change. Second, in weeks three through five the

rate change in which men provide correct responses could have decreased while women's remained the same, decreased, or increased but not as quickly as men's rate change.

It is difficult to ascertain the exact process with the data available in the election study. Earlier in this chapter, Figures 5.1 through 5.6 only suggests relative movement between women and men because those values are not subject to the host of controls used in the multivariate analysis.

Furthermore, Table 5.1 reports the average rate change for women and men over the course of the campaign, which is not statistically significant. And finally, the week-by-week marginal effects shown in Figures 5.7 through 5.11 only provide a rate change between women and men.

The possibilities mentioned here are grounded in the fact that the rate change in correct responses is driven by a relative rate change: women providing more relatively more correct responses compared to men, or men providing more relatively correct responses compared to women, or women and men providing responses at relatively the same rate change. Care is required because it would be a mistake to presume that women's behaviour is causing the change in correct response rates on a week-by-week basis during federal election campaigns compared to men.

Confirming evidence comes from post-model predictions that track the average level of political knowledge by gender for each week of the campaign. From the post-estimations, 31 per cent of women correctly identifies the correct party promises the first week of the campaign (results not shown). This grew to 34 percent by the last week of the campaign. Meanwhile, men provided 41 per cent correct responses during the first week of the campaign, and 42 per cent correct responses in the last week of the campaign (results not shown). Therefore, the post-model

estimates confirm that women gained knowledge relative to men over the campaign period.

Further, post-model estimates show that women provided 56 per cent correct responses on party leaders in week one of the campaign, and 59 per cent by the last week of the campaign (results not shown). Men, on the other hand provided 67 per cent of correct responses the first week of the campaign, and 68 per cent by the last week. Again, it appears under a host of control that the rate change in women providing correct responses about party leader is higher compared to men during the campaign period.

5.12 Conclusion

The federal election campaign serves an important function in providing new political information (Nadeau et al., 2008; Ondercin et al., 2011). The purpose of this chapter has been to address the potential impact that campaigns can have on the gender gap in political knowledge. The results presented show that federal election campaigns are gender-neutral contexts for political learning. They indicate that in the first week of the campaigns, the rate change in providing correct answers about campaign promises for women increases relative to men. By the middle of the campaign, the rate change in providing correct responses is relatively the same for women and men.

The rate change in which women provide correct responses about party leaders is relatively the same as men's at the beginning of the campaign, but it increases relative to men in the last half of the campaign. The post-model estimates demonstrate the women learn more about the party leaders relative to men in weeks three through five of the campaign. From these results, I

conclude that campaign plays a minor role creating the gender gap that leads to men's relatively higher levels of campaign related information. The findings show that the campaign favours women with a higher rate of learning about the party leader compared to men near the end of the campaign. This points to a pattern in which women delay in engaging in the campaign to acquire knowledge about the party promises before casting a ballot compared to men. Engaging later is a more efficient use of precious time and political resources.

Does the gendered rate changes observed in knowledge of the party leaders affect the gender gap? The answer is 'no.' The gender gap remains the the same over the campaign. The rate changes in providing correct and don't know responses do not lead to a smaller gender gap. This result is the same as the one observed in the 2000 presidential campaign by Ondercin and her colleagues (735: 2011). This can be interpreted to mean that the impact of the rate change in knowledge of party leaders was not strong enough to change the size of the gender gap. Even though the gender in knowledge of the leaders narrowed by 1.6 points, the change is not statistically significant from the first week and last week of the campaign.

The findings herein also demonstrate that gender gaps in political knowledge are not simply about the correct responses. Evidence shows that the political campaign encourages more correct answers from women and fewer don't know answers related to knowledge about party promises. This dispels the preconception that an increase in correct responses comes on account of a decrease in incorrect responses. Incorrect responses remain consistent over the course of the campaign and no statistically significant gender gap differentiates men and women in their levels

of misinformation. Both genders were much more misinformed about party promises (nearly 20 per cent) than party leaders (less than five per cent).

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 is 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 options, the main presidential candidates: George W. Bush or Al Gore. If the respondent provided a substantive response, this gave them a 50-50 chance of selecting a correct response.

In contrast, Canada's multi-partisan system makes it more difficult to respond to political knowledge questions because 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).

Certainly, the fact that there are more parties and leaders in the system can make it more difficult to get the same percentage of correct responses compared to the Ondercin study (2011).

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 campaign have a bearing on gender and political knowledge even though the American presidential campaign is much longer. In both cases, the rate change in providing correct responses depends on gender. In the 2000 American presidential campaign, the rate change of women providing correct responses was larger than men's at the end of the campaign as voters were pushed to pay closer attention and formulate or reaffirm their vote decision. In Canada, the results are not as straightforward because a gendered rate change was only detected for knowledge of party leaders and party promises. The results are encouraging nonetheless because it suggests that the phenomenon detected in the United States is not unique to that country which has different national campaigns from Canada.

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 provides a slight improvement in women's stocks of knowledge compared to men. It provides some evidence that context matters: where the conditions are encouraging for political engagement, women can overcome the power dynamic which often leads them refraining from their full participation, expression, and articulation of political facts.

Chapter 6: Local Context and the Gender Gap

6.1 Introduction

Multiple studies have pointed to the existence of a gender gap in political knowledge (Delli Carpini & Keeter, 1996; Frazer & MacDonald, 2003; Stolle & Gidengil, 2010), and previous attempts to understand the enduring differences between women and men have focused primarily on individual-level factors, measured through a survey at a single point in time. While this approach has helped to widen our understanding of the gender gap, it has also led to a number of roadblocks to fully understanding the phenomenon. Until now, research has relied upon randomized sample surveys of large populations to measure individual attributes and tendencies, which does not consider the conditions experienced in the places people live, work, and vote. McConnaughy has argued that political behaviour scholarship needs to provide more accurate accounts of systemic modeling of political behaviour by accounting for “long-run gendered political processes [as they] unfold over time at both the macro and micro levels” (McConnaughy, 2007: 383).

In order to dig deeper into the gender gap in political knowledge, I draw upon theories of contextual and network communication, and introduce social context as a factor that affects the acquisition of campaign information. I argue that context can help to increase our understanding of the enduring difference in political knowledge between men and women. I argue that accounts of gender disparities in political knowledge must theoretically and empirically consider the

aggregate level impact of social and economic factors that not only affect the information costs of acquiring and storing information but that also affect gender roles that encourage women to be more or less knowledgeable about political facts.

Using the Canadian Election Study from 2000 to 2008, and the 2006 Canadian Census to account for individual and contextual predictors of political knowledge, I examine individual level and riding level factors that affect the gender gap in political knowledge. The approach in this chapter tests the hypothesis that the gender gap disappears, and even reverses, in gender progressive contexts. Ridings with higher women's employment rates and higher education levels should have attenuating effects on the gender gap in political knowledge. As well, I examine a possible cross-level interaction between employment rate and motherhood. Local contexts with high levels of employment may provide a weaker impact on mothers than women without children at home.

This approach to studying the gap in political knowledge is theoretically important to those interested in democratic engagement and more specifically to solving the puzzle of why the gender gap persists. Without measuring and testing the effects of the local context, scholars cannot rule out the effect of variation in political resources and gender roles across the country on the gender gap. Furthermore, ameliorating group differences in political knowledge is supported by scholarship arguing that political knowledge is a larger part of political engagement: without political interest, political knowledge, and political efficacy, individuals are more likely to recuse themselves from political activity such as writing letters to elected representatives, donating to political parties, and discussing politics with others (Burns et al.,

2001; Gidengil et al., 2004; Ondercin et al., 2011). The analysis found in this chapter, coupled with the campaign analysis in the previous chapter, provides information about gendered factors that are not considered in conventional gender gap models. The purpose of these two chapters is to explain the gender gap by considering gendered socio-political contexts which have been previously overlooked.

The findings of this chapter show that a gender gap in political knowledge varies significantly across Canadian federal ridings. My analysis indicates that compared to men, women's political knowledge is affected by whether or not they are working. Women living in areas with the highest employment rate provided correct responses five percentage points higher than women living in areas with the lowest rate of employment on average. Yet, the positive effect of the local employment rate was not affected by women's role as mothers in the cross-level interaction. The local employment rate at the riding level is a political resource for women while the rate of post-secondary education at the riding level has no direct impact on the stock of women and men's political knowledge.

