KU LEUVEN

FACULTEIT SOCIALE WETENSCHAPPEN
MASTER OF SCIENCE IN DE VERGELIJKENDE EN INTERNATIONALE POLITIEK

The effect of low-information voters and elections on gender-based voting behavior

A cluster-robust multinomial logistic regression analysis of the effect of political sophistication and electoral context on same-sex voting behavior in the 2014 Belgian federal and European elections

Promotor: Prof. Dr. Sofie Marien
Assessor: Dieter Stiers
Verslaggever: Prof. Dr. Marc Hooghe

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Summary[1]

The literature often describes the gender of a candidate as a voting-cue or a cognitive shortcut for voters to simplify their voting decision. The underlying assumption is that when the ability to collect relevant electoral information on individual candidates is somehow impaired, voters will feel more inclined to base their decision on descriptive similarities, such as gender. This paper focuses on two possible causes for a lack of information, namely a limited individual disposition to collect information, i.e. having a low level of political sophistication, and the limited availability of information. In this respect, previous studies revealed the importance of individual voter characteristics, including political sophistication, on same-sex voting behavior. Some of these studies hinted that the amount of information available in elections would also influence the propensity of voters to cast a vote for someone of the same sex. Nevertheless, the different timing and setting of the elections made it exceptionally hard to study the isolated impact of the electoral context. This thesis presents the first structural comparison of same-sex voting across different electoral contexts. It distinguishes between elections in which there is a high availability of information, so-called 'first-order elections' and elections that are signified by a low availability of information, or 'second-order elections'. The 2014 Belgian elections presented a unique opportunity to do so as the first-order federal elections and the second-order European elections took place simultaneously. In order to answer these questions, I relied on a cluster-robust multinomial regression analysis of these data. Against theoretical expectations, I find that the availability of information only plays a minor role at an individual level (political sophistication) and that no discernable effect can be observed with regards to the electoral context (first- and secondorder elections).

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[1] Dutch translation available in Annex A

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Acknowledgements

Menig maal valt het woord 'eenzaam' in de omschrijving van het proces van het schrijven van een thesis. Nu zijn er een aantal redenen (lees: mensen) waarom dat bij mij gelukkig geenszins het geval is geweest. Naast het letterlijke schrijven van de thesis, is het denkproces immers onderwerp geweest van ontelbare interessante gesprekken, dankzij de deelname van mensen die ik heel dankbaar ben dat zij (even) een onderdeel van mijn leven hebben kunnen uitmaken.

In de eerste plaats is dat mijn promotor: Prof. Dr. Sofie Marien. Het is zeer moeilijk om uw bijdrage in woorden uit te drukken. Uw talloze aanmoedigingen, uw uitgebreide feedback en in bredere zin uw betrokkenheid bij de thesis, maakten niet enkel dat ik veel plezier heb ontleend aan het schrijven, maar ook dat ik met meer interesse ben geëindigd dan waarmee ik begonnen ben. In een poging uw bijdrage te kwantificeren, heb ik het aantal woorden geteld (op papier, niet de afspraken) dat u in de begeleiding van mijn thesis hebt gestoken, namelijk 18.321. Daar ik meen dat, ondanks het risico op een small-sample bias, deze bijdrage significant ($p < .001$) verschilt van de nulhypothese 'voldoende', zou ik met het nodige betrouwbaarheids-interval (95% CI) 16.321 tot 20.321 maal mijn oprechte dank willen expliciteren. Uw enthousiasme en vrolijkheid werden onbeschrijfelijk veel gewaardeerd. Ook een mini-dank voor Silvia Erzeel voor haar advies en kennis over *gender*-based stemgedrag, wat doorslaggevend was in de formulering van de onderzoeksvraag en voor de fantastische begeleiding tijdens het Seminarie Politicologie.

Een tweede zeer politiek gesofisticeerd persoon (wat niet toevallig ook zijn veld van expertise is) is mijn assessor Dieter Stiers, die mij zeer goed heeft geholpen in het overbruggen van een aantal methodologische en theoretische impasses. Jouw behulpzaamheid op cruciale momenten, heeft de grootste bronnen van stress weggenomen. Zo had ik aan jou en professor Marien het meest perfecte thesis-team dat ik mij kon wensen.

Een korte maar welgemeende dank zou ik bovendien graag willen richten tot Prof. Dr. Marc Hooghe en het Centrum voor Politicologie, zowel voor het ter beschikking stellen van de data, als

voor de leerrijke ervaringen die ik heb mogen opdoen in het kader van mijn taken als student-assistent, in het bijzonder mijn deelname aan het Politicologenetmaal.

Naast het CEPO, verdient ook de administratie (mevr. Vanhees en mevr. Loockx in het bijzonder) en studiebegeleiding (Dorien, Yasmine en Joeri) van de Faculteit Sociale Wetenschappen een dank voor de ondersteuning en hun vriendelijke glimlach waarop ik elk denkbaar moment dat ik het nodig had, kon rekenen.

Daarnaast heb ik enkelen van mijn favoriete personen in de wereld opgezadeld met het nakijken van mijn thesis, aan wie ik mijn dank verschuldigd ben. Bovenaan dat lijstje staat uiteraard Gunther Vanden Eynde, die al drie jaar lang elke paper die ik ooit heb geschreven van de nodige kritiek heeft voorzien. Ik ben heel blij dat ik u en Kristientje mijn reserve-familie mag noemen. Een tweede dank voor Thomas Mermans voor het helpen coderen van de 'kandi-data' en de babbeltjes over en in het Latijn. Finally, a massive thanks to Flix (Felix Bunting) for your physics jokes, your inexplicable passion for split infinitives and for making sure that the level of English in this thesis lives up to the spelling and grammar standards set by the University of Oxford. I'm glad that I got to meet μ (pun intended).

