

Université de Montréal

What Voters Want: Identifying Voter Preferences for Candidates

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## Résumé

Cette thèse est constituée de six articles qui apportent un éclairage nouveau sur les préférences des électeurs à l'égard des candidats et de leurs profils sociodémographiques, avec une attention particulière portée au genre, à l'affinité d'âge, à l'occupation professionnelle et à l'expérience politique. La question cherchant à savoir qui se fait élire est l'une des plus fondamentales en science politique, car elle se rapporte à l'enjeu de la représentation descriptive. Le premier article présente deux bases de données originales que j'ai moi-même assemblées. Ces bases de données comportent de l'information sur l'ensemble des candidats aux élections fédérales canadiennes ainsi qu'aux élections provinciales ontariennes entre 1867 et 2019; elles posent les bases pour les autres articles de cette thèse.

Le deuxième article examine si les femmes obtiennent moins de votes aux élections fédérales canadiennes. En utilisant ma base de données inédite, comprenant plus de 21 000 candidat(e)s uniques depuis l'élection de 1921 (la première au cours de laquelle les femmes ont pu se porter candidates pour des sièges au Parlement), nous sommes en mesure d'estimer avec précision les différences qui existent dans la performance électorale des hommes et des femmes. Je démontre que, bien qu'il y ait eu un fossé entre les hommes les femmes qui ont cherché à se faire élire dans le passé, il ne semble pas y avoir aujourd'hui de réelle différence dans le pourcentage des voix récoltées par les candidats en fonction de leur sexe.

Le troisième article se demande si les femmes obtiennent moins de votes dans les élections provinciales ontariennes. Les effets sont à nouveau estimés de manière longitudinale, en utilisant les données qui ont été récoltées pour tous les candidats et toutes les candidates depuis 1902. Les résultats sont très similaires à ceux trouvés pour les élections fédérales canadiennes, ce qui démontre la robustesse de mes conclusions. Peu importe le palier de gouvernement, il semble que l'électorat ne fasse pas de discrimination en fonction du sexe des candidats. Bien que ces résultats puissent être spécifiques au Canada, le fait que les résultats soient similaires aux niveaux fédéral et provincial accroît le caractère généralisable de mes conclusions.

Le quatrième article utilise des données transnationales du projet Comparative Study of Electoral Systems, couvrant plus de 850 000 individus et 639 leaders politiques dans 51 pays et 126 élections. Je teste les hypothèses voulant que les leaders soient plus populaires auprès d'électeurs du même groupe d'âge, et que ces derniers aient une plus forte propension à voter pour de tels leaders. J'obtiens des résultats qui semblent appuyer ces hypothèses, mais les effets associés à l'âge sont sub-stantivement très petits.

Le cinquième article tâche de déterminer si les candidats qui pratiquent le métier d'avocats obtiennent plus de votes que les autres. Les analyses dans cette étude tirent parti de ma base de données inédite sur les candidats lors des élections fédérales canadiennes, laquelle inclut l'occupation et la performance électorale de chaque candidat ayant brigué un siège au Parlement entre 1921 et 2015. Nos résultats démontrent que les avocats obtiennent plus de votes que les non-avocats, mais que leur avantage électoral est très limité.

Le sixième article se demande si les candidats sortants bénéficient d'un avantage électoral et si cet avantage varie en fonction du genre. Cette étude tire parti de ma base de données originale pour estimer l'avantage électoral des candidats sortants lors de 9 élections fédérales canadiennes, dans 2 739 circonscriptions, entre 1990 et 2019. En déployant une analyse de discontinuité, je compare les hommes et les femmes qui ont de justesse gagné ou perdu des élections en fonction de trois critères : la probabilité de se porter candidat à nouveau, la part du vote obtenue et la probabilité de remporter la prochaine élection. Je trouve que le statut de sortant offre un avantage électoral, mais que les différences entre les hommes et les femmes sont, sauf pour ce qui est de la part du vote, non significatives. Les candidats sortants ont une plus grande probabilité de se représenter à la prochaine élection que les candidats non sortants. Qui plus est, les femmes ne souffrent de pénalité électorale pour aucune des trois variables dépendantes, ce qui suggère que les électeurs ne discriminent pas les candidats en fonction du genre.

**Mots-clés** : candidat(e)s; candidat(e)s sortant(e)s; comportement politique; vote; genre; jeunes

## Abstract

This dissertation is comprised of six standalone articles that provide insights on what type of candidate voters prefer with a particular focus on gender, age affinity, occupation, and political experience (i.e., incumbency). The question of who is elected is one of the most fundamental questions in political science as it pertains to the issue of descriptive representation. The first article presents two novel datasets that I collected. These datasets include information on all candidates in Canadian federal and Ontario provincial elections from 1867 to 2019, and they are the basis for four of the remaining articles in this dissertation.

The second article examines whether women get fewer votes in Canadian federal elections. Using the novel data I collected, with over 21,000 unique candidates since 1921 (when the first women were allowed to run for seats in Parliament), we are able to compute precise estimates of the difference in the electoral fortunes of men and women candidates. We demonstrate that while there was a gender gap in the past, the difference between male and female candidates' vote shares is now statistically indistinguishable from zero.

The third article investigates whether women get fewer votes in the Ontario provincial elections. We again estimate the effects longitudinally, using the novel data I collected, from 1902 onwards. The results are very similar to those found for Canadian federal elections. This is important because it shows that our estimates are robust: regardless of the level of government, female candidates are not being discriminated against by voters. While these results might rely on Canadian data, finding similar results at different levels of government enhances the generalizability of my conclusions.

The fourth article uses cross-national data from the Comparative Study of Electoral Systems project, covering 853,414 individual voters, 51 countries, 126 elections, and 639 unique leaders. Using this dataset, I test the hypotheses that a leader is more popular among voters closer to them in age and that such voters are more likely to vote for them. I find some support for both hypotheses though the effects are substantively very small.

The fifth article asks if candidates who are lawyers get more votes compared to non-lawyers. This paper also leverages the novel data that I collected at the federal level, which includes the occupation

and electoral performance of every candidate who ran for office between 1921 and 2015. Our analysis shows that lawyers get more votes than non-lawyers, but that their electoral advantage is very small.

The sixth article asks whether incumbents have an electoral advantage and if such an advantage differs across gender. This paper once again uses the novel data that I collected to estimate the electoral advantage enjoyed by incumbents during 9 Canadian federal elections, in 2,739 ridings, from 1990 to 2019. Using a regression discontinuity (RD) design, I compare men and women who have very narrowly won or lost elections on their probability of running again, vote share and probability of winning in the next election. I find that there is an electoral advantage of being an incumbent but that the differences across gender are, with the exception of vote share, not significant. Incumbents are more likely to run again in the next election than their non-incumbent counterparts. Furthermore, women do not suffer an electoral penalty across the three different outcome variables, suggesting that voters are not discriminating against women once they run for office.

**Keywords** : Candidates; Incumbency; Political Behaviour; Voting; Gender; Youth

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# Chapter 1 – Introduction

“You get used to it, even as a little girl -- opening the newspaper, turning on the TV, and hardly ever seeing anyone who looks like you. You train yourself to not get your hopes up. And sometimes it’s a battle just to keep telling yourself that you might deserve more.

Because no matter how much you prepare, no matter what grades you get or even how high you rise at work, it always feels like someone is waiting to tell you that you’re not qualified. That you’re not smart enough. That you’re too loud or too bossy. That there’s just something about you...you’re just not quite the right fit [...]

I’ve been thinking about all those girls growing up today who will be able to take it for granted that someone who looks like them can grow up to lead a nation like ours.”

-Michelle Obama (2020) about Kamala Harris

In every election, voters are asked to cast their vote for a particular candidate to represent them in the legislature. Legislators are therefore a fundamental element of a democratic system that ensures a well-functioning representative democracy. The decisions elected representatives make affect the lives of millions across the country. These representatives are the face of their constituents, and they exercise significant influence over social and political change (Pakulski 2008). Moreover, they have the final word on how to collect and redistribute public funds, yet they are a small group of elite decision-makers (Hafner-Burton et al. 2013).

Are legislators actually representative of the entire population? If not, legislators may make policy decisions that are not well-aligned with the views of the electorate. Specifically, overrepresented groups may command undue influence. While political equality, where everyone regardless of their background is equally represented, is a fundamental tenet of democracy, a growing body of comparative research has consistently found inequalities in descriptive and substantive representation (Bartels 2008; Bernauer et al. 2015; Giger et al. 2012; Gilens 2012; Jacobs and Page 2005; Lupu and Warner 2017; Peters and Ensink 2015; Schakel et al. 2020). These inequalities, in turn, impact policies that are implemented. Legislators are, for example, more responsive to policy outcomes that favour the rich over the poor which may cause an overrepresentation of affluent voters (Bartels 2008; Gilens 2012).

Descriptive characteristics influence the perceived quality of representation. Shared experiences which may be reflected by descriptive representation informs the level of trust the voter has for public officials and institutions which are important for a well-functioning democracy (Mansbridge 1999). Unequal representation also impacts citizens' acceptance of decisions made by representatives and, ultimately, democratic institutions. For example, Arnesen and Peters (2018) finds that disadvantaged groups of society, like women, are more likely to say gender representation is important than men. This is because they have the most to gain from descriptive representation in order to reduce imbalances in representation. Moreover, Arnesen and Peters (2018) report that voters are more satisfied and more likely to accept decisions made by a representative body in descriptive and social background characteristics compared to representatives that do not reflect the characteristics of the population.

Descriptive representation also increases voters' perceived legitimacy of elections and governments, and their willingness to accept decisions by a representative body (Bratton and Ray 2002; Mansbridge 1999; Reynolds 2013; Schwindt-Bayer and Mishler 2005). Studies on homophily argue that people prefer to interact with others of similar characteristics and are more trusting of individuals who belong to their own group (McPherson et al. 2001). Reflecting this general principle, voters trust individuals who share similar characteristics as them to make decisions that align with their preferences and if these representatives do not, voters give them the benefit of the doubt more often than not (Arnesen and Peters 2018). Fenno puts it like this: "every congressman conveys a sense of identification with his constituents. Contextually and verbally he gives them the impression that I am one of you. I think the way you do and I care about the same things you do. You can trust me because we are like one another." (1977, pp 899). To summarize the above, voters care who makes decisions on their behalf and, when given the choice, they prefer representatives that reflect their own group in terms of socioeconomic characteristics.

Who voters pick for office is therefore of fundamental interest in political science and political representation. Do voters select candidates based on a given characteristic? Are some characteristics more desirable than others? This dissertation addresses these questions. Understanding the voter's choice is critical for representative democracy and public policy. Yet large-scale rich quantitative data, where individual candidates are tracked across time over the history of a country, have to my knowledge been absent in the systematic study of these questions.

This dissertation proceeds as follows. In the remainder of the introduction, I present a brief overview of the literature that connects the six papers in this thesis. A more detailed literature review is presented in each individual article. I then present each article, of which five are already published and one is under review. Finally, I conclude with suggestions for future research.

## **Political Representation**

According to Mansbridge (1999, pp 629) descriptive representation is when “representatives are in their own persons and lives in some sense typical of the larger class of persons whom they represent. Black legislators represent Black constituents, women legislators represent women constituents, and so on.” Pitkin (1967) defines descriptive representation as “standing for” and distinguishes it from substantive representation—which she refers to as “acting for” a particular group. These definitions clarify that descriptive representation requires a representative to share similar characteristics as the citizens she represents—for example, women MPs can descriptively represent female citizens. In other words, descriptive representation has to do with the numerical presence of a group in the legislature or executive. At the aggregate level, there is descriptive representation to the degree that the percentage of a given characteristic in the legislature corresponds to the percentage of the same characteristic in the electorate. At the individual level, there is descriptive representation if the representative’s characteristics resemble those of a given voter.

In contrast to descriptive representation, substantive representation requires representatives to engage in the issues and preferences of the electorate. In other words, the representative’s actions (decisions) must reflect voters’ preferences in order for substantive representation to be fulfilled. While both descriptive and substantive representation are different conceptually, they are also connected. Descriptive representation has been argued to enhance substantive representation, where for example, an increase in the number of women in the legislature results in an increase in attention to policy issues women care about (Mansbridge 1999; Pitkin 1967; Schwindt-Bayer and Mishler 2005).

A number of empirical studies offer support for this connection between descriptive and substantive representation. Using data from Norwegian municipal councils, Bratton and Ray (2002) find that women legislators positively affect childcare provisions in that country, an issue women care about more than men. Reynolds (2013) shows that having even a small number of LGBT representatives creates more progressive policies that support equality rights for these groups. Voters are also more

likely to contact and communicate their concerns with representatives that share similar characteristics (Gay 2002). In all of these cases, the descriptive presence of members of a given group in parliament appears to enhance the substantive representation of this group. Thus, descriptive representation can help make legislators become more politically equal.

In addition to the effects on substantive representation, there are also other reasons why disadvantaged groups in society may have an interest in being represented by individuals who mirror their own backgrounds. Mansbridge (1999) argues that it is desirable for legislatures to resemble the population they represent because this ensures symbolic representation. Such symbolic representation can help members of disadvantaged groups feel empowered. In summary, existing studies find that who the representatives are matters for the type of legislation that is debated, implemented and the quality of the democracy.

Representatives with different characteristics—gender, age, occupation and past political experience (i.e., incumbents)—have different qualities. Voters often infer from these qualities how legislators will make decisions once in office. Lupia (1994) suggests that voters who lack information and do not want to spend the time to acquire it use shortcuts. The classic example of such a shortcut is party identification. Voters make all types of inferences about candidates based on their understanding of parties in a given country. For example, Democratic candidates in the United States are considered more liberal than Republican candidates. This example can be extended to women and young candidates because they hold different policy preferences than men and older candidates. Existing studies show that voters infer parties' positions based on the gender of party leaders (O'Brien 2019) and that candidates' age can be used to infer what issues candidates will focus on (McClean and Ono 2020). However, not all voters are concerned with policies. Some voters cast their ballot based on whether they perceive the candidate to be competent or not. In this case, occupation or past experience in politics may matter more. Moreover, because women are typically seen to be more kind, compassionate, and liberal than men, some voters use stereotypes based on women's traits to evaluate candidate abilities and issue positions to formulate their vote choice (McDermott 1997). In all these cases, voters use cues and shortcuts to make political decisions without having to absorb a large amount of information (see Lau and Redlawsk 2001; Lupia 1994).

## Women as Candidates

Gender plays a critical role in the decision to run (or not) for office. Although existing literature on women's electoral performance shows that there are no discernable biases against women candidates who run for office (Burrell 1994; Dolan 1998; Thompson and Steckenrider 2008), women are not moving towards politics as a profession at a rate that would lower the gender-gap in representation significantly (IPU 2020). This has obvious implications for political representation. Gregory Petsko, a geneticist at Brandeis University, observed that, “[a]lmost without exception, the talented women [he had] known have believed they had less ability than they actually had. [And] almost without exception, the talented men [he had] known believed they had more” (Ginsburg et al. 2016, pp. 73). Such a discrepancy might be one mechanism behind election aversion which has been observed among women (Kanthak and Woon 2015).

In 2016, Hillary Clinton became the first woman from a major political party to become the presidential nominee in the United States. Her campaign quickly converged around whether or not Clinton would be able to get the “women’s vote”. Political pundits and journalists billed Hillary Clinton’s strategy as “I’m a woman, vote for me” (Schow 2015). Donald Trump famously quipped, “the only thing Clinton has going [for her] is the woman’s card” (Landsbaum 2016). The two candidates, Clinton and Trump, could not be more different in terms of their past political experience. Whereas Clinton had been visible in national politics since 1992 (in various roles from First Lady to Secretary of State in Barack Obama’s administration), Trump had not held prior elected political office. And yet when the votes were counted, Clinton won the popular vote, but Trump won the election (see Knuckey (2018) for detailed explanations). Clinton won a majority of women voters, but despite the revelation of tape recordings revealing Trump bragging about sexual assault ahead of the election, white women without college degrees were more likely to vote for Trump (Malone 2016; Reston 2016).

These results puzzled many political scientists who were expecting a win for Clinton especially among women voters. Badas and Stauffer (2019) offer a plausible explanation for the election results. Using data from the 2012 U.S. state elections and conjoint experiments, they find that gender affinity effects are important and present in nonpartisan contexts, but that in partisan elections, voters use partisanship as a cue. Extending this argument to the 2016 election, it is not surprising that Clinton was not able to capture the vote of white women without college degrees if, historically, this group has voted Republican in presidential elections (Badas and Stauffer 2019). The current literature on whether

there is gender-based voting, where women prefer women candidates and men prefer men candidates, provides mixed results. In some contexts, such as when the gender of the candidate is especially salient, women voters support women candidates (Cook 1994; Dolan 1998; Plutzer and Zipp 1996; Seltzer et al 1997) and in other contexts, such as in congressional races in the United States, they do not exhibit gender affinity (McDermott 1997; Paolino 1995). Other research in the United States suggests that voters have baseline gender preferences to be represented by male or female candidates and that women are much more likely to prefer to be represented by women (Sanbonmatsu 2002). Using data from the 1992 senate elections in the United States, Paolino (1995) suggests that voters who felt that electing more women is important were more likely to vote for female senatorial candidates. Campbell and Heath (2017) report similar findings among women who support descriptive representation in the 2010 British election, where gender was a salient issue during the campaign. In the Canadian context, Cutler (2002) studies the role of gender among other sociodemographic characteristics in two Canadian federal elections, 1993 and 1997. Using the Canadian Election Study, he shows that voters were less likely to support a party whose leader was of the opposite gender.

The gender affinity literature suggests that there are reasonable justifications as to why women would prefer to be represented by female candidates over male candidates. Existing studies find evidence that the gender of a legislator affects their policy decisions (Chattopadhyay and Duflo 2004; Edlund and Pande 2001; Lott and Kenny 1999), women politicians are more likely to have liberal voting records (Edlund and Pande 2001; Koch 2000) and support women's issues (Swers 1998; Vega and Firestone 1995) because they have distinct policy preferences from men; women politicians are perceived as better able to handle issues relating to childcare, healthcare, social security and education whereas men politicians are perceived as better able to handle the economy, defense, and foreign policy (Dolan 2014; Huddy and Terkildsen 1993; Leeper 1991; Matland 1994; O'Brien 2019; Sanbonmatsu 2002; Sapiro 1983). Moreover, women politicians are also more likely to attract other women to run for politics (Dhima 2020) and women voters may prefer women because they emphasize their gender in their campaign (Herrnson et al. 2003). Voters may also lean in on gender-trait stereotypes: men are seen to be forceful and decisive whereas women are viewed as more compassionate and honest, leading some voters to believe that parties led by women are more moderate compared to parties led by men, who are seen as more extreme (O'Brien 2019).

Another motivation for women to vote for women candidates may come from the fact that the presence of women politicians may induce women to become more politically engaged (Campbell and Wolbrecht 2006; Dhima 2020; Dolan 1998; Herrnson et al. 2003; Plutzer and Zipp 1996) Political scientists have for decades observed a decline in traditional forms of political participation. Existing studies have found a persistent lack of knowledge, interest and political participation among women and young voters (Campbell and Wolbrecht 2006; Dassonneville and McAllister 2018; Franklin 2004; Plutzer 2002; Wass 2008). It is an established fact that turnout is higher among men and older citizens (Blais et al., 2004; Wolfinger and Rosenstone 1980). The literature on role models finds that women (particularly young women) are more likely to increase their interest and engagement with politics when there is a presence of more women politicians (Campbell and Wolbrecht 2006; Dassonneville and McAllister 2018). These studies suggest that the mere presence of women politicians inspires adolescent girls to become engaged in politics. Just as in the case of women politicians, we could expect young politicians to act as role models for young voters, as discussed in the next section. In summary, voters have many different motivations for preferring a female candidate over a male candidate.

## **Candidate Age**

In the 2020 presidential campaign in the United States, age was front and center because Joe Biden, then aged 77, was running to replace Donald Trump, who was himself aged 74. These are two of the oldest candidates to stand for president in the United States. Their candidacy raised much needed attention on the age of politicians who tend to be older than their constituents in most countries around the world. Like the question of gender, this question has real world implications considering that young people make up a substantial share of the voting age population yet remain underrepresented in political institutions across the world. According to the Inter-Parliamentary Union (2018), 15 per cent of national legislators are under 40 years old. Using population data from the International Data Base of the United States Census Bureau (2020), I calculated the voting age population that is between 18-40 years old for the same countries that the Inter-Parliamentary Union used in their analysis, and I found that 50 per cent of the world's voting age population is between 18-40 years old. This suggests that the proportion of legislators between 18-40 years old is 3.3 times smaller than the proportion of the electorate in this age group. Specifically, in Canada, for example, less than 22 per cent of Members of Parliament between 1867 to 2019 are under 40 years old. Yet de-

spite the recent attention on the age of politicians, we still do not know much about whether voters use age as a heuristic to infer certain characteristics about politicians.

As for young voters, they are often blamed for decreasing turnout in democracies around the world (Blais and Rubenson 2013; Holbein and Hillygus 2020). One reason for young voters' lack of political engagement might be a feeling that politicians do not represent them well. However, none of the existing literature has tested if higher levels of younger politicians increase youth engagement in politics. Compared to research on the parliamentary inclusion of women (see for example: Carroll 1994; Dassonneville and McAllister 2018; Sanbonmatsu 2002; Wolbrecht and Campbell 2007), which tests whether women politicians act as role models for women voters, research on youth representation is in its infancy. Yet we know that, like women, young people are marginalized in politics and parliaments across the world (Joshi 2013; Stockemer and Sundtröm 2018).

Some scholars have suggested that the low legislative presence of young politicians negatively influences the political engagement of young cohorts. "If more young people are able to participate as MPs, they may serve as role models for their age cohort peers, leading other young adults to become more politically engaged" (Joshi 2013, 12). However, this is an assertion that has not been empirically tested.

It is possible that since older voters turn out at higher rates than younger voters, that the age distribution in legislatures around the world is a reflection of the age distribution of voters rather than eligible voters. Yet this could be problematic given that younger voters are more likely to be affected by decisions politicians make about the long-term such as climate change and war. In light of these considerations, the literature on political representation creates an expectation that young voters will support young candidates for politics. This idea that young voters should vote for young politicians makes sense, but it has not been rigorously tested in the existing literature.

While the study of descriptive representation has overwhelmingly focused on women, young voters too seek to have a voice within legislatures. As will be discussed shortly, recent scholarship shows that just as a shortage of women representatives, for example, affects policy outcomes on issues women care about, a lack of younger politicians also has consequences for age-related policies (Alesina et al. 2019; Curry and Haydon 2018; McClean 2021). Like women, young voters have distinct policy preferences compared to their older counterparts. Younger citizens are more likely to favour policies

that disproportionately benefit them such as more public spending on education, childcare, parental leave, and maternity care (Busemeyer et al. 2009; Iversen and Stephens 2008). Older citizens, for their part, prefer greater spending on issues that affect them more directly such as pensions, senior services and healthcare (Curry and Haydon 2018; Goerres 2009). There is also some evidence that the age of politicians correlates with the policies they pursue. Alesina et al. (2019) find that younger mayors in Italy are more likely to increase spending in election years because of their stronger career concerns. Using data from municipalities in Japan, McClean (2021) finds that politicians are more likely to promote and implement social welfare policies that affect their age group; younger politicians are more likely to think of long-term investments and older politicians are more likely to prioritize short-term welfare spending.

Two existing studies test whether voters prefer candidates in their own age group. Using survey data from the Cooperative Congressional Election Study, Webster and Pierce (2019) examine if there is age affinity in different electoral contexts in the United States and report some support for age-based heuristics in low-information elections. Pomante and Schraufnagel's (2015) voter turnout experiment reports that young voters are more likely to vote when younger candidates are on the ballot. They use photographs to test if the appearance of candidates plays a role in voters' evaluations. They then examine variation in youth voter turnout in five U.S. midterm elections from 1994-2010 when there are young candidates on the ballot and find that participation among youth increases when young candidates run. Both of these studies provide evidence of in-group favoritism, but they are focused on the United States and only examine a few elections.

## **Lawyers as Candidates**

While women and young voters are typically underrepresented in legislatures, other groups, like lawyers, are overrepresented. Not only are there more lawyer candidates who run for politics than in the general population, but historically, they also win at higher rates compared to candidates with other occupational backgrounds (Bonica 2020). Lawyers too are a group of individuals with shared interests and concerns. Studying the representation of working-class voters in the United States, Carnes (2012) shows that legislators' economic background impacts how they vote on economic policies. Extending the argument to lawyers, having more lawyers will also impact the types of policies that are implemented. Miller (1995, 162), for example, argues that lawyers in Congress "have adopted lawyers' ways, lawyers' language, as well as lawyers' approaches to problem solving."

In the United States, lawyers occupied 42 per cent of the seats in the House and 58 per cent of the seats in the Senate in the 113th Congress while only 0.4 per cent of the voting age population were lawyers (Bonica 2016). Most of the existing literature on the dominance of lawyer-legislators focuses on the American context, but other commonwealth nations, including Canada, also have an overrepresentation of lawyers in political office (Bonica 2016). As we will see in chapter five, in Canada, the proportion of lawyers and Québec notaries in the population has not exceeded 0.5 per cent of the labour force from 1921 to 2016, yet they have averaged 24 per cent of the seats in the House of Commons over the same time period.

Lawyers have traditionally played an important role in shaping the rules, procedures and norms of legislatures precisely because they have been overrepresented in politics since the formation of parliaments (Miller 1995) but also because their occupation requires them to interpret the law which voters may perceive as a sign of competence. Voters may also view lawyers to have a certain set of legal and communication skills, due to their training, that make them particularly good as politicians (Podmore 1980). To become a successful politician, specific skills such as making laws and reading and writing policy proposals are needed. Lawyers, by virtue of their training, tend to have these abilities and expertise at a higher rate than politicians from other professional backgrounds. Having an overrepresentation of lawyers begs the question why some groups are so much better represented than others and whether these trends still hold today compared to the past.

At the same time, lawyers in politics are predominantly men and white (Tremblay and Trimble 2004) which suggests that having an overrepresentation of lawyers in politics also impacts other dimensions of representation. In a 2005 lecture to the Association of the Bar of the City of New York, commenting on life after law school, Harvard Law School dean, Elena Kagan, argued: “women lawyers are not assuming leadership roles in proportion to their numbers [despite] outnumber[ing] men two to one in reporting that ‘helping others’ was an important consideration in choosing law as a career” (Ginsburg et al. 2016, pp 73-74). As such, if lawyers win at higher rates than other occupations, and lawyer politicians are mostly men, this will further slowdown the presence of women in politics. Figure 1 shows the percentage of lawyers among men and women politicians in the Canadian House of Commons from 1921 to 2016. As we can see, the proportion of lawyers among men have been consistently greater than the proportion of lawyers among women in parliament, though the gap has decreased over time.

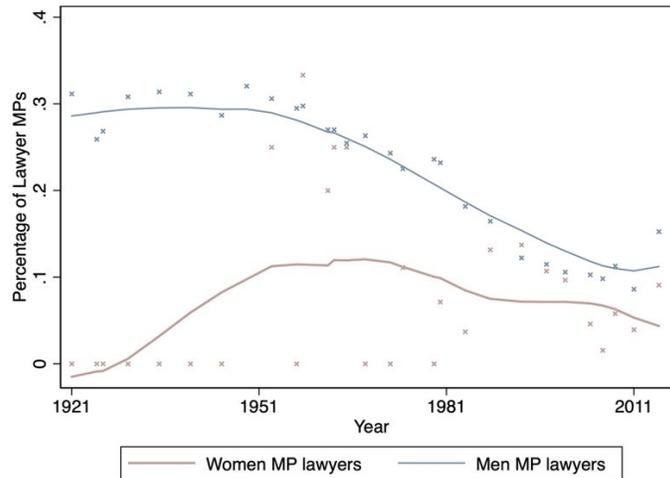


Figure 1. – Percentage of Seats Held by Lawyers over Time and by Gender.

## Incumbency Advantage

Incumbents in western democracies have an electoral advantage compared to their challengers. For instance, in the United States, 90 per cent of incumbents who re-run are reelected (Chillizza 2013). While the incumbency effects vary, efforts to estimate the probability of winning as a function of incumbent status reveal an incumbency advantage in Canada (Kendal and Rekkas 2012), Germany (Hainmueller and Kern 2008), Norway (Fiva and Smith 2018), Spain (Llaudet 2014) and the United Kingdom (Eggers and Spirling 2017). This could be partly because voters view incumbents as individuals who possess leadership abilities that are associated with being in office compared to challengers (Alexander and Andersen 1993). Uninformed voters, in particular, may be more prone to cast a ballot for the candidate they perceive to be the most competent (Fiorina 1981; Petrocik 1996). To do so, voters turn to shortcuts. Fowler (2018) argues that when voters lack information about candidates, “incumbency is an informative signal of quality and voters will update their beliefs accordingly” (2018, pp 1).

Other explanations to explain incumbency effects include incumbents receiving greater name recognition from both the media and voters (Box-Steffensmeier et al. 2003); having greater access to donors with money (Fourinaies and Hall 2014) and voters being risk averse (Fiorina and Noll 1979).

That is, voters might prefer re-electing the candidate they know versus taking a chance on a new candidate (Alvarez 1997; Berger et al. 2000). It could also be that incumbents are of higher quality given their previous political experience. Incumbents also campaign differently than their challengers. Whereas incumbents emphasize their qualities such as experience and competence in governing when running for elections, their challengers usually take more risky campaign strategies such as engaging in negative campaigning and stating unambiguous issue positions (Druckman et al 2009). This could also contribute to voters selecting the candidate they already know which is the incumbent. That said, incumbents could also be punished by voters. This happens based on how they performed in the past year (Achen and Bartels 2017). But it can also happen if the issue stance of incumbents is at odds with public opinion in the district they represent and the given issue is salient (Bovitz and Carson 2006; Nyhan et al. 2012). As such, there are many different motivations for why voters vote for incumbents over other candidates.

Given that the majority of the existing candidates and legislators are men (as politics has traditionally been a male domain) and voters are more likely to vote for established candidates, this vicious cycle would maintain the status quo, which would reinforce the existing patterns but also further contribute to the slow presence of women in politics. This line of literature raises the question whether the incumbency advantage is the same for men and women legislators. Are women legislators also gaining from this incumbency advantage? While there are mixed results about whether there are gender biases in election results, this question remains unresolved in the existing literature. There is a vast literature on gender biases in election outcomes and voting, such as women facing greater competition than men (Lawless and Pearson 2008), with opposition from higher quality challengers than men (Milyo and Schosberg 2000), as such it would be reasonable to expect women to face higher standards in politics once they are elected (Butler et al. 2020). One existing study suggests that in multi-districts voters are 10 times more likely to contact the women legislator compared to the male legislator and women legislators receive 14 percent more issue requests per constituent (Butler et al. 2020). This could lead women legislators to behave differently than their male counterparts. If voters expect more from women legislators and women politicians do not deliver, this could also lead voters to hold women legislators to a higher standard, which could result in a gender penalty.

In summary, candidate characteristics, such as gender, age, occupation and incumbency status all have an impact on vote choice. Voters have many different reasons to turn to shortcuts to form an opinion

about a candidate, varying from wanting more descriptive representation to voting for the most competent candidate. The fact that such candidate characteristics influence voters' choices has important implications for representation. If a characteristic systematically advantages certain candidates, that leads to the overrepresentation of some groups and the underrepresentation of others. With regard to the characteristics that I study, men, older politicians, lawyers, and incumbents, are typically overrepresented. Such representational gaps are important to study, because, as argued by Pitkin (1967) and evidenced by the preceding review, descriptive representation affects substantive representation, the extent to which underrepresented groups consider the political system legitimate (Bratton and Ray 2002; Mansbridge 1999; Reynolds 2013; Schwindt-Bayer and Mishler 2005), and these groups' willingness to participate in politics (Arnesen and Peters 2018).