6.2 Multilevel Models: Cross-Level Inference of Individual Level of Political Knowledge

6.2.1 Riding Level Resources: Rates of Post-Secondary Education and Employment

As shown in Chapter 4, education is one of the strongest predictors of political knowledge at the individual level (Frazer & MacDonald, 2003), and therefore it is difficult to ignore its possible place as an important antecedent of knowledge at the aggregate level. Formal education

cultivates access to political information through fostering cognitive skills that make the complexity of politics easier to understand (Gidengil et al., 2004). As a resource in a political context such as a federal riding, formal education develops communication and organizational opportunities to promote and share political information. Higher levels of formal education in a local area can encourage political learning by lowering the cost of acquiring political information, because of the increased likelihood that politics will be discussed within social networks, as well as the increased likelihood that an individual will be recruited into political and non-political activities known to help build civic capacity and understanding.

I also examine the role of the local employment rate on the knowledge level of women and men. Gainful employment varies considerably across Canada, which can have an effect on the campaign information that is held and shared by individuals through work-related networks. High rates of employment are a political resource in a local context, like higher education, that can act as a means of lowering information costs. Women on average do not have as much interest in electoral politics as men. Yet, when they live in areas with higher rates of employment and education, they might be surrounded by people who share campaign information regularly. Readily available information through discussion with others lowers the cost of becoming knowledgeable. I hypothesize that higher rates of post-secondary education and employment rates in the riding will both provide a net benefit to women and men's individual level political knowledge, but gender will condition the effect by returning a larger positive effect for women.

Men are expected to have already capitalized on these two types of political resources compared to women because of the way they use their formal training and networks to acquire campaign information and civic skills (Beckwith, 1986; Dow, 2009; Erickson, 2004; Gidengil et al., 2004; Thomas, 2012). Men, for instance, are already more likely to report an enhanced sense of autonomy from their socio-economic status (Burns et al., 2001) and self-perceived autonomy is critical for political engagement. Men have been reported to garner more political knowledge from higher levels of education than women in the United States (Dow, 2009). Men's political self-confidence, likelihood to discuss politics, and willingness to seize political opportunity when recruited tends to be stronger when compared to women. Additionally, in Canada, research has shown that men have more have a net benefit in gaining political information from their heterogeneous social networks. Men tend to rely less upon kin attachments than women, and pull in more contacts from their occupation more than women on average (Erickson, 2004; Gidengil et al., 2005). A diverse social network is an added benefit to acquire and share political information, which reduces information costs to the individual for men compared to women. As a result, men are expected to have already have an additional benefit which women can overcome in relative terms in areas with higher proportions of employed and educated individuals.

6.2.2 Parental Status

Children's demands on the spare time of their parents is expected to be a reason that women have lower levels of political knowledge compared to men by accounting for their traditional roles of wives and mothers. On average, having children lowers political interest for mothers

more than father (Gidengil et al., 2004). Mothers can feel that they cannot devote their leisure time to political matters because they must catch-up from time missed with their children once they have accounted for their work week (Eagly & Carli, 2007). It is therefore expected that the additional benefit of residing in a federal riding with a high employment rate does not confer itself equally to men and women's ability to acquire campaign information. In essence, there will be gendered patterns to sharing campaign information, discussing politics, joining work-related organizations, and receive opportunities to be recruited to political activities. While mothers with children at home will likely benefit the least from high rates of employment in their federal riding, I expect that in areas of high employment, women without children at home do not benefit as much in political knowledge as men either with children or without. This assumption is based on men's ability to capitalize more than women on average to the additional exposure they would have to campaign information in areas with high employment.

6.3 Effect of Post-Secondary Education Rates at Riding Level

The following analysis employs the dependent variable measuring knowledge of federal leaders. The measure of the federal party leaders is important because evaluating the party leaders is a major component of the vote decision for Canadians (Blais et al. 2000). Variation in knowledge of party leaders is an indication of citizen engagement, and the ability of individuals to make an informed vote choice. In order to assess community-level knowledge, these mean knowledge scores were calculated at the riding level for women and men in order to incorporate variation in

political knowledge across Canada.⁹ The data indicate that on average, the majority of both women (55 per cent and standard deviation 6.3 percent) and men (65 per cent and standard deviation 4.1 percent) correctly identify federal party leaders. When I assess responses of “don’t know” across the ridings, the pattern is similar: the average score for women is 39 per cent while it is 28 per cent for men (an 11 point gap).

I rely upon data from the 2006 Canadian Census to capture the variation in post-secondary education and employment rate in each district. The riding level factors measure rate of post-secondary education (percentage of population with a university degree) and rate of employment. They have been coded as deciles to compare the effects among the ridings consistently. Controls for the level of district competitiveness in each riding are also included to account for the fact that there is a great deal of variation across Canada in local races, and as such, may affect levels of political knowledge. The dependent variable measuring knowledge of party promises is not analyzed here because the 1997 Canadian Election Study did not lend itself to be sorted by the 2003 Representation Order, which was used to join the individual level with the 2006 Canadian Census.¹⁰

⁹ The analysis of 305 ridings excludes the three ridings in the northern territories. The pooled elections provide at least thirty respondents in each district with the exception of four electoral districts (these include ridings 35106, 35081, 59034, and 46003). Ridings with fewer than 30 respondents were given average values of political knowledge for men and women so that the low sample size did not skew the average values of political knowledge or the estimates in the multivariate analysis.

¹⁰ Thank you to Jason Roy who helped me sort the Canadian Election Studies and 2006 Census data in order to merge them using the Geocode variable as the geographic identifier.

Estimates of the impact of individual level factors and the riding level rate of post-secondary education are reported in Table 6.1. The gender coefficient in Model I estimates the size of the gender gap in correctly identifying the party leaders while controlling for the rate of post-secondary education and a host of explanatory factors at the individual level. The gender gap is reported as a six point difference with men providing more correct responses on average compared to women.

In the first model, the estimates of the individual level factors show that respondents whose main language is French know slightly more about the party leaders compared to English speakers (English is the reference group). Those whose language is neither French nor English typically know less on average compared to the French and English speakers. As well, the generation that came before the baby boomers appears to have the highest level of political knowledge. It is not possible to know whether this is a life-cycle or cohort effect, but the pre-boomers know more than each of the younger cohorts of respondents. Higher levels of income and education are both positive factors that tend to increase levels of political knowledge. As well, marriage has a salutary effect. The commitment to gainful employment, however, has no effect on individual levels of political knowledge. There is a negative effect on knowledge for those who have children under the age of 18 years at home. Meanwhile a strong psychological commitment to religious beliefs has a negative effect on levels of political knowledge as does being a recent immigrant to Canada. A sense of strong partisanship has no direct effect on the knowledge of party leaders while higher levels of media attention, political interest, and discussing politics increases an individual's knowledge of the party leaders on average.

At the riding level, the riding's competitiveness, the rate of urbanization, and the rate of post-secondary education do not have a direct effect on individuals' levels of political knowledge. These estimates are not statistically significant at conventional levels. The effect of individual employment is expected to be positive because the cost of acquiring information should be lower if an individual is more likely to encounter employed people in their local environment. The non-significant result is likely because the reference category for the variable of unemployed and retired respondents. This point is difficult to confirm with the data because the coding for unemployed includes those who are temporarily unemployed, permanently employed, and retired. Comparing the mean of the gainfully employed to the mean of the reference group may result in no difference because many retired individuals or temporarily unemployed individuals may have higher than average levels of political knowledge.