In de laatste plaats zijn er nog mensen die weliswaar niet direct hebben bijgedragen aan mijn thesis, maar wier stralende gezichtjes en warme hartjes maakten dat elke (college)dag de moeite waard was, namelijk mijn studie-makkertjes (ik probeer het woord 'bromies' pro forma te vermijden): Kaatje (en familie), Eva, Bram, Evelien, Greetje, Sarah, Iris, Carine, Ilse, Hannah, Charlotte, Gwen, Chaima, Delphine, Nils, Marilou, Laetitia, Mathijs (met binnenkort hopelijk een gezond mini-Mathijsje) en Karen (beste huisgenootje ooit). Maar bovenal is het grootste gedeelte van mijn dankbaarheid gereserveerd voor mijn mama en papa. Papa, in mijn boekenkast staat nog steeds uw dissertatie, met op de eerste pagina de volgende tekst geschreven: *"Amsterdam, 21 januari 2000. Voor mijn lieve dochtertje Sjifra in de hoop dat zij altijd zo nieuwsgierig mag blijven als zij nu is. Haar vader."* Papa, mama, bedankt voor het aanmoedigen van die nieuwsgierigheid. Dankzij jullie heb ik op elk moment van mijn studies kunnen genieten .

Introduction

The normative evaluation of democratic performance is often based on the question whether voters have the power to bring about meaningful change. During the elections, candidates will attempt to gain the voters' trust, by presenting them with appealing ideas and solutions to society's problems (Lawson & Lanzaro, 2013, p. 45). By engaging in this so-called 'promissory politics', candidates hope to collect votes (Mansbridge, 2003, p. 516; Müller & Strøm, 1999). Nevertheless, after the elections it is increasingly difficult for citizens to hold the elected representatives accountable for their actions, causing the vast number of promises made during the elections often not being put into practice (Rosanvallon, 2014). Consequently, the discrepancy between the expectation of voters and the realizations of the incumbent government, leaves citizens with a structural feeling of dissatisfaction and by extent causes a phenomenon that is often referred to as the 'crisis of democracy'. In effect, in spite of the fact that today's institutions are functioning more democratically than ever before, contemporary democracies are signified by high levels of distrust and a collective lack of a sense of empowerment (Krastev, 2014).

Although it is argued by e.g. Rosanvallon (2014) and Krastev (2014) that the gap between the existing and ideal democracy cannot be bridged, the ideal of descriptive representation might serve as a solution to some of the previously identified problems of promissory politics. The concept of descriptive representation encompasses the idea that societal groups ought to be represented by representatives with whom they share similar traits. Jane Mansbridge (1999, p. 641) argues that voting for someone with similar traits, such as gender – which is referred to as gender-based voting – facilitates vertical communication between principal (voter) and agent (representative) as the representative in question would be sufficiently qualified to read the signals of its voters, without having to rely on making redundant or unrealizable promises. In spite of its potential to contribute to a solution for the aforementioned problems of promissory politics, little

research has been conducted on gender-based voting behavior in systems with proportional representation. Hence, gender-based voting behavior will constitute the main topic of this thesis.

However, not all voters are equally reliant on using a simple piece of information such as gender - or a voting cue - to make a meaningful decision, that is a decision that is concordant with their respective interests (Lawson & Lanzaro, 2013, p. 44). Voters can also strive to collect other relevant political information, which enables them to base their decision on more complex considerations than merely a personal trait of a candidate. The individual disposition to collect relevant information to cast a meaningful vote is referred to as political sophistication (Luskin, 1987, p. 860). Consequently, these so-called low information voters will feel more inclined to use a voting-cue, as they will experience a greater need to simplify their voting decision than voters with higher levels of political sophistication. This study investigates whether this relation with political sophistication also exists for gender-cues.

Nevertheless, the ease with which an individual collects information is highly dependent on the amount of information that is offered. Reif and Schmitt (1980) distinguish between first-order elections, that receive high amounts of attention, and second-order elections, that are generally considered less important by individual voters and the media. In other words, the difference between first- and second-order elections converges around the distinction between high-information contexts and low-information contexts.

The findings of previous studies of e.g. Hobolt and Wittrock (2011, p. 39) and Mcdermott and Luskin (1998) already support the assertion that the low information context of second-order elections encourages voters to make use of a voting-cue more frequently than in first-order elections. Building on these findings as well as the theories put forward by Reif and Schmitt, it is interesting to explore whether a similar phenomenon occurs in the case of gender-based voting behavior i.e. whether voters are more likely to cast a gender-based vote in second-order elections regardless. Moreover, following the suggestion made by Clark (2014), I theorize that the influence of political sophistication on gender-based voting behavior differs across

first- and second-order elections. More specifically, it expects that political sophistication matters less in the context of second-order elections, where voters are equally confronted with a low availability of information. In the past, most studies on gender-based voting behavior and its relation to political sophistication were confined to individual voter characteristics (Giger, Holli, Lefkofridi, & Wass, 2014). Though it has been suggested by e.g Marien, Schouteden and Wauters (forthcoming) that gender-based voting behavior would be more prevalent in a low-information context, hitherto no opportunity has presented itself to make a structural comparison between first- and second-order elections, as the different timing and setting of the elections makes such a comparison an especially arduous endeavor.

This thesis will attempt to do so by analyzing the 2014 Belgian first-order federal elections and the second-order European elections using the data collected within the framework of the 2014 PartiRep Survey and its innovative mock-ballot voting-data collection technique. The 2014 Belgian elections constitute a unique case in which the regional, federal and European elections took place simultaneously, allowing for such a comparison. There are two other reasons why Belgium is preeminently an ideal case to study gender-based voting behavior. First, the Belgian multiple preferential voting system allows voters to cast multiple votes. This feature enables voters to express their sincere preference through a vote, without having to take the possible outcome of their choice into account i.e. it minimizes strategic voting behavior. Second, there are strict gender quota in place, causing the male to female ratio to be nearly perfectly balanced, enabling to exclude the number of female candidates on a list as a possible explanation for voting behavior (Marien et al., forthcoming). Therefore, this is a perfect opportunity to answer the question whether the role of political sophistication in casting a gender-based vote differs in low-information contexts (second-order elections) and high-information contexts (first-order elections) by comparing the effect of political sophistication on gender-based voting behavior in the European and federal elections in Belgium.