## **The Canadian Case**

Much of the existing literature on candidate traits focuses on the United States, a presidential system with high levels of partisan polarization in recent elections. The United States is distinct in many ways, and its exceptionality may limit its generalizability to other settings. As such, shifting the focus to Canada, a parliamentary system where voters have more options for candidates and parties, provides a different perspective. In American general elections, given the high levels of political polarization, we can expect voters to select their party's candidates, and to pay little attention to the candidate's characteristics and policy positions. In Canada, there is less political polarization (Anderson and Stephenson 2010), but in more recent elections, parties have become more important to win elections than they used to. This provides the basis for analyses of trends over time. By focusing on Canada, we can also examine if the patterns that are observed in the United States persist in a different system and over a longer period of time given the rich data I have assembled.

Canada is a fertile ground for investigating whether candidate traits matter for voters. By way of background, seats in the House of Commons have increased from 182 in 1867 to 338 in 2019 and so have the number of candidates, which gives us a larger sample of candidates with different characteristics. There were, on average, about 2 candidates in a given riding in 1867 and about 6 candidates in 2019. Canada has also increasingly become more diverse in terms of socio-demographic backgrounds as many other western countries have. Members of Parliament are elected using a single-member plurality electoral system. Women were first able to run as candidates at the federal level in 1921.

While this dissertation mostly focuses on the federal level (four of the six articles) in Canada, I have also checked the robustness of article three by replicating the same study at another level of government in Canada (focusing on Ontario this time) in article four. Finally, article five on youth representation validates that the trends of age affinity hold over different jurisdictions with different electoral and political environments. This article thus takes a comparative approach and uses data from the Comparative Study of Electoral Systems (CSES).

## **Data and Methodology**

To examine the relationship between candidate characteristics and voters' preferences across time, we need rich data on candidates. Ideally, these data should be longitudinal, tracking individual candidates over time. For the most part, existing studies that have examined the role of candidate characteristics have limited data points with few cases. If for example, the study focuses on women, a group that is traditionally underrepresented in politics, considering only a few elections will not result in precise estimates as there will be few women candidates. The increasing number of candidates and women candidates in particular means that voters have more options. Longitudinal data will also allow us to study changes over time. This is why it is desirable to have many elections and also longitudinal data to address these questions as it provides an opportunity to investigate the influence of a candidate's gender on voters in real elections over time.

From a methodological perspective, this dissertation presents several innovations. The bulk of the data used in this dissertation (articles two, three, four, six and seven) make use of two novel datasets that I compiled over five years. I explain these data in greater detail in article two. In these data, I collected the individual characteristics of all candidates since 1867 at the Canadian federal level. This is a major contribution because longitudinal data on candidates were not available before. Importantly, the dataset includes information on a large number of candidates which makes the estimates in this dissertation precise. I also trace the same individuals over time which makes it possible to examine if the effects are stable over time. I also supplement the federal data with similar data from Ontario provincial elections to replicate the results with regard to differences between male and female candidates. The results are very similar which suggests the findings are robust and could be generalizable to other settings.

The second data source that is used in this dissertation is the Comparative Study of Electoral Systems (CSES). The CSES is a large dataset of representative national election studies in a large number of countries. The CSES brings together cross-national post-election surveys from over 51 countries, provides information about how much party leaders in these countries are liked, and which parties voters voted for. The large sample size of the CSES permits a fine-grained analysis of the impact of party leaders. I supplement the CSES data with data I collected on the age and gender of all party leaders in the elections included in the CSES dataset and merged the two datasets to create the database for the analyses in article five, where I examine how the age of leaders impacts support for their parties.

All the data that are used in this dissertation are observational. I am able to examine the voting decisions of voters faced with the choice of a candidate, for example, a woman versus a male, at the aggregate level using real elections with real candidates. While all the papers in this dissertation draw on observational data, in article seven I take advantage of this massive data collection to move beyond correlational evidence. More specifically, in this chapter I seek to infer causality by means of a regression discontinuity design. In the conclusion, I discuss the limitations of using observational data and I mention what kinds of experiments could be conducted to further investigate some of the topics in this dissertation.

## **The Articles**

### 1. Who Runs? Canadian Federal and Ontario Provincial Candidates from 1867 to 2019

There is an enormous literature on descriptive representation and why it matters, but until now there was no time-series data of all candidates in Canada. As such, questions such as the share of female candidates were addressed with data concentrated on a few elections, so political scientists were unable to answer questions like whether their share has increased over time.

I introduce novel data that I built which details at the district level data for every Canadian federal and Ontario provincial candidate from 1867 to 2019. These data contain information about 44,462 candidates at the federal level and 15,529 candidates at the Ontario level, making them the largest of their kind to date. These data are rich and trace the same individuals over time, and they include information about their gender, age, occupation, whether they were acclaimed, elected or switched

parties, their vote share, party and riding names, incumbency status and so on. They are an invaluable resource for political scientists.

In this article, I explain in great detail how these data were collected over five years. Previous datasets on Canadian candidates have focused on a few elections, with few variables, and at one level of government (and for the most part these data are not publicly available). My contribution is to provide longitudinal data on all candidates regardless of party affiliation or whether they are elected or not. I argue that these data are useful to address many important topics. I show four applications of how the data can provide insight into four different research questions, some of which I have started answering myself in this dissertation. Chapters 2, 3, 4, 6 and 7 of this dissertation use these data. I collected similar data for the Ontario provincial elections because it is the largest province in Canada and the one that is the closest to the federal level with respect to ridings and parties. All of these data are observational; they deal with real elections with real candidates. I made the data publicly available in 2019 on the Harvard dataverse.

## 2. Do Women Get Fewer Votes? No.

The underrepresentation of women in national and subnational elected bodies is a key feature of legislative politics all over the world. Existing work on women in politics in Canada suggests that the underrepresentation of women has more to do with the recruitment stage (Thomas and Bodet 2013) than voter discrimination against women candidates (Bashevkin 2011; Black and Erickson 2003; Goodyear-Grant 2010). However, much of the existing work on the share of women in politics relies on a limited number of elections (Bashevkin 2011; Black and Erickson 2003; Goodyear-Grant 2010; Thomas and Bodet 2013).

In this paper, we examine if the gender gap exists when focusing on a large sample of elections and over a long period of time. The existing literature demonstrates that women hold different policy preferences than men, at least on some issues (Gidengil et al. 2005; Gidengil 1995; O'Neill 2001) and that despite making up half of the population they are underrepresented in politics. Better understanding whether voters discriminate by gender is a key question in political representation and has consequences for the persistent gender gap in political knowledge and interest.

In this paper, my co-authors and I improve on prior efforts by expanding the scope of the investigation to include the gender of over 21,000 candidates in 29 elections since 1921, when the first women ran for seats in Parliament. These voluminous data allow us to estimate the effects more precisely than previously done. We find that while there was a gender gap of about  $\pm 2.5$  percentage points in the 1920s, it is now substantively negligible at  $\pm 0.5$  percentage point.

### 3. Do Women Get Fewer Votes in Ontario Provincial Elections?

Replications are the hallmark of science. Many scholars have expressed concern about a reproducibility crisis (Ioannidis 2005; Baker 2016) as the Open Science Collaboration (2015) project has been able to replicate no more than half initially statistically significant results. To improve the quality and rigor of social science research, scientists have been calling for the need for more replication studies (Ioannidis 2005). This entails repeating prior research with newly collected data.

In 2019, I did just that. I compiled similar data in the Ontario provincial elections as that at the federal level. I chose to go with Ontario because it is the largest province in Canada and is the closest to its federal counterpart with respect to parties and ridings. In this chapter, my co-authors and I examine the same question as we did in the previous article, but this time in the Ontario provincial elections from 1902 to 2014, with 7,596 unique candidates. While there are more female legislators at the provincial level than at the federal level, when we compare if women are more or less successful at obtaining a seat than their male counterparts over time, our results are remarkably consistent with the federal data. We find that in 1902, when the first women ran for office, there was a gender gap of about 5 percentage points, but by 2014 this effect is statistically indistinguishable from zero. Together with the previous article, these findings provide new insights about the success rates of women in politics at two different levels of government with more elections and over a longer period of time than has been studied previously.

### 4. Do Young Voters Vote for Young Leaders?

Existing work on affinity voting suggests that voters are more likely to vote for individuals who mirror their characteristics. Most of the existing work on affinity voting focuses on women and ethnic minorities. Although 18–40-year olds make up 50 per cent of the world's voting age population, 15 per cent of national legislators have representatives that are under 40 years old (Inter-Parliamentary

Union 2018; United States Census Bureau 2020). We know from existing literature that the underrepresentation of women and ethnic minorities in elected office has consequences for substantive representation. We also know that young and older politicians behave differently in office and have different policy preferences on at least some issues (Alesina et al. 2019; Busemeyer et al. 2009; Curry and Haydon 2018; Iversen and Stephens 2008; McClean 2021).

What is still unclear in the literature is whether voters prefer politicians that are closer to them in age and if the effects are stronger among young voters (i.e., whether there are indications of age affinity effects). In this paper, I use the Comparative Study of Electoral Systems (CSES) data with real world election candidates at the party leadership level across 51 countries, 126 elections and 639 unique leaders. I also collected original data with the age and gender of each leader in the CSES data. This large dataset allows me to examine this question rigorously and to obtain precise estimates. In doing so, I provide a better understanding and provide a foundation for further research on the voting behaviour of younger voters. I find evidence of age affinity in likeability and vote choice, but the effects are small though stronger among younger voters. This is an important topic because youth voting rates tend to be the lowest of all age categories.

## 5. Do Lawyers Get More Votes?

The proportion of legislators with a background in law is astounding. While occupations have diversified over time, lawyers are still overrepresented in politics in most advanced democracies (Bonica 2020). It might be easier for lawyers to run for office compared to individuals with other occupational background partly because they have a large fundraising network, and this gives them a greater advantage over other candidates (Bonica 2017). Carnes (2014; 2018) finds that the backgrounds of legislators shape their perspective and preferences once in office. He writes: “former businesspeople who go on to hold public office tend to think like businesspeople, former doctors tend to think like doctors, former blue-collar workers tend to think like blue-collar workers, and so on. Legislators are not engaged in class war; they simply see the same issues through the prism of different life experiences and perspectives” (Carnes 2014).

If lawyers run at higher rates and are more likely to win when they run, this could have important implications in terms of the policies that are enacted. Since 1867, the Canadian parliament has been significantly drawn from the legal profession. There are more lawyers elected to the House of

Commons (about 24 per cent since 1921) than in the voting age population (about 0.5 per cent). Voters appear to have negative perceptions of lawyers compared to other professions (Hainmueller et al. 2014), but lawyers still make up a large percentage of the legislators in parliament. In this paper, my co-authors and I use the novel data I constructed to examine whether lawyers get more votes than other occupations. We find that lawyers do get more votes but that their personal electoral boost is very small. Moreover, we show that the relative performance of lawyers has not increased or decreased over time.

## 6. Is Incumbency Advantage Gendered?

Incumbency is related to voting for a particular candidate based on whether the candidate was already in that position. In western democracies, incumbents are consistently found to have an electoral advantage over their challengers. There are many reasons why incumbents benefit from an electoral advantage which include having access to office resources, name recognition, raising higher levels of campaign funds, and experience. Many existing studies have attempted to estimate the magnitude of the incumbency advantage.

My contribution is to improve on prior efforts by having enriched data that allows me to expand the scope of the investigation to include a longer time period and elections, but more importantly to examine the incumbency effect separately by the gender of the candidates. Using the dataset of candidates in Canadian federal elections that I compiled, I estimate incumbency advantage in different ways: with all the candidates and by gender. I find a big and significant advantage of being an incumbent, for men and women, who run again. For winning and vote share at the next election, the results show that women who run gain more than men, which is consistent with articles 3 and 4 of this dissertation that suggest that when women run for office they fare just as well as their men counterparts. In articles 3 and 4, I examine this question at the aggregate level, focusing on running for elections overall. In this article, I examine this question among incumbents. Together, these two different approaches have important implications as they provide a more conclusive perspective on the gender gap in politics.



# Chapter 2 – Who Runs? Canadian Federal and Ontario Provincial Candidates from 1867-2019

## Introduction

In this article, I present two new datasets which contain individual level data on all candidates between 1867 and 2019 in both the Canadian federal and Ontario provincial elections. In total, the data provide information on 44,462 candidates at the federal level and 15,529 in the Ontario provincial elections.<sup>1</sup> While there are existing studies on political elites in Canada, until now, there were no longitudinal datasets covering all candidates going back to 1867.

These data will allow researchers to investigate a number of important topics, including: the share of female candidates over an extended period of time; which occupations do better in politics (Sevi, Blais and Mayer, 2020); if women get fewer votes than men (Sevi, Arel-Bundock and Blais, 2018; Sevi, Blais and Arel-Bundock, 2021); how long politicians tend to stay in politics; the advantage gained by incumbency; how well independents do; the consequences for politicians who are elected under a party banner and then switch their party affiliation and run again either at the same level of government (Sevi, Yoshinaka and Blais, 2018) or across two different levels (provincial and federal); the progressive ambition of politicians across different levels of elections; and if by-elections are more favourable to smaller parties and/or independent candidates.

## Data Collection

The original sources for these datasets are the Library of Parliament of Canada and Elections Ontario. The federal data come from the Library of Parliament and consist of the names of all the candidates, the date of the election, the number of ballots cast, the occupations of the candidates, and the name of the constituency, province and party affiliation. I manually recorded these data twice between 2014 and 2017.<sup>2</sup>

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<sup>1</sup> The data include all candidates at both levels, irrespective of party affiliation, including individuals who ran and lost.

<sup>2</sup> I added the 2019 data in 2020.

I then completed an extensive cleaning of the data, using candidate websites, historical newspaper archives<sup>3</sup> and other journalist summaries of the candidates; in doing so, I also added variables that include the gender for all candidates, birth year for elected politicians<sup>4</sup> and whether the candidates were acclaimed or switched parties after being elected. I also included the parliament number, and I calculated the percentage of the vote obtained by the candidates, as well as whether the candidate was elected or not. Moreover, I assigned unique IDs to all candidates and matched the IDs of the same individuals over time. Unique IDs help mitigate several problems: first, many candidates' names were not spelled consistently across different elections in the Library of Parliament data-base—for example: the same name could be given as John A., J. A., Sir John, or J.; furthermore, sometimes different candidates have the same name, or—in earlier elections—the same candidate may have run in different ridings in different years, and sometimes even in the same year.

To assign unique IDs, I looked up every candidate's profile in the Library of Parliament and used alternative biographical information to triangulate their identity. Because I manually recorded the unique IDs, I was also able to create an incumbent variable that indicates whether the candidate ran in the previous election. The names of parties are also spelled differently across different elections, so a similar treatment was necessary—for example: Liberal, Liberal Party of Canada, Liberal Progressive, Opposition, Opposition/Laurier Liberals, and so on. I give researchers the option to use either the 155 unique party names or the categories I created that put together similar parties but also parties that are named differently across different elections. All the data were independently checked at another time to ensure accuracy.

Researchers may reasonably express concerns about the quality of my federal dataset, given that it is gathered manually. To address these concerns, I re-collected all the variables after six months of not touching the dataset and merged these with my initial data collection. This second step was an opportunity to verify my initial data collection.

Ontario is the province in Canada where the constituencies and parties are most similar to those at the federal level; therefore, in 2019, I collected similar data from 1867 to 2018 for the Ontario provincial

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<sup>3</sup> I used all the national newspapers, which include the Globe and Mail, the National Post, the Star and Maclean's as well as community newspapers in each riding.

<sup>4</sup> The birth year of all candidates is not consistently available; therefore, I decided to collect this data only for elected MPs in the federal dataset.

elections. The original PDF documents that were retrieved from Elections Ontario contained the candidates' name, party, constituency, date of the election and the number of ballots cast. To this dataset, I added gender by first making use of the R package, *genderizerR* (Wais, 2016),<sup>5</sup> which infers the gender of candidates by analyzing first names. *GenderizerR* is based on the *genderize.io* API, which is a web scraping tool (<http://genderize.io>). *GenderizerR* provides a likely gender and probability score for each candidate. I kept all the probabilities. I then verified each entry on two different occasions. I kept all the entries and not simply probabilities that are close to 100 per cent. (Both the *genderizerR* probabilities and my manual check are retained in the Ontario dataset. I made a total of 2,376 corrections to the gender variable.)<sup>6</sup>

## Applications

The data presented in this paper allow political scientists to better understand political phenomena in Canada. They can be used to replicate existing studies on political elites in Canada and verify whether patterns hold over an extended period. These studies cover questions such as minority representation (Black and Erickson, 2006; Black, 2013), women's representation (Blais and Gidengil, 1991; Hunter and Denton, 1984; Thomas and Bodet, 2013; Tremblay and Trimble, 2006; Tolley, 2011) and incumbency advantages (Kendall and Rekkas, 2015). Much of the existing literature on elites in Canada has examined a few elections or a few variables because longitudinally rich data were previously not collected or available. My data are the first to contain information on all candidates in all the elections since 1867 and therefore make available a unique tool for researchers focusing on political elites in Canada. As an example, there is a large body of literature on the inclusion of women in politics (Blais and Gidengil, 1991; Stockemer, 2017; Trimble and Arscott, 2003; Trimble et al., 2013; Tolley, 2011); however, my data are the first to offer longitudinal data on the number of female candidates and their success compared to their male counterparts.

Figure 2 highlights four applications of my federal dataset that are of particular relevance. Given that the federal dataset is unique not only in terms of the variables collected but also in its longitudinal

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<sup>5</sup> A different approach is used to record the genders for the provincial data because by 2019 the *genderizerR* package was widely used by researchers and included Canadian names, which was not the case previously.

<sup>6</sup> Note that in earlier elections—in 1867, for example—it was common for the first name of a candidate to be recorded by first initial; in these cases, *genderizerR* cannot pick up the gender. But since we know that the first female candidate in Ontario did not appear on the ballot until 1902, I was able to manually make everyone before this date a male and then look up the candidates starting in 1902. I did not collect age for the Ontario dataset because such information is very hard to compile for elected parliamentarians at the provincial level.

nature, it can be used for all types of exploratory and descriptive questions. First, in the upper left corner, we see that the mean number of candidates per constituency has increased over time, but since 1997 it has decreased, with an uptick in the 2019 election. Second, the share of incumbents has also decreased over time. This decrease can partially be explained by the increase in the number of candidates and the increasing competitiveness of elections, but it is worth exploring further in future studies. Third, since 1921, the share of elected women in Parliament has increased from .004 in 1921, when the first woman was elected to Parliament, to .29 in 2019. Fourth, the federal dataset will be useful for researchers interested in the age of Members of Parliament (MPs) over time. The mean age of elected MPs varies between 45 and 53. There is a notable decline and rebound in the mean age, reaching a minimum in the 1970s, which is worth exploring further.

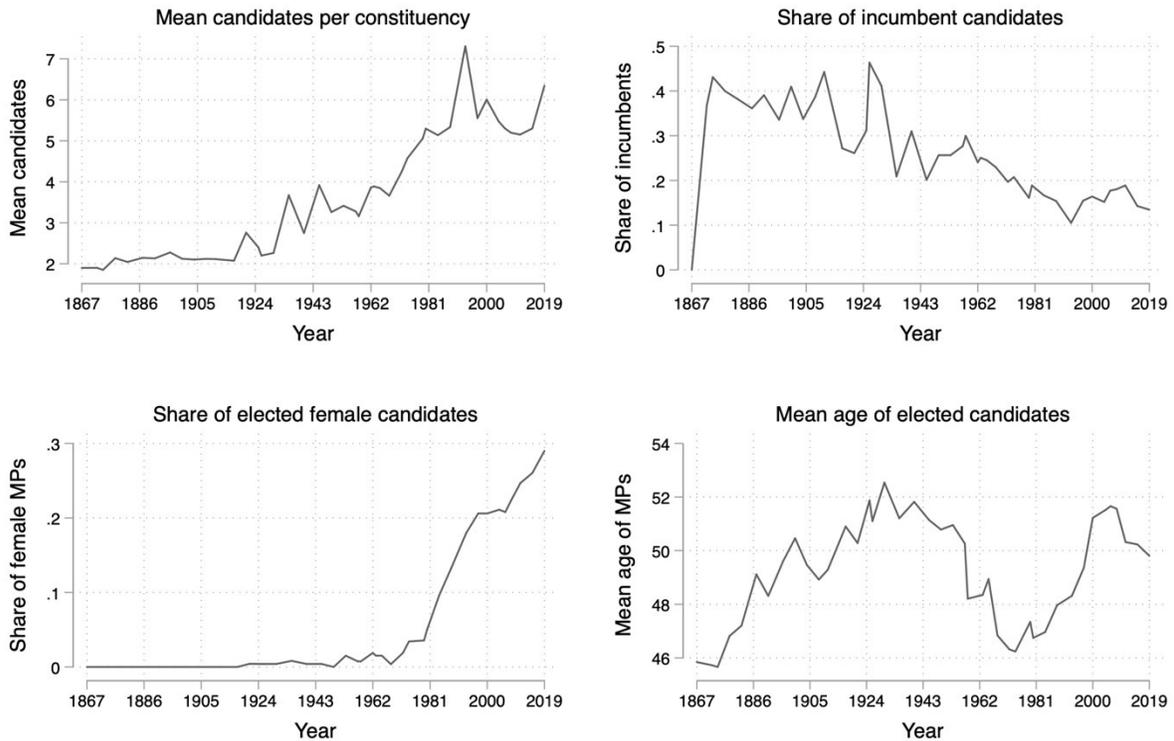


Figure 2. – Four Applications of the Federal Dataset

These data are flexible in that it is possible to create many more variables or to merge them with other existing data. The data could be merged with existing datasets using candidate and constituency names. For example, a researcher could merge the federal dataset with data from the Canadian Census at the

level of federal electoral districts to examine the characteristics of MPs' constituencies compared to MPs themselves. It could also be combined with data on nomination contests to study how parties select and/or appoint candidates. Or it could be merged with administrative data to study campaign contributions across gender (Tolley et al., 2020). Comparative analyses are also possible given that similar datasets exist for other countries (see Klarner, 2018; Kollman et al., 2019; Yoshinaka, 2016). Finally, the data can be used as a teaching tool in introductory courses in Canadian politics, as well as in research methods.

## Conclusion

I have introduced two new datasets that are the largest available data on candidates in Canadian and Ontario elections, respectively. My data cover the period 1867–2019 and contain detailed information on candidates in both federal elections and Ontario provincial elections. These are unique data that can be used by researchers as well as non-academic stakeholders such as journalists to address substantive research questions about gender, incumbency, the careers of candidates over time, and so on. I created uniform datasets with standardized information about all candidates who run in elections in Canada federally and in the province of Ontario.

So far, these data have been used for five peer-reviewed manuscripts (Sevi, Yoshinaka and Blais, 2018; Sevi, Arel-Bundock and Blais, 2018; Sevi, Blais and Mayer, 2020; Tolley, Besco and Sevi, 2020; Sevi, Blais and Arel-Bundock, 2021); they have also been used in a number of presentations at academic conferences, in reports by think tanks,<sup>7</sup> by journalists,<sup>8</sup> and in many papers currently online or in the pipeline. As such, these data have been scrutinized by different researchers.

The data are available on the Harvard Dataverse here:

<https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi:10.7910/DVN/ABFNSQ>

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<sup>7</sup> For example: <https://www.samaracanada.com/docs/default-source/reports/party-favours-by-the-sama-centre-for-democracy.pdf>.

<sup>8</sup> For example: <https://policyoptions.irpp.org/magazines/september-2018/research-shows-that-mps-who-cross-the-floor-lose-votes/> and <https://www.thestar.com/politics/federal/2019/10/22/as-an-independent-mp-can-jody-wilson-raybould-make-a-difference.html>



## Chapter 3 – Do Women Get Fewer Votes? No.

### Introduction

This article addresses a simple but fundamental question: do women political candidates get fewer votes than their male counterparts? The answer to this question matters a great deal because women are underrepresented in both legislatures and in the pool of candidates who run for office. If women receive fewer votes than men, political parties may be reluctant to recruit and promote the former.

The electoral fortunes of women are especially important given all that we know about the effect of gender representation in legislatures. Indeed, research suggests that women legislators have different values, policy preferences and priorities (Ford and Dolan 1995; Lovenduski and Norris 2003; Saint-Germain 1989; Swers, 1998; Taylor-Robinson and Heath, 2003; Welch, 1985). As a result, legislatures with more women are more likely to adopt policies that are consistent with such values and priorities (Berkman and O'Connor, 1993; Swers, 2001; Thomas, 1991). Furthermore, the underrepresentation of women has long-term consequences for the persistent gender gap in political knowledge (Dassonneville and McAllister, 2018).

What does prior research tell us about the effect of gender on electoral performance? As far as we can tell, only two previous studies have addressed this question in the Canadian context. The first was conducted by Hunter and Denton (1984), who compared the electoral performance of men and women candidates in the 1979 and 1980 Canadian general elections. They report that “female candidates received about 53 per cent as many votes as did males in 1979, and approximately 44 per cent as many votes in 1980” (1984: 399). But those differences disappeared when they controlled for incumbency, competitiveness and the party of the candidate. Hunter and Denton thus conclude that there is no evidence that female candidates do worse than men.

Twenty years later, Black and Erickson (2003) examined the same question in the case of the 1993 Canadian federal election. When data for this election were analyzed without statistical controls, women received fewer votes. However, the gap disappeared when incumbency, competitiveness and party were considered. Black and Erickson even find a small positive effect, with women candidates

receiving 1 percentage point more votes. The authors thus conclude that “no evidence was found to support the hypothesis of voter bias against women” (2003: 96) and even argue “for more in-depth investigations into the basis of the female vote advantage” (2003: 96).<sup>9</sup>

In this article, we improve upon prior efforts by considerably expanding the scope of investigation: we study data on the gender of over 21,000 candidates in all Canadian general elections since 1921, when women first ran for seats in Parliament. This large data set allows us to compute precise estimates (that is, with small standard errors) of the difference in the electoral fortunes of men and women candidates. When accounting for party effects and time trends, the difference between the vote shares of men and women is substantively negligible ( $\pm 0.5$  percentage point).

The broad coverage of our data set also allows us to assess how the electoral fortunes of men and women change over time. We find that the gender gap in vote share was larger in the 1920s ( $\pm 2.5$  percentage points), but it has now become statistically indistinguishable from zero.

Our results have important normative implications: political parties should recruit and promote more women candidates because they remain underrepresented in Canadian politics and because they do not suffer from a substantial electoral penalty.

## **Women Are Underrepresented in Canadian Politics**

Our comprehensive data on the gender of all candidates for office in Canadian federal elections allows an unparalleled look at the representation of women over time. Figure 3 shows that despite progress in recent decades, the problem of underrepresentation persists. In the latest general elections, approximately 30 per cent of candidates were women and approximately 25 per cent of elected representatives were women.

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<sup>9</sup> The results in those two Canadian studies are broadly consistent with research using data from other countries. See Darcy and Schramm, Reference Darcy and Schramm 1977; Dolan, Reference Dilan 2004; King and Matland, Reference King and Matland 2002; Lawless and Pearson, Reference Lawless and Pearson 2008; McElroy and Marsh, Reference McElroy and Marsh 2010; Welch and Studlar, Reference Welch and Studlar 1988; Zipp and Plutzer, Reference Zipp and Plutzer 1985.

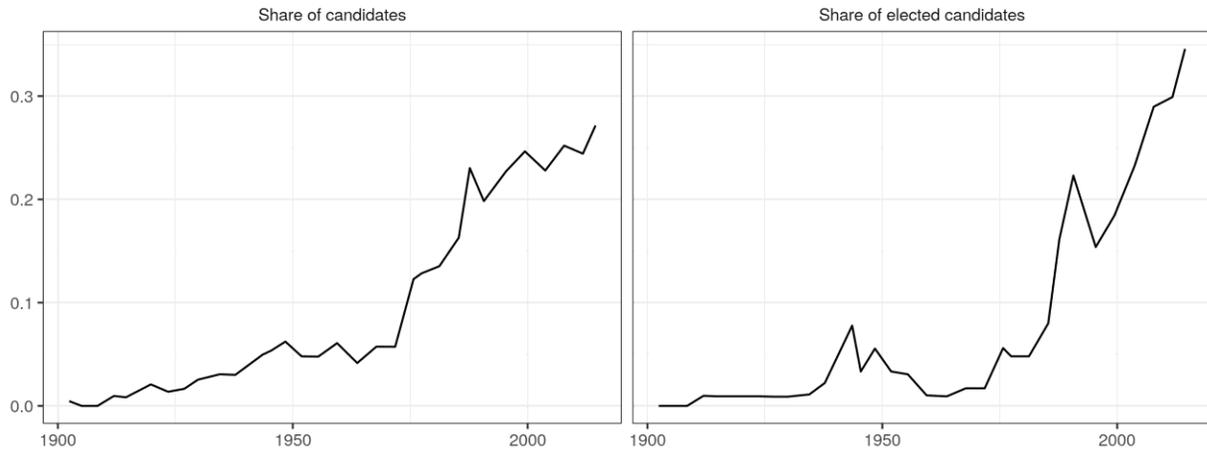


Figure 3. – Women are underrepresented in Canadian general elections.

Some (cynical) election-focused party organizers might ask: would increasing the share of women candidates be electorally costly? To answer this question, we estimate the relationship between the gender of candidates and the vote share that they received since 1921, when the first five women candidates ran in Canadian general elections: Harriet S. Dick, Rose Mary Louise Henderson, Elizabeth Bethune Kiely, Agnes Campbell Macphail and Harriet Dunlop Prenter.

## The Gender Gap in Vote Share is Very Small

We use data on election results published by the Library of Parliament,<sup>10</sup> which cover all 29 Canadian general elections since 1921, when the first women ran for seats at the federal level. This data set includes observations for more than 21,000 unique individuals who contested a federal seat.<sup>11</sup> We coded the gender of each of those individuals manually.

Baseline estimate of the gender gap

To begin, we estimate the simplest possible regression model, focusing solely on the bivariate association between a candidate's vote share and her gender:

<sup>10</sup> <http://lop.parl.ca/About/Parliament/FederalRidingsHistory/HFER.asp>

<sup>11</sup> The candidate names recorded by the Library of Parliament are sometimes inconsistent from election to election. To follow candidates over time, we assigned each of them a unique identification number.

$$V_{pre} = \beta_1 W_{pre} + \alpha + \epsilon_{pre}$$

where  $V_{pre}$  is the vote share of party  $p$ , in riding  $r$ , in election  $e$ ;  $W_{pre}$  is a binary variable that equals 1 if party  $p$ 's candidate is a woman and 0 otherwise;  $\alpha$  is a constant; and  $\epsilon_{pre}$  is a disturbance term.<sup>12</sup>

The first column of Table 1 shows that, on average, the vote share of women candidates is approximately 8 percentage points lower than the vote share of men candidates.

	(1)	(2)	(3)	(4)	(5)
Woman	-8.4***	-4.0***	-0.5*	-0.5***	-0.4***
	(0.3)	(0.3)	(0.2)	(0.1)	(0.1)
Vote share lag				0.4***	0.3***
				(0.0)	(0.0)
Party performance				0.7***	0.7***
				(0.0)	(0.0)
Incumbent					6.8***
					(0.2)
Distance from contention					-0.0**
					(0.0)
Constant	24.4***	37.8***	29.1***	-1.2***	0.3
	(0.1)	(0.8)	(1.1)	(0.1)	(0.3)
R2	0.02	0.13	0.11	0.86	0.87
FE Party-Riding	No	No	Yes	No	No
FE Election	No	Yes	Yes	No	No
N	33981	33981	33981	23903	23903

Robust standard errors in parentheses

\*  $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$

Table 1. – The gender gap in Canadian federal general elections. Ordinary least squares (OLS) regression models with party vote share as the dependent variable.

<sup>12</sup> Formally, our unit of analysis is not the candidate per se, but rather party/riding/election combinations. Because parties often present the same candidates in several elections, the number of observations in our data set is larger than the number of unique candidates in the database. In the rare circumstances where a party presents more than one candidate in the same riding,  $V_{pre}$  is the sum of vote shares and  $W_{pre}$  is the mean of the woman dummy, taken over all the candidates of party  $p$  in riding  $r$  for election  $e$ .

However, this should not lead us to conclude that there is a large electoral penalty for women. As we show below, this bivariate relationship is spurious because it is confounded by time, party and riding effects.