Table 6.1 Random Intercept Model of Post-Secondary Education and Gender Interaction, CES 2000-2008

Correct Identification Party Leaders				
	Model I		Model II	
	Coefficient	Standard Error	Coefficient	Standard Error
Gender	-0.061*	-0.007	-0.073*	-0.014
French	0.018*	-0.009	0.018+	-0.009
Other language	-0.032*	-0.013	-0.032*	-0.013
Baby Boomers	-0.051*	-0.011	-0.051*	-0.011
Gen X	-0.101*	-0.014	-0.101*	-0.014
Gen Y	-0.145*	-0.014	-0.145*	-0.014
1980s	-0.213*	-0.018	-0.214*	-0.018
Mid Education	0.085*	-0.013	0.086*	-0.013

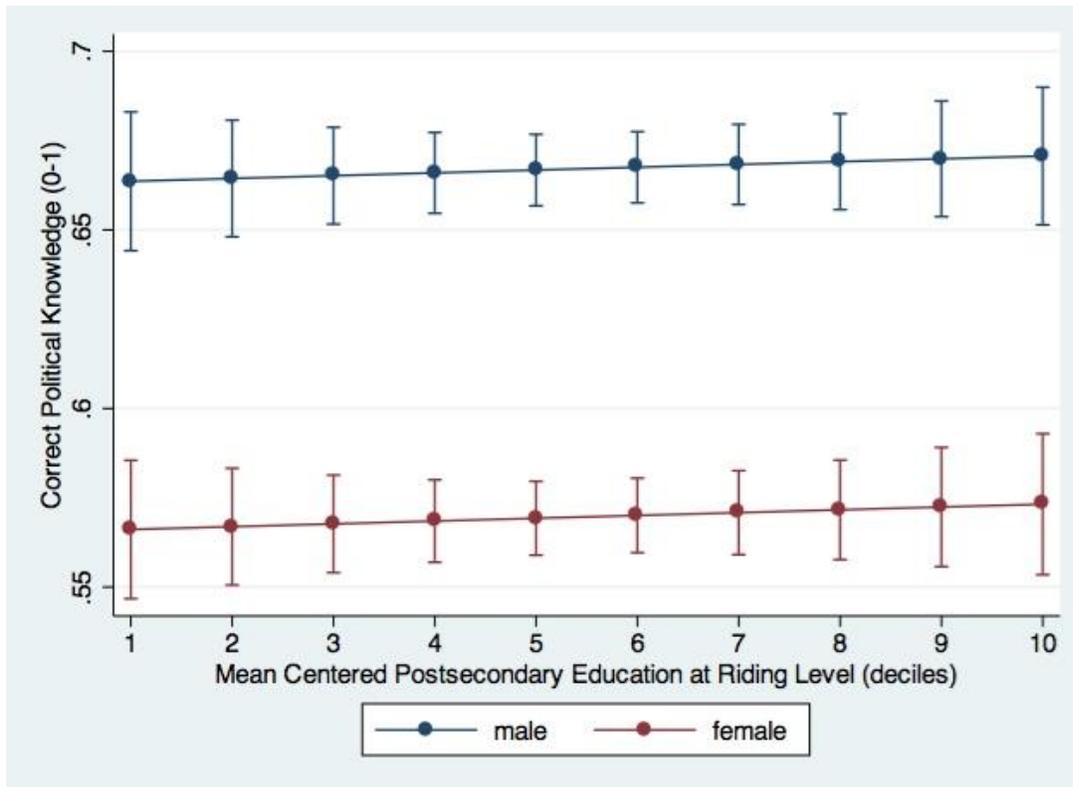
Degree	0.172*	-0.015	0.172*	-0.015
Mid Income	0.060*	-0.009	0.060*	-0.009
High income	0.067*	-0.012	0.067*	-0.012
Employment	-0.006	-0.009	-0.006	-0.009
Marriage	0.022*	-0.009	0.022*	-0.009
Kids	-0.043*	-0.009	-0.043*	-0.009
Religiosity	-0.026*	-0.009	-0.026*	-0.009
Immigrant last 10 years	-0.081*	-0.028	-0.081*	-0.028
Strong Partisan	0.011	-0.01	0.011	-0.01
Media Attn (0-10)	0.025*	-0.002	0.025*	-0.002
Political Interest (0-10)	0.017*	-0.002	0.017*	-0.002
Discuss Politics (1-3)	0.076*	-0.006	0.077*	-0.006
Rate of Urbanization	0.003	0.001	0.004	0.002
Riding Competitiveness	-0.008	-0.01	-0.008	-0.01
PSE rate decile	0.002	-0.001	0.001	-0.002
PSE*Gender			0.003	-0.002
2000	-0.057*	-0.011	-0.057*	-0.011
2004	-0.038*	-0.013	-0.038*	-0.013
2006	0.078*	-0.012	0.079*	-0.012
N	8064		8064	
Std. Deviation Constant	0.037*	-0.004	0.037*	-0.004
Std. Deviation Residual	0.276*	-0.002	0.276*	-0.002
Intraclass Correlation	0.018		0.018	
* p<0.05 + p<0.10				

The second model estimates the gender-specific effect of post-secondary education at the riding level using an interaction term (riding level post-secondary education * gender). The non-significant interaction term suggests that there is no gender difference in the effect of local rates

of post-secondary education on the knowledge of party leaders. Due to the presence of the interaction term between post-secondary education at the riding level and gender, the gender and post-secondary education coefficients cannot be directly interpreted. This is because the coefficients and the standard errors represent the level of political knowledge when both gender equals zero and the level of post-secondary education is at the first decile. To understand the relationship depicted in the model with the interaction term, the predicted marginal effect of gender on political knowledge are calculated over the values of the rate of post-secondary education rates at the riding level. The predicted value of political knowledge for women and men is estimated using the margins command in STATA 12.

The intraclass correlation is 0.018 for the model with post-secondary education rates at the riding level which means that the variance at the riding level accounts for 1.8 per cent of the variance in individual levels of political knowledge. In Model I, the estimated coefficients for urbanization and riding competitiveness are not statistically significant. These findings demonstrate that Canadians' knowledge of the federal party leaders does not vary across ridings according to rates of urbanization. As well, knowledge of party leaders is not affected by the electoral competitiveness of local ridings based on Bodet's classification of stronghold and battlegrounds.

Figure 6.1 Correct Knowledge Predictive Margins by Rate of Post-Secondary Education, CES 2000-2008



Note: Standard errors at 95% confidence interval.

Figure 6.1 shows that the levels of political knowledge for women and men do not change across different levels of post-secondary education at the riding level because the slope of the line for women and men is more or less flat. The slope is 0.001 for men and 0.004 for women. The top line reports the marginal effect for men, and the bottom line reports the marginal effect for women. Men in ridings with the lowest decile of post-secondary education provide correct responses 66 per cent of the time while men in the highest decile of post-secondary education provide correct responses 67 per cent of the time. The same trend occurs for women. In the lowest decile of post-secondary education, women provide correct responses 56 per cent of the

time while they provide correct responses 57 per cent of the time in the highest decile of post-secondary education. The hypothesis that women receive a greater benefit from higher levels of post-secondary education is not supported because the interaction term is not statistically significant.

6.3.1 Effect of Employment Rates at Riding Level and the Presence of Children at Home

The effect of local employment rates for women and men offers a more interesting picture of the impact of local political resources. The random intercept model including the employment rate at the riding level is reported in Table 6.2. The model for women and men are estimated separately to isolate the impact across the individual-level and aggregate-level effects in Model II. The interaction term is local employment rate*children at home.

Model I for women shows that higher employment rates at the riding level have a positive effect on their knowledge of party leaders. The value of the coefficient, 0.005, can be interpreted to mean that – from the lowest decile to the highest decile – women’s correct response rate increases by five percentage points. Model I for men, on the other hand, shows that the effect of the local employment rate is not statistically significant for men. The Wald test confirms that the coefficient for women is statistically significant from the coefficient for men. In other words, the difference between the two coefficients is statistically significant.

The rate of urbanization does not have an effect on the knowledge of leaders for either women or men. The models also shed light on the impact of electoral competitiveness on knowledge of party leaders. There is no direct impact of riding level competitiveness in either the models with

post-secondary education rates and employment rates at the riding level. The impact of having children under the age of 18 years at home is a statistically significant negative effect for both women and men, which was confirmed by a Wald test because the size of the coefficients cannot be compared directly across regressions. The negative effect is similar for both genders at conventional levels.