This thesis is composed of five chapters. First, a critical review of the existing literature will be presented on the basis of which

four hypotheses will be formulated. Second, the data and methods will be described. In Chapter three and four the results of descriptive and multivariate analyses will be presented. The final conclusion returns to the main question of this thesis, namely what the influence is of little information on an individual's propensity to cast a gender-based vote. Finally, the discussion critically evaluates the limitations of this study, possible explanations for unexpected findings and a few suggestions for further research.

1. Theoretical Framework and Hypotheses

Elections present individual voters with the opportunity to communicate their preferences to the political system (Easton, 1965). In this regard, Thomas Piketty (2000, p.169) suggests that a vote is driven by two cumulative motives and can therefore be considered the carrier of two types of information. First, a vote can be based on the ideology and policies of the party or candidate. In this respect a vote contains information with regards to the most preferred policy of the voter. Alternatively, voters can cast a vote for a candidate whom they trust to carry out the interests of its constituency. The information that is communicated now concerns the most-preferred candidate. Such a vote may be based on descriptive similarities between voters and their candidate of preference, such as gender.

In the electoral context of consensus democracies, voters that casted a vote driven by substantive motives, such as ideology and policies, are often left disappointed, since these promises constitute the object of continuous political trade-offs between parties (Rosanvallon, 2014; Lijphart, 2012). Consequently, voters in consensus democracies need an excessively large amount of information with regards to the competence and integrity of the individual candidates, in order to be reassured that they are willing and capable of adequately representing their constituents (Mansbridge, 2003).

There are multiple factors that may hamper a voter's ability to collect a sufficient amount of information to cast a meaningful vote. In this thesis I theorize that if the ability to communicate, collect or understand political information is somehow impaired, individual voters will feel more inclined to base their vote for a specific candidate on its gender, as candidates sharing descriptive similarities with their constituents are often expected to be naturally better at understanding and representing their interests without continuously consulting with their voters (Mansbridge, 1999). Casting a vote based on descriptive similarities can therefore serve as a viable solution to the uncertainty that low information voters are confronted with.

This chapter explores two possible reasons for voters to use descriptive cues in order to come to a meaningful voting decision. It will specifically focus on the use of a gender-cue. Gender-based voting is the term used to describe voting behavior in which voters base their decision on the gender of the candidate (Plutzer & Zipp, 1996). The first section focuses on what exactly constitutes a gender-identity. The second section contends that low information voters, i.e. voters that lack a sufficient level of political sophistication, are more likely to use a voting-cue. The third section argues that the electoral context may influence the individual capacity to collect relevant pieces of information. More specifically, this section hypothesizes that the likelihood of using a voting-cue is greater in the low information context of second-order elections, than in the high information context of first-order elections.

1.1. Identity and Gender-Based Voting Behavior

In an electoral context where the traditional promissory model of representation often not suffices to guarantee adequate representation, the need to look for other cues increases (Mansbridge, 2003). The ways in which voters can simplify their decision are manifold. Prominently used cues include the party's ideology and political preferences within the family (Boonen, 2016). Within the preference-voting dimension, other cues prevail, often based on a relationship of identity. The underlying assumption is that candidates with similar traits also share similar interests with its constituents, i.e. descriptive representation would subsequently lead to substantive representation (Pitkin, 1967; Mansbridge, 2005, p.622). Previous scholarship provides empirical support for this reasoning. Cowell-Meyers and Langbein (2009) for instance illustrate that the presence of female representatives in the American states legislatures, has led to an increasing attention and creation of policies favorable to women. Remarkably, Celis and Childs (2012) show that this assertion even holds true in conservative parties, which are signified by a limited interest in issues that are typically classified as 'women's issues', such as equal opportunity. Similar conclusions have been drawn with

respect to the descriptive representation of blacks (Bowen & Clark, 2014). This is why some authors react favorably upon suggestions and attempts to improve the descriptive representativeness of today's institutions (Lombardo & Meier, 2016; Rowling, 2015). This section further elaborates on the conditions under which such a relationship of identity between voters and representatives emerges.

In *Voter's Choice* Gerald Pomper (1975) introduces the aforementioned idea that voters use their social group membership as a cognitive shortcut to make a voting decision. Nevertheless, social-group membership will only translate to a preference vote after a process of identification. Tajfel, Fraser and Jaspars (1984) enunciate three conditions that ought to be cumulatively fulfilled in order for group-membership to subsequently lead to group-identification, namely the salience of the similarities between the members of the same group, the common faith of the group and the amount of personal identification with the group - or centrality.

Gender meets the aforementioned conditions. First, in most societies men traditionally fulfill other roles than women. Lovenduski (2001, p.180) argues that these differences primarily manifest itself in the division of labor. Second, Plutzer and Zipp (1996, p.51) underline that even in highly developed societies, gender-inequality will still remain a salient issue in politics. The findings of Paxton, Kunovich, and Hughes (2007, p.265) support the assertion made by Plutzer and Zipp. Their study highlights the salience of the political gap between men and women, which suggested that men and women do not only differ from each other in substantive terms on the level of e.g. ideology and policy-preferences, but also with respect to the way they interact with the political system or in terms of participation. In other words, men and women do to some extent share a common faith with other members of their gender-group. The fact that gender appears a viable source of identification for both men and women is why a large group of scholars, such as Rosentahl (1995, p.600) and Sanbonmatsu (2002, p.20) support the idea that voters use the gender of candidates in order to infer information to their general ability to defend the interests of their constituents. Sanbonmatsu (2002, p.20) even argues that this results in what she refers to as 'baseline gender-preference', meaning

that voters are automatically pulled towards candidates of the same gender, if all other factors are held constant. This idea is widely supported by numerous studies conducted in the United States. These studies showed that gender-based voting behavior transcends differences between voters in terms of partisanship (Plutzer & Zipp, 1996) and party-preference (Darcy & Schramm, 1977).

In order for voters to translate their preference for a specific gender to their voting behavior, they need to be able to discriminate between members and non-members of their gender-group. Conveniently, the distinction between male and female candidates is often visibly observable. Not only can the gender of a candidate easily be determined using visual traits but the names that appear on a voting-ballot can often also easily be categorized as either male or female and can as opposed to ethnicity or religion, gender-identity not be neglected (Cameron & Lalonde, 2001, pp.51–74). In effect, voters are not only able to decide to what extent they identify with members of their gender, they are also able to distinguish one sex from another on the voting ballots, which will allow them to vote accordingly.