## Time Trends

Figure 4 shows that the average number of candidates per riding has increased over time in Canadian elections. As a consequence, the average vote share has decreased. Since the number of women candidates follows a parallel time trend, the bivariate association between vote share and gender that we reported above is confounded.

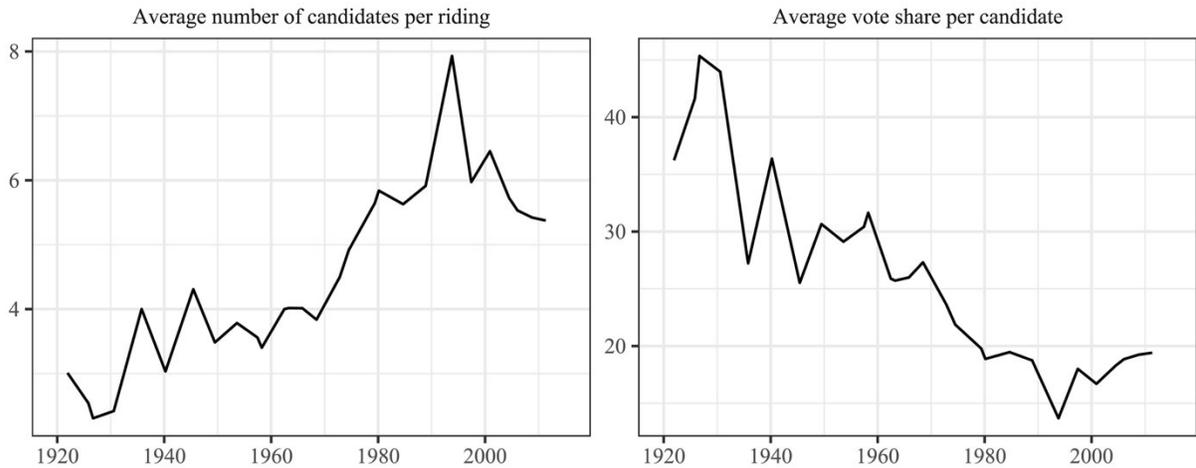


Figure 4. – In Canadian general elections, the average number of candidates increases and the average vote share decreases over time.

To control for time trends, we estimate a new model:

$$V_{pre} = \beta_1 W_{pre} + \alpha_e + \epsilon_{pre}$$

where  $\alpha_e$  represents time-varying intercepts (that is, election fixed effects). The  $\alpha_e$  dummy variables control for time trends that affect the country as a whole, as well as for any election-specific shock that affects every party in every riding in the same way throughout Canada.

Column 2 of Table 1 shows that this simple control for country-level time trends leads to a dramatic reduction in the size of the estimated gender gap, from 8 percentage points to 4 percentage points.

## Party and Riding Effects

Another confounder is party popularity. If women tend to represent smaller parties, then the difference in vote shares between men and women might be explained by party effects. Table 2 shows that this is indeed the case: some third parties (for example, New Democratic Party, Green Party of Canada) have had more success than major parties in the House of Commons at recruiting and promoting women candidates. This is likely to reflect the fact that leftist parties are more prone to encourage women to run for office (Caul, 2001; Cheng and Tavits, 2011; Erickson, 1997; Tremblay, 1998) and that most third parties in federal elections have been on the left.<sup>13</sup>

Party	Average party vote share	Share of women candidates
Bloc Québécois	37	25
Conservative Party of Canada	35	17
Liberal	35	27
Reform Party of Canada	26	10
Canadian Alliance	25	11
New Democratic Party	17	36
Progressive Conservative	16	18
Green Party of Canada	4	29

Table 2. – Gender representation in Canadian political parties (%). All federal elections, 1993–2015

Another potential problem relates to gender bias in the geographic distribution of women candidates. If a party selects women to run in districts where it is less competitive, that discrimination could exaggerate the estimated gender penalty in electoral results.

<sup>13</sup> On the selection of women to lead political parties in Canada, see Thomas (Reference Thomas 2018). On the election of women in provincial elections, see Matland and Studlar (Reference Matland and Studlar 1998). On women candidates in a corrupt environment, see Erlich (Reference Erlich 2018). On American preferences for women candidates, see Teele et al. (Reference Teele Dawn, Kalla and Rosenbluth 2018). On women’s performance in municipal politics, see Tolley (Reference Tolley 2011).

We estimate two models to account for party and riding effects:

$$V_{pre} = \beta_1 W_{pre} + \alpha_e + \lambda_{pr} + \epsilon_{pre},$$

$$V_{pre} = \beta_1 W_{pre} + \beta_2 V_{pre-1} + \beta_3 \bar{V}_{pke} + \alpha + \epsilon_{pre}.$$

Model 3 adds a dummy variable for each party-riding combination ( $\lambda_{pr}$ ). These fixed effects control for the fact that some parties are less popular than others and that a party's popularity varies from riding to riding. These are precisely the two threats to inference that arise when a woman runs for a third party or in a riding where her party is not competitive.

An alternative way to account for the same phenomena is shown in Equation 4, where we control for the party's vote share in the last election ( $V_{pre-1}$ ), and for the average vote share that each party  $p$  obtains in each province  $k$  during election  $e$  ( $\bar{V}_{pke}$ ).

Columns 3 and 4 of Table 1 show the results from those two models. Whereas the simple bivariate analysis points to a large gap in the electoral fortunes of men and women, controlling for time, party and riding effects suggests that the difference is quite small, approximately half a percentage point.

Importantly, because our data set is very large, we are able to estimate the association between gender and vote shares very precisely. Our empirical analysis shows that the gender gap is substantively small, even if it is statistically significant.

## Does the Gender Gap Decrease Over Time?

If the Canadian electorate is growing more attuned to the rights of women, the gender gap should decrease over time.

The left panel of Figure 5 shows a plot of the average vote share of men and women candidates over time (LOESS curves). For much of the period, there is a large observable gap between the electoral results of men and women candidates, but that gap has all but disappeared today. However, as we explained above, a simple bivariate analysis like this one can exaggerate the difference between men and women, because it ignores time, party and riding effects.

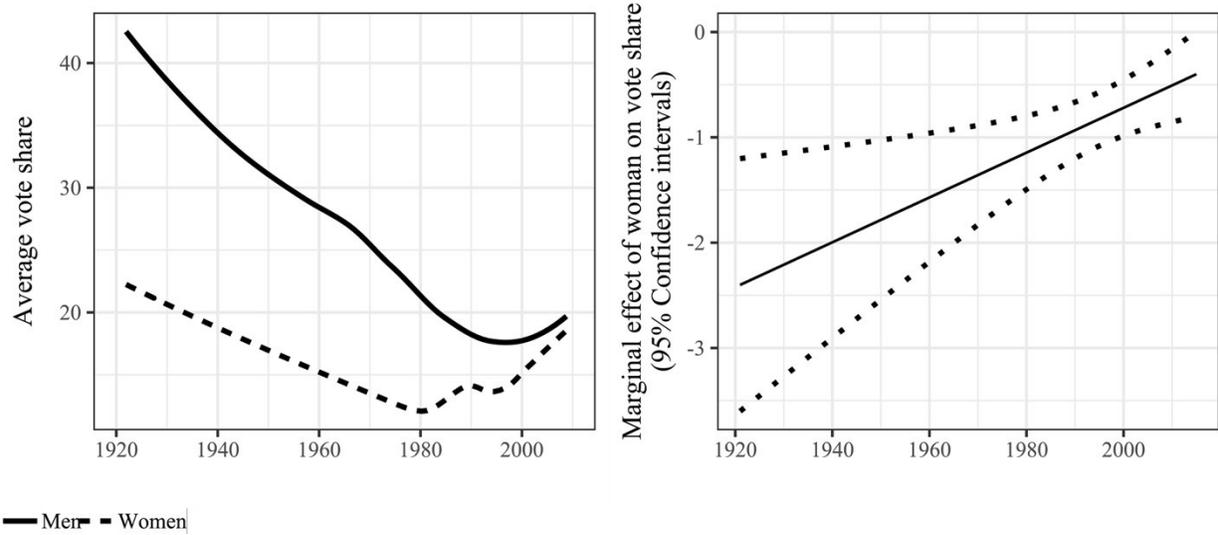


Figure 5. – The gender gap in electoral performance decreases over time.

To account for these factors, we replicate the model in Equation 4 and interact the *Woman* indicator with a continuous *Year* variable:

$$V_{pre} = \beta_1 W_{pre} + \beta_2 Y_e + \beta_3 W_{pre} Y_e + \beta_4 V_{pre-1} + \beta_5 \bar{V}_{pke} + \alpha + \epsilon_{pre}$$

The right panel of Figure 5 shows the estimated marginal effect of gender on vote share that we estimated using Equation 5 ( $\partial V_{pre} / \partial W_{pre} = \beta_1 + \beta_3 Y_e$ ). We find that in the 1920s, the (adjusted) gender gap in vote share was approximately 2.5 percentage points. Today, it is much smaller and is statistically indistinguishable from zero.

## Robustness

We took several steps to ensure that the results reported above are robust. First, we estimated a new model with control variables for whether a party is the district-level incumbent. That model also controls for whether a party is a serious contender in a district (that is, the distance between that party's vote share and the winner's vote share in the previous election). The results in column 5 of Table 1 are not qualitatively different from the rest.

Second, we estimated a version of model 4 with different *Woman* coefficients for each province. Whereas we found some differences between provinces (for example, the *Woman* coefficient is positive

in Prince Edward Island, but negative in Newfoundland), there was no obvious regional clustering, and most of the estimated Woman coefficients hover around zero (see Appendix A). Overall, the finding that women do not suffer from a substantial electoral penalty seems to hold across much of the country.

Finally, we re-estimated our core time-varying specification using a logit model with a binary dependent variable that equals one when the candidate was elected and zero otherwise. Again, our main conclusions are unchanged (see Appendix A).

## **Interpretation and Caveats**

To conduct the analyses reported in this article, we manually coded the gender of more than 21,000 unique candidates in Canadian federal elections and built a data set covering all general elections in the 1921–2015 period. We used this comprehensive data to estimate the gap in vote shares between men and women candidates. Importantly, the large size of our database allows us to offer precise estimates of the gap in question.

After controlling for country-level time trends, we estimate that the difference in the vote shares of men and women candidates is approximately 4 percentage points. Almost all of that difference can be linked to the fact that women tend to run for relatively unpopular parties. When we control for time and party effects, the gap between men and women all but disappears. Indeed, our preferred regression models suggest that this gap is very small ( $\pm 0.5$  percentage point). We also found evidence that the gender gap was higher decades ago but that it gradually disappeared over time.

Throughout the article, we have been careful to interpret our results in descriptive rather than causal terms because some of the formal conditions required for causal identification are quite stringent and may be violated here. One important concern is that unmeasured candidate-level characteristics could be related to both the dependent variable and the probability that a person will be nominated by her party.

For instance, if structural discrimination makes the path to nomination more arduous for women, then the typical woman candidate may be of higher “quality” than the typical man candidate. If candidate “quality” is positively associated with vote shares, our estimates of the Woman coefficient could be biased toward zero. In other words, if women candidates tend to be “better” than men candidates in

some unmeasured way, the lack of a gender gap in vote shares could actually constitute evidence of electoral discrimination against women.<sup>14</sup> Researchers could improve on our work by expanding our database to include indicators of candidate quality.

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<sup>14</sup> The evidence for this argument is mixed. On the one hand, Fulton (Reference Fulton 2012, Reference Fulton 2014) shows that, in some statistical analyses, controlling for the valence/ quality of candidates produces nonzero estimates of the gap between men and women's vote share. On the other hand, Black and Erickson (Reference Black and Erickson 2003) use a candidate survey to derive measure of "candidate quality," and they find that controlling for quality does not affect the overall results. Unfortunately, measuring the quality of all 21,000 candidates in our database was not possible due to constraints on time, resources and data availability.

## Chapter 4 – Do Women Get Fewer Votes in Ontario Provincial Elections?

Despite making up more than half of the population, women rarely make up more than 30 per cent of legislatures around the world. Indeed, they remain a significant unrepresented group in elected assemblies (Putnam 1976). While the percentage of women legislators has increased worldwide, the mean is still 24 per cent as of 2019 across 193 member countries of the Inter-Parliamentary Union (2019). There is of course substantial variation across and within countries at different levels of government. In 1902, ahead of her time, Margaret Haile was the first Canadian woman candidate to stand in a provincial election in Ontario. Yet women in Ontario were not given the right to vote until 1917.

The study of women in politics is extensive and covers the political participation of women (Campbell and Wolbrecht 2006; Dolan 1998; Herrnson et al. 2003; Plutzer and Zipp 1996), the gender gap (Dassonneville and McAllister 2018; Karp and Banducci 2008), descriptive and substantive representation (Chattopadhyay and Duflo 2004; Lott and Kenny 1999), quotas (Matland 2002), and the impact of different electoral systems on the presence of women in politics (Norris 1985). These studies are rich and extensive. Yet they usually study elections at a given point in time, providing a snapshot context of women's participation in politics but not the full picture.

Using a unique dataset from 1902–2014 (Sevi 2021), this chapter examines women's electoral presence in the Canadian province of Ontario over a long period of time. Existing research suggests that women are roughly equally represented at the federal and provincial levels in Canada. In a recent publication, Sevi et al. (2019) show, in a study spanning from 1921–2015, that women's representation at the federal level in Canada had increased to 25 per cent by 2015 and that female politicians are not disadvantaged at the polls compared to male candidates. Building on this research, we provide a new and comprehensive examination of the representation of women in Ontario over a similar time frame. We probe one simple question: do women get fewer votes than men at the provincial level over time? The

answer to this question has important implications for the policies that could or should be adopted to increase the representation of women in politics.

## Women in Ontario Elections

We collected historical data for all 7,596 unique candidates who ran for provincial elections in Ontario from 1902–2014.<sup>15</sup> We make use of the R package `genderizerR`, which infers the gender of candidates based on their first names. `GenderizerR` is based on the `genderize.io` API, which is a web scraping tool (<http://genderize.io>), and provides a likely gender and probability score for each candidate. We kept all the probabilities. We then verified each entry manually on two different occasions. This large dataset allows us to compute precise estimates of the difference in the electoral fortunes of men and women candidates over time and is the most comprehensive examination of women’s representation in Ontario. We also account for party effects and time trends.

Figure 6 shows the percentage of female candidates in Ontario over time. While the proportion of female candidates has increased over time, under-representation of women persists. The percentage of women candidates has increased from just over zero in 1902 to just over 25 per cent in 2014. During the same period, the percentage of women legislators increased at Queens Park from just over zero in 1902 to about 35 per cent in 2014. At the federal level, the percentage of women candidates has increased from just over zero in 1921 to about 28 per cent in 2015, while the percentage of women legislators increased from just over zero in 1921 to about 25 per cent in 2015 (Sevi et al. 2019). In other words, there seem to be more female legislators at the provincial level than at the federal level.

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<sup>15</sup> The first woman to run for a seat at the Ontario legislature did so in 1902.

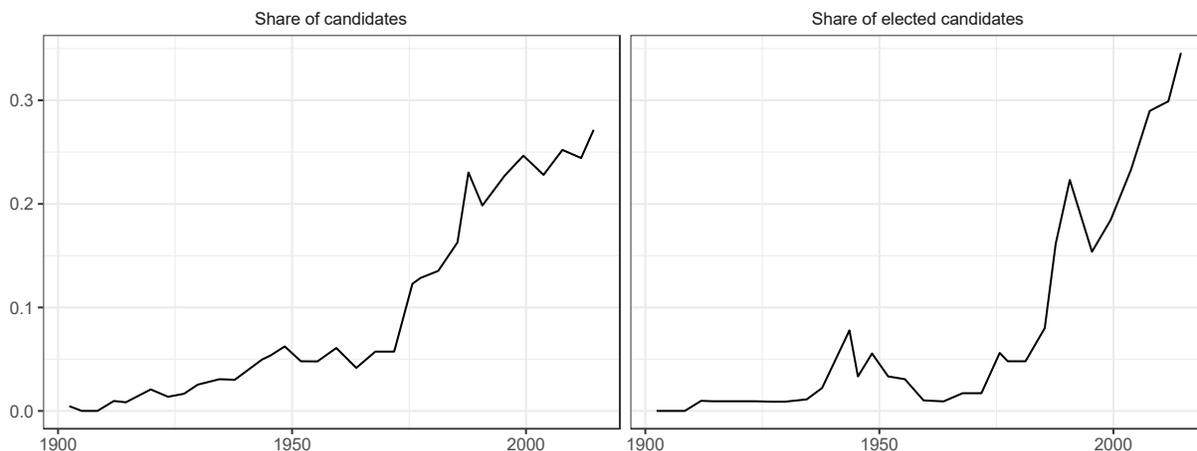


Figure 6. – Representation of women in Ontario provincial election

One reason for this could be that women are more easily elected at lower levels of government. This finding can be compared to previous research, which has produced mixed results on whether lower levels of government attract more women and whether women do better in elections at lower levels of government (Blais and Gidengil 1991; Tolley 2011). Whereas Blais and Gidengil (1991) find that women get a municipal advantage, Tolley’s (2011) findings suggest that regardless of the level of government, the proportion of women legislators is about the same. One potential reason for conflicting findings is data limitations; previous studies do not have longitudinal data over an extended period of time. The research presented here is based on a longer duration and is thus able to shed new light on the electoral presence of women.

As Figure 6 shows, both the number of women candidates and the number of women elected to office have increased over time in Ontario. However, we are interested in seeing if female candidates are more or less successful at obtaining a seat in the Ontario legislature than their male counterparts. To explore this question, we conducted regression analysis. Since we are interested in women’s electoral performance, the dependent variable is the candidates’ vote percentage. We ran a series of ordinary least squares (OLS) regression models, first focusing on the bivariate association between a candidate’s vote share and her gender. The first column in Table 3 shows that, on average, the vote share of female candidates is approximately 8.6 percentage points lower than the vote share of male candidates, suggesting that on average women fared worse than men in Ontario provincial elections. However, a variety of factors may explain this gender gap. In model 2 we include election fixed effects. This allows

us to take into account that the proportion of women candidates has increased substantially over time, as has the number of candidates running in each constituency. This means that the mean percentage of votes obtained by each candidate has been declining, which reduces the size of the estimated gender gap from 8.6 percentage points to 1.8 percentage points. However, there might be other confounding variables. For example, one might expect that women run for minor parties more often than men; the gap in vote share may simply reflect that fact. Another explanation could be that parties nominate women to ridings where their chances of winning are low (Thomas and Bodet 2013). Model 3 adds party-riding fixed effects, which allows us to take into account the differential popularity of the parties in the various ridings, and thus to implicitly compare the vote shares of men and women candidates running for the same party in the same riding. This further reduces the vote gap to 1.3 points. Finally, in models 4 and 5, we add party-election fixed effects and vote share in the previous election, whether a party is the district-level incumbent and distance from contention. The vote gap is estimated to be 1 percentage point, exactly as in model 3. These data thus suggest that there may be a very small gender gap in Ontario provincial elections. Indeed, the results in Table 3 suggest that the gender gap in representation may mostly come from candidate selection and party attitudes towards male and female candidates.

The next question is whether that gap has decreased over time. We therefore tested a new model that replicates model 4 (but only includes party fixed effects), adding an interaction between gender and a continuous year variable. If the gap is decreasing the interaction term should be positive, meaning that the negative association between “women” and “votes” decreases over time. This is precisely what we find. Figure 7 shows the estimated marginal effect of gender over time. We can see that in 1902 the gender gap in vote share was just over 5 percentage points but by 2014 it is statistically indistinguishable from zero.

	(1)	(2)	(3)	(4)	(5)
Woman	-8.6	-1.8	-1.3	-1.3	-1.3
	(0.5)	(0.5)	(0.4)	(0.3)	(0.3)
Vote share lag				0.6	0.5
				(0.0)	(0.0)
Incumbent					3.0
					(0.3)
Distance from contention					0.0
					(0.0)
Constant	29.6				
	(0.2)				
R2	0.02	0.21	0.81	0.80	0.80
Adj. R2	0.02	0.20	0.73	0.79	0.79
Election Fixed Effect	No	Yes	Yes	No	No
Party-election Fixed Effect	No	No	No	Yes	Yes
Party-riding Fixed Effect	No	No	Yes	No	No
N	11918	11918	11918	8478	8478

Robust standard errors appear in parentheses.  
All coefficients are significant at the .001 level.

Table 3. – The gender gap in Ontario. All models are OLS regression with candidate vote percentage as the dependent variable.

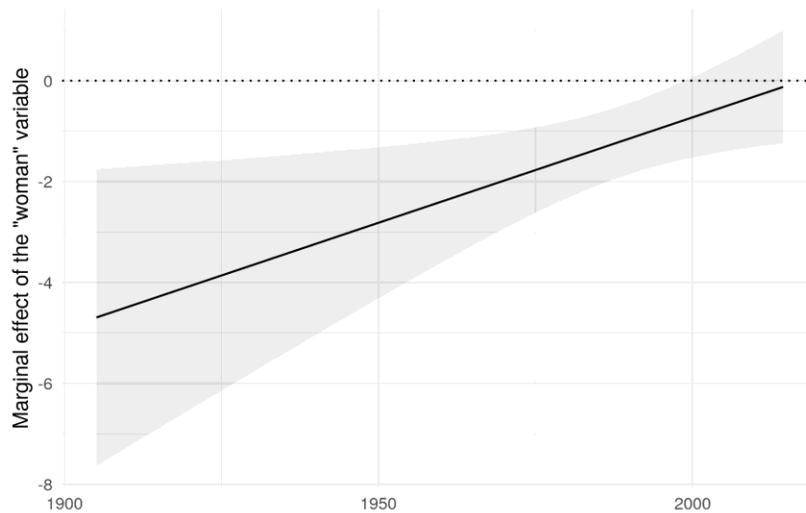


Figure 7. – Marginal effect of gender on vote share

## Discussion

The findings discussed above regarding the electoral performance of women candidates in Ontario provincial elections are strikingly similar to the results of our previous research on the gender gap in Canadian federal elections. At first glance, there is a huge gap, 8.6 points in the former case and 8.4 points in the latter. But as soon as we include election and party-riding fixed effects or we control for previous party performance in the riding and incumbency, the gap shrinks and becomes very small. Furthermore, the data indicate that the gap may well have existed in the past but has now disappeared.

We should stress that our data allow us to estimate the overall net association between gender and votes. It is possible, for instance, that women candidates get fewer votes among some groups (let us say old men) and more votes among others (let us say young women) and these two factors cancel each other out. Such possibilities can and should be explored with the appropriate survey data, that is, the Canadian Election Study.

Finally, we need to reiterate that our design is observational and as such may suffer from an omitted variable bias. This would be the case if some unmeasured candidate characteristic is correlated with both gender and electoral performance. For instance, if women are higher quality candidates than men and if higher quality is associated with more votes, then our estimate of the gender gap would be biased towards zero. This is precisely what is reported by Fulton (2012; 2014) in the American case. But the only study that has examined that possibility in the Canadian case, that of Black and Erickson (2003), finds that controlling for candidate quality does not affect the overall results. Clearly more work needs to be done to test the robustness of our findings.

## Chapter 5 – Does the Age of Party Leaders Matter?

### Introduction

From a normative perspective, it matters for democracy that all groups in society are fairly represented in parliament. Despite making up 20-30% of the voting age population, young people are underrepresented across the globe (Stockemer and Sundström 2018). According to Stockemer and Sundström (2018), as of 2017, the representation of young adults in legislators across the world was only about 10%.<sup>16</sup> Contrast this with the age group that is 60 years old and above. While young adults make up more than three times the voting age population as the 60 years old and above age group, the latter is 3-5 times more represented in parliaments across the globe (Stockemer and Sundström 2018). Some scholars have suggested that the low legislative presence of young politicians negatively influences the political engagement of young voters. Joshi (2013, 12) puts it this way: “If more young people are able to participate as MPs, they may serve as role models for their age cohort peers, leading other young adults to become more politically engaged”.

In recent years, there has been an increasing discussion of the age of candidates relative to that of voters. Consider the Democratic primaries of 2008. Barack Obama, then 47, won a majority of the youth vote in every state that held a primary with the exception of California, where he tied with Hillary Clinton, aged 60, and Arkansas and Massachusetts where he came slightly behind Clinton (see Keeter et al. 2008; Rosentiel 2008). Age was also a strong predictor of vote choice in the 2008 and 2012 presidential elections where young voters overwhelmingly voted for the Democratic candidate, Barack Obama, aged 47 and 51, whereas older voters preferred the Republicans (Keeter et al. 2008; Robillard 2012). Indeed, age was once again at the forefront of the 2020 Democratic primaries as the three leading presidential candidates, Bernie Sanders, Joe Biden and Elizabeth Warren were 78, 76 and 70 respectively. They were all competing to replace President Donald Trump, who is himself 73 (Parti 2019).

The discussion about candidate’s age is not limited to the United States. During the 2011 Canadian federal election, the election of six university students in their early 20’s ignited heated debate about

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<sup>16</sup> Stockemer and Sundstrom (2018) define young as being 35 years and below.

whether young politicians belong in parliament (Henley 2011). In the 2015 election, the Liberal party went from third place to winning a majority. This victory was attributed to the strong support the Liberal Party received from young voters under Justin Trudeau's leadership who was himself 43 (Raj 2016). And yet in the 2017 election in the United Kingdom, young voters overwhelmingly supported Labour and Jeremy Corbyn, aged 68, even though there were younger candidates on the ballot (Curtice 2017; Prosser et al., 2018). This also seems to be the case in France where young voters in the 2017 election preferred Jean-Luc Mélenchon, 65, over younger candidates like Emmanuel Macron who was 39 at the time (Beauchamp 2017). Whereas the examples of Obama and Trudeau show that young leaders are receiving support from young voters in both presidential and parliamentary systems, there are other examples (like that of Corbyn and Mélenchon) that suggest that older candidates are also attracting votes from young voters.

In all these examples, the leaders preferred by young voters are left-/liberal candidates. Perhaps then there is no age affinity voting, and the effect that is reported is driven by ideology. Therein lies the puzzle. In this article, I examine how the age of leaders across 51 countries and 126 elections affects voters' evaluations of the leader and their vote choice. I test whether people are prone to prefer and vote for leaders of their age and if age affinity is of greater importance to younger voters.

## **Candidate similarities and voting behaviour**

A large body of literature on candidate traits shows that citizens prefer candidates or leaders that share similar characteristics. These studies show that descriptive representation matters for voters. This expectation is grounded in the seminal work of Hanna Pitkin (1967). Her model of representation includes four components: formal, symbolic, descriptive and substantive representation. Descriptive representation refers to similarities between representatives and the represented. This could be in terms of gender, ethnicity, or, in my case, age. This type of representation is often invoked as an explanation for the need to elect more women and ethnic minorities because descriptive representation appears to have positive effects for politically marginalised groups (Mansbridge 1999). Further, descriptive representation has been shown to lead to substantive representation, which is defined as 'acting' in the interest of a particular group.

The literature on descriptive representation is extensive and shows that voters are more likely to support candidates who belong to the same social group. But what is the motivation for affinity voting?

Johnston et al. (1992, 169) offer one perspective, “it is entirely reasonable to ask how much like oneself the potential agent is. The more an agent resembles oneself the more he or she might be expected reflexively to understand and act on one’s own interests [...] we might reasonably prefer leaders who embody our own demographic characteristics.” In this sense there is a wide belief that representatives who share voter’s characteristics are more likely to act in that person’s interest once in office, showing a connection between affinity voting and substantive representation.

The affinity thesis has primarily focused on gender and ethnic background. The research on whether women support women candidates shows mixed results. Whereas some scholars argue that women voters are more likely to support women candidates simply because they share the same gender (Plutzer and Zipp 1996), others have suggested another explanation. For instance, Dolan (1998; 2001; 2004) suggests that while the gender of the politician is important, the partisanship of candidates also matters. Given that women politicians are more likely to have liberal voting records (Edlund and Pande 2001; Koch 2000), and left-liberal leaning parties have more women candidates, Dolan (1998) suggests that it is possible that women voters are voting for left-liberal leaning parties that happen to have more women candidates. Either way, women are more likely than men to support women candidates (Burrell 1994; Ferree 1973; Hershely 1977; Huddy and Terkildsen 1993; Sanbonmatsu 2002; Studlar and Welch 1986).

The existing research on the presence of minority candidates finds that members of those communities tend to support and vote for candidates of their own ethnicity (Barreto 2010; Besco 2019; Bobo and Gilliam 1990; Rocha et al. 2010). Indeed, this research reveals that minority voters are more likely to prefer candidates from their own racial group than their white counterparts (Bird 2015; Piliavin 1987). In addition, black candidates in the United States are more strongly supported by black voters (Sigelman et al. 1995). All in all, there is evidence that voters prefer candidates whose backgrounds – gender and race – mirror their own. This makes sense because, once they are in office, female and minority members in parliament are more likely to advance female and minority interests (Banducci et al. 2004; Chattopadhyay and Duflo 2004; Edlund and Pande 2001; Lott and Kenny 1999; Owens 2005; Rocha et al. 2010; Swers 1998; Vega and Firestone 1995).

But when given the opportunity, do citizens act on the affinities that they report? Campbell and Heath (2017) examine the impact of the candidate’s sex on voting behaviour in the 2010 British election, where gender was a salient issue during the campaign. They find that women did not vote for women

candidates solely due to their gender and that this was conditioned by party ideology. However, they show a small effect among a small number of female voters who support descriptive representation: these voters support a party that put forward a women candidate more than women who did not support descriptive representation. There are also small co-minority and co-ethnic candidate effects in Britain (Fisher et al. 2014), France (Brouard and Vincent 2011) and a bigger effect in the 2014 Toronto mayoral election (Bird et al. 2016), where partisanship is not very salient. To sum up, while there is evidence of ethnic and gender affinity, the results are mixed and often suggest a small impact.

If voters are more likely to support candidates that share the same gender or ethnic background, we might expect to find similar findings with other demographic characteristics. One area that has received less attention is the age of the candidate or leader. Like women and ethnic minorities, young people have distinct policy preferences and have more liberal views than their older counterparts (Fisher 2008; Kissau et al. 2012; Norris and Inglehart 2001a; O’Grady 2019). Pew Research Centre (2018) shows that young people are consistently more liberal than older citizens on issues such as same sex marriage, racial discrimination, and foreign policy in the United States. Moreover, Furlong and Cartmel (2011) show that young people are more concerned about issues such as unemployment and the environment. They are more supportive of women’s equality (Inglehart and Norris 2003) and education spending (Fullerton and Dixon 2010; Street 2006). We also know from public opinion polls that younger citizens have different attitudes and preferences on issues such as immigration, gender equality, global governance, environmental protection and Brexit (Bell and Gardiner 2019; Curtice 2016; Norris and Inglehart 2001b; Wattenberg 2007; Kissau et al. 2012). Yet it is unclear if this induces younger voters to support younger candidates, who might be more likely to support issues they care about once in office.

In summary, there is a large body of literature on affinity effects which suggests that voters are more likely to support candidates whose demographic backgrounds mirror their own. However, most of this literature focuses on women and ethnic minorities. In this paper, I contribute to this debate by means of a comprehensive analysis of age affinity in 51 countries.

## **Does the age of the candidate matter?**

While age may not be seen as an “identity” similar to race and gender, existing literature on candidates’ age shows that voters prefer to vote for candidates that are close to them in age. Using survey data

from the Cooperative Congressional Election Study, Webster and Pierce (2019) study the effect of age as a voting heuristic for all voters in different electoral contexts in the 2010 and 2012 gubernatorial, House and Senate elections. They find that at the House, Senate, and gubernatorial levels among both Democrats and Republicans in the 2010 midterm elections, a larger distance between the age of the voter and the candidate is associated with a lower probability that the voter supports the given candidate. For the 2012 elections, in contrast, they do not find any evidence that distance in age between the voter and candidate has an effect. They explain the discrepancy in the results by suggesting that information contexts during elections matter. In short, while they find an effect of age as a heuristic in the less salient 2010 midterm elections, they do not observe such an effect during the more salient 2012 presidential election.