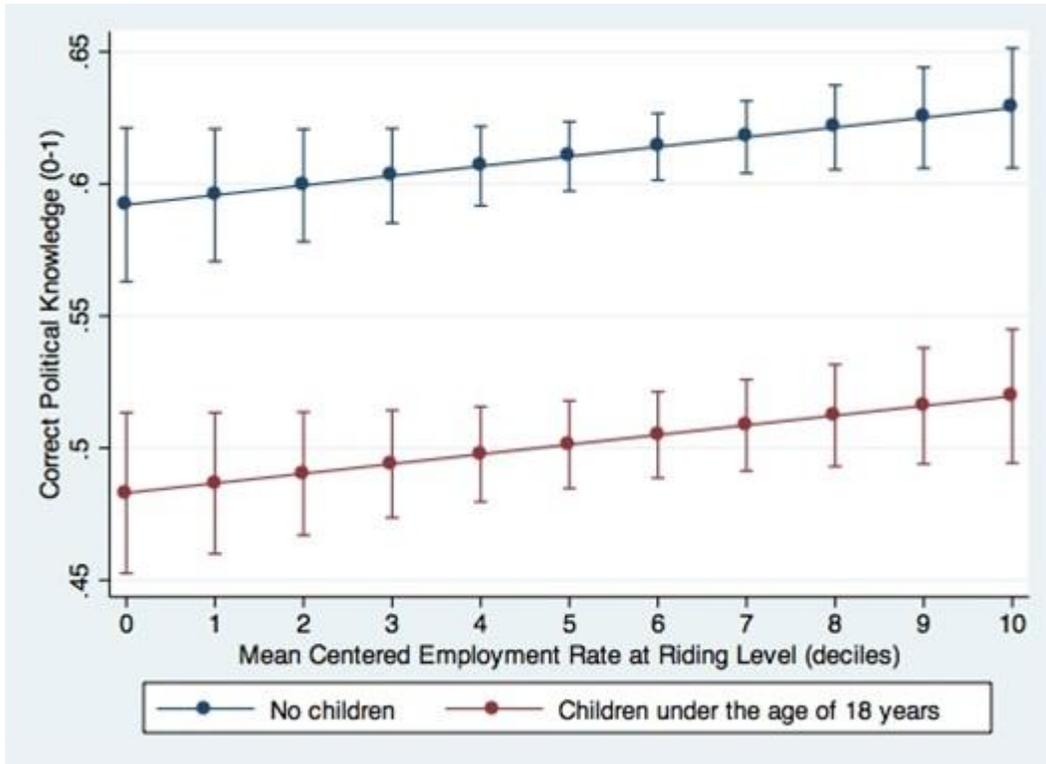
**Table 6.2 Random Intercept Model of Local Employment and Presence of Children, CES
2000-2008**

Correct Identification Party Leaders								
	Women - Model I		Women - Model II		Men - Model I		Men - Model II	
	Coefficient	Standard Error	Coefficient	Standard Error	Coefficient	Standard Error	Coefficient	Standard Error
French	0.021+	-0.011	0.021+	-0.011	0.033*	-0.012	0.033*	-0.012
Other language	-0.016	-0.019	-0.015	-0.019	-0.040*	-0.017	-0.039*	-0.017
Baby Boomers	-0.069*	-0.016	-0.069*	-0.016	-0.038*	-0.015	-0.038*	-0.015
Gen X	-0.126*	-0.021	-0.126*	-0.021	-0.080*	-0.018	-0.080*	-0.018
Gen Y	-0.164*	-0.021	-0.164*	-0.021	-0.130*	-0.017	-0.130*	-0.017
1980s	-0.204*	-0.027	-0.204*	-0.027	-0.219*	-0.027	-0.219*	-0.027
Mid Education	0.103*	-0.017	0.103*	-0.017	0.076*	-0.016	0.075*	-0.016
Degree	0.227*	-0.021	0.228*	-0.021	0.136*	-0.019	0.135*	-0.019
Mid Income	0.048*	-0.014	0.048*	-0.014	0.068*	-0.013	0.068*	-0.013
High income	0.065*	-0.017	0.065*	-0.017	0.065*	-0.015	0.065*	-0.015
Employment	-0.014	-0.012	-0.014	-0.012	-0.005	-0.013	-0.005	-0.013
Marriage	0.022+	-0.012	0.022+	-0.012	0.027+	-0.014	0.027+	-0.014
Kids	-0.061*	-0.013	-0.077*	-0.026	-0.025*	-0.012	-0.045*	-0.022
Religiosity	-0.017	-0.011	-0.017	-0.011	-0.035*	-0.013	-0.035*	-0.013
Immigrant last 10 years	-0.058	-0.046	-0.058	-0.046	-0.085*	-0.034	-0.085*	-0.034
Strong Partisan	0.016	-0.014	0.016	-0.014	0.01	-0.013	0.01	-0.013
Media Attn (0-10)	0.033*	-0.003	0.033*	-0.003	0.017*	-0.003	0.017*	-0.003
Political Interest (0-10)	0.012*	-0.002	0.012*	-0.002	0.020*	-0.003	0.020*	-0.002
Discuss Politics (1-3)	0.083*	-0.008	0.083*	-0.008	0.064*	-0.009	0.064*	-0.009
Rate of Urbanization	0.002	0.001	0.002	0.001	0.003	0.002	0.004	0.002
Riding Competitiveness	-0.012	-0.013	-0.012	-0.013	-0.012	-0.012	-0.012	-0.012
Employment Rate decile	0.005*	-0.002	0.004	-0.002	0.002	-0.002	0.002	-0.002
Employment Rate*Kids			0.003	-0.004			0.004	-0.003
2000	-0.056*	-0.014	-0.055*	-0.014	-0.054*	-0.014	-0.053*	-0.014
2004	-0.056*	-0.018	-0.056*	-0.018	-0.014	-0.018	-0.014	-0.018
2006	0.079*	-0.017	0.079*	-0.017	0.084*	-0.016	0.083*	-0.016
N	4163		4163		3901		3901	
Std. Deviation Constant	0.040*	-0.008	-0.008		0.045*	-0.006	-0.006	
Std. Deviation Residual	0.284*	-0.003	-0.003		0.261*	-0.004	-0.004	
Intraclass Correlation	0.019				0.029			

* p<0.05 + p<0.10

Figure 6.2 shows the estimated impact of the local employment rate and the presence of children at home for women. I chose to break up women and men into separate analysis in order to isolate for the impact of the cross-level interaction. I could have used a three-way interaction to keep men and women in the same model, but this is extremely difficult to interpret. From above, the predicted political knowledge values for women with children is approximately 11 points lower than women without children. At the lowest decile of the employment rate, women with children responded correctly 48 per cent of the time about party leaders while women without children responded correctly 59 per cent of the time. Likewise, at the highest decile of employment rate, women with children responded correctly 52 per cent of the time while women without children responses correctly at a rate of 63 per cent. The slightly positive slopes of the lines for women with children and women without children suggests that the ridings with highest rate of employment compared to the lowest rate of employment lead to an increase in correct responses of nearly four percentage points irrespective of a woman's parental status.

Figure 6.2 Local Employment Rate and Presence of Children, Women's Predictive Margins, CES 2000-2008

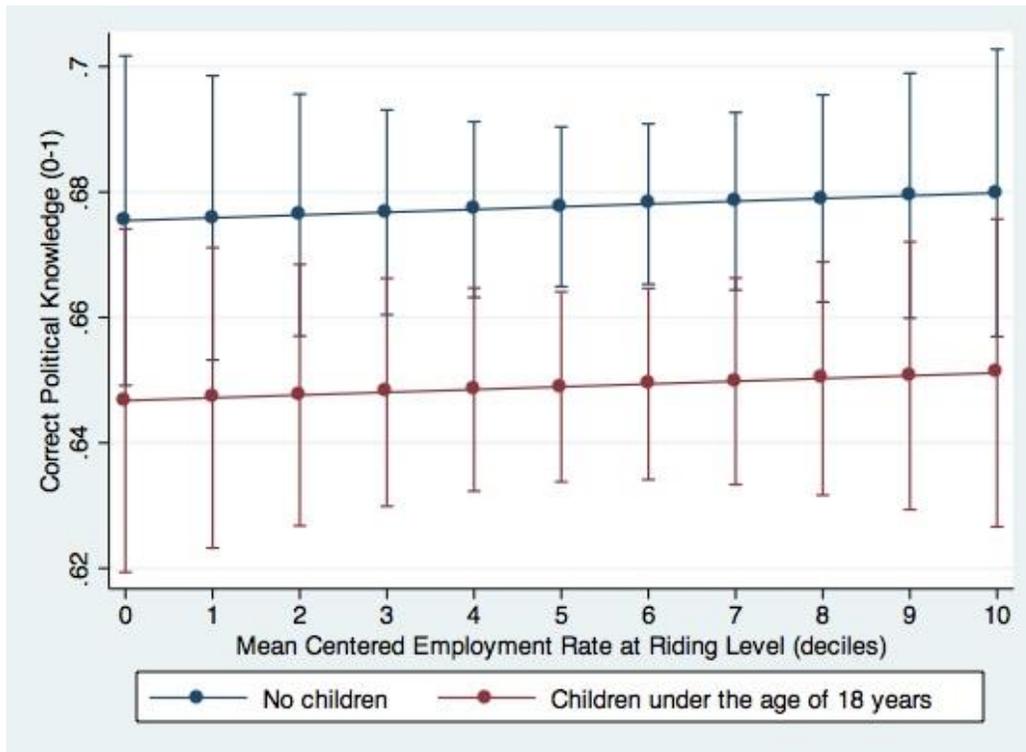


Note: Standard errors at 95% confidence interval.