This link of identity between candidates and voters is not necessarily equally strong for both genders. It is often assumed that this connection is strongest for groups that occupy a structurally disadvantaged position in society. The assertion that women are less well-endowed in society as well as in politics than men, is widely supported (Campbell, 2006, p.104). Pettigrew (1971, p.241) contends that this cleavage often translates to a state of collective deprivation, which can be described as a situation in which a group feels deprived of certain resources and opportunities in comparison to a desired point of reference. In the case of gender inequality, the desired point of reference is the other group, namely the opposite gender.

There is a growing consensus that the disadvantaged socioeconomic status of women in society constitutes a problem that ought to be addressed. The latest statistics of the European Commission for instance show that in spite of major improvements, this cleavage still translates to a wide range of issues, of which the gender-pay gap is the most precarious one (Cameron & Lalonde, 2001, p.59; European Commission, 2016, p.11). These problems constitute

the 'common faith' that lies at the basis of a gender-identity, resulting in a well-defined need for substantive political representation of women.

Less agreement exists with respect to the disadvantaged position of women in political terms. A number of studies argue that there is no discernable bias against female candidates in politics. For instance, in an analysis of the 2007 Finnish parliamentary elections, in which approximately 40% of the candidates were female, Holli and Wass (2010) conclude that, although men are consistently more likely to cast a vote for someone of the same sex, there is no indication that such a bias exists. Instead, they find that women often carry a more explicit intention to vote for a candidate of the same sex than men, suggesting that there may even be a bias in the opposite direction. Similarly, in an analysis of the 2002 elections in Ireland, McElroy and Marsh (2010, p.827) also find no evidence of discrimination against female candidates. Moreover, Dolan (2008, p.85) finds that both men and women possess more knowledge about female candidates than about male candidates. She contends that this is a clear indication that women in politics succeed at drawing attention to themselves, which makes the assertion that women occupy a disadvantaged position in politics debatable.

Nevertheless, these arguments fail to account for the fact that women are structurally underrepresented in politics. Based on their findings, McElroy and Marsh (2010) suggest that the unwillingness of adequate female candidates to come forward in the elections is at the basis of the substantial underrepresentation of women in politics. This suggestion can easily be invalidated by the fact that even in Belgium, where gender quota lead to a nearly equal supply of male and female candidates on the list, women are still less frequently elected than men (Marien et al, forthcoming). Alongside the problems that emerge from gender-inequality, this observation may cause women to experience a state of collective deprivation. Inversely, men benefit from the aforementioned arrangements and are likely to defend the status quo, causing them to experience a state that is generally referred to as 'social satisfaction'. However, in contrast to social satisfaction, social deprivation is often considered a drive for social change (Walker &

Smith, 2002).

Glass and Singer (1972, p.130) underscore that this experience of collective or 'fraternal' deprivation strengthens the within-group or 'brotherly' identity, which in in its turn is likely to increase the propensity of casting a gender-based vote. Additionally Leuthold and Fenno (1979, p.236) argued that communication or more generally speaking ties between voters and candidates are stronger where a strong sense of community exists, subsequently translating to a higher propensity to cast a preference-vote. Following these arguments, I **expect that women are more likely to cast a same-sex vote than men (Hypothesis 1).**

Previous studies provide mixed results, with regards to the effect of gender on their voting decision. Whereas the studies of Plutzer and Zipp (1996, p.45), Koch (2002) and Sanbonmatsu (2002) provide for empirical evidence of gender effects, McElroy and Marsh (2010) and Paolino (1995) find no such effect. These studies, however include no further information as to whether this effect is larger than the likelihood of men voting for male candidates. The results with respect to the effect of gender on same-sex voting behavior also yield mixed results. The studies of Holli and Wass (2010), Erzeel and Caluwaerts (2015) and Marien et al. (forthcoming), find that men are more likely to cast a same-sex vote than women. Dolan (2008, p.87) on the other hand finds no difference between male and female voters in terms of their propensity to vote for a female candidate.

The relative deprivation theory may also offer an explanation for these unexpected findings. Tajfel and Turner (1986) argue that group identification of high status groups is based on the intention to maintain a position of social dominance over their female counterpart. Even when an explicit bias against women in politics is absent on the side of the voters, it is possible that it does translate to the power-dynamics within politics. Paxton et al. (2007, p.267) argue that this observation may be explained in terms of a severe lack of female role models in politics. This is caused by the fact that women are less often nominated for a position within a party and if they are, they are structurally less likely to occupy highly valued positions (Giger et al., 2014, p.305). Even in Belgium, where the supply of male and female

candidates is equal, power dynamics translate to the fact that women candidates are placed lower on the list (Marien et al., forthcoming). Consequently, women may experience severe limitations in their over-all intention to vote for female candidates due to the composition of the ballots.

1.2. Political Sophistication and Gender-Based Voting Behavior

Arguably, not all voters are equally reliant on using a gender-cue. Evidently, descriptive similarities alone will not suffice to guarantee that a candidate will turn to its constituency for information with regards to its preferences (Young, 1997, p.354). More in-depth information with regards to the background of individual candidates may offer a better guarantee for adequate representation. This section contends that as voters are better capable of collecting information with regards to the individual candidates – or political sophistication – substantive similarities between candidates and voters prevail over descriptive similarities.

Fearon (in Przeworski, Stokes, & Manin, 1999, p.68) identifies three criteria with regards to characteristics of candidates on the basis of which voters gauge the potential ability of candidates to adequately represent their constituents. First, voters need to decide whether such substantive similarities exist, by collecting information with regards to the ideology and policy-preferences of the candidates. Second, substantive similarities alone do not suffice to guarantee substantive representation. Thus, additional information needs to be collected with regards to the trustworthiness of the candidate. Finally, substantive representation also requires the candidates to put their promises into practice. Especially within the context of a concentrically organized democracy, where fundamental decisions are made by the inner core of the political elite – a position which in consensus democracies is occupied by the government – the ability of candidates to substantively represent their constituents is greatly determined by the extent to which they have the skills necessary to exercise influence (Habermas, 1996). In other words, the information

voters need to collect in order to cast a vote that is concordant with their interests is complex and multifaceted.