Using a controlled experiment, Pomante and Schraufnagel (2015) show college students at Midwestern university photographs of candidates that are young and old and ask them which one they are more likely to vote for in a hypothetical election. In this case the dependent variable is commitment to vote rather than vote choice. They have three conditions with candidates of varying ages: two old candidates running, two young and one old and one young. They have a sample of 691 students between the ages of 18–24. They find that young voters are more likely to say they will vote when young candidates are running. They then analyze youth voter turnout in five real U.S. governor and Senate midterm elections (1994, 1998, 2002, 2006 and 2010) to determine if youth voter turnout increases when there are young candidates running in the aforementioned elections. They find that in Senate races younger voters vote at higher rates if there are candidates under the age of 35. Moreover, they find that youth are more likely to turnout when a young candidate faces an older one on the ballot, but only in competitive races.

Sigelman and Sigelman (1982) show, in controlled experiments, that when college undergraduate students are given the option to select hypothetical candidates for local elections, manipulating the age, gender and race of the candidates, voters strongly prefer candidates closer to them in age over other shared characteristics like gender or race. Piliavin (1987) extends the study to the general public. Like Sigelman and Sigelman, Piliavin varies the personal attributes of pairs of candidates by sex, race and age in a simulated mayoral election. Her results show that even with a more representative sample of voters there are strong effects of the age of the candidate. Candidate age and age affinity matters to voters in all kinds of ways. In yet another research, Klofstad et al. (2015) study the vocal cues of

candidates by asking voters to choose between two candidates while varying the age of candidates and find that voters prefer candidates in their 40s and 50s over those in their 30s, 60s and 70s. They also show that voters prefer candidates with low-pitched voices because they are conceived as being stronger and more competent.

All of these studies offer evidence that voters prefer candidates that are similar to them in age. Other work suggests there might be good reasons for this. A study by Curry and Haydon (2018), for example, shows that the age of members of Congress matters for substantive representation. Politicians' age affects their attentiveness to issues of importance to seniors. Examining bills that were introduced in the 2005 and 2008 Congress, Curry and Haydon (2018) find that older politicians are more likely to introduce what would be considered senior issues such as continuing education, elder abuse, and nursing home regulation. In yet another study, Charles T. McClean (2019), uses a regression discontinuity design to show that the greater presence of young politicians in Japanese mayoral elections from 2004 to 2017 increases municipal expenditures on child welfare.

Together, these studies have produced interesting findings that show that age affinity matters for vote choice, and turnout. They also show that the age of elected representatives matters for substantive representation as young people have politically distinctive preferences. While these studies are useful, they have been limited to established democracies and in particular the United States and local candidates, and they have been based mostly on experimental designs with fictitious candidates. Experimental work is important as it gets at the causal question, but it is not conclusive because they test for age affinity in isolation of real campaign coverage. The analyses in this paper differs from previous work on these three dimensions. First, I examine the role of politicians' age in 51 countries across 126 elections. In doing so, I move the analyses beyond the established democracies which has received most of the attention on affinity effects. Second, I use observational data which allow me to concentrate on real-life candidates during election campaigns.

The third dimension is that I concentrate on leaders as they—unlike local candidates—run national campaigns, making them key actors that the media focus on (Mendelsohn 1993; Trimble and Sampert 2004). Leaders play a major role in democracies around the world (Aarts et al. 2011; Bittner 2011; Johnson 2002; Kinder et al. 1980; Irvine 1982; McAllister 2016; Ohr 2011). Studying thirty-five elections across seven countries from 1968 to 2004, Bittner (2011) finds that leaders have an important independent impact on electoral outcomes. She argues that voters consider the personality traits of

party leaders such as their character and competence and, based on how voters perceive the leader on these traits, their party can gain or lose between 2 and 5 percent of the vote (Bittner 2011). As such, competent leaders can produce an important electoral advantage for their party.

Throughout this paper, I examine the impact of age affinity between voters and leaders. In a parliamentary system, one of these leaders will become the Prime Minister. In a presidential election, these are the candidates running to become President. In all these cases, they are the most visible candidates that represent their party in the campaign. I adopt the term leaders generally and use it to refer to both leaders and presidential candidates for simplicity.

In this paper, I examine how voters react to the presence of young (or old) politicians. More precisely, I test two hypotheses:

### **Hypothesis 1**

Increasing the closeness in age between a voter and a party leader will increase the voter's evaluation of the leader.

The second expectation follows from the first:

### **Hypothesis 2**

Voters vote more for parties whose leaders are closer to them in age.

## **Data and methods**

To examine the impact of leaders' age on voters' leader preferences and their vote choice, I use two datasets. The Comparative Study of Electoral Systems (CSES) data are cross-national post-election surveys administered in over 51 countries. The CSES data provide information about how much leaders are liked and how prone people are to vote for their party along with the date of birth of voters and their gender.<sup>17</sup> However, the CSES data do not provide information on the age and gender of the party leaders.<sup>18</sup> Accordingly, I collected these data from the leaders' campaign websites, newspaper

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<sup>17</sup> Appendix B describes the variables with standard deviations in brackets.

<sup>18</sup> I collected age and gender because these two variables are likely correlated as the mean age for women leaders in my dataset is lower than the mean age for men leaders, suggesting that women leaders are generally younger than men leaders.

articles and other journalist summaries of the candidates. I then matched the individual CSES dataset from modules 1, 3 and 4<sup>19</sup> with the original dataset I constructed with information about 639 unique leaders' age and gender to create the basis for this article's statistical analysis.

The focus of this paper is on the effect of a leader's age on how they are evaluated and how much support their party receives. As such, the date of birth of the politician is crucial to determine how old political leaders are during elections. There are a total of 782 leaders in 126 elections from 1996 to 2016 in 51 countries. Leaders are on average 54 years old with a standard deviation of 10. The youngest leader in my dataset is Jimmie Akesson, 27 years old, with the Sweden Democrats in the 2006 election, and the oldest is Mangosuthu Buthelezi, 86 years old, with the Inkatha Freedom Party in the 2014 election in South Africa. The distribution of leaders' age can be seen in Figure 8. There are 639 unique leaders across all elections. Only 3 percent of the leaders are 35 and below. As for the gender of leaders, the overall percentage of women leaders is 15%. There are 54 elections with 0 women leaders and 9 elections with at least 50% women leaders. There are no elections where 100% of the leaders are women. The highest percentage of women leaders is 57%. The mean age for women leaders is 51, with the youngest leader at age 31 and the oldest at 71, whereas the mean age for men leaders is 54, with the youngest leader at age 27 and the oldest at age 86.<sup>20</sup>

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I did not collect ethnicity because it is not relevant for my article and because this information is not readily available for all party leaders in every election.

<sup>19</sup> Module 2 was omitted because it does not include like/dislike leader ratings. I also removed respondents that were over 100 years old.

<sup>20</sup> More descriptive statistics are shown in Appendix B.

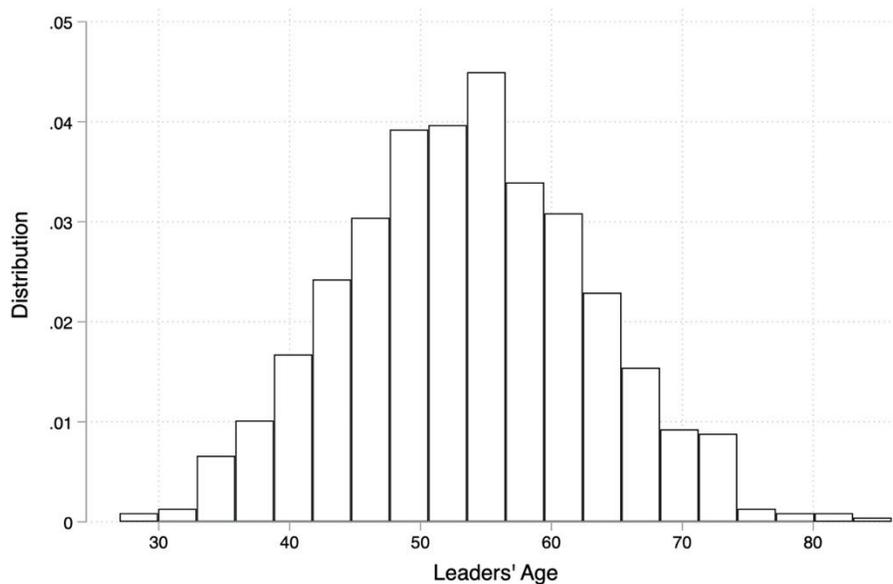


Figure 8. – Distribution of Leaders' Age

I have two dependent variables: how much the respondent likes the leader on an 11-point like/dislike scale ranging from 0 (strongly dislike) to 10 (strongly like) (see Appendix B for exact question wording) and whether the respondent voted for the leader.<sup>21</sup> I have stacked leader ratings so that I have multiple observations for each respondent: one for each party leader. There are on average 6 observations (one for each of the leaders in a given election) for each respondent. The mean leader rating is 4.5. Vote choice is a dummy variable that equals 1 if the respondent voted for the leader's party and 0 if not; the mean is 0.16.<sup>22</sup> The key independent variable (distance) is the absolute difference between the politicians' age and the respondent's age. This operationalization assumes that the effect of the age difference is the same whether the voter is older or younger than the leader if the differences are of the same size.<sup>23</sup> To more easily interpret the results, the distance in age is measured in 10-year units so a distance of 1 signals a 10-year difference in age between the voter and the politician.

<sup>21</sup> Note that I also restrict the analyses to candidates and parties that received 10% of the vote or greater in each country in a given election but this did not affect the substance of my findings. These models are in Appendix B.

<sup>22</sup> Abstainers are dropped from the vote choice models as they did not make a choice.

<sup>23</sup> This assumption assumed linearity which I relax in Appendix B with the addition of a quadratic term to the models. This is because small age differences between the candidate and voter might matter less, but as the age distance gets larger this may affect citizens' ratings/vote choice. The main conclusions are similar.

I ran a series of ordinary least squares regression models with two-way clustered standard errors by respondent and leader.<sup>24</sup> In one set of analyses, the dependent variable is the leader rating; in the other set, the dependent variable is vote choice.<sup>25</sup> In all models, I include fixed party family and country effects to account for context-level variables. The party family variable is a set of dummy variables in the model where similar parties have been grouped together by CSES country experts.<sup>26</sup> One might expect age to be a strong predictor of how an individual will vote in an election: younger voters support parties on the left, and older voters support conservative parties (Butler and Stokes 1974; Campbell et al. 1960; Lipset 1960; O’Grady 2019; Tilley and Evans 2014). Moreover, the ideology of a party may be linked with the age of its leaders.

The party family variable controls for the fact that some parties may be more popular among certain age groups. The country fixed effects control for unobserved specificities of each country. Additionally, I include, in both sets of models, control variables for the respondent's age, the gender of both the respondent and the leader, education and a shared party variable, which indicates whether the respondent is a partisan of the leader's party. I control for the leader's gender as women leaders are slightly younger. Shared party is included in the models because the relationship would be spurious if young voters are more supportive of leftist parties and left leaning parties are also more likely to have younger party leaders.<sup>27</sup> Finally, I add education to control for whether leaders matter more to unsophisticated voters.

## Results

Table 4 reports the results of the regressions with leaders’ ratings as the dependent variable. Model 1 in Table 4 presents the bivariate relationship of the absolute age difference between the leader and the respondent and how highly the citizen rates the politician on the like/dislike rating scale. The

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<sup>24</sup> I correct the standard errors for the two-way clustering to account for having more than one observation per respondent and leader in the data.

<sup>25</sup> The coefficients for logistic regression for dichotomous dependent variables are not immediately interpretable. As such, economists such as Angrist and Pischke (2009) argue that linear probability models are the most desirable way to communicate effect size as one can interpret the coefficients in terms of probability change. This is what I do in the paper, but I have also included the logistic regression in Appendix B for the vote choice models.

<sup>26</sup> There are 16 classifications for the party family variable which are: Ecology Parties, Communist Parties, Socialist Parties, Social Democratic Parties, Left Liberal Parties, Right Liberal Parties, Christian Democratic Parties, Conservative Parties, National Parties, Agrarian Parties, Ethnic Parties, Regional Parties, Religious Parties, Independent Parties and Other.

<sup>27</sup> In Appendix B, I replace shared party with ideological distance, but this does not affect the substance of my findings. The findings for vote choice are virtually unchanged, while the intention of age and distance in the rating models loses significance it remains in the correct direction.

coefficient on distance is negative and significant. This indicates that as the distance in age between the voter and the leader increases, the voter likes the leader less. This is preliminary support for my first hypothesis.

	(1)	(2)	(3)
Distance	-0.036** (0.014)	-0.018 (0.012)	-0.120* (0.055)
Respondent's Age		-0.004 (0.009)	-0.057* (0.027)
Shared Party ID		3.762*** (0.075)	3.762*** (0.075)
Leader: Female		0.240* (0.113)	0.235* (0.112)
Respondent: Female		0.095*** (0.016)	0.094*** (0.016)
Education		-0.016 (0.017)	-0.017 (0.017)
Distance × Respondent's Age			0.022* (0.011)
Constant	4.348*** (0.445)	4.142*** (0.427)	4.407*** (0.460)
R2	0.07	0.18	0.18
Fixed Party Family	YES	YES	YES
Fixed Country Effects	YES	YES	YES
Observations	853,414	853,414	853,414

Standard errors are two way clustered by respondent and leader.

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

Table 4. – Voters like political leaders closer to them in age. Ordinary least squares (OLS) regression models of leader ratings.

Model 2 adds controls for other theoretically important variables like the respondent's age, the gender of the voter and the leader, education, and shared party. The female coefficient for leaders is positive and significant which means that women leaders tend to receive higher ratings. The female coefficient for respondents is also positive and significant which indicates that women give slightly higher ratings to leaders. The education variable accounts for political sophistication. The coefficient

is negative suggesting that higher educated respondents give lower ratings, but it is not significant.<sup>28</sup> Shared partisanship accounts for voters' preferences for the leader of their own party. When partisanship is included, the effect of distance is reduced to about .02, and it is no longer significant.

Given that the study by Pomante and Schraufnagel (2015), finds that young voters appear to prefer younger candidates, I also examine if age affinity matters more for young voters. Model 3 in Table 4 includes an interaction between the respondent's age and the distance in age between the leader and the respondent. The interaction is significant and positive. This indicates that younger voters react more strongly to the age gap between leaders and themselves, but the magnitude of the effect is small. Figure 9 graphs the slope of the interaction. For example, the graph shows that, according to the model, for an 18-year-old, every decade increase in distance between the respondent's and leader's age results in a 0.08 unit decrease in the leader's ratings whereas, for a 40 year old, the predicted change is only a 0.03 unit decrease. Indeed, the graph shows that age affinity is predicted to have a significant negative impact on leader ratings for respondents aged 40 and below suggesting that younger voters slightly prefer younger leaders, but the magnitude of this effect is very small.

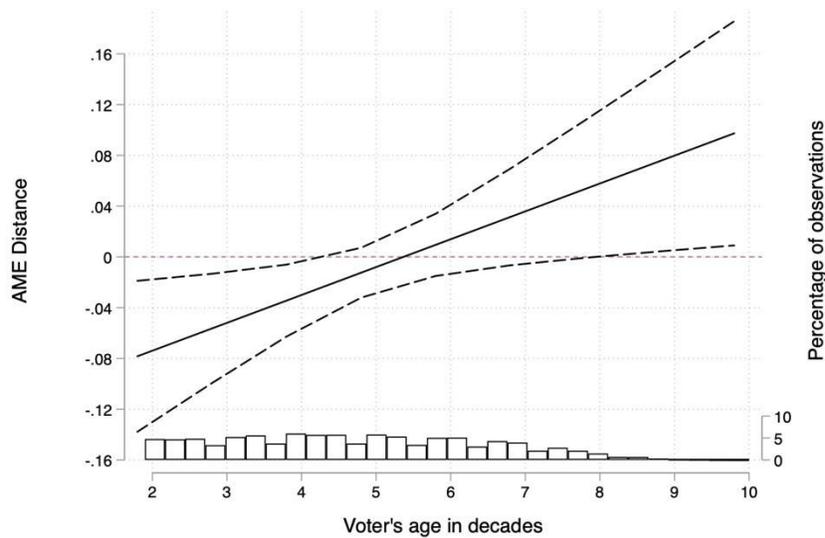


Figure 9. – The Effect of Distance on Leader Ratings Conditional on the Voter's Age

<sup>28</sup> In Appendix B I examine the interaction between the gender of the leader and respondent, and it shows that women are more likely to give higher ratings to female leaders. The interaction between education and distance is not significant.

Note: Average marginal effect of distance (measured in decades) on the ratings of the political leaders as a function of voter's age (measured in decades). Dashed lines indicate 95% confidence intervals. The distribution of voter's age is summarized in the histogram. Estimates are obtained from Model 3 in Table 1.

I test the robustness of these findings in Appendix B. Although all the models include country fixed effects, I verify the results to make sure they are not driven by a single country. Figure 20 shows the stability of the distance coefficient when I perform a series of jackknife analyses to drop one country at a time to replicate Model 2 in Table 4. The results consistently show that the coefficient of distance is negative across all 51 countries. However, since the confidence interval includes 0 in all the cases, we cannot be confident, at the 95% level, that the effect of distance differs from zero. In Figure 21, I replicate Model 3 in Table 4 by dropping one country at a time in the dataset and show that the interaction effect is very stable. As can be seen from these results, overall, the findings are not driven by any one country. All in all, while voters may prefer candidates closer to them in age, these results are very small.

I then test my second hypothesis on the effects of the absolute age difference between leaders and the respondent's age on vote choice. I repeat the same analyses in Table 5 for vote choice. The reader should keep in mind that the mean of the dependent variable is .16, that is, about one sixth of the respondents voted for the party of a given leader. This reflects that on average the elections under study involved 6 leaders. As before, Model 1 in Table 5 is the bivariate model and it shows that voters vote for party leaders that are closer to them in age. In Model 2, as before, I account for the respondent's age, shared party, leaders and respondent's gender, and education. I find that female leaders get fewer votes than their male counterparts, but it is not significant.<sup>29</sup> Moreover, voters vote for leaders that share the same party affiliation. All in all, distance is significant and has the right sign in both models. This means that the greater the distance, the less voters are likely to vote for the party of the leader. For every decade increase in distance, the vote for the party of the leader decreases by 0.004 units (column 2), which corresponds, for every decade increase in distance, to a 0.4 percentage point decrease in the probability of the respondent voting for the leader. For example, this means that, all things being equal, a voter that is 30 years old is 1.2 percentage points (or about 7.5 percent in

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<sup>29</sup> This is no contrast with the previous findings that women leaders tend to be better evaluated. Why this preference is not transformed into more votes is beyond the goal of this paper. In Appendix B, I included the interaction between the gender of the leader and the respondent for vote choice, and it is not significant. The interaction between education and distance is also not significant.

relative terms, since the mean vote is 0.16, or 16 percentage points) more likely to vote for a 40-year-old leader compared to a 70-year-old leader. I also conducted logit regressions and, overall, the results are similar (see Appendix B).

	(1)	(2)	(3)
Distance	-0.005** (0.002)	-0.004** (0.001)	-0.005 (0.006)
Respondent's Age		-0.004*** (0.001)	-0.005 (0.003)
Shared Party ID		0.755*** (0.010)	0.755*** (0.010)
Leader: Female		-0.010 (0.011)	-0.010 (0.011)
Respondent: Female		0.005*** (0.001)	0.005*** (0.001)
Education		-0.003* (0.001)	-0.003* (0.001)
Distance × Respondent's Age			0.000 (0.001)
Constant	0.114 (0.076)	0.137* (0.060)	0.141* (0.062)
R2	0.06	0.38	0.38
Fixed Party Family	YES	YES	YES
Fixed Country Effects	YES	YES	YES
Observations	616,893	616,893	616,893

Standard errors are two way clustered by respondent and leader.

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

Table 5. – Voters vote for party leaders that are closer to them in age. Ordinary least squares (OLS) regression models.

Finally, column 3 adds the interaction between distance and the respondent's age. Since the coefficient is positive, the interaction shows that the negative impact of the age gap is larger among younger respondents. However, the interaction is not significant, and the coefficient is very small.

Again, I test the robustness of the findings in Appendix B, Figure 22, which presents the coefficient for distance when each country is removed successively to replicate Model 2 in Table 5. The results are consistently negative and significant suggesting that distance matters, but only a little as the coefficients are small.

## Discussion

Compared to well-developed research on the parliamentary inclusion of women (Carroll 1994; Chattopadhyay and Duflo 2004; Dassonneville and McAllister 2018; Sanbonmatsu 2002; Wolbrecht and Campbell 2007), class (Carnes 2012) sexual orientation (Reynolds 2013) race (Butler and Broockman 2011) or ethnic minorities (Saggar 2000; Bird 2014; Pantoja and Segura 2003), research on youth representation is still in its infancy (Sigelman and Sigelman 1982; Piliavin 1987; Pomante and Schraufnagel 2015).

Yet we know that descriptive representation matters. Existing research suggests that women and members of minorities are more inclined to vote for candidates that mirror their own sociodemographic background. We also know that young people are underrepresented across parliaments in the world. And like other minorities, young people hold policy preferences that often diverge from older voters. Yet there is very little work on whether the presence (or absence) of young candidates impacts young voters. In this article, I fill this gap by focusing on whether the absolute distance in age between the voter and leader has any effect on the voter's rating of that leader and her decision to vote for them. I do this cross-nationally over 51 countries and 126 elections.

In the empirical analysis, I use both the CSES dataset and construct my own data with information about all the leaders age and gender. I merge these datasets and rigorously test the hypothesis that voters prefer and vote for leaders that are closer to them in age. I show evidence that the age of the political leader matters to voters, but that the effect is small. More specifically, an increase in the distance in age between the leader and the voter reduces the likelihood that the voter will like that leader and vote for her party. In this sense, the data support my hypotheses though the predicted effects are very small.

One reason why the results are small might be that voters do not generally know the age of leaders unless it is activated during the campaign. Another reason might be that while it may matter for other dependent variables like mobilizing volunteers to work on their campaigns, it does not have a big effect on leader evaluation and vote choice. Note that whereas vote choice is affected by many factors, favourability ratings are directly related to the candidate in question. This 'very small effect' verdict, it should be stressed, is not all that different from the conclusions of studies about the effects of gender

and ethnic affinity. The various studies show mixed results, and the effects are usually very small, and context driven.

Future research should examine how much information voters have about the political leaders' age during a given election, especially comparative to their gender and ethnicity. It would also be interesting to determine how much information the media provide about the age of the various leaders. In the 2020 Democratic primaries in the United States, this was front and center as the front-runners were in their 70's and wanted to replace the existing President who is himself in his 70's. Given that the models I run control for fixed country effects, the estimates are free from omitted variable bias due to different characteristics across different countries. However, future research should tease out the contextual factors more. Like that of candidate sex and voting behavior, is the link between candidate age and voting behavior context specific? If so, why should age matter in some elections and not others?

From existing research, we know that descriptive representation leads to substantive representation. As such, a continued shortage of young politicians in politics may skew policies toward outcomes that benefit older voters leading to unequal representation. More research is needed to test whether the age of the politician affects the decisions they make once in office. This question has important policy implications as young people continue to be underrepresented in parliaments across the world.

## Chapter 6 – Do Lawyers Get More Votes?

That government of democracy is favorable to the political power of lawyers; for when the wealthy, the noble and the prince are excluded from the government, the lawyers take possession of it in their own right, as it were, since they are the only men of information and sagacity, beyond the sphere of the people who can be the object of popular choice.

- De Tocqueville (1954, 304).

The lawyer will not be forgotten by the party when it becomes necessary for the government to select individuals to handle the enormous amount of its legal business. The position of the legal profession in and out of Parliament provides great opportunities for the distribution of patronage.

- Innis (1956, 400).

Often described as “the High Priests of American Politics” lawyers have long dominated American governance, playing a key role in the policy making process (Miller 1995, 2). Bonica (2016) reports that lawyers occupied 42 percent of the seats in the House and 58 percent of the seats in the Senate in the 113th Congress while only 0.4 percent of the voting age population were lawyers.

While the prominence of the legal profession in politics is a well-known phenomenon in the United States, lawyers are overrepresented in politics in many legislatures across the world. In his analysis of the occupational background of political leaders in 23 different countries, Blondel (1977) posits that as early as in the 1970's lawyers formed an important portion of the political class in Atlantic countries. Of the 214 leaders studied, 26 percent were lawyers or judges prior to entering politics. In Canada, to date, 18 of the 23 Prime Ministers have been lawyers. As such, lawyers have played an important role in shaping Canadian politics. Canada’s founding Prime Minister was a lawyer as were many great protagonists of Canadian history: The Canadian Bill of Rights, The Canadian Charter of Rights and Freedoms and the North American Free Trade Agreement were all implemented by different lawyer

Prime Ministers. Using data from the Inter-Parliamentary Union Chronicle of Parliamentary Elections, Bonica (2016) calculates the number of lawyers per 1,000 citizens based on cross-national estimates of lawyer populations from Michelson (2013) across 25 OECD countries. He finds that while there are more lawyer-legislators in the United States than anywhere else, lawyers are over-represented in political office in many Commonwealth nations as well. Canada, New Zealand, Australia and the United Kingdom are at 15, 14, 13 and 13 percent respectively.<sup>30</sup>

The literature on the dominance of lawyer-legislators largely examines the American context where high-quality data are readily available. Less attention has been given to Canada. One of the few studies that look at the occupations of Canadian politicians examines eight Canadian federal elections from 1945 to 1965 and shows that Canada's two main parties (the Liberals and the Conservatives) have supplied more affluent candidates than any other parties (Kornberg and Winsborough 1968). Indeed, Kornberg and Winsborough (1968) find that like other western democracies, these affluent candidates tend to be lawyers. They find that 29 percent of the candidates put forward by the Liberals and the Conservatives came from legal backgrounds. The authors argue that this is because lawyers are perceived as having expertise that is congruent with politics.

In Canada, there also appears to be variations regarding the sociodemographic backgrounds of female and male politicians. Tremblay and Trimble (2004) study the backgrounds of men and women in the Canadian House of Commons from 1921 to 2002. Their study examines a total of 155 elected women and a sample of men during the same time period. They find that fewer females were elected with university degrees in the 1993, 1997, and 2000 elections compared to their male counterparts. Moreover, they find more women in professional careers than in the "other" category.<sup>31</sup> Men are predominant in occupations such as managers, business persons and lawyers. Interestingly, the percentage of men who are lawyers has gone down from 31 percent between 1921 and 1968 to 11 percent between 1993 and 2002. This may not altogether be surprising since the career path of politicians appears to have become more diversified over time.

While both of these studies are interesting, they are limited in scope. In this paper, we address a simple but important question, that, as far as we can tell, has not been dealt with systematically in prior

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<sup>30</sup> These data are a snapshot of the situation at one point in time. For Canada, this is the percentage of lawyers in the 2011 Parliament.

<sup>31</sup> The other category included all professions that are not lawyers, managers, businesspeople and professionals.

research over a long period of time. That question is whether lawyers get more votes than non-lawyers. Put differently, do voters prefer candidates who are familiar with the law? Given that the proportion of lawyer candidates has been decreasing in recent decades, we also examine whether the electoral advantage enjoyed by lawyers has declined over time. We address this question by looking at nearly 32,000 candidates in Canadian federal elections between 1921 and 2015.<sup>32</sup> The scope of the dataset alone is impressive, but our focus on Canada is also advantageous as it allows us to identify whether similar patterns persist in Canada, which despite being a close ally of the United States, has a different political system. Canada differs from the United States as it is a parliamentary system with more political parties and less polarization (Anderson and Stephenson 2010).

## The Canadian Case

Canadian parties have changed since Confederation as they have become professional campaign machines that organize around getting politicians elected. This has made them more prominent and has consolidated party unity (Godbout and Hoyland 2017). The institutionalization of parties has also meant that since the 1970's, leaders of parties have veto rights, though seldomly used, over local candidates, an exercise previously held by local constituency associations (Carty, Cross, and Young 2000; Carty 2004). According to Carty, Cross, and Young (2000) and Johnston (2017), the two-party system, dominated by the Liberal and the Conservative, reigned from 1867 to 1920, but was replaced by a short-lived era of insurgent parties and geographical concentration between 1920 and the 1960's. This era was subsequently replaced by eras of pan-Canadian politics between the 1960's and the 1990's and the rise of regional parties after 1993. During the last era, the Liberal Party, often referred to as the party of the center, stands out as the single party that has dominated Canadian federal politics for the longest time. Johnston (2017) argues that the Liberal dominance of Canada is a function of its dominance in Québec. This is because unlike any other province, the Québec electorate has time and again shown a coherence in its vote concentrating on one party at a time. Johnston (2019) argues that the Liberal Party has capitalized on this by choosing more leaders from Québec than any other party.

As a consequence of a multiparty system, the number of candidates in Canada has also increased over time and so has the number of ridings. Members of the Canadian House of Commons are elected through a first-past-the-post system, where the winner takes all. Each constituency holds one seat in

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<sup>32</sup> While we collected data since 1867, we limit our analyses from 1921 onwards as that is when the first women ran for seats in the House of Commons. Women first had the right to vote in Canadian federal elections in 1918.

parliament. On the electoral side, the occupations of candidates were listed on the ballot in Canadian federal elections between 1867 and 1968 (Courtney 1974). From the 1972 election onwards, as per the changes in the Canadian Election Act in 1970, the ballot only contains the name of the candidates and their party affiliation.

Like the United States, lawyers in Canada have always been omnipresent in the House of Commons. Using our unique data on the occupation of all Canadian federal candidates since 1921, we categorized politicians as lawyers or not, lawyers being defined as those who had a legal profession prior to entering the House of Commons. The historical trends in Figure 10 (on the left) show that the percentage of candidates and MPs who are lawyers has been declining over the 94 years covered in this study. That percentage of candidates has gone from just above 25 percent in the first five elections to less than 10 percent in the last five. Figure 10 (on the right) also shows that lawyers have averaged 24 percent of seats in the House over 94 years. As can be seen in Figure 10 (on the right), the percentage of lawyers in each Parliament was steady around 30 percent up until 1962. Since then, the percentage has been declining. Although the proportion of lawyers in the legislature is smaller than it was in the 1960's, this group remains overrepresented in the House of Commons. From 1921 to 2016, the proportion of lawyers and Québec notaries in the Canadian population has never exceeded 0.5 percent of the labor force.<sup>33</sup>

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<sup>33</sup> The data were gathered from a variety of publications from the Canadian Census of Population. The census was held every ten years from 1921 to 1951. After 1951, the census was held every five years. The mid-decade censuses were however shorter and less detailed until the 1980s. Therefore, we only have the number of lawyers in the Canadian labor force every ten years until 1986, where we begin to have data every five years.

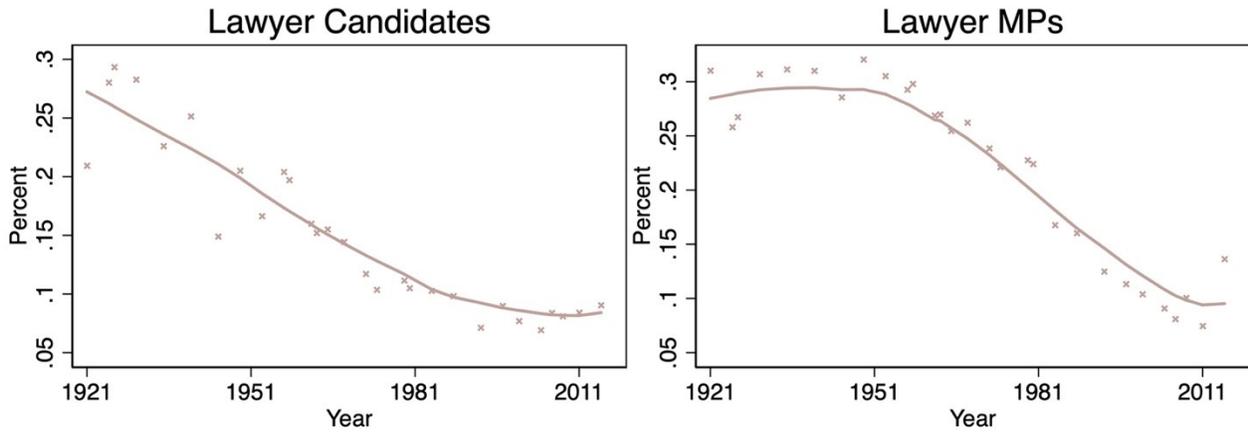


Figure 10. – The Percentage of Candidates and Seats Held by Lawyers over Time. We use loess curve fitting (local regression).