The predictive margins in Figure 6.3 indicate no difference in the level of political knowledge between men with children and men without where the tails of the predicted standard error overlap. The only time when the tails of the standard error do not overlap is when employment rates are in the fifth and sixth decile. In these two deciles, the difference between the two groups of men is three percentage points (67 per cent correct for men with no children and 64 per cent correct for men with children), which is a much smaller difference than the 11 percentage point difference detected between the two groups of women. The slope of the line for men with

children and men without children does not change over the employment rates which means that the slight increase in political knowledge scores seen in women with higher rates of riding level employment is not detected for men¹¹. The vertical axis is much smaller in the figure for men than the one used for women, which makes the slope of the lines in the men's graph look different.

Figure 6.3 Local Employment Rate and Presence of Children, Men's Predictive Margins, CES 2000-2008



Note: Standard errors at 95% confidence interval.

¹¹ The value of the intraclass correlation is 0.019 for women and 0.029 for men. This means that the variation across ridings accounts for 1.9 per cent and 2.9 per cent of the variation in political knowledge for women and men, respectively.

6.4 Discussion and Conclusion

Examining the impact of the riding level factors has demonstrated that the benefits of living in highly educated areas are not a leveller of political knowledge like individual levels of formal education. Neither women nor men had an increase in political knowledge because of a local context of higher education, which suggests that a person's relative education level has the more immediate impact upon acquiring long-term stores of campaign information. There was no effect of local employment rates on men's levels of political knowledge. Yet, for women, the highest rate of employment compared to the lowest rate of employment lead to an increase in correct responses of three percentage points irrespective of a woman's parental status. The substantive gendered effect of the local employment rate demonstrates that women benefit from the political resources that arise from living in an area with other gainfully employed individuals in a way that men do not. Women are also affected by the presence of children under the age of 18 years in the home. The impact of children at the individual level reported here replicates findings of other research measuring the impact of children on rates of political knowledge for women and men (Gidengil et al., 2004). There was no evidence that the positive effect of higher employment rates at the riding level is conditioned by the presence of children under the age of 18 years, however.

This multilevel approach to understanding the gender gap in political knowledge satisfies major methodological and theoretical concerns about the gender gap in political knowledge. The gendered context of political knowledge varies greatly across Canada at the riding level indicating that generalizations across the country may not be accurate without accounting for

contextual factors. The random intercept models show that the impact of the riding level factors upon individual level political knowledge as a ratio of the total variance is not large itself. The riding level factors explain about two per cent of the variation of political knowledge, which is reported in the intraclass correlation. This indicates that riding levels matter, but individual level factors explain most of the variation in political knowledge.

Methodologically, the study of local context moves beyond individual level models that do not explain the gender gap completely. Contextual studies address a criticism that gender differences in each riding may have an impact on the level of political resources and motivations from the gender roles that affect the accumulation of political information. From the findings, the political resources measured at the riding level do not necessarily have the anticipated impact. Indeed, the rate of post-secondary education in a riding does not provide the expected political resources that lead to higher levels of political knowledge. However, the gendered impact of local employment rates shows that campaign information is acquired at a higher rate in the areas with the highest rate of employment. Most likely, the information shared amongst employed people has a direct benefit to women's ability to identify the party leaders by reducing their information cost. This suggests that some factors are better detected in a contextually specified model that accounts for variation across the geographical landscape.

Chapter 7: Tying it All Together

7.1 New Hypotheses and the Gender Gap

The preceding chapters have presented a comprehensive examination of women and men's campaign-related knowledge. In doing so, the conventional explanations have been tested and have been found wanting because they explain only part of the gender gap. The substantial question about the maintenance of the gender gap was addressed in three parts: first, a study of the conventional explanations of the gap; second, a study of gender gap and political learning during federal election campaigns; and third, a study of the gap and the impact of constituency level political resources. This study provided a novel account of political knowledge by analyzing the factors, motivations, gender expectations, and costs associated with learning campaign knowledge. Throughout the dissertation, I referred to the possible gendered reason why women do not learn as much as men. In doing so, I have shed light on a complicated and gendered cost-benefit analysis Canadians undertake each election when new information becomes available.

The two alternative explanations proposed in this thesis examine the role of campaign-related factors, and local aggregate level factors, have been found to have some bearing on the gender gap. Here, I provide the key findings of this study, and discuss their implications. Thereafter, I provide a discussion of the limitations of this study, and conclude by outlining avenues for future research.

7.2 Key Findings

This dissertation generated several key findings. The following discusses the results and conclusions behind the dynamic relationship between gender and campaign-specific knowledge.

7.2.1 Examining Conventional Explanations

The purpose of Chapter 4 was to report the size of the gender gaps in campaign-related knowledge, and use the conventional explanations to explain gender difference. The size of the gender gaps in knowledge of federal electoral facts were reported using the 1997 through 2008 Canadian Election Studies. Without controls, the size of the gap is 11 points on average for knowledge of party leaders in favour of men, and 14 points on average for knowledge of party promises in favour of men. The main finding from Chapter 4 is that when the socio-economic, political engagement, and media consumption factors are controlled, the gender gap in campaign-related knowledge persists. As the analysis demonstrates, the gender gap in knowledge about party leaders and campaign promises cannot be fully explained by women's average lower socioeconomic status, or by women's average weaker political engagement and media consumption, as conventional explanations suggest. The conventional explanations were based in the gendered role of political resources and personal motivations in reducing the cost of obtaining campaign information, and in the different levels of personal engagement in political matters. Even with these controls, the gender gap in knowledge of party leaders remained at ten points in favour of men (see Table 4.3). Similarly, even with controls, the gender gap in knowledge of the campaign promises was eight points in favour of men (see Table 4.6). The size

of the gender gaps found in this study is similar to the gaps reported in the national political arena (Burns et al., 2001; Dow, 2009; Frailie, 2014; Frazer & MacDonald, 2003; Gidengil et al., 2004; Mondak & Anderson, 2004; Ondercin et al., 2011). These findings provide a clear answer to the research question: if one can control for the major explanatory factors, does the campaign-specific gap in knowledge remain in Canada? The answer is yes.

One of the more perplexing results is that the impact of some explanatory factors is not the same for knowledge of the party leaders, as it is for knowledge of the campaign promises. One reason could be that the party leader dependent variable was easier for respondents to answer correctly because of the strong media attention paid to the main party leaders. As well, with the persistent leadership of some politicians, the dependent variable itself was more like a measure of general knowledge than the variable about campaign promises. This means that the influence of each factor over time could be different. Notwithstanding these differences, the individual level factors that are important to note are the gender-specific impact of education and the double day effect on knowledge of campaign promises. The positive impact of education and the negative impact of having children at home are greater for women compared to men. Younger cohorts of women remain less knowledgeable than younger cohorts of men, which suggests that feminist movements have not led to the closing of gender gap over time as anticipated. However, the different effect of the explanatory factors offers a new dilemma for researchers. Normally the effect of individual level of education is presumed to have the same effect across different types of political knowledge. The results here suggest that that may not be the case. The causal mechanism could vary depending on the type of political knowledge under analysis.

7.2.2 Examining the Role of Election Campaigns

Since the gender gap remains in campaign-related knowledge even after accounting for conventional explanations, it is necessary to examine other possible factors that shape the way women and men acquire campaign information. In this thesis, the focus turned first to the effect of campaigns on the gender gap in campaign-related knowledge. The federal election campaign is a short-term, dynamic experience for women and men that is examined week-by-week in Chapter 5. The purpose of the chapter is to compare the rate change at which women and men acquire information about the leaders and party promises over the five-week campaign period.