The process of collecting and understanding these types of information requires a certain level of cognitive resources or political sophistication. Philippe Converse (2006) defines political sophistication in terms of the so-called 'political belief system' (PBS). A political belief system, according to Converse, is "a configuration of ideas and attitudes in which the elements are bound together by some form of constraint or functional interdependence" (Converse, 2006, p.3). PBS is composed of three elements. First, a belief system requires a certain stability and sustainability. The stability of a belief system is warranted by a durable hierarchy in attitudes. Those attitudes that are least likely to change after having been confronted with information that is substantially incongruent with a person's belief, can be considered 'central'. Second, PBS can be defined in terms of their range, or the number of objects they are directed at. Finally, ideology is what integrates a belief system into a single coherent unity. In other words, the definition posed by Converse refers to the voter's awareness of his or her own preferences and substantive ideas that it finds worthwhile communicating.

Applied to the context of the elections, political sophistication can be most easily understood in terms of the extent to which an individual is capable of distinguishing between different policies, parties and candidates and to subsequently select the candidate who is best fit to represent his or her interests. This is fairly similar to the definition proposed by Luskin (1990, p.331) who defines political sophistication as "the extent to which his or her political cognitions are numerous, cut a wide substantive swath, and are highly organized, or constrained". Ultimately, a voter is perfectly aware of what representatives stand for and will be able to vote accordingly, based on the reputation of the candidates (Hardin, 2002).

Luskin (1990, p.331) proposes three possible categories of explanations for the individual development of political sophistication, namely the amount of political information to which voters are exposed, their cognitive ability to understand the information and finally their motivation to put effort into the collection

of this information. His study shows that all three categories significantly contribute to an individual's level of political sophistication.

An individual's level of sophistication has wide-ranging consequences for an his or her relation with political decision-making. Hooghe, Marien and de Vroome (2012) already suggest that political sophistication serves as a cognitive basis for trust, which is at the basis of the political system. Additionally, a large amount of scholarship suggests that political sophistication is associated with an individual's disposition to use heuristics in order to make a meaningful voting decision (Sniderman et al. 1991; Lupia, 1994). They argue that higher sophisticated voters are more likely to process information in a way that also includes the content and details of a message – or systematic processing, whereas lower sophisticated voters employ a heuristic mode of processing, meaning that they are in need of observable cues or heuristics in order to determine their position (Petty & Wegener, 1998).

Drawing on the distinction between these two modes of processing information, one can deduct two specific implications for an individual's capacity to cast a meaningful vote. A first implication is that a voter's capability to distinguish between different candidates increases as the level of sophistication grows, causing the highly sophisticated to have a wider range of candidates to choose from. Marsh (1985) shows that this subsequently translates to a higher propensity to cast a preference-vote. This idea was later confirmed in the Belgian context by André et al. (2012). They found that the possession of political resources, such as political sophistication[2], positively influences the propensity to cast a preferential vote, as these cognitive resources enable voters to distinguish between the different individual candidates.

Furthermore, highly sophisticated voters are better capable of understanding which policies are concordant with their interests. Thus their vote signifies an unambiguous support for the platform presented by the party in question. By voting for a platform that is in line with

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[2] Using 'political interest' as a proxy to measure political sophistication

an individual's desires, voters do not need to simplify their decision by using e.g. a descriptive cue to trust the representatives that they will defend their constituents' interests. Instead, they are able to use other more complex pieces of information, such as the ideology, aspirations and previous experience of the candidates – or broadly speaking their 'reputation' – to make their voting-decision (Hardin, 2002, p.139).

Nevertheless, when voters do lack the cognitive or motivational resources to collect the information they need to make an informed and meaningful decision, they will feel inclined to use heuristics or voting cues to simplify their choice. These cues are often based on descriptive candidate-voter similarities, such as gender, a phenomenon that is generally referred to as gender-based voting behavior (Mansbridge, 2003, p.521). Thus, based on this review of the literature, I expect that **having a low level of political sophistication increases the likelihood of casting a gender-based vote (Hypothesis 2).**

Previous studies show that representatives with a high number of preference votes are also more likely to defend the interests of their respective constituencies – which is often referred to as substantive representation - because they rely on their constituencies to get reelected (Mansbridge, 2003, p.518). In other words, in the case of gender-based voting not only are representatives more likely to defend the interests of their constituencies because – paraphrasing Russell Hardin – "their interests encapsulate the interests of their voters", but also because they are more capable of assessing what these interests might be due to the fact that they share substantive similarities with their constituencies (Hardin, 2002; Mansbridge, 1999). In effect, the voters' call for descriptive representation can subsequently translate to substantive representation.

1.3. Gender-Based Voting in First and Second-order Elections

Although the amount of scholarship focusing on gender-based voting behavior in systems with proportional representation in itself is already very limited, there are still a few studies in which its relationship with political sophistication is discussed. Each of these

studies focused on a different electoral context and yielded mixed results with regards to the effect of political sophistication on voting choice. In an analysis of the 2009 Belgian regional elections, Erzeel and Caluwaerts (2015, p.279) conclude that the chance of voting solely for male candidates decreases as political sophistication increases. In their study of the 2010 Belgian local elections, Marien et al. (forthcoming) find a similar negative effect with respect to same-sex voting behavior, i.e. less sophisticated voters proved more likely to cast a same-sex vote than highly sophisticated voters. The results of analyses of same-sex voting behavior in the 2007 Finnish elections (Holli & Wass, 2010) and the 2002 Irish general elections (McElroy & Marsh, 2010) provide no support for this assertion. These contradictory findings seem to be in line with the suggestion made by Luskin's *Explaining Political Sophistication* (1990, p.133), namely that political sophistication does not only matter on an individual level, but is also affected by the electoral context.