Note: The figure on the left shows the percentage of candidates that are lawyers from 1921–2015. The figure on the right shows the percentage of elected parliamentarians that are lawyers in the same time period. Source: Sevi, Yoshinaka, and Blais (2018) and Sevi, Arel-Bundock, and Blais (2019).

As shown in Figure 10, there is clearly over-representation of lawyers in the Canadian Parliament. Why? One possibility, which is precisely what this paper is about, is that parties like to have lawyers as candidates because they believe that lawyers perform better than non-lawyers in elections, that is they get more votes. Since parties want to maximize votes and seats (Downs 1957), they are keen to present candidates that attract more votes and increase the probability that the party will win the seat in that constituency. In short, our research question is whether the prominence of lawyers in the House of Commons is due to the fact that they get more votes and that, for that reason, parties like to have them on board as candidates.

This is important given all that we know about the effects of representation in legislatures (Pitkin 1972). Much of this literature shows that the underrepresentation of women, minority groups and working-class people have substantive policy consequences (Banducci, Donovan, and Karp 2004; Berkman and O’Connor 1993; Bird 2015; Bobo and Gilliam 1990; Burrell 1994; Canon 1999; Carnes 2013; Chattopadhyay and Duflo 2004; Edlund and Pande 2001; Gidengil 1995; Lawless and Fox 2010;

Lott and Kenny 1999; Owens 2005; Plutzer and Zipp 1996; Rocha et al. 2010; Sevi, Yoshinaka, and Blais 2018; Swers 1998; Vega and Firestone 1995).

There is good reason to believe that this is part of a larger pattern that includes occupation. Indeed, the social background of legislators has been shown to have an impact on their approaches to policymaking as they differ in values and knowledge (Burden 2007). Miller (1995) documents how lawyer and non-lawyer legislators view their roles as representatives and shows that the attitudes of lawyer legislators are different from those of non-lawyers. So much so that the occupational background of legislators has important consequences for their choices in office and as a result for policy outcomes in the United States. More specifically, Miller argues that lawyers in Congress “have adopted lawyers’ ways, lawyers’ language, as well as lawyers’ approaches to problem solving” (1995, 162). This also impacts other dimensions of representation as lawyer-legislators are far less likely to be women or minorities than legislators from other backgrounds (Tremblay and Trimble 2004). In short, the background of legislators has important consequences for substantive representation. We know that having more of one group in the legislature means that some issues will receive greater attention at the expense of other issues. As such, this is an important topic as we expect the same in the case of lawyers.

### **Is Knowing that a Candidate is a Lawyer a Useful Shortcut for Voters?**

It has long been observed that voters do not always have the required information to make rational decisions. Because of this, Herbert Simon introduced the concept of “bounded rationality” in the 1950's in order to help explain how individuals may be able to make decisions in such scenarios. His vision challenged the typical “economic” or “rational” man often presented in social science studies. He stipulated that there is no evidence that individuals can make the calculations required in rational choice theory because this would require complete information on the potential outcomes and unforeseen consequences. The procedure therefore needed to be simplified in order to be used in real life (Simon 1955). This in turn led to heightened interest in the idea of cognitive shortcuts also known as heuristics. Heuristics “reduce the search necessary to find a solution to a problem. They are shortcuts that simplify the complex methods of assessing the probabilities and values ordinarily required to make judgments, and eliminate the need for extensive calculations” (Schwartz 2010).

Since cognitive shortcuts can be used to make a variety of day-to-day choices, it is not surprising that many studies have suggested that voters use shortcuts in order to make political decisions without having to absorb a large quantity of information (see Lau and Redlawsk 2001; Lupia 1994). Lupia (1994) identifies two types of shortcuts that are present in most candidate-based election races: partisan cues and past performance. However, there is evidence that voters sometime use the personal characteristics of candidates in order to decide how to vote. One example of a cue that can be used is physical attractiveness. A survey experiment conducted by Stockemer and Praino (2015) demonstrates that when voters do not have access to much information about the candidates, they will prefer attractive ones.

Many studies have also suggested that visible traits such as gender and ethnicity can also serve as cues. It has been observed that female voters are more likely to support women candidates (Brians 2005; Dolan 1998). Since women are often seen as being more left-wing, female Democratic candidates in the United States fare better than male candidates among liberal voters (McDermott 1977). Plutzer and Zipp (1996) examine women candidates for governor and the United States Senate in 1992. Some of these candidates emphasize that they are running “as women.” This led to more support from women voters in eight of the 13 states in which these candidates ran. McDermott (1998) also suggests that the ethnic background of a candidate can be used to assess their political views. Black candidates, like women, are perceived by the electorate as being more liberal, which incites more liberal voters to support them during elections (McDermott 1998). Cutler (2002) argues that Canadian voters use the candidates’ sociodemographic characteristics as a cognitive shortcut in order to choose their preferred candidate. He shows that voters prefer candidates with characteristics similar to their own. For example, they are less likely to support a party leader of the opposite sex or with a different linguistic profile (Cutler 2002).

In our study, we are interested in how the occupational background of the candidate may be used by voters in order to decide how to vote. Past studies have already suggested that the occupational background of candidates, like other sociodemographic characteristics, can be used as a heuristic in elections. McDermott (2006) conducted a survey experiment during the 1994 California election to see whether voters would use the candidate’s occupation as a cue in order to facilitate their vote choice. The control group only had access to the name and the political affiliation of candidates while the treatment group also had the occupational background of the candidates. Listing an occupation that

suggests heightened competence for the office in question works as a positive cue for electors. For example, people with a background in finance are seen as being more competent when running for the post of treasurer (Mcdermott 2006). If voters use occupation as a cue, this could represent an advantage for lawyers since their profession is often seen as having an affinity with politics (Kornberg and Winsborough 1968; Miller 1995). Because lawyers are charged with interpreting the law, electors may in turn see them as particularly competent lawmakers. Our study therefore aims to determine whether lawyers do get more votes than non-lawyers and whether that electoral advantage, if it exists, has declined over time.

## Data and Results

We collected the data for this paper from the Library of Parliament.<sup>34</sup> The dataset covers 29 Canadian federal elections from 1921 to 2015. It includes the occupations of all candidates at the time of election and the votes they received. Occupations are self-reported by the candidates and correspond to the occupation that the candidates are known to have (Justice Laws Website, 2019).<sup>35</sup> This large dataset allows us to compute precise estimates of the difference in electoral fortunes of individuals who run for politics with a background in law compared to non-lawyers. Our study provides new insights on Canadian parliamentary careers as it examines trends in political careers over an extensive period of time. We complement that analysis of candidates with an examination of the relative success of party leaders over the same period. We do this to determine whether party leaders who are lawyers get more votes than non-lawyers.

We have a total of about 32,000 observations.<sup>36</sup> In the period between 1921 and 2015, 13 percent of the candidates were lawyers. Figure 11 shows the success ratio of lawyers compared to non-lawyers, which is the average vote share of lawyer candidates divided by the average vote share of non-lawyer candidates. When the ratio is above 1 this means that lawyers are more successful and when it is below 1 it means they are less successful. Overall, we see that lawyers do better than non-lawyers. In fact,

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<sup>34</sup> For details on the dataset see Sevi, Yoshinaka, and Blais (2018) and Sevi, Arel-Bundock, and Blais (2019).

<sup>35</sup> Some candidates identified their occupation as “gentleman” or “politician”. In all these cases, we checked the occupation that they indicated the first time they ran and we matched them to that occupation for all the elections. The few candidates who gave “gentleman” or “politician” as their occupation from the very beginning were dropped from the analyses.

<sup>36</sup> Note that many candidates ran in several elections. We have a total of 19,975 unique individuals.

lawyers' relative success increased from 1920 to about 1965 and has remained stable since then. Basically, lawyers are almost twice as successful as non-lawyers.

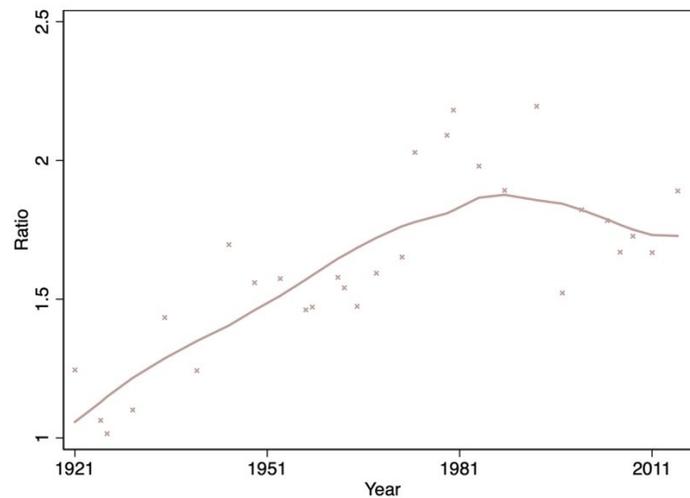


Figure 11. — Success Ratio of Lawyers over Time. We use loess curve fitting (local regression).

Note: The success ratio is the percentage of lawyer candidates that are elected divided by the percentage of non-lawyer candidates that are elected. Source: Sevi, Yoshinaka, and Blais (2018) and Sevi, Arel-Bundock, and Blais (2019).

Our main interest is to ascertain whether lawyers do get more votes. Our dependent variable is the percentage of the vote obtained by each candidate in a given constituency in a given election. The central independent variable is a dummy variable that equals 1 if the candidate is a lawyer (and 0 otherwise). In all the models we control for the number of candidates per riding per election. This controls for the increase in the number of candidates over time as it is possible that the traditional elite (lawyers) did better (in vote shares) in earlier decades simply because there were fewer candidates running.

We begin by estimating a simple OLS regression model focusing on the candidate's vote share and their occupation. The first column of Table 6 shows that compared to the vote share of non-lawyers (baseline), the vote share of lawyers is 13 percentage points higher, controlling for the number of candidates. Column 2 in Table 6 controls for election-specific effects. This controls for omitted

variables that would account for changes that might be specific to any election. When we do so, the advantage enjoyed by lawyers is slightly reduced, though still quite substantial.

	(1)	(2)	(3)	(4)	(5)	(6)
Lawyer	13.473*** (0.295)	12.683*** (0.296)	1.981*** (0.352)	0.614*** (0.164)	0.675 (0.679)	0.397 (0.743)
Number of Candidates	-4.369*** (0.060)	-3.625*** (0.079)	-0.808*** (0.086)	-0.155*** (0.035)	-0.225*** (0.036)	-0.343*** (0.060)
Female				-0.413** (0.134)	-0.550*** (0.136)	-1.299*** (0.254)
Incumbent				6.538*** (0.184)	6.490*** (0.185)	5.616*** (0.205)
Vote lag				0.309*** (0.007)	0.311*** (0.007)	0.310*** (0.008)
Party Performance				0.640*** (0.006)	0.642*** (0.006)	0.710*** (0.008)
Lawyer × Years					-0.000 (0.006)	0.006 (0.007)
Years					0.011*** (0.003)	0.020*** (0.004)
Constant	42.253*** (0.311)	45.051*** (0.836)	31.189*** (1.166)	0.410* (0.208)	-0.612 (0.358)	-3.784*** (0.544)
vce	robust	robust	cluster	robust	robust	robust
R2	0.21	0.23	0.08	0.87	0.87	0.79
Party-Riding Fixed Effects	No	No	Yes	No	No	No
Election Fixed Effects	No	Yes	Yes	No	No	No
N	32175	32175	32175	20502	20502	11575

Robust standard errors in parentheses

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

Table 6. — Occupation and vote share in Canadian federal elections: OLS regressions

Column 3 in Table 6 includes party<sup>37</sup> and riding fixed effects by adding a dummy variable for each party-riding combination as it is possible that larger parties attract more candidates of a certain occupational background. We find in the literature that the two main parties in Canada (the Liberals and the Conservatives) are more likely to attract lawyers than other parties (Kornberg and Winsborough 1968). Indeed, our dataset corroborates this claim: Lawyers make up 25 percent of Liberal and 22 percent of Conservative candidates. Candidates for the Bloc Québécois come in third with 11

<sup>37</sup> There has been 178 unique parties from 1921 to 2015. We performed the analyses by merging similar parties together, but the results are similar to when we keep each unique party.

percent being lawyers. The remaining parties have less than 5 percent. Model 3 controls for this. Whereas, previously we found a large gap between the different occupations, Model 3 shows that all in all lawyers get 2 percentage points more votes than non-lawyers. In column 4, we account for the party's vote share in the previous election and for the average vote share that each party received in each province during the election. Whereas the simple analyses resulted in large gaps in electoral fortunes between lawyers and non-lawyers, after we add more controls, the difference is only 0.6 percentage point. All in all, therefore, there is a personal boost associated with being a lawyer, but that boost is very small.

Our expansive dataset allows us to examine the performance of lawyers and non-lawyers in Canadian federal elections over time. We are interested to see if the effect of being a lawyer has changed over time. Model 5 in Table 6 adds an interaction between being a lawyer and time. We find that the interaction is not significant, which means that the relative performance of lawyers has not increased or decreased over time. Finally, in Model 6, we limit the analyses to the two larger political parties: Liberals and Conservatives.<sup>38</sup> The findings remain similar to that of Model 5. Recall that the Elections Act was amended in 1970 to remove the occupations of candidates on the ballots. As such, we tested to see if the advantage of lawyers declines with the implementation of the voting reform in 1970. We found no evidence that the advantage enjoyed by lawyers is significantly reduced after 1970 (results not shown).

Given that local candidates are not always visible during elections, we also look at leaders of parties who have greater visibility and in turn matter more for voters (Bittner 2011). For this analysis we have a total of 85 observations.<sup>39</sup> Over the 29 elections under study, 30 percent of the party leaders are lawyers. That proportion has been declining in recent elections, as shown in Table 7 (see lawyer rate). Table 7 also shows the success ratio of lawyer leaders, that is, the mean vote share obtained by parties

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<sup>38</sup> Until the 1990's, the Conservatives and Liberals were the two dominant parties in the Canadian House of Commons. Both parties have existed since Confederation, but sometimes they have existed under different names. The Liberal Party has generally been a centrist party whereas the Conservative Party is ideologically to the right. For this model, we have treated to following parties as all being the same Conservative Party: Conservative, Conservative Party of Canada, Government, Liberal Conservative Coalition, Liberal-Conservative, National Government, National Government party, PC Party, Progressive Conservative, Progressive Conservative party, Unionist. Likewise, Liberal Party of Canada, Liberal Progressive, Opposition, Opposition/ Laurier Liberals are coded as the Liberal Party.

<sup>39</sup> As in the case of local candidates, many of the party leaders ran (as party leaders) in several elections. We have a total of 45 unique party leaders.

with lawyer leaders divided by the mean vote share obtained by parties with non-lawyer leaders.<sup>40</sup> The success ratio has always been above 1 and has become larger in recent periods suggesting that lawyer leaders are more successful.

Period	Lawyer Rate (Proportion)	Lawyer Success Ratio
1920-1939	.24	1.18
1940-1959	.21	1.58
1960-1979	.41	1.65
1980-1999	.53	2.04
2000-2019	.13	1.75

Table 7. – Performance of Lawyer Leaders Over Time

We repeat the same analyses in Table 8 for party leaders as we previously did for all candidates (Table 6). The dependent variable is the national vote share obtained by the party that a given leader is associated with in a given election. The main independent variable is a dummy variable that equals 1 if the leader is a lawyer (and 0 otherwise). We control for the gender of the leader, incumbency (equals 1 if the leader is Prime Minister at the time of the election), vote lag (vote share in the previous election), a Québec dummy variable that equals 1 if the leader is from Québec), and the percentage of ridings in which the party has a candidate. We find a small 0.2 percentage point penalty for lawyers, which is not statistically significant. Our findings also support the argument that female party leaders are disadvantaged in Canada (O’Brien 2015). They do not confirm the view that leaders from Québec are more popular, though the coefficient has the predicted sign (Johnston 2019; Nadeau and Blais 1993).

## Conclusion

Lawyers play a central role in Canadian politics, as they do in many countries. All in all, 24 percent of MPs and 70 percent of Prime Ministers elected over the 29 elections held since 1921 have been lawyers. This study addresses two fundamental questions, that have not previously been examined in a

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<sup>40</sup> For example, in the 2000-2019 period, three lawyers ran, and their average national vote share was 36.17, and 21 non-lawyers ran with an average national vote share of 20.64. The success ratio for lawyer leaders in this period is  $36.17/20.64 = 1.75$ .

systematic fashion: Do lawyer candidates or party leaders get more votes? Does that electoral advantage decline over time?

	(1)
Lawyer	-0.248 (2.178)
Female	-9.902** (3.432)
Incumbent	-0.514 (1.699)
Vote lag	0.775*** (0.066)
Quebec	1.507 (2.367)
% Ridings with a Candidate	7.912 (4.571)
Constant	0.228 (3.939)
vce	robust
r2	0.77
N	85

Robust standard errors in parentheses  
\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

Table 8. – Leader occupation and national vote share in Canadian federal elections: OLS regressions

We have created a large dataset that contains the occupations of all candidates and party leaders from 1921 to 2015 in Canadian federal elections. Further, we manually coded whether the candidates and party leaders are lawyers or not. Our dataset allows us to offer precise estimates of how lawyers and non-lawyers perform. We find that politicians that are lawyers do get more votes but once we control for other factors the personal additional electoral advantage associated with being a lawyer is very small. We conclude that the omnipresence of lawyers in Parliament cannot be imputed to their better electoral performance. There is little support for the argument that parties like to recruit lawyer candidates because this helps them maximize votes. This suggests that being part of this elite profession is not sufficient to gain a sizable electoral advantage among the Canadian electorate. This finding should be of interest to political observers and parties interested in reducing representational

inequalities while still maximizing their chances in winning. Further research should consider other factors that might have contributed to lawyers' over representation in the Canadian legislature.

## Chapter 7 – Is Incumbency Advantage Gendered?

### Introduction

A key question in political behaviour is why so few women run and hold elected office. Legislatures around the world are becoming more diverse yet women remain under-represented. The current worldwide average for the percentage of women in the lower house is 24.9%, and while there are regional differences ranging from 43.9% in Nordic countries to 16.6% in Pacific countries most regional averages fall under 31% (IPU 2020). Although there has been a substantial increase in the number of women elected to parliaments since they were first allowed to run, men still dominate legislative seats at all levels of government across the globe. This lack of gender diversity in legislatures poses a substantial problem for descriptive and substantive representation.

Evidence from various countries show that the sociodemographic background of candidates have implications for public policy outcomes. Across different levels of elections, empirical evidence on female legislatures shows that women politicians influence education, health, and the allocation of public services and serve as role models for other women to run for office (see for example Campbell and Wolbrecht 2006; Chattopadhyay and Duflo 2004; Clots-Figueras 2012; Bhalotra et al. 2016; Dassonneville and McAllister 2018).<sup>41</sup>

A large body of literature seeks to explain why there is low representation of women in politics. These explanations range from gender differences in political ambition (Fox and Lawless 2005; Niederle and Vesterlund 2007), voter bias (Fox and Lawless 2004), the differential treatment of women candidates by parties (Sanbonmatsu 2006), access to resources and campaign funding (Butler and Preece 2016; Josefsson 2020; Milyo and Schosberg 2000) and that women are more risk-averse to competition than men (Kanthak and Woon 2015; Niederle and Vesterlund 2011).

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Under review at *Legislative Studies Quarterly*.

<sup>41</sup> There are however exceptions to this research. Ferreira and Gyourko (2014) show that the gender of a mayor in the United States does not influence policies implemented and Broockman (2014) finds that women elected to state legislatures do not increase female participation or representation.

Women face more competition than men to enter politics, with opposition from higher quality challengers (Lawless and Pearson 2008). After getting elected, women legislators face higher standards in public office compared to their male counterparts (Butler et al. 2020). Constituents in multi-districts are 10 times more likely to contact women legislators compared to male legislators and they receive 14 percent more issue requests per constituent (Butler et al. 2020). Other research suggests that these standards lead to gender discrimination in the sense that women of similar quality as men are more reluctant to run for office (Fox and Lawless 2004), underestimate their qualifications (Fox and Lawless 2005), and are more likely to opt-out of competition (Neiderle and Vesterlund 2007; Wardt et al. 2020). Wardt et al. (2020) show that when women comprise less than 15 per cent of the parliamentary party, they are more likely to exit politics compared to men. Gagliarducci and Paserman (2012) find similar results in Italy. They report that women mayors are about 3 and 5 percentage points more likely to resign early compared to men mayors. They provide three explanations for their results which include women mayors having more family responsibilities, turnover rates being higher for women and because women are more conflict averse than men (Gagliarducci and Paserman 2012).

What type of candidates run and what do voters want? Women are more likely to run for policy concerns (Carroll and Sanbonmatsu 2013); after their children are older (Dolan and Shah 2020); household demands are reduced (Bernhard et al. 2020); or if someone encouraged them to do so (Carroll and Sanbonmatsu 2013). Voters, on the other hand, tend to prefer candidates who are married with children over those who are not (Carroll and Sanbonmatsu 2013; Teele et al. 2018). This amounts to a double bind for female political aspirants because they still take on the bulk of family obligations such as caring responsibilities and household labor, on top of their political work (Teale et al. 2018). This suggests that women face different demands on their time compared to men. Other scholars find that when women politicians conform with feminine stereotypes they are viewed as weak though likeable, but when they conform with masculine stereotypes they are unlikeable but viewed as a good leader leading to a double-bind (Eagly and Karau 2002; Jamieson 1995; Ritter and Yoder 2004). Secretary Hilary Clinton's experience as a presidential candidate in the United States exemplified this double bind where she struck a masculine style in the 2008 campaign but changed her appeal in 2016 to emphasize families (Jones 2016; Reiheld 2017; Stanton 2016). In both cases, she faced a no-win double bind.

There is some evidence that suggests that, conditional on running, women are more likely to win than their male counterparts (Schwartz and Coppock 2021). And conditional on winning, female candidates outperform their male counterparts because they have to be of higher quality in order to overcome voter bias (Anzia and Berry 2011; Fulton 2012; Pearson and McGhee 2013). In more recent work, Ashworth et al. (2020) complement this expansive literature on why candidates run by proposing a behavioral model to test existing theory on election aversion and voter bias as the explaining mechanism for why certain candidates run. They find that the underrepresentation of women can be explained by voter bias alone only if the distribution of candidate ability levels is not log-concave. In the alternative case, (where, for instance, ability is distributed normally) it appears that both voter bias and election aversion are necessary to jointly account for major empirical findings on the underrepresentation of women in politics.

In this paper, I probe whether there are gender differences in incumbency. Specifically, I estimate the effect of running for office at the federal level, and whether this effect differs for men and women candidates. To address differences between winning and losing candidates, I use regression discontinuity (RD) design, which is generally regarded as the best method to approximate experimental standards as it implies an “all else equal” effect (Lee 2008). This empirical strategy, pioneered by Lee (2001) confines the analysis to candidates who narrowly won or narrowly lost an election in order to isolate the incumbency effect on subsequent elections and to draw causal inferences.

The use of RD designs to study the effect of winning elections has gained much popularity among political scientists and economists. The vast majority of these studies find that incumbents who seek re-election succeed (Ade, Freier and Odendahl 2014; de la Cuesta and Imai 2016; Eggers and Spirling 2017; Kendall and Rekkas 2015; Lee 2008).<sup>42</sup> The existing literature provides at least four reasons to explain incumbency effects. These explanations vary from incumbents enjoying greater name recognition, leading voters to use incumbency as a heuristic for the quality of a candidate (Box-Steffensmeier et al. 2003; Fowler 2018), to being able to raise and spend more money boosting their vote share and also scaring off opponents (Goodliffe 2007; Fourinaies and Hall 2014). In the United States, gerrymandering is also a prominent explanation for an incumbent’s electoral advantage (Cox and Katz 2002). A fourth possibility is that voters might have an incentive to re-elect experienced

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<sup>42</sup> Although there are a few studies that find a negative incumbency advantage in non-western countries (e.g. Uppal 2009; Ariga 2015).

incumbents who are able to provide more particularized benefits to their constituents (Fiorina and Noll 1979).

When incumbency is used as a cognitive shortcut for the quality of a candidate, incumbents gain from it more often than not. Fowler (2018) argues that when voters lack information about candidates, “incumbency is an informative signal of quality and voters will update their beliefs accordingly” (pp.1). The literature on economic and retrospective voting also suggests that incumbents could be punished based on how they have performed in the past year or so. For example, a president under which the economy improved may be re-elected (Achen and Bartels 2017). On the other hand, incumbents tend to be punished for bad economic times, shark attacks, droughts, and natural disasters (Achen and Bartels 2017).

While Ferreira and Gyourko (2014) and Brollo and Troiano (2012) both use RD designs with close elections to analyze the implications of women politicians for policy outcomes and future female participation, to my knowledge this paper is the first to investigate whether there are differential incumbency advantages for men and women using three different outcome variables at the federal level: probability of running again, vote share and probability of winning in the next election. Whereas Ferreira and Gyourko (2014) find that that incumbency advantage in mayoral elections in local cities in the United States is larger for female than male candidates, Brollo and Troiano (2012) find that female mayors have lower re-election probabilities than their male counterparts in Brazilian mayoral elections. If incumbents are more likely to be male and voters bias against female candidates, one might expect men to have a stronger incumbency advantage compared to women. On the other hand, if voters discriminate, we might expect this will deter some female candidates from running and only the very best candidates will run. Because the women that do end up running are of higher quality to begin with, we might expect them to overcome voter bias and win. They might also perform better than men (Anzia and Berry 2011; Ashworth et al. 2020).

## The Canadian Case

Canada is a Westminster democracy where Members of the Canadian House of Commons are elected through a single-member plurality voting electoral system. Voters cast a ballot for one candidate in their riding and the candidate with the most votes is elected. Each constituency is represented by one seat in Parliament. Figure 12 shows an exponential increase in the number of women in politics from 1921 to 2019. Since 1921, the share of women candidates increased from .008 in 1921, when the first women ran, to .35 in 2019. Elected women in parliament have also increased from .004 in 1921, when the first woman was elected, to .29 in 2019. Note that the percentage of candidates hovers over the elected politicians very closely, suggesting that there is no voter bias in so far as the two proportions are similar. In the models in the paper, I will concentrate on the time frame from 1990 and onwards as this is when women increased their share in the Canadian House of Commons by above 10 percent, but I also used longer timeframes (from 1960, 1970, and 1980 covering up to 19 elections with 5525 ridings) in table 22 of the appendix and the results are similar.<sup>43</sup>

The average number of seats in the Canadian federal elections is 276, with 235 seats in 1921, when the first woman ran and was elected, to 338 in 2019. Since 1990, the average number of seats in the House of Commons is 304. There are a total of 30 federal elections over the period of 1921 to 2019, but I will concentrate on the last 9 for the results presented in this paper. These descriptives show that Canada is a good testing ground for theories that explain women's enhanced presence in politics.

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<sup>43</sup> These are periods where there were lower levels of female representation in the House of Commons.

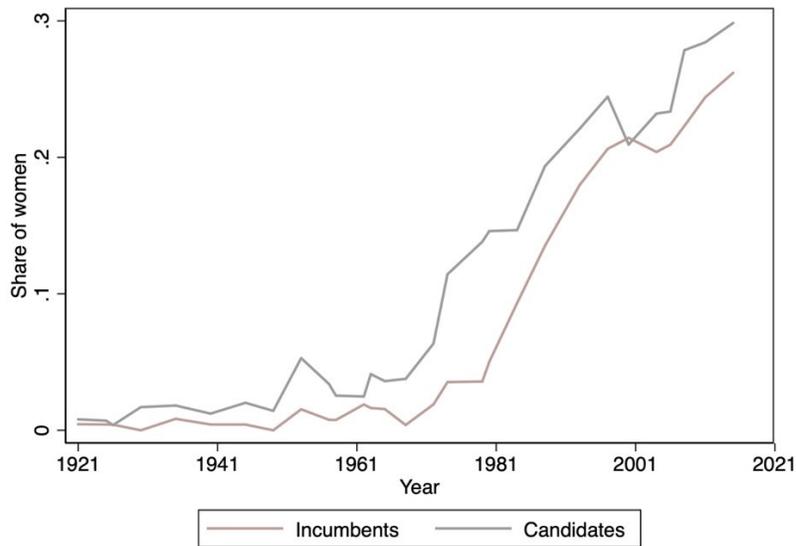


Figure 12. – Proportion of female candidates and female wins

Since 1990, there are on average about 6 parties in a given riding in Canadian federal elections.<sup>44</sup> Between 1867 and 1920, Canada had a two-party system with only the Liberal and Conservative parties taking turn to govern while the other waited for its turn in opposition. Between 1920 and the 2000s, more parties entered the political arena, which were either insurgent, geographically concentrated, or regional. Since 1993, the Liberal party has dominated Canadian federal politics for the longest time, winning six elections out of nine. In 2015, the newly elected prime minister Justin Trudeau, formed Canada’s first gender-balanced cabinet which ignited significant momentum towards gender parity and made international headlines. He maintained gender parity throughout his first term and now also in his second term. Since 2019, Canada is ranked 61<sup>st</sup> out of 190 countries of women’s presence in national legislatures.<sup>45</sup>

We might expect that there are differences in the party affiliation of female candidates compared to their male counterparts. Figure 13 shows the proportion of women and men who are candidates for the two major parties in Canada, Liberal and Conservative Party, over time. As we see, while women

<sup>44</sup> Parties in the raw dataset are written differently across elections even though they are the same parties. There are a total of 140 unique parties. These include minor inconsistencies across names even though they are the same party. For example: Liberal, Liberal Party of Canada, LPC and so on. I went through the parties and corrected the inconsistencies. This analysis is based on using a minor party grouping which results in 50 unique parties instead of the original 140.

<sup>45</sup> <https://data.ipu.org/women-ranking?month=10&year=2019>

have increased their share in the major parties over time, men have decreased their share. So much so that by the late 2000's the gap between men and women across the two major political parties in Canada is almost negligible. Despite this we might still have reasons to believe that gender effects may be correlated with party affiliation. As such, it is important to control for party affiliation in all the models in this paper and the appendix, which is what I do.

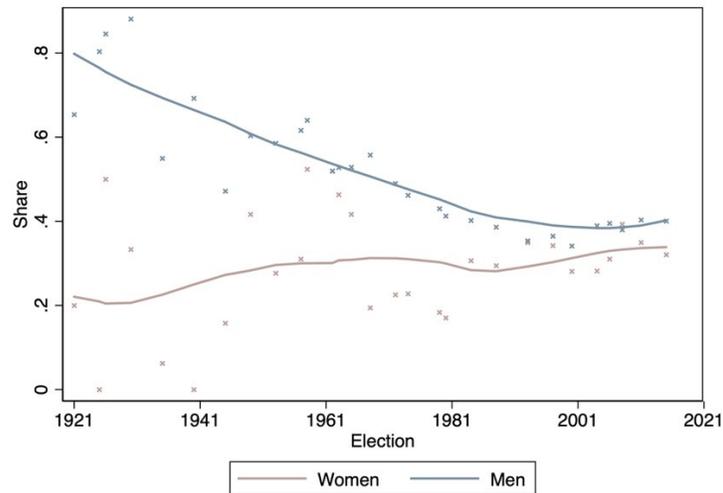


Figure 13. – Proportion of Women and Men candidates who belong to the Liberal or Conservative Party of Canada

In the Canadian context, the probability that an incumbent will rerun in the next election is 75% since 1921 and 84% since 1990.<sup>46</sup> Among the incumbents who rerun the proportion of winning at the next election is 76%, and 80% since 1990. The percentage of men and women incumbents who rerun are 84% and 85% since 1990. The probability of winning conditional on running for a given election are 81% and 76%. Women candidates in Canada who run in their first election are not more dissuaded from seeking office again compared to men. Among first time women candidates, 21 percent run again sometime in the future and among first time men 23 percent do the same. This pattern aligns with recent research on incumbency effects in the United States (Bernhard and Benedictis-Kessner 2021).