The results show that the rate change in which women and men provide correct and don't know responses fluctuates during the campaign. The hypothesis that the election campaign results in women learning slightly more than men is supported. At the beginning of campaigns, the rate change in providing correct responses about party promises was greater for men compared to women. By week two, however, there was no difference in the rate change in providing responses. Furthermore, no gender difference in the rate change in providing correct responses about party leaders was detected in weeks one and two of the campaigns. Through weeks three through five, the rate change for women was greater than for men. Post-model estimates demonstrate that women learned more about party promises and party leaders than men during the campaigns. The gender specific difference was not large enough to change the gender gap at conventional levels of statistical significance because the gender gap change observed was less than three percentage points.

The study in Chapter 5 is the first analysis of gender and campaign-specific knowledge over the campaign period. It is also the first study to use open-ended questions to measure the knowledge of campaign-related facts. A closely related study from the United States used a series of survey questions using the true/false item format to capture respondents' knowledge of personal characteristics of the two major party presidential candidates in the 2000 election. Using the rolling cross-section from the National Annenberg Election Studies, they found that as the campaign progresses the rate change in providing correct and don't know responses fluctuates. The similarity in findings between the Ondercin et al. study and the study herein shows the importance of the election campaign in determining the relative levels of women and men's political knowledge.

7.2.3 Examining the Role Political Resources at the Constituency Level

The analysis of the effect of aggregate level political resources on the gender gap in knowledge of the party leaders returned mixed results in Chapter 6. The findings show that the gender gap varies across Canadian federal ridings at the aggregate level. The analysis shows that compared to men, women's knowledge of the party leaders is positively affected by the employment rate at the constituency level. Women living in areas with the highest employment rate provided correct responses five percentage points higher than women living in areas with the lowest rate of employment on average. The positive impact of the local employment rate on women was not, however, conditioned by the presence of children under the age of 18 years. The results related to the impact of employment was expected because women were anticipated to benefit more than men in areas with high levels of employed individuals, who can share information about federal

politics. The relative benefit that women receive from the company of other gainfully employed people is a five-point increase in knowledge of the leaders, when comparing the average knowledge level of women in the lowest decile rate of employment to the highest decile rate of employment. This means that women living in areas with the highest levels of employment on average provide correct responses five points higher than women who live in areas with the lowest levels of employment. The positive effect of higher levels of employment is not conditioned by the presence of children.

The surprising result was that no net benefit was detected for women relative to men from living in constituencies with the highest levels of post-secondary education. In fact, neither women nor men's knowledge of the federal party leaders were affected by the concentration of highly educated people living in the local constituency. The non-finding may be due to the even distribution of individuals with higher education across the constituencies. The average rate of post-secondary education at the constituency level in Canada is 55 per cent according to the 2006 Census. The standard deviation is three percentage points. The rate of employment at the constituency level, on the other hand, is more dispersed. The average rate of employment is 62 per cent, and the standard deviation is six percentage points. The larger variation in the employment rate may be part of the reason why it is estimated to have a positive impact on women. Compared to the rates of post-secondary education, there is more variance in the variable measuring the employment rate which provides for a greater possibilities of an impact. The non-finding for the effect of post-secondary education also suggests that the impact of an individual's level of education is much more important for political knowledge than aggregate level rate of education.

7.3.2 Relating the Findings to the Literature

There are two general ways to relate the findings of this study to the broader literature on political knowledge. First, it is necessary to link this thesis to research that uses conventional explanations to account for the gender gap in political knowledge. Chapter 4 of this thesis demonstrated that the conventional methods do not account for the entire gender gap. This thesis provides a more complete model which accounts for the level and impact of the explanatory factors which is similar only to the American study conducted by Ondercin and her colleagues (2011). Other studies which examine the gender gap in political knowledge may account for the level of impact of the explanatory factor but do not necessarily employ interaction terms to estimate the gender-specific impact of the explanatory factor. This thesis moves beyond conventional methods to study the impact of the election campaign on opportunities to learn about party leaders and campaign promises, which is also similar to Ondercin et al.'s unique study of the 2000 American presidential campaign. As noted in Chapter 5, the findings of the Canadian federal election campaign study are remarkably similar to the American election campaign despite Canadian-American differences in the length of campaign, and campaign spending.

Furthermore, for the first time, this thesis provides an account of the impact of constituency level political resources on the gender gap in campaign-related information. The results demonstrate that the local employment rate accounts for variation in women's knowledge of party leaders in the 2000 to 2008 federal election campaigns. The local rate of education has no direct impact on the knowledge of women and men. These findings are particularly important to the gender gap

because for the first time they examine explanatory factors that are measured at the aggregate level. As well, the findings show that political resources at the local level vary across Canada, and can be gendered in their effects.

The second consideration about linking the findings of this thesis to the general literature on political knowledge is the measurement of campaign-specific knowledge. This study of campaign-specific information is a new approach to the study of women and men's opportunities to learn election-related facts. Therefore, the study of campaign-specific political knowledge opens up analysis of different explanatory factors related to the associated information costs, and gendered expectations to learn, campaign information. As discussed in Chapter 2, the majority of studies use dependent variables that measure political knowledge are informed by Delli Carpini and Keeter's foundational studies (1993; 1996). Their recommendation suggests that five areas should be included in the measurement to capture individual's stock of knowledge (Delli Carpini & Keeter 1993). However, in this dissertation, I have employed two specific indicators of campaign-related political information, which adds to the literature because campaign-related knowledge has not been studied before at this depth with a gender lens.

I argue that the campaign-specific knowledge should not be directly compared to other types of political knowledge. I believe that it is problematic to conclude that some of these results can be generalized to more general stocks of political knowledge such as knowledge of historical political facts, knowledge of the parties and their histories, and domain specific knowledge such as information related to accessing social and health services. Since campaign-specific knowledge can be affected by a different set of information costs than other types of political

knowledge, caution must be applied when making generalizations to other types of political information and related gender-specific impacts.

7.3 Limitations of this Study

7.3.1 The Study of Causal Mechanisms

One primary limitation of this study is its reliance upon cross-sectional data, and its aim to study the causal mechanisms related to acquiring political knowledge. Three major shortcomings are clear. The first is that the cross-sectional data can be used to estimate the relationship between the explanatory factors and political knowledge, which is very important for testing the hypotheses outlined in this thesis. The limitation of these data, however, is that the estimates reported in the preceding models do not necessarily provide a complete account of the causal mechanisms themselves. Causal mechanisms are the detailed causal reasoning of the relationship between the independent and dependent variables. A wide variety of methodological traditions including quantitative, qualitative, idiographic, and experimental methods focus on explaining the causal mechanism underlying the relationships observed. Gerring suggests a number of reasons for the shortcomings related to accounting for causal mechanisms in the social sciences (2010). The first problem is related to the consequence of studying a phenomenon when some variables are omitted from the study. In this thesis, the reliance upon secondary data results in omitted factors used in the models herein. As mentioned in the section that follows, I identify a need to include measures that account for the role of media in informing individuals, and measures that capture the flow of information in social networks. Second, as discussed in

Chapter 2, it is difficult to operationalize vague and abstract concepts such as political knowledge, which causes challenges in accounting for the casual mechanism. Third, multiple causal pathways can cause problems because multiple pathways can lead to a variety of causal processes related to the same outcome.

Another weakness of cross-sectional data is that it is difficult to ascertain the exact nature of the causal relationship even when one is detected, and spurious factors are ruled out. For example, the relationship between an individual's education level and their knowledge of electoral politics is strong and positive, even with a host of controls for other socio-economic factors. Yet, the exact reason for the positive relationship may not be clear from the multivariate models themselves. Evidence of the causal mechanism can be seen, but limits are placed on understanding its relationship to political knowledge because it is unclear in which place education belongs in the causal ordering process, and if certain situations cause the impact of education to have a relatively stronger or weaker effect. Researchers can argue various reasons why higher levels of education relate to stronger motivations to learn about politics, and better cognitive skills that make understanding the political system easier. Unfortunately, though, cross-sectional analysis cannot fully explain the causal mechanisms (Bullock, Green, & Ha, 2010). Therefore, whenever possible the results of cross-sectional studies should be corroborated with other studies to identify the reasons why individuals with higher education tend to be more knowledgeable about politics.