In *The gender-gap in same-gender voting: The role of context* Giger at al. (2014) assess the effect of four contextual factors influencing same-sex voting behavior, namely the district magnitude, the intensity of inter-party competition, the proportion of female candidates on the list, and the proportion of female representatives currently in office. While they find that voting in larger districts, a higher proportion of female candidates on the list and the number of female representatives currently in office increases the propensity of women to vote for female candidates, the intensity of the inter-party competition does not significantly affect the likelihood of women casting a same-sex vote. With regards to the Belgian context, Wauters, Weekers and Maddens (2010) also underline the relevance of contextual factors, such as the district magnitude, on voting behavior.

All of the aforementioned studies were limited to individual or contextual factors within one electoral context. This thesis, however, focuses on the differences in available information across two electoral contexts. In this section, I theorize that the low availability of information in so-called 'second-order elections' will hamper a voter's ability to collect and understand political information.

Reif and Schmitt (1980) are the first to theorize and test the distinction between first- and second-order elections. The results of their study support the idea that the extent to which voters are informed and interested in politics might differ across electoral contexts. They broadly distinguish between first-order elections – that are generally deemed important by voters – and second-order elections – that are presented as less important. First-order elections can be distinguished from second-order elections on three dimensions, namely: the 'less-at-stake dimension', the 'institutional-procedural' dimension and the 'specific arena' dimension. The 'less-at-stake' dimension relates to the perceived influence of the elected bodies. The level of perceived influence is lower for second-order than for first-order elections. Consequently, compared to its first-order counterpart, second-order elections are signified by lower turnout and a higher percentage of invalidated ballots (Reif & Schmitt, 1980, p.9). Second, the 'institutional-procedural' dimension refers to e.g. the specific regulatory context in which the election operates. Reif and Schmitt (1980, p.13) underline that the less similar the institutional and procedural dimension of the elections, the greater the differences between first- and second-order elections. This dimension puts a severe constrain on studies in terms of inference from research conducted in one institutional setting to another.

The results presented by Mcdermott (1998) for instance, already indicate that the propensity to use a gender-cue in low-information electoral contexts is higher than in a high-information context. Nevertheless, this research was conducted in the United States and therefore inference to proportional systems is unwarranted.

Finally, in spite of the fact that there is less at stake, there is still a modest yet real number of substantial voting-decisions that ought to be made during second-order elections. This is also referred to as the 'specific arena' dimension (Reif & Schmitt, 1980, p.10). However, the relatively low perceived significance and the low amount of information causes even these decisions to be greatly determined by the political cleavages present in the context of the first-order elections (Norris, 1997, p.112). In other words, the low-

information context of second-order elections encourages voters to ease their decision by using a voting-cue.

Examples of studies with empirical evidence supporting this claim are legion. Hix and Marsh (2007) for instance, argue that second-order elections can be used as a form of electoral punishment for the government elected in first-order elections. In a study of the 2009 Belgian concurrent regional and European elections, Kelbel, Van Ingelgom and Verhaegen (2016) show that only approximately 20% of the voters, split their ticket between those two levels, leaving 80% of the voters with the same party-preference in the first-order regional elections as in the second-order European elections. The aforementioned findings adequately illustrate the ways in which voters cope with the low-information context of second-order elections by using voting-cues. This paper hypothesizes that the low-information context of second-order elections also causes voters to rely even more on a gender-cue than in first-order elections, i.e. **gender-based voting is more prevalent in second-order elections than in first-order elections (Hypothesis 3).**

As argued before, not every voter is equally reliant on using such a voting cue in order to come to a decision. The results displayed in Clark's analysis (2014) of political knowledge across different levels in Europe, show that even those with a high amount of knowledge with regards to the first-order national elections, do not necessarily possess the same amount of knowledge with regards to the second-order European elections. In other words, in a low-information context even highly sophisticated voters might feel inclined to base their voting decision on heuristics, such as the gender of a candidate. Thus, the difference between lower and highly sophisticated voters in terms of cue-voting behavior should level out, as voters with a low level of sophistication would naturally feel inclined to cast a gender-based vote and some higher sophisticated voters that would not need a gender-cue in first-order elections, might feel differently in second order elections. Therefore, **this paper expects that the effect of political sophistication on the likelihood of casting a gender-based vote is weaker in second-order elections than in first-order elections (Hypothesis 4).**

2. Data and Methodology

2.1. Data: 2014 PartiRep Survey

The PartiRep survey is a joint effort of the Katholieke Universiteit Leuven, Universiteit Antwerpen, Vrije Universiteit Brussel, Université Libre de Bruxelles, Université Catholique de Louvain-La-Neuve, Universiteit Leiden and Universität Mannheim to further research on the field of participation and representation.

The survey used a multi-phase stratified sampling. In a first phase a stratified random sample was drawn from the Belgian civil registry 'Rijksregister'. Data were collected between March 20th and May 17th 2014, shortly before the elections took place. The survey involved a face-to-face interview covering a wide range of questions with a primary focus on political attitudes. The number of secondary sampling units was proportional to the number of inhabitants of the primary sampling units, in this case the selected municipalities. During the first phase, 2019 surveys were realized, with an over-all response rate of 45% (Deschouwer, Delwit, Hooghe, Rihoux, & Walgrave, 2014).

The second phase was conducted directly after the elections and consisted of a CATI-interview in which the respondents were presented with the opportunity to replicate their voting decision using mock-ballots. The respondents were then asked to report their choices to the interviewer. The response-rate in the second wave was 85% and resulted in a realized sample of 1532 respondents (Deschouwer et al. 2014).

This thesis uses the data collected in both waves of the survey. It uses the detailed information with regards to voters' electoral attitudes and demographic background collected in the first wave as well as their voting behavior recorded during the second wave of the survey. Additionally, I used government documents and websites containing information on candidate characteristics to code 981

unique candidates for their sex (key variable) and their position on the list (control variable).[3]

Data collected in the German region and Brussels were omitted due to the low response rate (N=12). Missing data were deleted list-wise.

2.2. Case-selection: Political and Institutional Context of Belgium

In the theoretical framework, it is already argued that the prevalence of preference voting is highly reliant on the electoral context. André et al. (2012) only identify district magnitude as a determining factor in the prevalence of preferential voting. In a study on same-sex voting in Belgium's flexible list system, Marien et al. (forthcoming) describe several qualities that are deemed beneficial to gender-based voting behavior. They concluded that Belgium's electoral context turned out to be particularly fit for same-sex voting behavior.