<sup>46</sup> By comparison, rerunning tends to be about 90% in the House of Representatives in the United States (Lee 2008) and 60% in Brazil (see de Magalhaes 2015).

## Data and Research Design

The dataset I constructed comes from the Library of Parliament of Canada and provides information on candidates' names, vote shares, date of the election, name of the riding, province and party affiliation from 1921 to 2019. I looked up every single candidate on three different occasions to assign unique ID's, gender, and whether individuals switched parties after being elected and matched repeated individuals based on these unique ID's. Unique IDs help mitigate several problems that were not dealt with in previous data collection attempts. First, many candidates' names were not spelled consistently across different elections in the Library of Parliament database. For example, John A., J.A., Sir John, J., etc. Furthermore, sometimes different candidates have the same name, or, in earlier elections, the same candidate may run in different ridings in different years, and sometimes even in the same year.

To assign unique IDs, I looked up every candidate three times over five years and used alternative biographical information to triangulate their identity. Because I manually recorded the unique ID's, my approach in determining whether an individual is an incumbent is more reliable than automating techniques based on spelling of first or last names.

The ideal dataset would randomize the assignment of gender for politicians because candidates may have unique characteristics that may be correlated with who gets elected. Not doing so might lead to biased estimates where the outcomes reported may not be due to politicians' gender but rather the other features of the candidate's background. In real life we cannot manipulate the gender of politicians to examine their outcome on elections. RD designs focus on close elections, where, in the limit, we can assume that the candidate characteristics near the cut-off will be identical in all other ways except that one narrowly wins whereas the other narrowly loses.<sup>47</sup> As such, I exploit the "as if random" assignment of incumbency status to winners and losers in close elections, by using an RD design, and thereby isolating the effect of incumbency status. In effect, a RD design is advantageous because it is a quasi-experimental design which treats the observations near the cut-off (which correspond to a narrow win or loss) as if it is a randomized experiment (Cattano et al. 2019). Candidates who have a positive margin of victory become incumbents and those who have a negative margin of victory

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<sup>47</sup> Note that some scholars have suggested that winners and losers in close elections may not be comparable as incumbents are better-resourced candidates and hold a systematic advantage (Snyder 2005; Caughey and Sekhon 2011; Grimmer et al. 2012). Eggers et al. (2015) assess the validity of electoral RDs across 40,000 closely contested elections in many different electoral settings in light of these critiques and find no systematic evidence of strategic sorting or imbalance around the electoral cut-off.

become non-incumbents. The differences in their electoral results in the next election is the candidate incumbency advantage.

I use the margin of victory in the previous election as the forcing variable and the unit of analysis is the individual candidate.<sup>48</sup> The margin of victory for the first candidate is the difference between the percentage of votes the winning candidate received and the percentage of votes the second candidate received. For the second and lower-ranked candidates, the margin of victory is given by the percentage of votes the candidate received minus the percentage of votes the winning candidate received. Thus, the winning candidate will have a positive margin of victory, while the losing candidates will have negative margins of victory. A positive margin of victory is assigned to treatment, winners, whereas a negative margin of victory is assigned to control, losers.

I restrict the data to general federal elections, that is I exclude observations from by-elections in my dependent variables. These are elections that take place in between major elections. But I do consider by-elections when determining incumbency status. For the analyses in this paper, I also concentrate on the observations between 1990 to 2019, when there were a larger number of women in Canadian politics. This amounts to 13,837 candidate-level observations and 2,739 elected Members of Parliament (MP).<sup>49</sup> Party switching is not a common phenomenon in Canada, but I nonetheless drop all candidates who switch parties and contest the subsequent election. All of the analyses estimate cluster-robust standard errors by riding and I include year as a fixed effect and control for major party membership as a covariate. Given that party incumbency is conceptually different from a candidate's individual incumbency (Erikson and Titiunik 2015), I follow existing work to estimate the individual incumbency advantage of candidates conditional on rerunning (Anagol and Fujiwara 2016; Kendall and Rekkas 2015; Song 2018; Uppal 2009).<sup>50</sup>

For estimation, I use the standard framework for RD analysis, which is a local linear regression with a triangular kernel function. The local linear approach (with a polynomial degree of 1) has the advantage

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<sup>48</sup> Much of the existing literature on incumbency advantage is analyzed at the party level (Eggers et al. 2015; Kendall and Rekkas 2015; Lee 2008; Snyder and Ansolabehere 2002) but there are also studies that examine the individual incumbency effects through candidate-level analyses (Kendall and Rekkas 2015; Uppal 2009). Fowler and Hall (2014) disentangle the overall incumbency advantage of party and individual candidates in U.S. state legislatures and find the personal incumbency advantage is substantively large, while the party incumbency is negligible.

<sup>49</sup> All candidates are kept regardless of how many votes they obtain.

<sup>50</sup> My data only allows us to examine decision-making among women and men who choose to run for office. This configuration may have some limitations if for example women who run are different from women who do not run.

of being substantially more robust compared to high-order polynomials and the kernel-based estimation fits a weighted linear regression on both sides of the cut-off, with more weight given to observations closer to the cut-off, with observations very far from the cut-off typically receiving zero weight (Cattano et al. 2019). In addition, the weighting scheme is selected in a data-driven approach which optimizes the mean squared error (MSE) of the local polynomial estimator with respect to the size of the bandwidth and avoids the arbitrary selection of the window size (Cattano et al. 2019). I use robust confidence intervals developed by Calonico et al. (2014). In table 23 and 25 in the appendix, I show discontinuity at narrower bandwidth sizes and alternative specification using an OLS framework and the results are substantially similar to those presented in the paper.

## **Validity of the research design**

The validity of RD designs depends on near winners and near losers being similar to each other in pre-determined characteristics. There also needs to be the same distribution of characteristics on each side of the cut-off. Indeed, this is what random change would do. I therefore examined whether, near the cut-off, individuals in the treatment and control are similar in terms of observable characteristics. These characteristics include the number of women candidates (in the all candidates models only), the number of candidates, electoral experience (based on the number of previous elections competed in) and whether they belonged to one of the two major parties in Canada which are the Liberal or the Conservative party. These tests for balance among treated and control groups in their characteristics show no sign of discontinuity between the two groups across any dimension measured. That is candidates who narrowly won or lost an election are very similar on these characteristics for elections close to the cut-off. Table 24 in the appendix displays the precise estimates and the robust p-value. Overall, there is little concern about the randomness of a bare winner compared to bare losers in close elections.

Another important validity test for RD designs is to check the density of the running variable at the cut-off. Figure 22 in the appendix presents the density of the running variable for candidates separately for each side of the cut-off. As we can see, in all cases, the density of treated and control observations at the cut-off are very similar to each other. The p-values of the RD estimate in each of these density plots are not significant. Therefore, there is no evidence of discontinuity or sorting around the cut-off. The individuals that are on the left and right of the cut-off are what we would expect if they were placed there with a win or loss coin flip. Because this means there is no systematic difference between

individuals with similar values of the margin of victory, this offers further evidence supporting the validity of the RD design to compare near winners with near losers.

## Results

Regression discontinuity (RD) designs compare similar groups who narrowly lose and those who narrowly win to test the causal effect of incumbency on electoral fortunes. By using an RD design, I am using a quasi-experimental approach which allows me to remove other factors that might influence my outcome of interest and focus on similar candidates. We can think of the design as comparing near-winners to near-losers. These two groups are assumed to be identical to one another in terms of their pre-election characteristics with the exception that one will become the incumbent and the other will not. In this paper, I focus on three different outcome variables: rerunning, probability of winning and vote share. All of the outcome variables are between 0 and 100. Therefore, the RD estimates can be read as percentages.

Figure 14 plots the incumbency effects.<sup>51</sup> Each point in the plot is the mean of a quantile-spaced bin. The bins are calculated automatically using the `rdplot` software designed by Cattaneo et al. (2019). Treated observations (where an individual wins) are located to the right of the zero vertical line and control observations (where an individual loses) are located to the left. Table 22 in the appendix gives the numerical values of the RD estimates.

For each of the outcome variables, there is a jump at the cut-off, representing the incumbency effect. The panel on the top left corner of Figure 14 shows that overall near winners are estimated to be 47 percentage points more likely to rerun in the next election compared to near losers.<sup>52</sup> This pattern aligns with much of the existing research on incumbency effects. However, the key question for this paper is whether incumbency is gendered. To address this question, I re-estimate the incumbency effect for men and women separately. The second and third panel on the top row show the results. We see that that, among men, near winners are 42 percentage points more likely to rerun in the next election compared to near losers. And that among women, near winners are 57 percentage points more likely to rerun in the next election compared to near losers. This effect is 15 percentage points higher among women, but the differences between the men and women subsamples are not statistically

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<sup>51</sup> In Table 23 in the appendix, I show that the results are fairly robust to numerous specifications such as smaller bandwidth sizes.

<sup>52</sup> See table 22 in the appendix for the precise size of the effects.

distinguishable from zero.<sup>53</sup> Existing theories from risk aversion suggest that women are less likely to run in elections that require a competition (Kanthak and Woon 2015; Niederle and Vesterlund 2007) yet the results in this paper suggest that women are just as likely, if not more, likely to run again in the subsequent election. In table 26 of the appendix, I also show the results of running again anytime in the future. Overall, I find that all candidates are 44 percentage points more likely to rerun in some election in the future. When I look at the results by gender, I find that men are 40 percentage points more likely to run again sometime in the future whereas women are 51 percentage points more likely to do the same. As such, the results are very robust regardless of whether it is the subsequent election or anytime in future. Women are not less persistent compared to men.

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<sup>53</sup>To assess significance in the differences across the subgroups I ran a multiple cut-off RD analysis using RDMC developed by Cattaneo et al. (2020).

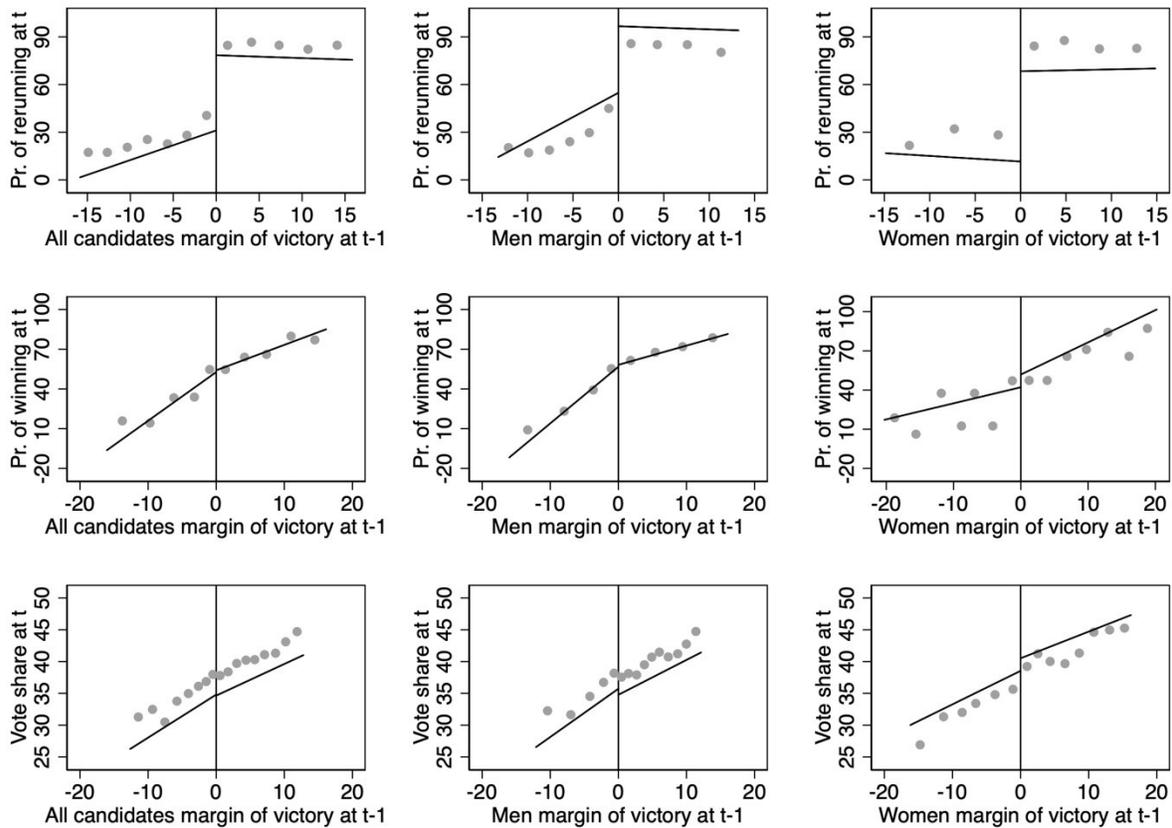


Figure 14. – Regression discontinuity effects by gender

Note: The dots show the quantile-spaced binned averages over a narrow margin of victory to increase the clarity in the plot. The lines plot the curve of the local linear regression using a polynomial fit of degree 1. Treated observations (where an individual is an incumbent) are located to the right of the zero and control observations (where an individual is not an incumbent) are located to the left of the zero. The cut-off is at zero margin of victory. The size of the discontinuity is the difference between the right-hand side and the left-hand side at the cut-off.

Next, I estimate the probability of winning in election  $t$ . On the left most panel in the middle row we see that the overall incumbency effect conditional on candidates who re-run in election  $t$  is about 1 percentage point, meaning near winners have a 1 percentage point advantage in the probability of winning the next election compared to near losers. In the following two panels, we see that, among men, near winners have a 1.5 percentage point advantage in the probability of winning the next election

and, among women, this advantage is 10 percentage points. However, none of these estimates are significantly different from zero. Furthermore, the subsamples between men and women are not statistically different from each other.

Finally, for vote share, the results show that near winners have about a .15-percentage point penalty in their vote share (bottom left panel) in the next election compared to near losers. Among men and women, it appears men receive a .95-percentage point penalty and women gain 2 percentage points. It is important to highlight that while the subsamples alone do not reach statistical significance, when I compare the RD effect for women and men, I find that the effects are significantly different from each other at  $p < 0.05$ .<sup>54</sup> It is also important to highlight that in all of the models for women, from 1960, 1970, 1980 and 1990, the RD estimate is positive and around 2-3 percentage points. It is significant in the first two periods, and does not reach standard levels of significance in the latter two.

At first glance, it is surprising that there is no incumbency effect with respect to winning. But note the standard errors in table 22 of the appendix are fairly large for the elected models. This could be that we need a larger sample. Another explanation could be based on the factors that affect the high turnover rates in Canadian elections. Figure 23 in the appendix shows the number of incumbent candidates are decreasing over time. In the United States, for example, low turnover rates in the US Congress has been a key impediment to women gaining more representation (Andersen and Thorson 1984; Darcy and Choike 1986). Given that historically most politicians were overwhelmingly male it is quite possible that incumbency hurts female candidates. Compared to the United States, and in more modern elections, Canada has experienced high levels of legislative turnover. In return this may have provided women more opportunities to become candidates. This might also explain why there is no evidence of a modern incumbency effect in Canada with respect to winning. Matland and Studlar (2003) confirm that Canada has experienced high turnovers compared to the United States. Some explanations they provide for a high turnover in Canada include voter volatility, distance between home constituencies and the federal capital, and limited opportunities for advancement for backbench members of parliament, which constitute the majority of politicians in the Canadian House of

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<sup>54</sup> In fact, this is the case for analyses starting in 1970 ( $p = .012$ ) and 1980 ( $p = .013$ ) as well. When the analyses start from 1960 the p-value is .054 and does not reach statistical significance.

Commons. This high turnover has implications for having more diverse candidates in parliament and, in particular, increasing the representation of women.

In this paper, I used the standard framework for RD analysis as explained in the data and research design section, but in Table 23 in the appendix, I show the results of additional tests of RDD at different bandwidths and the results are very similar. In Table 25 in the appendix, I present an alternative RD specification based on OLS estimates where we are able to include the gender variables in the same model. The results are similar, further suggesting that the incumbency effects reported in the paper are robust.

## Discussion

The incumbency advantage is a key feature of elections that may hold important implications for political representation. Once in office, incumbents strive to maximize their chances of re-election. The easiest way for an incumbent to be re-elected is to run uncontested. Short of this, they can try to deter strong opponents from running.

RD designs have gained popularity in the social sciences to test for causal estimates using observational data. By constructing a rich dataset with thousands of candidates, I rigorously estimate the personal incumbency advantage phenomenon in competitive districts in Canadian federal elections. Comparing competitive ridings is important because this is where electoral turnover is likely. Focusing on individuals who fell just below or above the cut-off allows us to compare observationally similar individuals who nearly win or lose. Doing so, the RD design allows us to isolate the causal effects of winning office from the spurious correlation between current and future electoral success. I divide my investigation into two questions. First, I ask if there is an incumbency effect among all candidates, then I measure the incumbency advantage for men and women separately. I show results for rerunning, the probability of winning and vote share as the outcome variables.

In the paper, I restrict the results from 1990 and after, because this is when women presence in politics began to have meaningful representation in Canada, but note the results are robust to three other time periods: from 1960, 1970 and 1980.<sup>55</sup> Therefore, I shed new light on the incumbency advantage by examining whether the incumbency effect is different for men and women. While there are existing

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<sup>55</sup> See table 1 in the appendix for the full estimates.

studies that examine the impact of gender on policy outcomes (Ferreira and Gyourko (2014), to my knowledge, this is the first study that addresses whether the incumbency advantage is different for men and women in general elections using an RD design with the aforementioned outcome variables.

I find that winning has a big and similar effect on running again for both men and women: 42 and 57 percentage points respectively and are significant. One explanation could be that the cost of rerunning is lower when politicians gain experience of the electoral process. Another explanation could be that politicians gain confidence after winning the first election and are more willing to put their name on the ballot again. In table 26 in the appendix, I also show the effect of winning on running again in any future election (not just the immediate next one). The findings are very consistent. Men are 40 percentage points more likely to run again sometime in the future, whereas women are 51 percentage points more likely to do the same. While these effects do not differ between men and women in any substantive way, it does provide evidence that women are just as likely as men to persist in politics.

For both winning and vote share at the next election, the results show that women who run gain more than men, which is consistent with the existing literature that suggest that when women run for office, they fare just as well as their men counterparts (Burrell 1994; Dolan 1998; Sevi et al. 2019; Sevi et al. 2021; Thompson and Steckenrider 1997). Ferreira and Gyourko (2014) argue that given that women who enter politics are of higher quality, once they are in politics, they prove their skills and are rewarded by getting re-elected more often than their male counterparts. The results in this paper offer empirical evidence to further support this theory. This paper also suggests that the electoral advantage enjoyed by representatives, and particularly men, have fallen over the years. Future work should investigate why the incumbency effect changes over time with all candidates and by gender.

Taken together, these results underscore that greater attention needs to be paid to women's underrepresentation in politics and that the increasing number of women candidates in recent elections might actually have positive effects for future women representation as they do not appear to be less likely to rerun for politics. There is no present evidence to suggest that voters discriminate against women once they run for office. As such, voters, then, are not the main obstacle when it comes to women's political representation.



## Chapter 8 – Conclusion

Elections offer voters an opportunity to cast a ballot for a candidate that would represent them in the legislature. This dissertation set out to ascertain how much candidate characteristics play a role in vote choice decisions. Existing studies show that voters use shortcuts and cues to gain information about candidates and to make a voting decision (Lodge and Stroh 1993; Lupia and McCubbins 1998). Unlike learning about policy positions which can be detailed and require voters to invest considerable time to be up to date about the news and policy affairs, the personal characteristics of candidates are useful shortcuts because they are relatively easy to assess and because voters can often infer what types of decisions and policy positions candidates will make based on these candidate traits (Funk 1996; Kinder 1986).

Candidate characteristics, such as gender, can inform voters on what types of policies the candidate is more likely to support once elected and whether they are competent to make decisions. For example, given that women are regarded to be more liberal than men (McDermott 1997, 1998), are perceived to be better at handling issues related to women, children, the elderly and the poor (Huddy and Terkildsen 1993) whereas men are perceived to be better at handling issues related to national security or the economy (Holman et al. 2016), some voters will use gender information to evaluate candidates. Moreover, if voters are concerned with the underrepresentation of their group, they may be more likely to support a given candidate, for example, women voters supporting women candidates. Yet gender is not the only characteristic of the candidate that is likely to impact vote choice. Voters can infer similar information based on the politicians' age, occupation and whether the candidate has past political experience.

In this dissertation, I focus on the following four candidate characteristics: gender, age, occupation, and past political experience (i.e., incumbency). I investigate the extent to which each of these characteristics matters for voters' choices. As we saw in the literature, some voters will cast a ballot for a candidate who looks and thinks like themselves (Besley and Coate 1997). Hence, we might expect voters who are women or young to prefer candidates who are women and young as well. This is what we call affinity voting. Voting for a candidate with shared characteristics has implications for representation because the expectation is that candidates with similar traits also share similar interests and so voters may expect them to give priority to the issues they care about. A candidate who shares

a similar background to a voter is more likely to have shared experiences, hold similar views, and better represent them once elected (Mansbridge 1999). Other voters will vote for the candidate they perceive to be the most qualified for the position. Candidates signal competence by focusing on their occupation and past political experience. Lawyers and incumbents are two such examples. In these cases, candidates claim that their prior training and past political experience make them particularly good as politicians. This has implications for representation as it maintains the status quo.

The results of this dissertation suggest that each of the four characteristics under study—gender, age, occupation and past political experience (i.e., incumbents)—matter for vote choice. Moreover, gender mattered more in earlier elections than they do now. This could partly be due to the growing number of candidates from diverse backgrounds compared to the past. Another explanation could be that attitudes towards women in politics have changed over time (Dolan and Lynch 2014; Nevitte 2002; Twenge 1997; Welch and Sigelman 1982). For example, in 1995, women made up 9.4 per cent of parliamentarians worldwide, today that number stands at 25 per cent.<sup>56</sup> In 2015, Canada made international headlines when the newly elected prime minister Justin Trudeau formed his first gender parity cabinet. When journalists asked Trudeau why it was so important to have equal number of men and women in his cabinet, Trudeau famously quipped, “because it’s 2015.” Suggesting that in 2015, gender parity in politics should not be seen as a huge achievement. Indeed, women make up half of the population and in some countries, they even constitute a larger percentage of the electorate than men. Yet despite women’s increased presence in the workforce and in politics, differences still persist.

Age affinity matters more for younger voters than older voters. This might be due to the fact that younger voters are traditionally underrepresented in politics. The most important characteristic of all is past political experience. Voters tend to vote for incumbents, who also happen to have a personal advantage possibly due to their name recognition from constituency service or other means and greater access to resources by virtue of their status. Incumbents may also be higher quality candidates. I find that winning has a big impact on the probability of running again, but this does not necessarily translate into a higher probability of winning the next election or gaining a higher vote share. One interesting finding that connects chapter 7 with chapters 3 and 4 is that when women run for office they do just as well as their men counterparts. The evidence in chapter 7 even suggests that women incumbents

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<sup>56</sup> See <http://archive.ipu.org/wmn-e/history.htm> & <http://archive.ipu.org/wmn-e/world.htm>

gain more than their male counterparts when it comes to vote share. In what follows, I provide a summary table for the main findings that connect all the chapters and a short summary of each chapter. I also discuss the implications, limitations, and possible avenues for future research.

## Summary Table

	Candidates	Leaders
Gender	<ul style="list-style-type: none"> <li>• No evidence of a substantive gender bias once we add controls including incumbency both at the federal level (Ch. 3) and the provincial level (Ch. 4).</li> <li>• Some evidence of gender bias in the past that has shrunk over time both at the federal level (Ch. 3) and the provincial level (Ch. 4).</li> </ul>	<ul style="list-style-type: none"> <li>• Some cross-national evidence that voters find female leaders more likable, but this does not seem to translate into vote choice (Ch. 5).</li> <li>• Female party leaders in Canada appear to incur a national vote share penalty (Ch. 6), but there are very few female leaders in Canada.</li> </ul>
Age		<ul style="list-style-type: none"> <li>• There is evidence for a small cross-national age affinity effect on likability, which is stronger among younger voters, but does not translate to vote choice (Ch. 5).</li> </ul>
Lawyer	<ul style="list-style-type: none"> <li>• Some evidence that lawyers get a small boost to vote share.</li> <li>• No evidence that the effect changes over time.</li> </ul>	<ul style="list-style-type: none"> <li>• A small negative effect of being a lawyer on national vote share but not significant (Ch.6).</li> </ul>
Incumbency	<ul style="list-style-type: none"> <li>• Incumbents are much more likely to run again than non-incumbents. No evidence that the effect differs by gender, though the estimates are substantively bigger for women (Ch. 7).</li> <li>• No evidence that incumbents receive an advantage in the probability of winning in the next election (Ch. 7).</li> <li>• Some evidence that women incumbents have an advantage in vote share compared to men incumbents (Ch. 7).</li> </ul>	

Table 9. – Summary of main findings

Dependent Variable	Chapter 3	Chapter 4	Chapter 5	Chapter 6	Chapter 7
Vote Share	✓	✓		✓	✓
National Vote Share				✓	
Likability			✓		
Vote Choice			✓		
Runs again					✓
Elected					✓

Table 10. – Dependent variables by chapter

Table 9 provides a summary of the main findings in each chapter. As we see, there is some evidence that women used to face significant challenges when they entered politics. But the political landscape has changed since they first entered politics and there are now more women in politics. I find that in modern elections, women leaders are more popular than men leaders across 51 countries (chapter 5) and that in Canada women local candidates do not face electoral penalties (chapters 3, 4 and 7). Both chapters 5 and 6 provide evidence to suggest that female party leaders do not receive more votes than men party leaders. These results suggest that while there is no voter discrimination against local female candidates, there might still be some discrimination against women leaders in politics. Table 10 shows the dependent variables I use in each chapter.

## Summary of the Chapters

Chapter two presented two large datasets that I compiled and are the basis for chapters three, four, six and seven. These datasets are the largest available data that include detailed information about all candidates in Canadian elections since 1867 at both the federal and Ontario provincial elections. These data are observational, and the analyses are mostly descriptive. In this paper, I presented four applications using only the federal dataset to show the mean candidates per constituency, the share of incumbent candidates, the share of elected female candidates and the mean age of elected candidates

since 1867. I demonstrate that the mean number of candidates per constituency has increased since 1867 but since 1997 it has decreased with an uptick in the 2019 federal election. The share of elected women in the federal parliament has increased since 1921, when they were first allowed to run. But as of 2019, women only constitute 29 per cent of the members of parliament. Finally, the mean age of elected representatives varies between 45 and 53 from 1867 to 2019. These are only four applications, but the data could be used to address many other questions as well. I provide some suggestions for future use of these data in this chapter. I also detail how I collected the data and provide information about all the variables in these two datasets. The subsequent chapters use a certain portion from these datasets and in each of the chapters I detail which variables and time frames are of interest for a given article.

Chapter three used the federal data that I compiled from 1921, when the first women ran for seats in the House of Commons, to the present to examine if women get fewer votes than men. This paper covers more than 21,000 unique candidates. With this large data we are able to compute precise estimates of the difference in electoral fortunes of men and women candidates. We run ordinary least squares with and without controls. Without controls, we find a big gender penalty of approximately 8 percentage points. But once we control for time, party and riding effects the difference is reduced to about half a percentage point. Moreover, we examine if the gender gap in electoral performance decreases over time and we find that while there was a large gap in electoral results for men and women in 1921, that gap is now all but disappeared. This finding is consistent with other research in the United States (Fox 2005) and Australia (Kind and Leigh 2010) that shows that when women run, they are just as likely to win as men.

Chapter four similarly used the data I compiled, but this time the Ontario provincial data, to replicate the federal-level findings at the provincial level. I chose Ontario for the replication because it is the largest province in Canada with similar parties as the federal level. We study an analogous question which is whether women get fewer votes in Ontario provincial elections since 1902, when the first woman candidate stood for an election at the provincial level. Our dataset contains 7,596 unique candidates. We find that while there are more female legislators at the provincial level than at the federal level, female candidates are not more successful at winning a seat in the Ontario legislature compared to their male counterparts. Like in the previous chapter, we ran ordinary least squares with and without controls. Without controls, the vote share of female candidates is approximately 8.6

percentage points lower than the vote share of male candidates. But once we control for time, party and riding effects the difference is reduced to 1 percentage point. This suggests that there is a very small gender gap in Ontario provincial elections. But once we look at whether this gap has decreased over time, we find that while in 1902 there was a gender gap in vote share of just over 5 percentage points, by 2014 this gap is statistically indistinguishable from zero. Therefore, both chapters two and three together provide support on the electoral success of women at two different levels of government using longitudinal data over a period of time longer than prior work. The main take away for both chapters is that, in modern elections, when women run for office, they fare just as well as their men counterparts. Both chapters also document the existence of prior discrimination against female candidates.

Chapter five presented results from another observational study to test whether voters prefer leaders closer to them in age and whether young voters are more likely to be impacted by the age of the party leaders. For this paper, I use cross-national data from the Comparative Study of Electoral Systems (CSES) project which covers over 800,000 voters, 51 countries, 126 elections and over 600 unique party leaders. The CSES data does not provide the age and gender of the party leaders, so I collected these data and merged them into the CSES to create the database for the analyses in this article. I ran a series of ordinary least squares estimations where the dependent variables are leader rating and vote choice. I find that voters on average like leaders closer to them in age and are more likely to vote for their party. I also find that younger voters react more strongly to the age gap between leaders and themselves, but this impact is quite small. This is the first study to examine age affinity across many different countries. Given the prevalence of the age of politicians in the news lately, the results in this chapter raise an important question for political parties in their decisions to recruit younger politicians. While this is not the main focus of this paper, I also control for the gender of the leaders and I find that even though voters report liking women party leaders more than men leaders, this does not translate into more votes.

Chapter six asked whether lawyers get more votes than candidates with other occupational backgrounds. Using the data I compiled, we study this question longitudinally from 1921 to 2015. We have about 32,000 observations. We study this question with respect to both local candidates and party leaders. In this chapter, we are able to study both candidates and leaders. This is because, while the sample remains small for leaders, we have more leaders that have a lawyer occupation in Canada than

women leaders. In the model where we control for the party's vote share in the previous election (the preferred model) we find that lawyers get a 0.6 percentage point personal boost, but this effect is very small. When we examine if the effect of being a lawyer has changed over time, we find that the relative performance of lawyers has not increased or decreased over time. Given that local candidates are not as visible as party leaders, we repeat the same analyses with leaders of parties who have greater visibility in Canada. We find a small 0.2 percentage point penalty for lawyers, which is not statistically significant. Here again, we control for the gender of the leader and find that female party leaders in Canada incur a national vote share penalty. While these results are consistent with existing literature on female leaders in Canada, the reader should keep in mind that our sample for female leaders is very small. All in all, these findings suggest that being a lawyer in modern elections does not provide a meaningful electoral advantage among voters in Canada.

Chapter seven asked whether incumbents receive an electoral advantage in Canadian federal elections and if this advantage differs across gender. The answer to this question has thus far remained unclear, due to lack of rich data but also the difficulty of making causal inferences from observational data. I use the candidate data I compiled from 1990 to 2019 which gives me 2,739 elected Members of Parliament at the federal level. Using a regression discontinuity (RD) design, I estimate the causal effect of incumbency on the probability of running again, vote share and the probability of winning in the next election, both with all the candidates and by gender. I find that there is a significant advantage of being an incumbent on running again for both men and women. These findings suggest that women incumbents are just as likely as men to persist in politics as compared to their non-incumbent counterparts. For both winning and vote share in the next election, I find that women who run are more likely to gain than men. Taken together, these findings are very consistent with chapters three and four where I showed that when women run for office, they fare just as well as their men counterparts. As such, in chapters three and four, even though we were unable to control for candidate quality, we found that there was a gender gap in the 1920s when the first women ran for seats in Parliament, but by 2015 this gap all but disappeared. In chapter seven, I am able to control for candidate quality by way of a RD design and the results are robust. Thus, the two approaches together provide a fuller picture of women candidates being as successful as their male counterparts in Canadian elections.