A second weakness of cross-sectional data is that it can only provide a momentary account of individuals in their political environment. This study analyzed five Canadian federal elections

from 1997 to 2008. The consequence of the short time frame is that it is not possible to examine the long-term impact of political resources, life-cycle effects, age cohort effects, political engagement, and the feminist movement on women and men's levels of political knowledge. This means that important empirical questions remain about gender and political knowledge. Has the impact of political resources remained the same for women and men over time? Is the life-cycle effect of political knowledge the same for women and men? Did women become more knowledgeable during the second wave of the women's movement compared to men, because of the movement's drive to make politics more accessible to them?

Political knowledge itself has not been measured consistently over the Canadian Election Studies whereas political interest, political discussion, and political self-confidence have been measured consistently since 1965. Prior to 1993, the Canadian Election Study included questions which asked respondents how well they thought they were informed about the candidates and leaders. This measurement captured an individual's subjective evaluation of their own knowledge of the candidates and leaders. It did not provide a measure of factual knowledge. More recently, in the 2011 Canadian Election Study, campaign-specific information was not part of the campaign period survey. As noted above, this leaves the campaign-related knowledge in the 1997 through 2008 surveys to be analyzed. These data allow for cross-sectional analysis, such as that undertaken in this dissertation. However, there is a missed opportunity to track campaign-specific knowledge for a long enough period of time to determine whether the life-cycle effect, or generational effect, have a contributing role in what citizens know about election campaigns.

These questions have been answered in the area of political self-confidence, though. A Canadian study of the individuals' subjective political competence employed pooled cross-sectional data, measured consistently over time, to analyze the impact of factors on the gender gap over many decades (Thomas, 2012). Between 1965 and 2008, the gender gap is estimated at between 10 and 15 points on average. The analysis shows that accounting for the impact of socio-economic resources does not explain the gender gap in subjective political competence over time. Even when women are just as resource rich as their peers, their confidence in their own political abilities is not as high as their male peers. Since 1965, the negative impact of low income has become greater for women compared to men. Furthermore, there is no evidence of a double day effect over time. Neither women nor men's confidence in their political abilities were affected by working outside of the home while simultaneously taking care of children. Feminist mobilization in the second wave women's movement did little to boost younger women's political self-esteem compared to their male counterparts. As well, the findings show that over time the growing rate of secularization, which contributes to more equal gender roles, did not affect women and men's subjective political competence. The cross-time analysis shows that societal changes moved some areas of gender equality forward but did not guarantee that women's political self-confidence grew to parity levels with men.

In most national election studies, there has not been a consistent measure of political knowledge over time. Therefore, the impact of factors such as education and income on political knowledge over time will remain unknown. It is difficult to hypothesize the role of formal education on political knowledge over time because there is evidence from other areas of political behaviour research that high levels of formal education do not necessarily lead to political engagement. The

observation that political activity and engagement has stagnated despite substantial increases in rates of formal education has been called the *puzzle of participation* (Nie, Junn, & Stehlik-Barry, 1996). The common perspective is that indicators of an individual's socioeconomic status such as their levels of formal education and income are critical antecedents to such things as voting, joining political organizations, discussing politics, and taking interest in political matters.

Wolfinger and Rosenstone provide a theoretical account of the influence of education level on voting turnout (1980). In their work, the explanatory linkage between formal education and citizenship varies by the impact that formal education has on individuals' verbal and cognitive ability, political motivation, and civic norms. Other areas of the political science literature have embraced Wolfinger and Rosenstone's explanation that higher levels of education lower the cognitive and material costs of political engagement. In addition, their study of voting points out a higher-order causal process distinguishing motivations of political activity beyond self-interest (1980). Indeed, knowing more about politics does not necessarily lead to doing more politically relevant things, but on average the more connected an individual is with other politically interested and engaged individuals, the more likely he or she is to participate. Individual engagement thus grows from a "social network centrality" that develops norms of civic duty, shares political information, and provides opportunities for political activity (1980: 35-36).

The problem arising from social science models that rely heavily upon socioeconomic status to explain political activity and engagement is that socioeconomic status is not adequate at explaining the decline or stagnation of political activity and engagement over time. Clearly, voter turnout has declined over time (Blais et al., 2004b; Nie et al., 1996), and there is a general decline in deference to political authority in line with increasing levels of education (Inglehart,

1997; Nevitte, 1996). In terms of political activity, research suggests that an individual's relative position in the educational hierarchy is more important to their political involvement than their absolute education level (Nie et al., 1996). Given that university degrees are much more common than they were in previous decades, having a degree is not as auspicious, and higher levels of education may no longer provide the same boost in political engagement (1996). Nie and his colleagues argue that absolute and relative educational attainment matter to placing individuals in relative positions in their social network. Relative education is important to consider because it considers individuals' "position relative to others with whom one competes for political engagement" (118).

As well, over time, individuals with higher levels of formal education have become more sceptical about political authority, which is another reason that political activity has not increased over the last generation. The weak impact of formal education on political activity has been established, and to some the participation puzzle is not a puzzle after all (Junn, 2007). Does this mean that the relationship between education and political involvement plays out in a similar fashion when it comes to explaining gender gaps in political knowledge? The short answer appears to be yes, sort of. At the individual level, formal education is one of the most important explanatory factors for political knowledge. Chapter 4 demonstrates that some of the greatest political knowledge disparities in political knowledge can be explained by absolute educational obtainment. But to date, there has been no longitudinal study of the impact of absolute or relative educational obtainment on the gender gap in political knowledge.

A third weakness of this inquiry of the gender gap in political knowledge is its reliance upon random sample survey data, which obtains a sample of interviewees who are much more knowledgeable about politics on average than the population as a whole (Brehm, 1993). This leads to a caution when generalizing the results to the Canadian population because those who are not self-confident in their political abilities, and do not have a strong interest in political matters will refuse to complete the survey. A secondary criticism of survey research of this nature is that among the universe of potential knowledge questions, the ones used are typically biased towards easy knowledge items (Luskin and Bullock 2011). In their remarks, Luskin and Bullock note that survey respondents do not need to be experts to know the leaders of the federal parties. In the Canadian Election Study, however, knowledge of the party's campaign promises is more difficult to obtain through causal observation of campaign advertising and related activities. Therefore, this study addresses this criticism by offering a blend of difficult and easy campaign-specific knowledge questions. In essence, most Canadians know the name of the federal party leaders, meanwhile a majority of the respondents in the Canadian Election Studies confess to not knowing the party's campaign promises.

7.4 Future Research

The results of this study have several implications for future research. Here, I suggest future research directions to continue testing hypotheses, and probing further causal mechanisms related to gender differences in campaign-related knowledge, and other domains of political knowledge.

7.4.1 The Impact of the Media

Learning campaign information may be affected by media coverage of political affairs. News media reflects the culture in which it is situated, and this cultural resonance affects the editorial selection of news content, as well as the citizens' reactions to it (Goodyear-Grant, 2013). In light of gender stereotypes, which generalize preconceptions of what it means to be female and male, individuals who produce news, and those who consume news, will synthesize the information according to a "highly organized structures of knowledge and beliefs, such as gender stereotypes" (2013: 6). After all, there is a great deal of evidence that demonstrates that media coverage of politics is not necessarily gender neutral. Media and politics research reveals two areas of media coverage that effect the symbolic and substantive representation of women in news stories. The first one is the relative number of mentions of women in the news. In a comparative study of ten post-industrial democracies, researchers found that mainstream television coverage of news stories marginalizes women by mainly featuring men (Curran, Hayashi, & Coen, 2013). Indeed, only 30 per cent of television hard news interviewed or showed women. In Canada, Goodyear-Grant's study of Canadian media corroborated this finding by showing that men dominate television and print news media coverage (2013). Symbolically this demonstrates the media's reflection of a culture in which the placement of men is prioritized.

Furthermore, the substance of news stories have a distinct masculine frame in their treatment of politics, economics, and culture in the lead stories on television, and front sections of the newspaper (Goodyear-Grant, 2013). Close examination of newsworthy items reveals that framing occurs, with descriptions of both men and women relying upon masculine language and

imagery (Gidengil & Everitt, 1999, 2003; Trimble & Sampert, 2003, 2004). Historically, women have not been associated with war and sport. The traits that are required to be successful in politics come from masculine frames including aggression, strength, autonomy, and competitiveness (Goodyear-Grant, 2013). The application of masculine frames to describe female politicians can appear unnatural to viewers. As Goodyear-Grant argues:

The idea of a woman landing a “knockout blow” or “keeping her stick on the ice,” metaphors that are illustrative of how the news media tend to cover events like leaders’ debates, is at odds with culturally defined norms of feminine behaviour (2013: 7).