The reason why Belgium's electoral context is particularly favorable to same-sex voting behavior is threefold. Firstly, voters are granted multiple votes, enabling them to vote for either one or more candidates – a preference vote – or for the list as a whole – a list vote. It is therefore reasonable to assume that a preference vote is more than merely an ideological choice and also expresses a voter's sincere preference for a specific candidate. Secondly, the fact that voters are allowed to cast more than one vote decreases the prevalence of strategic voting behavior. Thus, casting a vote for a candidate of a specific sex cannot solely be explained in terms of their potential of getting elected, because voters are also given the opportunity to vote for other candidates. Finally, this feature also decreases the competitiveness between candidates, i.e. candidates within a party feel less inclined to distinguish themselves from each other, causing the importance of descriptive similarities between candidates and voters

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[3] Data with respect to the sex of the candidates were obtained using the website http://directory.wecitizens.be/.

The candidate's position on the list was determined using the official lists available on http://verkiezingen2014.belgium.be

to grow compared to substantive similarities (Marien et al., forthcoming). In other words, Belgium constitutes a most likely case.

Belgium is also an ideal case to make a comprehensive comparison between the first-order federal elections and the second-order European elections. Reif and Schmitt (1980, p.13) highlight that the institutional-procedural dimension contributes to the qualification of an election as second-order. Consequently, it is often hard to distinguish between the impact of the institutional-procedural dimension and the impact of the high- versus low-information context. In the 2014 Belgian elections, however, the impact of the institutional procedural dimension is reduced to an absolute minimum. First, the institutional-procedural dimension of the federal elections is fairly similar to that of the European elections, as many rules that apply to the federal elections were retained for the European elections. The most important of these aspects, namely the supply of female candidates on the list, is held constant, as the Belgian gender-quota require the male to female ratio on the voting ballot to be nearly perfectly balances in both elections. Second, concurrent elections also minimize the influence of the institutional-procedural dimension, as the time and political context in which it takes place is held constant. Thus Belgium constitutes an ideal case to study gender-based voting behavior in first- and second-order elections.

2.3. Dependent Variable: Voting Behavior

In a Multiple Preferential Voting system, such as in Belgium, voters can either cast a vote for the list as a whole or cast as many preference votes for candidates within one list as they desire. This thesis will focus on preference voting behavior, of which the data were collected in the second wave of the survey. More specifically it will distinguish between three types of preference voting, namely casting one or more votes for a candidate of the same sex or 'same-sex vote' (1), casting votes for candidates of both sexes or 'mixed vote' (2), or casting a vote for one or multiple candidates of the opposite sex or 'cross-sex vote' (3). The category 'mixed vote' was programmed to be the reference category in the subsequent analyses for the following reasons. First,

this category is signified by the absence of a clear gender-bias, as voters included in this category casted votes for both male and female candidates. Therefore, this category could serve as a point of reference. Second, choosing 'mixed' as the reference category, necessarily means that the parameters for 'cross-sex voting' are included in the analysis. This can serve as a first indication to see whether political sophistication indeed exercises a stronger negative influence on same-sex voting behavior than on cross-sex voting behavior.

2.4. Independent Variables [4]

2.4.1. Measuring Political Sophistication

A central hypothesis of this thesis is that having a low level of political sophistication increases the likelihood of casting a same-sex vote (Hypothesis 2). Nevertheless, hitherto no consensus has been reached about what exactly constitutes political sophistication, nor how to operationalize this multifaceted concept. Luskin (1987, p.860) defines political sophistication as "the extent to which his or her political belief system is large, wide-ranging and highly constrained". He suggests that political sophistication has two main components, namely cognitive and motivational (Luskin, 1990). The first component is often operationalized by the level of educational attainment. In this thesis this component will be measured using a 4-point scale (1=none/primary, 2=lower secondary, 3=upper secondary, 4=higher education). The second component is often operationalized by the variable political interest. In this study, political interest is measured using an 11-point Likert-scale ranging from 0 (not interested at all) to 10 (very interested). Finally, political knowledge is measured using a sum-scale of the number of correct answers for 5 different multiple choice questions. This resulted in a scale ranging from 0 (no questions answered correctly) to 5 (all questions answered correctly).

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[4] Summary statistics of all independent variables are available in Annex C; the exact wording of the items can be found in Annex B.

2.4.2. Sex

In the first hypothesis, the expectation was formulated that women are are more likely to cast a same-sex vote than men. The PartiRep survey included a dichotomous item, allowing respondents to indicate whether they identified as male (1) or female (2). This item gauged the sex of the respondents.

2.4.3. Electoral Context

Hypotheses 3 and 4 both focus on the effect of electoral context on the likelihood of casting a same-sex vote. As the federal elections are considered a text-book case of first-order elections and the European elections a textbook case of second-order elections, a dummy variable (1 = federal elections, 2 = European elections) was included in the analysis, to assess the influence of the electoral context.

2.4.4. Control Variables

Finally, the analyses included two types of control variables. The first type covers individual characteristics, such as age, region and left-right orientation. Previous studies show mixed results with regards to the effect of age on same-sex voting behavior. A study of the 2007 elections of the parliament in Finland, for instance, shows that the propensity of voting for a candidate of the same sex decreases with age (Holli & Wass, 2010, p.610). The results of a multinomial logistic regression presented in the study of Erzeel and Caluwaerts (2014) of the 2009 Belgian regional elections on the other hand display no significant values. Region is an especially important control variable, as the composition of the lists differs across different regions in Belgium. Additionally, the three regions in Belgium also fundamentally differ in terms of their average district magnitude, which Geiger et al. (2014) have proven to be an influential factor in explaining same-sex voting behavior. Region is coded as a binary variable Flanders (0) and Wallonia (1). Respondents living in Brussels and the German community were omitted due to the low sample size.

Furthermore, Dolan (2008) as well as Marien et al. (forthcoming) reason that voters supporting left-wing parties will show greater support for female candidates than supporters of right-wing political parties. Therefore, the analysis will also control for these differences using left-right orientation as a proxy for support for a left- or right-wing party. This was measured on an 11-point scale, ranging from 0 (left) to 10 (right). The mid-point (5, center) was explicitly labelled.