## Implications

Each of these chapters has made a contribution to the questions they set out to answer. One implication that can be drawn out of these findings is that the small effects I find in candidate characteristics for gender, age and occupation are consistent with previous work which suggests that the local candidate is a decisive consideration for about 5 percent of Canadians in their vote choice decision (Blais et al. 2003). Another implication is that while each of these effects alone is small, they could have a combined bigger effect, a question future research could explore. Moreover, given the longitudinal nature of my data, where I track candidates since Confederation, we also see that some candidate characteristics, like gender, mattered much more in the past than they do in modern elections. This could be a result of the increasing diversity of federal candidates and the changing attitudes towards women over time in Canadian elections. The characteristic that has the biggest effect is past experience (incumbency) in parliament and only on the propensity to run again outcome variable. In this article, I found statistically significant and meaningful effects for men and women for running again and positive effects for women on the two other outcome variables: elected and vote share. Clearly, incumbents enjoyed a greater incumbency effect in the past compared to modern elections. The number of incumbents has been decreasing over time, and turnover rates in Parliament are increasing. The high turnover rates in Canadian elections may pave the way for more diverse candidates in parliament and in particular women as they make up 50 percent of the population. As such, the recent uptick of women politicians in parliament may bode well for women representation in future elections.

Another implication for this research is that modern day parties in Canada play a much larger role in winning elections than they used to. Godbout and Høyland (2011) report that Members of Parliament (MP) in modern elections almost always vote along party lines, and those who break rank do so to the detriment of their political careers (Kam 2009). This gives the party leader a lot of leverage over MPs and their career trajectories. Given the high levels of party unity in the Canadian House of Commons, voters may know that MPs have to toe the party line, which is determined by leaders. Party unity was not always high in Canada. As such, it is possible that the effect of certain characteristics, such as gender and occupation, have declined over time due to the larger trend in Canadian politics whereby parties have gained more importance than local candidates. This is evidenced by the increase in party voting in both the legislature and the electorate in modern day elections (Cox 1987; Godbout and Høyland 2011).

## Limitations

All of the analyses in this dissertation are based on observational data. In doing so, I am able to identify the voting decisions of voters using real candidates, real elections, and actual outcomes. Given that I want to assess the specific impact of candidate gender, age and occupation on vote choice, and that all of these questions are about descriptive representation, descriptive data is the best type of data to address the questions at hand. That said, there are limitations to using observational data when we want to address causal questions. But given the large number of candidate data I collected, in chapter seven, I was able to use these data to also infer causality by means of a regression discontinuity design.

Using observational data has the risk of mis-reporting the causal relationship between vote choice and candidate characteristics (in my case gender, age, occupation and past political experience). Although I took as much precaution as one can like using fixed effects, running statistical models with and without controls, conducting robustness tests with other dependent variables, it is important to acknowledge the limitation of using observational data. In each of the chapters (except chapter seven), I am careful to interpret the results in descriptive rather than causal terms because some of the conditions that are required for causal identification may be violated. This would be the case if an unmeasured candidate characteristic, such as candidate quality, was related to both the dependent and independent variable. Including fixed effects at the party, riding and election level addresses this concern as I am controlling for the fact that certain parties attract more candidates of a certain characteristic and that this may vary from riding to riding and across different elections. That said, there is still a possibility that the effects are under- or over-estimated. In the next section, I will provide some avenues for future research using experiments which would control for candidate quality.

This dissertation mostly examines Canadian data with the exception of chapter five, which uses the Comparative Study of Electoral Systems (CSES) data with 51 countries. A limitation of focusing on mostly one country concerns external generalizability. However, focusing on Canada allows me to investigate the different questions posed in this dissertation in-depth, taking into account context-specific factors and with longer data than previous work. Moreover, chapters two and three examine the same question across two different levels of government. I am somewhat confident that these results would not be very different in other contexts. For the findings using the CSES data from many countries, we can be confident about generalizability, and the analysis in that chapter suggests that Canada appears to be a typical case.

A final limitation is that our research has focused primarily on local candidates. While there is evidence that local candidates affect vote choice preferences in Canada (Blais et al. 2003), modern political parties have a strong focus on the leader. Leaders, unlike local candidates, run national campaigns. They are the face of their parties and attract more media attention, which in turn also impacts citizens' perceptions (see for example Bittner 2011 about the importance of party leaders across seven countries). Bittner (2011) argues that voters consider the personality traits of party leaders such as their background and competence when deciding which party to vote for: a given party can gain or lose between 2 and 5 percent of votes based on how voters perceive the leader (Bittner 2011). Moreover, the concentration of power in the leader's office leaves little room for individual Members of Parliaments (MP) to stand out separately from their party in Canadian politics. As such, there are theoretical motivations to re-examine the same questions this dissertation looks at the leadership level. I have done this in chapter six, but unfortunately there are not enough women leaders in Canadian federal elections to redo the analyses of whether women leaders get fewer votes than men leaders. I leave this investigation for future research, perhaps at the provincial elections which provide many more cases.

## **Future Research**

In this dissertation, I investigated whether candidate characteristics, such as gender, age, occupation, and past political experience (i.e., incumbents), matter for voters' choices. I find evidence that they do, but the degree varies. Below I will discuss several ideas for future research using both observational data and experiments.

### **Observational Data**

As discussed earlier, one possible avenue for future research is a more comprehensive approach. While gender, age and occupation alone may appear to have small effects, together their effect may be greater. Another avenue is that while the current literature does not find persuasive evidence for gender affinity voting in Canada (Goodyear-Grant 2010; Goodyear-Grant and Croskill 2011), this may be because of the importance of party leaders and parties in Canadian politics. Due to the accelerated concentration of power in the prime minister's office (Savoie 1999), it may also be that focusing on the local individual Members of Parliament (MP) does not capture the constraints voters face in their vote choice. Individual MPs may have less influence than their parties and political leader in most legislations. One avenue for future research is to repeat the same analyses in non-partisan elections, which often occur

at lower levels of elections (for example, city wide or mayoral elections). By removing the importance of parties, voters will be able to express their preferences in a setting where partisan considerations are not very salient. Another approach would be to repeat the same analyses at the leadership level given, as they are the most powerful actors in Canadian politics. Another idea is to examine whether women candidates get fewer votes among some groups and more votes among other groups and whether these two patterns cancel each other out. For this type of analysis, we would need individual-level data on voters. The Canadian Election Study would be one appropriate source to use to conduct such an analysis. A final idea is to examine whether candidate characteristics matter more for voters that value descriptive representation compared to voters who do not.

## **Experiments**

Going forward, I also envision a research program which extends the observational analyses using survey experiments. By using experimental rather than observational data, we can be more confident in capturing the effect of which candidate characteristics matter for vote choice decisions. For example, men and women who put their name on the ballot are different from each other in other ways than gender. In observational data, we are unable to directly control for candidate quality, an important confounding variable. Using survey experiments and in particular conjoint experiments, we could isolate the effect of gender. Previously, I suggested that if there is a gender bias, we should see this at different stages in the representation process. Existing work shows that women who run for politics are, on average, of higher quality than men (Anzia and Berry 2011; Fulton 2011). While chapters three and four suggest that, conditional on running, there is no gender bias, it may be that women do not outperform men despite their higher quality (Lawless and Pearson 2008; Fulton 2012; Pearson and McGhee 2013). We are unable to capture such a bias using observational data, however experiments can help us untangle these effects. These experiments could be in the form of surveys using hypothetical candidates with their candidate characteristics including their gender randomized. Because of its randomized design, we would be able to compare the effect of gender that is not biased due to unobserved confounding variables such as candidate quality. Another question that is underdeveloped in experimental work that could be a natural follow-up for the work presented in this dissertation is to examine whether voters reward (punish) women legislators more if they are known to (fulfill) break their promises in the previous election campaign compared to men. This is an interesting follow-up because if voters penalize women, we should also see this once they are elected and are seeking re-

election. Such a design would allow us to examine whether women politicians are differentially rewarded or penalized for their performance.

Finally, another area of research that could follow chapter five on age affinity is a series of experiments that measure whether voters really know the age of local candidates and party leaders, and under what conditions voters care about age affinity. In chapter five, I found small effects for age affinity, and this could be due to the fact that many voters are not aware of the candidate's age. Experiments will allow us to control what information individuals have and to answer the question whether voters care about age affinity more when they are made aware of the candidate's age. In theory, observational data could be used to address these questions as well, but we cannot manipulate the age of the candidates and what type of information voters have. As such, I would be inclined to run survey experiments where candidates of different ages are running for the same position and ask voters which one, they would vote for. Similar to the study of gender affinity, it would also be interesting to examine if age affinity matters more for young voters who feel underrepresented or who value descriptive representation, and if young legislators are more likely than older legislators to represent youth interests (and older legislators more likely to represent older voters' interests) across many different countries. It is important to note that very few existing studies rigorously test whether young voters prefer younger candidates and much fewer are comparative in scope. Taken together, the combination of experimentation and observational data could lead to a fascinating research program for future work on these topics.

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## Appendix A: Supplementary Materials for Chapter 3

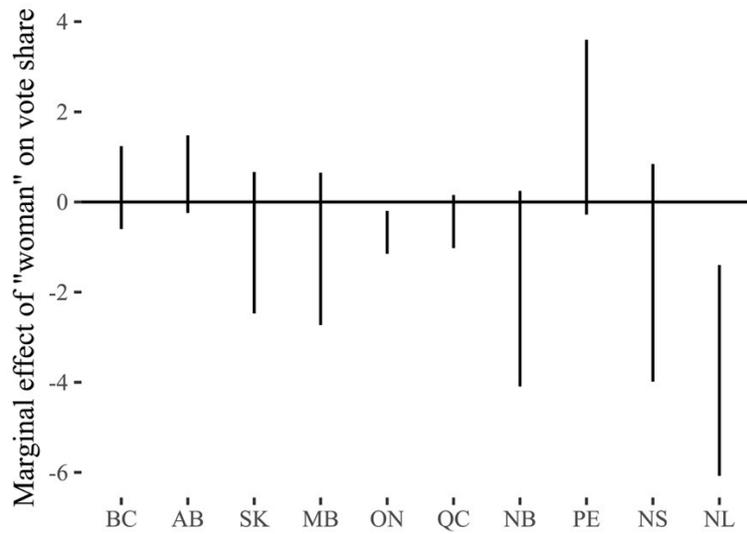


Figure 15. – Model 4 with province-specific Woman coefficients. 95% confidence intervals with Bonferroni correction

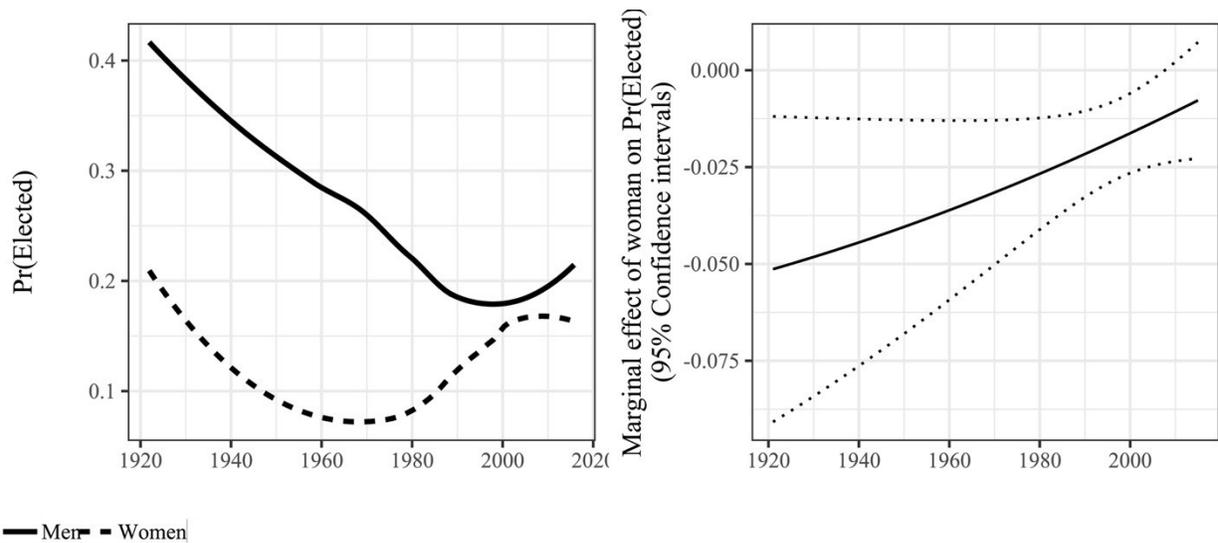


Figure 16. – The gender gap in electoral performance decreases over time.

## Appendix B: Supplementary Materials for Chapter 5

Variables	Description	Mean
Ratings	Respondent's reported likability for each candidate/party leaders. This is 11-point likert scale where 0 means strongly dislike and 10 means strongly like.	4.46 (3.03)
Vote choice	This is a dummy variable indicating whether the respondent voted for the leader's party.	.160 (.366)
Distance	This is the absolute age distance of the leader and the respondent in decades.	1.71 (1.17)
Shared Party	This is a dummy variable indicating whether the respondent identifies with the party of the leader. A respondent and a party leader were deemed to have a Shared Party if the respondent claimed to feel close to a party in the CSES and the party they indicated as being close to matched that of the leader's party (these were two separate questions in the CSES). If the respondent claimed not to be close to any party then they were coded as not having a shared party ID with any of the leaders.	.060 (.233)
Respondent's Age	This is the respondent's age in years.	47 (1.72)
Leader: Female	This is a dummy variable indicating whether the leader is a female or male.	.165 (.371)

	This is coded 1 for women and 0 for men.	
Respondent: Female	This indicates whether the respondent is a female or male. This is coded 1 for women and 0 for men.	.53 (.500)
Fixed Party Family	Set of dummy variables associating the leader's party with the corresponding party family in the CSES. List of Families: Ecology Parties Communist Parties Socialist Parties Social Democratic Parties Left Liberal Parties Liberal Parties Right Liberal Parties Christian Democratic Parties Conservative Parties National Parties Agrarian Parties Ethnic Parties Regional Parties Religious Parties Independent Parties Other	
Fixed Country Effects	Set of dummy variables for each country to control for country-level differences.	

Table 11. – Description of Variables

Country	% Female	Mean Age	SD Age	Min Age	Max Age
ARGENTINA (2015)	0.17	53	12.09	35	68
AUSTRALIA (1996)	0.25	52	3.86	48	57
AUSTRALIA (2007)	0.17	55	8.71	46	68
AUSTRALIA (2013)	0.33	58	4.43	52	65
AUSTRIA (2008)	0.14	56	9.91	39	68
AUSTRIA (2013)	0.14	52	13.75	40	81
BRAZIL (2006)	0.25	55	8.30	44	62
BRAZIL (2010)	0.50	66	3.54	63	68
BRAZIL (2014)	0.29	61	8.08	54	74
BULGARIA (2014)	0.00	52	7.52	39	59
BELARUS (2001)	0.00	48	7.81	40	61
BELARUS (2008)	0.00	60	9.96	47	74
CANADA (1997)	0.20	52	8.72	39	63
CANADA (2008)	0.20	55	4.64	49	61
CANADA (2011)	0.20	60	5.13	52	64
CANADA (2015)	0.20	58	8.92	44	68
CHILE (1999)	0.33	53	8.02	43	61
CHILE (2009)	0.00	58	14.93	36	68
TAIWAN (1996)	0.00	72	2.31	69	73
TAIWAN (2008)	0.00	63	4.65	58	69
TAIWAN (2012)	0.17	64	7.31	56	74
CROATIA (2007)	0.13	51	5.15	41	58
CZECH REPUBLIC (1996)	0.00	48	5.61	40	55
CZECH REPUBLIC (2006)	0.00	50	3.21	46	54
CZECH REPUBLIC (2010)	0.00	54	12.15	33	73
CZECH REPUBLIC (2013)	0.00	53	13.99	37	76
DENMARK (1998)	0.33	53	3.66	48	57
DENMARK (2007)	0.56	48	7.31	39	60
ESTONIA (2011)	0.00	51	7.56	38	61
FINLAND (2007)	0.25	49	8.74	36	64

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FINLAND (2011)	0.50	44	8.81	35	60
FINLAND (2015)	0.13	47	8.03	36	56
FRANCE (2007)	0.43	54	13.62	33	79
FRANCE (2012)	0.33	58	8.19	44	69
GERMANY (1998)	0.00	56	6.78	50	68
GERMANY (2005)	0.14	56	7.12	44	64
GERMANY (2009)	0.22	55	8.12	38	66
GERMANY (2013)	0.14	58	9.04	40	66
GREECE (2009)	0.17	54	10.48	35	64
GREECE (2012)	0.14	55	10.11	38	67
GREECE (2015)	0.00	55	7.67	41	64
HONG KONG (1998)	0.33	50	7.34	42	60
HONG KONG (2000)	0.20	53	5.94	47	62
HONG KONG (2008)	0.29	57	2.19	55	61
HONG KONG (2012)	0.38	60	3.82	54	65
HUNGARY (1998)	0.00	55	12.71	35	66
ICELAND (1999)	0.20	52	10.03	44	69
ICELAND (2007)	0.14	58	5.53	52	67
ICELAND (2009)	0.17	51	13.40	34	67
ICELAND (2013)	0.33	42	4.10	37	47
IRELAND (2007)	0.00	55	4.27	47	59
IRELAND (2011)	0.00	55	5.85	48	63
ISRAEL (1996)	0.00	55	13.58	37	73
ISRAEL (2006)	0.00	53	6.12	44	61
ISRAEL (2013)	0.33	52	7.55	41	64
JAPAN (1996)	0.00	61	7.99	50	72
KENYA (2013)	0.20	58	6.69	52	68
SOUTH KOREA (2000)	0.00	69	7.94	59	76
SOUTH KOREA (2008)	0.40	60	8.76	49	73
SOUTH KOREA (2012)	0.50	60	0.71	59	60
LATVIA (2010)	0.17	47	10.73	34	60
LATVIA (2011)	0.00	44	11.06	29	58

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LATVIA (2014)	0.33	52	9.99	38	63
LITHUANIA (1997)	0.00	58	12.08	44	74
MEXICO (1997)	0.00	55	8.54	46	63
MEXICO (2000)	0.00	61	4.62	58	66
MEXICO (2006)	0.20	50	3.96	44	54
MEXICO (2009)	0.00	49	5.48	43	56
MEXICO (2012)	0.25	54	6.14	46	59
MONTENEGRO (2012)	0.00	47	5.32	40	54
NETHERLANDS (1998)	0.14	55	9.45	42	66
NETHERLANDS (2006)	0.11	46	8.17	39	64
NETHERLANDS (2010)	0.11	48	6.59	42	63
NEW ZEALAND (1996)	0.17	54	6.68	46	61
NEW ZEALAND (2008)	0.38	59	7.53	47	70
NEW ZEALAND (2011)	0.00	59	9.52	44	71
NEW ZEALAND (2014)	0.11	54	8.06	44	69
NORWAY (1997)	0.33	48	5.65	37	53
NORWAY (2005)	0.38	50	6.37	44	61
NORWAY (2009)	0.50	51	6.05	40	62
NORWAY (2013)	0.57	47	7.21	36	55
PERU (2000)	0.00	57	9.29	42	70
PERU (2001)	0.17	47	6.24	40	55
PERU (2006)	0.17	54	13.55	31	68
PERU (2011)	0.25	54	14.78	31	73
PHILIPPINES (2010)	0.11	57	10.47	40	73
PHILIPPINES (2016)	0.40	65	10.92	48	74
POLAND (1997)	0.00	50	9.58	38	67
POLAND (2005)	0.00	57	6.72	48	69
POLAND (2007)	0.00	52	4.35	48	58
POLAND (2011)	0.00	51	10.44	37	62
PORTUGAL (2002)	0.00	50	9.06	40	61
PORTUGAL (2009)	0.20	57	8.79	47	69
PORTUGAL (2015)	0.17	56	9.57	42	68

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ROMANIA (1996)	0.00	56	12.58	45	79
ROMANIA (2009)	0.00	53	6.28	42	60
ROMANIA (2012)	0.00	52	8.76	40	63
ROMANIA (2014)	0.25	52	8.92	41	65
RUSSIAN FEDERATION (1999)	0.00	50	9.13	37	63
RUSSIAN FEDERATION (2000)	0.00	51	9.13	38	64
SERBIA (2012)	0.00	55	8.96	41	68
SLOVAKIA (2010)	0.13	53	7.77	42	68
SLOVAKIA (2016)	0.00	48	6.58	39	58
SLOVENIA (1996)	0.00	40	6.50	33	48
SLOVENIA (2008)	0.25	47	6.97	35	60
SLOVENIA (2011)	0.13	51	7.09	42	63
SOUTH AFRICA (2009)	0.13	62	8.83	54	81
SOUTH AFRICA (2014)	0.22	62	14.34	33	86
SPAIN (1996)	0.00	50	4.77	43	55
SPAIN (2000)	0.00	55	5.32	47	61
SPAIN (2008)	0.22	50	4.76	41	56
SWEDEN (1998)	0.17	52	4.32	49	60
SWEDEN (2006)	0.33	47	11.02	27	58
SWEDEN (2014)	0.22	47	12.34	31	66
SWITZERLAND (1999)	0.50	52	11.59	35	59
SWITZERLAND (2007)	0.50	60	10.54	44	67
SWITZERLAND (2011)	0.50	55	10.59	48	71
THAILAND (2001)	0.00	60	10.38	46	69
THAILAND (2007)	0.00	64	12.43	43	75
THAILAND (2011)	0.00	60	8.86	47	71
TURKEY (2011)	0.00	57	8.73	38	67
TURKEY (2015)	0.00	62	11.24	42	73
UKRAINE (1998)	0.00	50	5.76	45	61
GREAT BRITAIN (1997)	0.00	50	6.18	43	56
GREAT BRITAIN (2015)	0.43	47	2.51	44	51
UNITED STATES (1996)	0.00	63	11.79	50	73

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UNITED STATES (2008)	0.00	60	17.68	47	72
UNITED STATES (2012)	0.00	58	9.90	51	65
URUGUAY (2009)	0.00	61	11.26	49	74

Table 12. – Party Leader Descriptives across 51 Countries and 126 Elections from 1996 to 2016.

MODULE 1:  
 "And now, using the same scale, I'd like to ask you how much you like or dislike some political leaders. Again, if I come to a leader you haven't heard of or you do not know enough about them, just say so. The first political leader is LEADER A."

MODULES 3 and 4:  
 "And what do you think of the presidential candidates/party leaders? After I read the name of a presidential candidate/party leader, please rate them on a scale from 0 to 10, where 0 means you strongly dislike that candidate and 10 means that you strongly like that candidate. If I come to a presidential candidate/party leader you haven't heard of or you feel you do not know enough about, just say so. The first is [LEADER A].  
 Using the same scale, where would you place, [LEADER B]?  
 Using the same scale, where would you place, [LEADER C]?  
 Using the same scale, where would you place, [LEADER D]?  
 Using the same scale, where would you place, [LEADER E]?  
 Using the same scale, where would you place, [LEADER F]?  
 Using the same scale, where would you place, [LEADER G]?  
 Using the same scale, where would you place, [LEADER H]?  
 Using the same scale, where would you place, [LEADER I]?"

Figure 17. – Question wording of like/dislike ratings

	(1)	(2)
Distance	-0.017 (0.012)	0.006 (0.017)
Respondent's Age	-0.004 (0.009)	-0.004 (0.009)
Shared Party ID	3.762 <sup>**</sup> (0.075)	3.762 <sup>**</sup> (0.075)
Leader: Female	0.118 (0.110)	0.239 <sup>*</sup> (0.113)
Respondent: Female	0.052 <sup>**</sup> (0.016)	0.095 <sup>**</sup> (0.016)
Leader: Female × Respondent: Female	0.240 <sup>**</sup> (0.047)	
Education	-0.016 (0.017)	0.002 (0.022)
Distance × Education		-0.011 (0.007)
Constant	4.162 <sup>**</sup> (0.427)	4.105 <sup>**</sup> (0.428)
R2	0.18	0.18
Fixed Party Family	YES	YES
Fixed Country Effects	YES	YES
Observations	853414.00	853414.00

Standard errors are two way clustered by respondent and leader.

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

Table 13. – Leader ratings

	(1)	(2)
Distance	-0.004 <sup>**</sup> (0.001)	-0.004 <sup>*</sup> (0.002)
Respondent's Age	-0.004 <sup>***</sup> (0.001)	-0.004 <sup>***</sup> (0.001)
Shared Party ID	0.755 <sup>***</sup> (0.010)	0.755 <sup>***</sup> (0.010)
Leader: Female	-0.013 (0.011)	-0.010 (0.011)
Respondent: Female	0.004 <sup>**</sup> (0.001)	0.005 <sup>***</sup> (0.001)
Leader: Female × Respondent: Female	0.005 (0.003)	
Education	-0.003 <sup>*</sup> (0.001)	-0.003 <sup>*</sup> (0.002)
Distance × Education		0.000 (0.001)
Constant	0.137 <sup>*</sup> (0.060)	0.137 <sup>*</sup> (0.060)
R2	0.38	0.38
Fixed Party Family	YES	YES
Fixed Country Effects	YES	YES
Observations	616893	616893

Standard errors are two way clustered by respondent and leader.

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

Table 14. – Vote Choice Models

	(1)	(2)	(3)	(4)	(5)
Distance	-0.038** (0.014)	-0.051** (0.017)	-0.051** (0.017)	-0.058 (0.069)	-0.055* (0.023)
Respondent's Age		-0.053*** (0.009)	-0.053*** (0.009)	-0.057 (0.033)	-0.053*** (0.009)
Shared Party ID		4.214** (0.086)	4.213** (0.086)	4.214** (0.086)	4.214** (0.086)
Leader: Female		-0.139 (0.145)	-0.189 (0.153)	-0.139 (0.145)	-0.139 (0.145)
Respondent: Female		0.058** (0.013)	0.043* (0.014)	0.058** (0.013)	0.058** (0.013)
Education		-0.037* (0.016)	-0.037* (0.016)	-0.037* (0.016)	-0.040* (0.020)
Leader: Female × Respondent: Female			0.095 (0.049)		
Distance × Respondent's Age				0.002 (0.012)	
Distance × Education					0.002 (0.007)
Constant	-2.221*** (0.581)	-1.977*** (0.525)	-1.970*** (0.525)	-1.960*** (0.549)	-1.970*** (0.526)
Pseudo R2	0.07	0.32	0.32	0.32	0.32
Fixed Party Family	YES	YES	YES	YES	YES
Fixed Country Effects	YES	YES	YES	YES	YES
Observations	615528	615528	615528	615528	615528

Standard errors are two way clustered by respondent and leader.

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

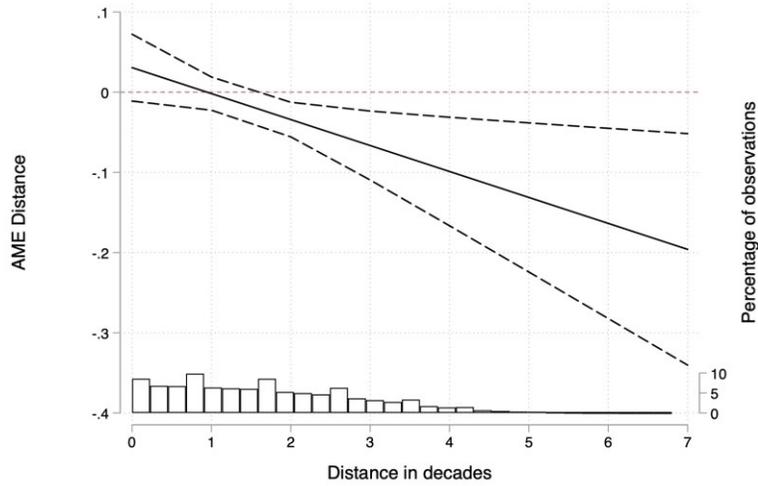
Table 15. – Logit Models for the Vote Choice Models

	(1)	(2)	(3)	(4)	(5)
Distance	0.031 (0.025)	0.032 (0.023)	0.032 (0.023)	-0.363* (0.154)	0.029 (0.035)
Distance_Sq	-0.016* (0.008)	-0.012 (0.007)	-0.012 (0.007)	0.048* (0.024)	-0.005 (0.009)
Respondent's Age		-0.005 (0.009)	-0.005 (0.009)	-0.109* (0.043)	-0.005 (0.009)
Shared Party ID		3.762*** (0.075)	3.761*** (0.075)	3.761*** (0.075)	3.762*** (0.075)
Leader: Female		0.239* (0.113)	0.117 (0.110)	0.233* (0.112)	0.238* (0.113)
Respondent: Female		0.095*** (0.016)	0.052*** (0.016)	0.094*** (0.016)	0.095*** (0.016)
Education		-0.016 (0.017)	-0.016 (0.017)	-0.018 (0.017)	-0.006 (0.023)
Leader: Female × Respondent: Female			0.240*** (0.047)		
Distance × Respondent's Age				0.079** (0.029)	
Respondent's Age				0.000 (0.000)	
Distance_Sq × Respondent's Age				-0.012** (0.004)	
Distance × Education					0.002 (0.014)
Distance_Sq × Education					-0.004 (0.004)
Constant	4.308*** (0.442)	4.117*** (0.425)	4.137*** (0.424)	4.657*** (0.497)	4.095*** (0.427)
R2	0.07	0.18	0.18	0.18	0.18
Fixed Party Family	YES	YES	YES	YES	YES
Fixed Country Effects	YES	YES	YES	YES	YES
Observations	853414.00	853414.00	853414.00	853414.00	853414.00

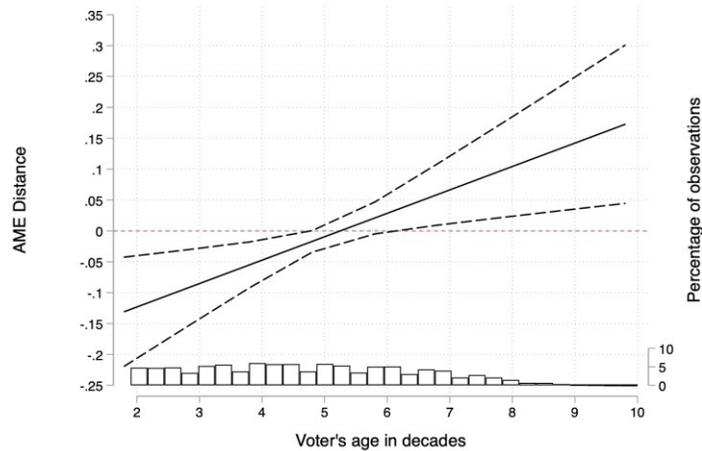
Standard errors are two way clustered by respondent and leader.

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

Table 16. – Leader ratings (Quadratic models)



Note: Average marginal effect of distance (measured in decades) on likability of the political leader as a function of distance itself (measured in decades). Dashed lines indicate 95% confidence intervals. The distribution of distance is summarized in the histogram. Estimates are obtained from Model 1 in Table 14.



Note: Average marginal effect of distance (measured in decades) on likability of the political leader as a function of voter's age (measured in decades). Dashed lines indicate 95% confidence intervals. The distribution of voter's age is summarized in the histogram. Estimates are obtained from Model 4 in Table 14.

Figure 18. – Plots for the significant coefficients of Distance\_Sq from Table 14.