Goodyear-Grant argues that gendered news contributes and reinforces the dichotomy suggesting, “femaleness is different, alien to politics, or even unwelcome in politics” (2013: 7).

The media’s representation of women in media and its impact on the gender gap in political knowledge has not been studied in-depth. Goodyear-Grant argues that several factors shape media discourse, one of which is the gendered selection and editing of news content, as well as the reaction of citizens to news stories. To test hypotheses arising from this line of inquiry would likely require an analysis of change in media coverage over time, where former media stories are archived for analysis. The second major challenge would be attributing change in the media’s coverage of women in politics with changes in women’s political knowledge. As mentioned previously, there is a limited political knowledge longitudinal data. Knowledge items have only recently been a part of the Canadian Election Studies, which make it difficult to estimate baseline levels of knowledge, and analyze whether changes in media coverage has a direct impact on women’s political knowledge. Ideally, a survey with a large battery of political knowledge items,

and a large battery of information about media consumption would provide data at the individual level to test a series of hypotheses about media consumption and political knowledge.

7.4.2 The Impact of Political Role Models

One reason for the enduring difference in women and men's campaign-specific knowledge could be the relative absence of female role models in the highest political offices. The link between prominent female politicians, and the knowledge level of women, is based on the contextual cue-theory. The theory emphasizes the political context in which individuals learn about and engage in political matters (Bobo & Gilliam, 1990; Hansen, 1997; Rosenstone & Hansen, 2003).

Scholars argue that descriptively underrepresented groups are less likely to participate in many areas of public life because their underrepresentation in government creates a psychological barrier to engagement. Focusing on the underrepresentation of women, the role of female candidates and party leaders can play a contextual cue. The simple presence of a "like" candidate may provide symbolic significance of political inclusion (Bobo & Gilliam, 1990). The relative absence of female federal party leaders, and the rare prominent federal cabinet minister, therefore, could matter to women's political engagement, and levels of political knowledge.

Empirical studies of the role model effect on individuals' political engagement have not been as common in Canadian as they have been in the United States. In the United States, support for a female-specific role model effect has been detected. Both Hansen (1997) and Atkeson (2003) find that when there is a prominent, competitive, female candidate in the district, women are

more likely to try to convince others to vote for a particular candidate. As well, women have higher levels of political efficacy and political knowledge when they live in districts with a visible, competitive, female candidate (Atkeson, 2003). Burns and her colleagues find that women living in states with female Senate incumbents have higher levels of political knowledge and that a higher density of female political representatives is associated with higher levels of political interest, attention and knowledge (2001). The visibility of the female candidate and her competitiveness are both important because the candidate must be “viable” to have an impact on women en masse. In a cross-national study of European countries, the United States, and Australia shows that adolescent girls are more likely to discuss politics and communicated a stronger intent to participate in politics as adults in countries in countries with higher rates of women elected to national legislatures (Fraile, 2014). Likewise, the presence or relatively higher numbers of female members of the national legislature meant that adult women were more likely to discuss, and participate in politics (Wolbrecht & Campbell, 2007). To date, however, there has not been a time-series analysis to determine the causal ordering of the relationship between women’s mass-level political participation, and elite-level political participation.

The question of the impact of role models in Canada on the gender gap in political knowledge is not straightforward because there is possibly a great deal of variability in the effect of role models. Canadians live under the jurisdiction of three levels of government where a number of combinations of local representatives and party leaders can play a role in shaping a role model effect. Furthermore, those individuals paying attention to international politics may be affected by prominent role models from other countries such as Angela Merkel, Julia Gillard, Benazir Bhutto, Hillary Clinton, Sarah Palin, Ellen Johnson Sirleaf, Michelle Bachelet, and Dilma

Rousseff, to name a few. The results from Chapter 4 show that female respondents were just as knowledgeable of Michaëlle Jean and Elizabeth May as male respondents, which suggests that high-profile women are noticed more by women than other male political figures in the general public.

A definitive study of the role model effect in Canada has yet to be completed though. This may be due to a major difference between Canada and the United States: compared to the United States, in Canada there is less emphasis on the evaluation of the local candidate in federal elections (Blais et al., 2003). One can imagine, as well, that the importance of the local candidate in provincial elections has only a weak effect on vote choice. Since local candidates have a weak impact on vote choice, the effect of viable federal female candidates may be weaker in Canada than in the United States (Giles, 2007). However, for some women living in Canada, the context of living with prominent female political leaders across the three levels of government may be strong enough to send a strong signal to women that electoral politics is women-inclusive. This may lead to an increase in women's political engagement, in these circumstances. In the Canadian context, with the recent increase of women in provincial executive office across Canada, there is now an opportunity to measure the impact of prominent female role models, and to quantify change as it unfolds.

7.4.3 Communications and Flow of Campaign Information

This doctoral research points to a need to study in greater depth the patterns of political communication, to assess the flow of campaign information and the roll it plays in reducing the

information costs in acquiring new facts. Interpersonal discursion is important because it creates channels through which useful campaign information and influence pass. Social network research demonstrates that women and men have different information and opportunities available to them through social contacts (Erickson, 2004; Erickson & Nosanchuk, 1990; Frazer & MacDonald, 2003; Gidengil et al., 2005). Women and men's social networks reflect gendered patterns of employment, recreational activity, associational membership, and kinship ties, which have potential consequences for the flow of campaign information. While social networks and associational involvement hold a theoretical importance in explaining the spread of political knowledge, there is yet to be a large study done on how gender plays a role in the type and amount of information that is shared.

Given the findings about the gendered nature of election campaigns, I suggest that future studies uncover how interpersonal political communication unfolds during the campaign. Such a study can measure indicators relevant to mapping political communication flow so that comparisons can be made between women and men. Relevant measures would capture the types of associational involvement, network diversity, and the number and heterogeneity of personal contacts. As well, individuals would be asked political knowledge questions to quantify how much they know about political actors, political institutions, social provisions, and public policies across different levels of government. These data would provide information about gendered patterns of political communication, and could be used in models to explain gender difference in political knowledge.

In addition, it is important to investigate the gendered effect through an intersectional lens. The subfield of political behaviour in political science has yet to explore intersectionality systematically across different types of political participation and engagement. This is surprising because intersectionality became a prominent approach after Crenshaw used it in 1989 to explore the race and gender dimensions of violence against women of colour is just one of the multiple identities that citizens hold. In Canadian society, other identities and situations may intersect with gender to produce different political behaviour. For example, a person's low-income status may not be independent of her gender because these two identities work together to produce a specific social reality. The intersection of these and other identities should be part of future investigations of political discussion because they could uncover gendered patterns of political marginalization.

7.5 Conclusion – Tying it All Together

Based on data spanning five federal elections, this work has shown that the relationship between gender and the knowledge of electoral facts is shaped by a series of factors that affect information costs. One of the most important contributions of this work relates to testing hypotheses that move past the static traditional socio-economic and political engagement accounts of the gap. The results reported here show that the intensity of the campaign election period, and the geographical distribution of political resources, both affect the campaign-specific information that women and men commit to long-term memory. At a time when democratic observers wonder why women's equality has not translated into higher levels of women's political knowledge, this study shows that the uneven employment rate across Canada

contributes to the gender gap. As well, women's delayed engagement in the election campaign is a major reason why they do not know as much as their male counterparts. The finding that the rate change in providing correct responses about party leaders and campaign promises is gendered – all things being equal – is important because it shows the conditions under which men and women learn are different. Certainly, women's knowledge of campaign facts is advantaged relative to men in times of intense political campaigning.

Campaign-specific knowledge is one of many types of political information in an individual's political repertoire. Hesitation about the knowledge scales used in the majority of political knowledge research should not be forgotten. Nor should the hesitation about clarity and depth in which researchers understand the causal mechanisms, and causal ordering, behind the relationship between gender and political knowledge. This dissertation introduced the role of the campaign as an information campaign, and the role of geographical variation in political resources, as explanatory factors in the gender gap in political knowledge in Canada. As research in this area continues, a number of explanatory factors will likely continue to reveal that barriers to political knowledge are not barriers in the strict sense of the word. They may nevertheless provide negative reinforcement, which discourages individuals from learning about politics.

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