	(1)	(2)	(3)	(4)	(5)
Distance	0.001 (0.003)	0.002 (0.002)	0.002 (0.002)	0.003 (0.015)	-0.001 (0.004)
Distance_Sq	-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)	-0.002 (0.002)	-0.001 (0.001)
Respondent's Age		-0.004 <sup>***</sup> (0.001)	-0.004 <sup>***</sup> (0.001)	-0.004 (0.004)	-0.004 <sup>***</sup> (0.001)
Shared Party ID		0.755 <sup>***</sup> (0.010)	0.755 <sup>***</sup> (0.010)	0.755 <sup>***</sup> (0.010)	0.755 <sup>***</sup> (0.010)
Leader: Female		-0.010 (0.011)	-0.013 (0.011)	-0.010 (0.011)	-0.010 (0.011)
Respondent: Female		0.005 <sup>***</sup> (0.001)	0.004 <sup>**</sup> (0.001)	0.005 <sup>***</sup> (0.001)	0.005 <sup>***</sup> (0.001)
Education		-0.003 <sup>*</sup> (0.001)	-0.003 <sup>*</sup> (0.001)	-0.003 <sup>*</sup> (0.001)	-0.004 <sup>*</sup> (0.002)
Leader female × Respondent Female			0.005 (0.003)		
Distance × Respondent's Age				-0.000 (0.003)	
Distance_Sq × Respondent's Age				0.000 (0.000)	
Distance × Education					0.001 (0.001)
Education					0.000 (0.000)
Distance_Sq × Education					-0.000 (0.000)
Constant	0.111 (0.076)	0.134 <sup>*</sup> (0.060)	0.134 <sup>*</sup> (0.060)	0.132 <sup>*</sup> (0.062)	0.136 <sup>*</sup> (0.060)
R2	0.06	0.38	0.38	0.38	0.38
Fixed Party Family	YES	YES	YES	YES	YES
Fixed Country Effects	YES	YES	YES	YES	YES
Observations	616893	616893	616893	616893	616893

Standard errors are two way clustered by respondent and leader.

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

Table 17. – Vote Choice Models (Quadratic Models)

	(1)	(2)	(3)	(4)	(5)
Distance	-0.028 (0.016)	0.011 (0.014)	0.011 (0.014)	-0.111 (0.065)	0.017 (0.022)
Respondent's Age		0.020 (0.012)	0.020 (0.012)	-0.042 (0.034)	0.020 (0.012)
Shared Party ID		3.542*** (0.080)	3.541*** (0.080)	3.542*** (0.080)	3.542*** (0.080)
Leader: Female		0.208 (0.146)	0.105 (0.134)	0.194 (0.144)	0.208 (0.146)
Respondent: Female		0.067** (0.022)	0.034 (0.021)	0.066** (0.022)	0.067** (0.022)
Education		-0.042 (0.022)	-0.042 (0.022)	-0.044* (0.022)	-0.037 (0.030)
Leader: Female × Respondent: Female			0.201** (0.073)		
Distance × Respondent's Age				0.026* (0.012)	
Distance × Education					-0.003 (0.010)
Constant	4.536*** (0.348)	3.306*** (0.341)	3.322*** (0.340)	3.623*** (0.373)	3.296*** (0.346)
R2	0.06	0.20	0.20	0.20	0.20
Fixed Party Family	YES	YES	YES	YES	YES
Fixed Country Effects	YES	YES	YES	YES	YES
Observations	472425	472425	472425	472425	472425

Standard errors are two way clustered by respondent and leader.

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

Table 18. – Leader ratings (Models excluding parties that received less than 10% of the vote)

	(1)	(2)	(3)	(4)	(5)
Distance	-0.007** (0.002)	-0.004* (0.002)	-0.004* (0.002)	-0.009 (0.008)	-0.005 (0.003)
Respondent's Age		-0.004*** (0.001)	-0.004*** (0.001)	-0.007 (0.004)	-0.004*** (0.001)
Shared Party ID		0.726*** (0.012)	0.726*** (0.012)	0.726*** (0.012)	0.726*** (0.012)
Leader: Female		-0.015 (0.015)	-0.018 (0.016)	-0.016 (0.015)	-0.015 (0.015)
Respondent: Female		0.007*** (0.002)	0.006** (0.002)	0.007*** (0.002)	0.007*** (0.002)
Education		-0.005* (0.002)	-0.005* (0.002)	-0.005* (0.002)	-0.005 (0.003)
Leader: Female × Respondent: Female			0.006 (0.007)		
Distance × Respondent's Age				0.001 (0.001)	
Distance × Education					0.000 (0.001)
Constant	0.330*** (0.050)	0.140*** (0.037)	0.141*** (0.037)	0.154*** (0.043)	0.141*** (0.037)
R2	0.04	0.36	0.36	0.36	0.36
Fixed Party Family	YES	YES	YES	YES	YES
Fixed Country Effects	YES	YES	YES	YES	YES
Observations	320635	320635	320635	320635	320635

Standard errors are two way clustered by respondent and leader.

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

Table 19. – Vote Choice Models (Models excluding parties that received less than 10% of the vote)

	(1)	(2)	(3)	(4)	(5)
Distance	-0.033*	-0.009	-0.009	-0.095	0.015
	(0.014)	(0.014)	(0.014)	(0.061)	(0.022)
Respondent's Age		0.032**	0.032**	-0.012	0.032**
		(0.010)	(0.010)	(0.029)	(0.010)
Ideological Distance		-0.358***	-0.358***	-0.358***	-0.358***
		(0.017)	(0.017)	(0.017)	(0.017)
Leader: Female		0.284*	0.165	0.280*	0.284*
		(0.129)	(0.129)	(0.128)	(0.129)
Respondent: Female		0.081***	0.037*	0.080***	0.081***
		(0.018)	(0.018)	(0.018)	(0.018)
Education		-0.016	-0.016	-0.017	0.001
		(0.018)	(0.018)	(0.018)	(0.023)
Leader: Female × Respondent: Female			0.241***		
			(0.049)		
Distance × Respondent's Age				0.019	
				(0.012)	
Distance × Education					-0.011
					(0.008)
Constant	4.325***	4.889***	4.909***	5.111***	4.851***
	(0.444)	(0.395)	(0.395)	(0.430)	(0.397)
R2	0.07	0.12	0.12	0.12	0.12
Fixed Party Family	YES	YES	YES	YES	YES
Fixed Country Effects	YES	YES	YES	YES	YES
Observations	727039	727039	727039	727039	727039

Standard errors are two way clustered by respondent and leader.  
\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

Table 20. – Leader ratings (models with party ideology)

	(1)	(2)	(3)	(4)	(5)
Distance	-0.005** (0.002)	-0.004* (0.002)	-0.004* (0.002)	-0.007 (0.008)	-0.004 (0.003)
Respondent's Age		0.001 (0.001)	0.001 (0.001)	-0.000 (0.004)	0.001 (0.001)
Ideological Distance		-0.035*** (0.002)	-0.035*** (0.002)	-0.035*** (0.002)	-0.035*** (0.002)
Leader: Female		-0.022 (0.016)	-0.026 (0.017)	-0.022 (0.016)	-0.022 (0.016)
Respondent: Female		0.002 (0.002)	0.000 (0.002)	0.002 (0.002)	0.002 (0.002)
Education		-0.003 (0.002)	-0.003 (0.002)	-0.003 (0.002)	-0.003 (0.003)
Leader: Female × Respondent: Female			0.008 (0.005)		
Distance × Respondent's Age				0.001 (0.001)	
Distance × Education					-0.000 (0.001)
Constant	0.105 (0.076)	0.215** (0.069)	0.216** (0.069)	0.223** (0.071)	0.215** (0.069)
R2	0.06	0.10	0.10	0.10	0.10
Fixed Party Family	YES	YES	YES	YES	YES
Fixed Country Effects	YES	YES	YES	YES	YES
Observations	528566	528566	528566	528566	528566

Standard errors are two way clustered by respondent and leader.  
\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

Table 21. – Vote Choice Models (models with party ideology)

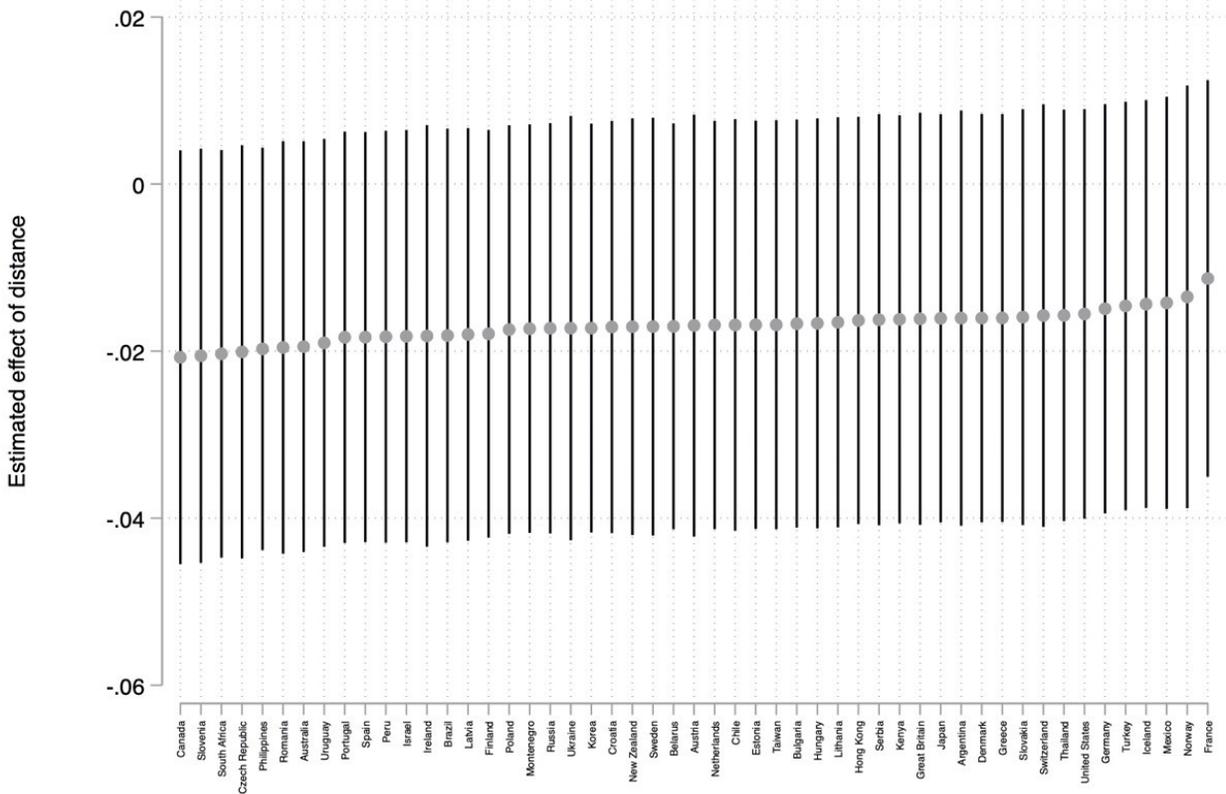


Figure 19. – The Value of the Distance Coefficient when one Country at a time is Removed.

Note: Estimates are from Table 4, Model 2. The regression coefficients and 95% confidence intervals of distance removing one country at a time.

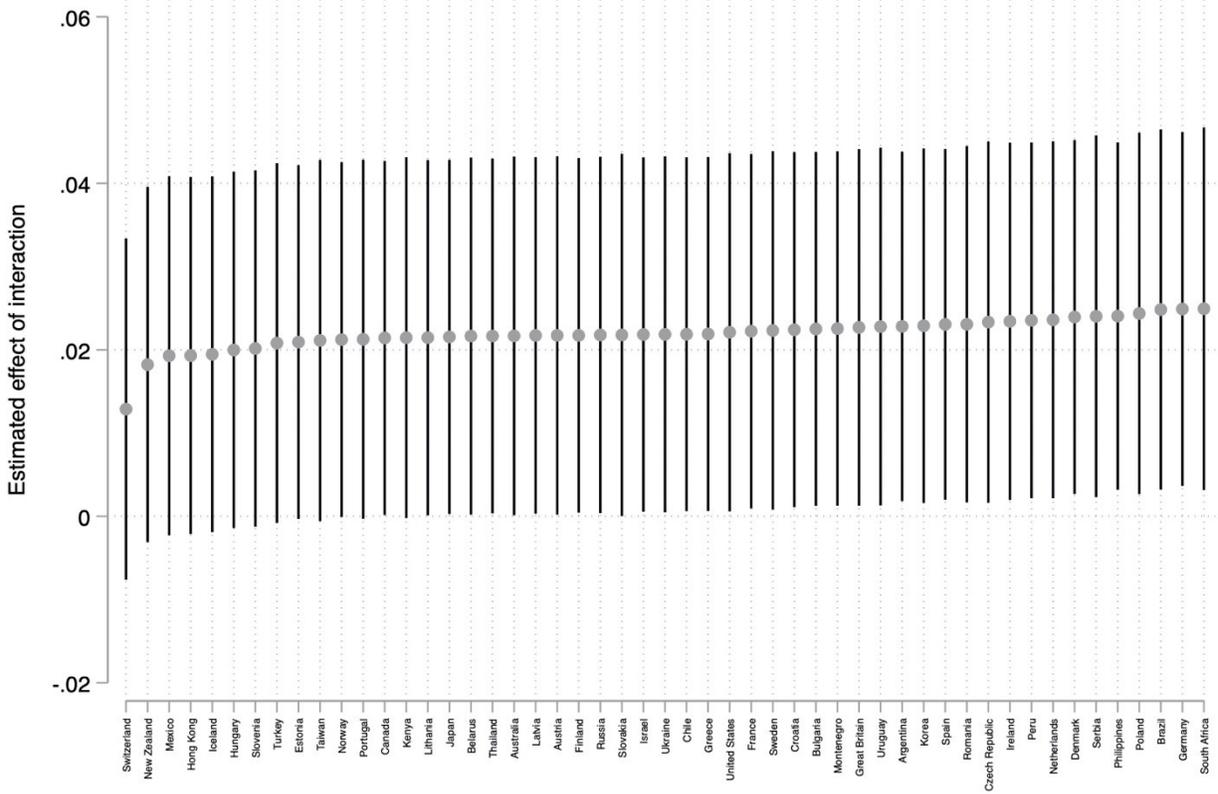


Figure 20. – The Value of the Distance  $\times$  Respondent's Age Coefficient when one Country at a time is Removed

Note: Estimates are from Table 4, Model 3. The regression coefficients and 95% confidence intervals of the interaction by removing one country at a time.

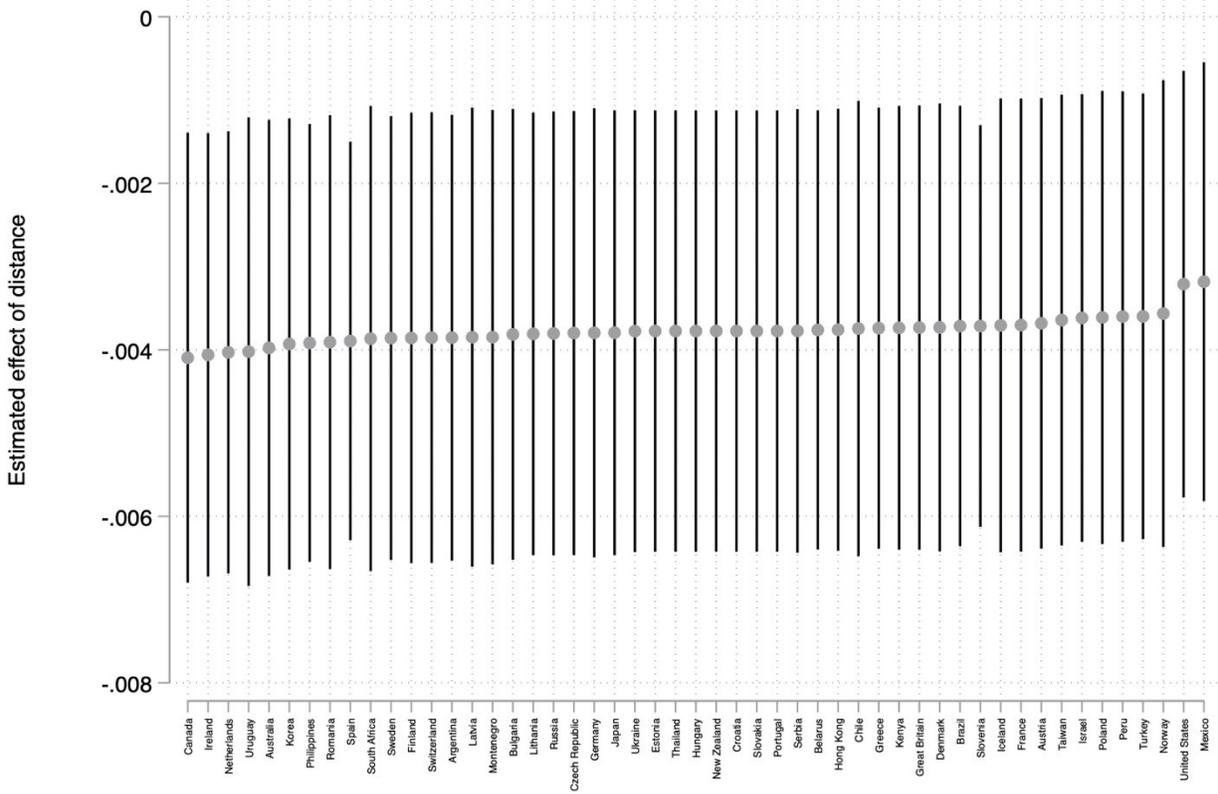


Figure 21. – The Value of the Distance Coefficient when one Country at a time is Removed.

Note: Estimates are from Table 5, Model 2. The regression coefficients and 95% confidence intervals of distance removing each country one at a time.

## Appendix C: Supplementary Materials for Chapter 7

Table 22. – Results across time with major party as a covariate and year fixed-effects

### Runs again

All candidates	1960	1970	1980	1990
RD estimate	44	46	47	47
Robust SE	(2.9)	(3.3)	(3.7)	(4.1)
MSE-Optimal Bandwidth	13	14	14	16
Robust p-value	0.000	0.000	0.000	0.000
Effective Number of Observations	4346	3509	2889	2307

Men Only	1960	1970	1980	1990
RD estimate	41	43	42	42
Robust SE	(3.4)	(3.9)	(4.5)	(5.4)
MSE-Optimal Bandwidth	11	12	12	13
Robust p-value	0.000	0.000	0.000	0.000
Effective Number of Observations	3443	2644	2005	1416

Women Only	1960	1970	1980	1990
RD estimate	57	57	59	57
Robust SE	(7.0)	(7.0)	(7.0)	(8.0)
MSE-Optimal Bandwidth	18	18	16	15
Robust p-value	0.000	0.000	0.000	0.000
Effective Number of Observations	860	825	697	547

## Elected

All candidates	1960	1970	1980	1990
RD estimate	4	-1.3	3	1.41
Robust SE	(5.2)	(5.9)	(6.4)	(7.5)
MSE-Optimal Bandwidth	13	14	17	16
Robust p-value	0.783	0.530	0.960	0.812
Effective Number of Observations	2365	1808	1731	1184

Men Only	1960	1970	1980	1990
RD estimate	6	-.2	3	1.48
Robust SE	(5.3)	(6.4)	(7.0)	(8.3)
MSE-Optimal Bandwidth	14	14	18	16
Robust p-value	0.473	0.678	0.972	0.808
Effective Number of Observations	2152	1545	1400	879

Women Only	1960	1970	1980	1990
RD estimate	.93	7	12	9.76
Robust SE	(11)	(11)	(12)	(13)
MSE-Optimal Bandwidth	18	19	21	20
Robust p-value	0.806	0.727	0.440	0.650
Effective Number of Observations	424	420	436	380

## Vote Share

All candidates	1960	1970	1980	1990
RD estimate	.52	.20	-.09	-.15
Robust SE	(.63)	(.54)	(.62)	(.74)
MSE-Optimal Bandwidth	14	13	12	13
Robust p-value	0.315	0.659	0.839	0.881
Effective Number of Observations	2445	1707	1283	960

Men Only	1960	1970	1980	1990
RD estimate	.18	-.40	-.85	-.95
Robust SE	(.71)	(.57)	(.67)	(.81)
MSE-Optimal Bandwidth	14	12	11	12
Robust p-value	0.765	0.387	0.142	0.194
Effective Number of Observations	2152	1346	951	696

Women Only	1960	1970	1980	1990
RD estimate	2.4	2.5	2.0	2.0
Robust SE	(1.3)	(1.4)	(1.6)	(1.7)
MSE-Optimal Bandwidth	17	16	17	16
Robust p-value	0.026	0.035	0.132	0.172
Effective Number of Observations	390	373	360	304

Table 23. – Robustness Checks: Results according to different bandwidth size post 1990 (with major party as a covariate and year fixed effects)

**Runs again**

	All Candidates			Men Only			Women Only		
	15%	10%	5%	15%	10%	5%	15%	10%	5%
Bandwidth									
RD estimate	47	43	39	43	40	35	57	54	45
Robust SE	(5.5)	(6.6)	(9.0)	(6.5)	(7.6)	(10)	(10)	(12)	(17)
Robust p-value	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.001	0.00
Effective Number of Observations	2181	1476	762	1629	1098	568	552	378	194

**Elected conditional on re-running**

	All Candidates			Men Only			Women Only		
	15%	10%	5%	15%	10%	5%	15%	10%	5%
Bandwidth									
RD estimate	.49	-.43	-2.9	.92	1.1	-1.2	6.3	3	-1.9
Robust SE	(10)	(12)	(16)	(11)	(13)	(17)	(20)	(28)	(48)
Robust p-value	0.749	0.810	0.843	0.999	0.962	0.778	0.788	0.785	0.94
Effective Number of Observations	1107	798	437	827	598	335	280	200	102

**Vote Share conditional on re-running**

	All Candidates			Men Only			Women Only		
	15%	10%	5%	15%	10%	5%	15%	10%	5%
Bandwidth									
RD estimate	-.24	-.30	-.42	-.94	-1.2	-.79	2	3	2
Robust SE	(.78)	(.87)	(1.0)	(.86)	(.97)	(1.1)	(2.0)	(2.7)	(3.2)
Robust p-value	0.790	0.557	0.528	0.208	0.292	0.774	0.147	0.476	0.84
Effective Number of Observations	1107	798	437	827	598	335	280	200	102

Table 24. – Imbalance checks for the main models presented in the paper post 1990

To investigate if there are imbalances in observable characteristics around the cut-off, I performed a number of analyses. Number of women are the number of women candidates in each riding in each election. This is only available in the models with all the candidates which include both women and men. Number of candidates are the number of candidates in each riding in each election. Electoral experience is measured by the number of times a candidate has contested the election up to t. Major party is coded as 1 if the candidate belongs to the Liberals or Conservatives, and 0 if they did not. These tests check whether there is an imbalance between the treated and control groups across all these observable characteristics. I re-run the RDD estimates on these characteristics. A significant RDD estimate would signal an imbalance. In all these cases the robust p-values are not significant so we can say there is no evidence of an imbalance in the data with respect to these characteristics.

#### Models with All Candidates

Variable	MSE-Optimal Bandwidth	RD estimate	Robust p-value	Effective Number of Observations
Number of women	24%	-.01 (.09)	.702	3600
Number of candidates	24%	.05 (.13)	.885	3540
Electoral Experience	15%	-.02 (.18)	.674	2098
Major party	18%	.02 (.05)	.734	2601

#### Models with Men Only

Variable	MSE-Optimal Bandwidth	RD estimate	Robust p-value	Effective Number of Observations
Number of candidates	26%	.18 (.14)	.206	2897
Electoral Experience	18%	-.03 (.19)	.697	2007
Major party	15%	-.02 (.06)	.579	1590

**Models with Women Only**

Variable	MSE-Optimal Bandwidth	RD estimate	Robust p-value	Effective Number of Observations
Number of candidates	19%	-.41 (.31)	.10	694
Electoral Experience	12%	.00 (.29)	.837	471
Major party	15%	.11 (.10)	.136	547

Table 25. – Alternative Model Specification (OLS)

To further interrogate the differences between men and women, I also conducted analyses using a standard OLS framework because this framework allows me to easily model an interaction term with the treatment (elected). This specification of the model follows that of Ferreira and Gyourko (2014). In order to separately estimate the RD effects for elected men and women, Ferreira and Gyourko (2014) employ a design in which the treatment (incumbency) and the running (margin of victory) variables are interacted with dummy variables for each gender. It is not possible to include a main effect for the treatment and running variables in such a model as doing so would cause multicollinearity. The elected variable in the models that follow indicate incumbency as it signals the candidate was elected in the previous election. Further, the OLS does not adhere to the bias-adjustment framework which assigns greater weight to observations closer to the RDD threshold (Calonico et al. 2019). I show the results of the OLS specification using the optimal bandwidth selection procedure that minimizes MSE for each model. The runs again models show positive and statistically significant effects for men and women, which is consistent with the models in the paper (see also table 1 in the appendix). For elected, the results overall show a noisy pattern similar to the models in the paper. And finally for vote share, the results are broadly consistent with, if not stronger than, the models in the paper.

Runs Again	1960	1970	1980	1990
Women	-6.364 (3.909)	-5.891 (4.085)	-7.856 (4.302)	-4.720 (4.303)
Elected × Women	57.895 <sup>***</sup> (6.390)	58.623 <sup>***</sup> (6.349)	60.935 <sup>***</sup> (6.454)	57.334 <sup>**</sup> (5.990)
Elected × Men	43.706 <sup>***</sup> (2.739)	44.788 <sup>***</sup> (3.170)	45.289 <sup>***</sup> (3.507)	44.770 <sup>***</sup> (4.085)
Margin of Victory × Women	-0.020 (0.449)	-0.154 (0.429)	-0.281 (0.431)	-0.092 (0.378)
Margin of Victory × Men	0.971 <sup>***</sup> (0.181)	1.032 <sup>***</sup> (0.193)	1.089 <sup>***</sup> (0.215)	1.082 <sup>***</sup> (0.226)
Major party	-5.815 <sup>***</sup> (1.499)	-3.921 <sup>*</sup> (1.552)	-3.230 (1.728)	-1.493 (1.910)
Constant	54.967 <sup>***</sup> (2.969)	40.376 <sup>***</sup> (3.192)	32.970 <sup>***</sup> (3.321)	26.565 <sup>***</sup> (3.545)
N	4459	3599	2860	2181
Year Fixed Effect	Yes	Yes	Yes	Yes
R2	0.345	0.365	0.369	0.374
R2 Adj	0.342	0.362	0.365	0.370

Standard errors in parentheses

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

Elected	1960	1970	1980	1990
Women	6.372 (6.965)	0.862 (6.673)	-6.243 (6.495)	0.145 (7.292)
Elected × Women	-10.887 (11.405)	-1.825 (10.859)	10.971 (10.164)	2.756 (11.583)
Elected × Men	9.931* (4.803)	6.938 (5.577)	10.330 (5.934)	10.770 (7.049)
Margin of Victory × Women	3.454*** (0.748)	2.659*** (0.690)	1.656*** (0.494)	2.310*** (0.582)
Margin of Victory × Men	2.133*** (0.300)	1.944*** (0.330)	1.492*** (0.280)	1.980*** (0.348)
Major party	-0.885 (2.344)	-0.607 (2.618)	-0.565 (2.612)	-1.243 (3.061)
Constant	47.684*** (3.962)	47.179*** (4.691)	43.874*** (5.236)	44.923*** (6.020)
N	2349	1856	1683	1170
Year Fixed Effect	Yes	Yes	Yes	Yes
R2	0.140	0.120	0.138	0.183
R2 Adj	0.132	0.111	0.130	0.174

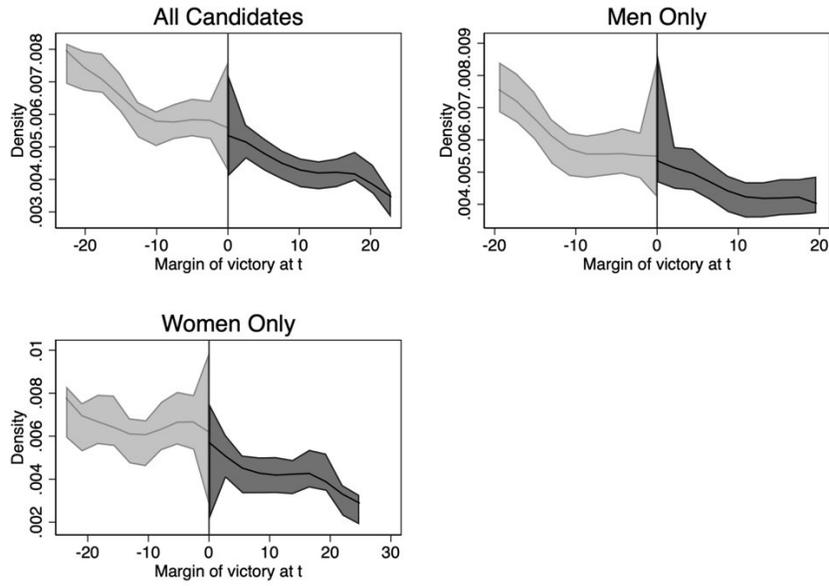
Standard errors in parentheses

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

Vote Share	1960	1970	1980	1990
Female	-0.358 (0.367)	-0.767* (0.366)	-0.827* (0.363)	-1.105** (0.426)
Elected × Women	0.788 (0.557)	1.040 (0.535)	1.176* (0.535)	1.539** (0.586)
Elected × Men	-0.092 (0.183)	-0.435** (0.158)	-0.462* (0.181)	-0.558* (0.236)
Margin of Victory × Women	0.584*** (0.030)	0.563*** (0.027)	0.559*** (0.024)	0.534*** (0.027)
Margin of Victory × Men	0.596*** (0.010)	0.608*** (0.009)	0.606*** (0.009)	0.615*** (0.012)
Major party	2.477*** (0.170)	1.978*** (0.155)	1.948*** (0.161)	1.717*** (0.175)
Constant	36.701*** (0.489)	37.724*** (0.345)	38.220*** (0.318)	34.295*** (0.492)
N	6094	4848	4291	2962
Year Fixed Effect	Yes	Yes	Yes	Yes
R2	0.650	0.705	0.735	0.709
R2 Adj	0.649	0.704	0.734	0.708

Standard errors in parentheses

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$



Note: Density plots of the running variable for the control group (grey) and treatment group (black) based on the procedure developed by Catteno et al. (2019). As can be seen from the plots, there is no discontinuity in the density around the cut-off (at margin of victory = 0).

Figure 22. – Density of elections with narrow winners and losers

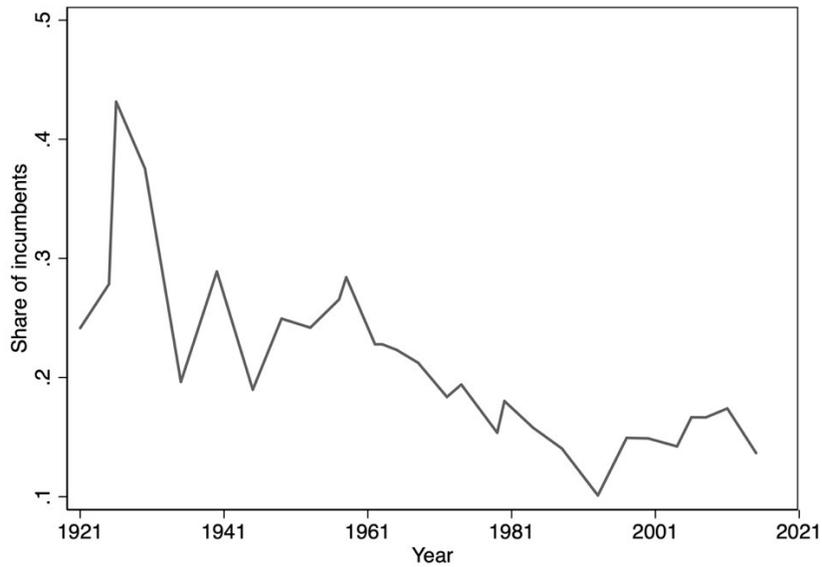


Figure 23. – Share of incumbent candidates

Table 26. – Runs again sometime in the future after 1990 (major party as a covariate and year fixed effect)

**Runs again**

	All Candidates	Men Only	Women Only
RD estimate	44	40	51
Robust SE	(4.0)	(5.0)	(8.0)
MSE-Optimal Bandwidth	17	14	16
Robust p-value	0.000	0.000	0.000
Effective Number of Observations	2436	1587	581