Second, the analysis controlled for variables related to the voting behavior of the respondents, i.e. voting for the top candidate and the number of preference-votes casted. In spite of the gender-quota, male candidates generally still occupy better positions on the list than their female competitors. By controlling for whether a vote was casted for the top candidate, I hope to correct for between-party differences in terms of the most highly valued position a candidate can obtain as well as for some of the imaginable ballot composition effects. Finally, the analysis included the number of preference-votes as a control variable. The main reason for this decision is to counterbalance the differences between the different categories of the dependent variable. The category 'mixed vote' necessarily only includes respondents that casted multiple preference votes, as opposed to the categories same-sex and cross-sex vote. In order to make sure that the differences between the categories 'same-sex' and 'cross-sex' and the reference category 'mixed' were not fully explained by the number of preference votes that the respondents casted, the number of votes casted by the respondent was added as a final control variable.

2.5. Methodology: Cluster-robust Multinomial Logistic Regression Analysis

From a methodological point of view, the hypotheses formulated in the theoretical framework can be categorized into two types. The first type entails the effects of gender (Hypothesis 1) and political sophistication (Hypothesis 2) and the electoral context (Hypothesis 3) on the likelihood of gender-based voting behavior within a respondent. Secondly, the last hypothesis entails a comparison of the strength of the effect of political sophistication across different elections

(Hypothesis 4). As the significance of the difference between the effect of political sophistication across two separate models (one for the federal elections, one for the European elections) cannot be evaluated, I opted for a cluster-robust multinomial logistic regression analysis of a stacked-data matrix. [5]

(1) $\ln (\pi_j / \pi_{mixed}) = \beta_{0j} + \beta_{1j}$ electoral context $+ \beta_{2j}$ political interest $+ \beta_{3j}$ political knowledge $+ \beta_{4j}$ educational attainment $+ \beta_{5j}$ candidate's position on the list $+ \beta_{6j}$ number of votes $+ \beta_{7j}$ region $+ \beta_{8j}$ age $+ \beta_{9j}$ gender $+ \beta_{10j}$ left-right self-placement $+ \beta_{11j}$ political interest $\times$ electoral context

Equation 1 shows the model that will be tested in the subsequent analyses. Figure 1 contains a visualization of this model. The dependent variable of the analyses 'voting behavior' is a categorical variable with multiple categories. This poses a problem from regular OLS regression analysis as the dependent variable does not have a continuous rate of change. Logistic regression analysis solves this problem by transforming the variable so that linearity can be found in the probability of a specific event or in this case type of voting behavior occurring. The dependent variable is expressed in terms of the natural logarithm of the odds of either same-sex or cross-sex vote being casted rather than a mixed vote – which is referred to as the 'reference category'. As shown in Figure 1, the reference category itself is set to zero for both the dependent variable and the categorical independent variables, as the natural logarithm of any value divided by itself (=1) is equal to zero.

Parameters (in Figure 1 indicated by arrows) of continuous variables (such as age) such as political interest, indicates the increase in logodds of either same- or cross-sex voting for a one-unit increase in the independent variable. A value of .91 would suggest that for every one-unit increase in age, the logodds of the dependent variable increases with .91, i.e. age increases the likelihood of casting a same-

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[5] A more elaborate statistical explanation of multinomial logistic regression is available in Annex D

sex vote rather than a mixed vote. Parameters of categorical variables (such as gender) are expressed in odds-ratios, which is calculated as the ratio of the odds of a same- or cross-sex vote being casted rather than a mixed vote for women and men. A positive value in this case would indicate that the likelihood of casting a same-sex vote instead of a mixed vote is greater for women than for men, which – as shown by Figure 1 – is the reference category.

Figure 1: Analysis Diagram of a Multinomial Logistic Regression Analysis.
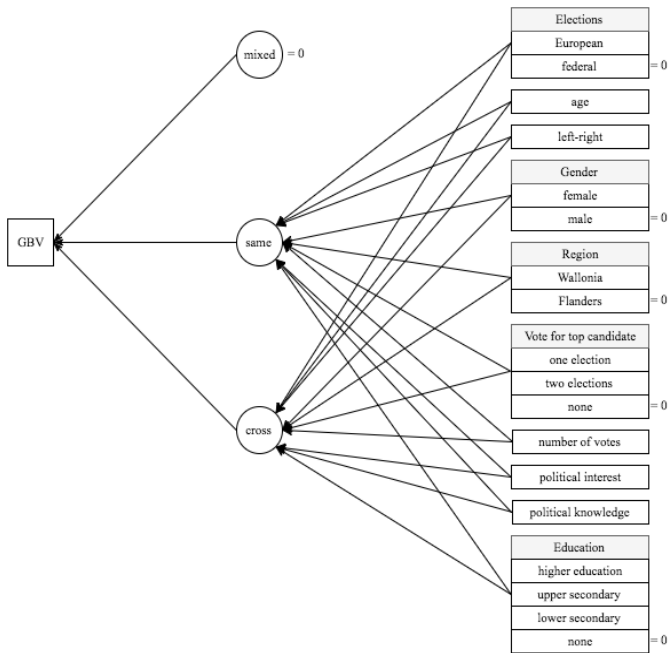
The aforementioned analysis is pre-eminently fit to estimate the effects of several independent variables on same-sex voting behavior. However, the inclusion of an interaction term between the electoral context and political interest adds another level of complexity to the analysis. An interaction term between a continuous variable (political interest) and categorical variable (electoral context) expresses the ratio

of the strength of the effect of political interest in the federal elections and the European elections (reference category). Obtaining a significant result would suggest that these effects differ significantly across electoral contexts.

The complexity is mainly caused by the adjustments in the structure of the data-matrix necessary to test this interaction effect. Voting behavior is being measured in two electoral contexts, i.e. every respondent is exposed to a low-information electoral context – the European elections – and a high-information context – the federal elections. Consequently, the variable 'voting behavior' was recorded using two items, one for each election. In order to study the effect of the electoral context and how it influences the relationship between political sophistication on same-sex voting behavior, these variables need to be integrated in a single variable measuring 'voting behavior' in both elections simultaneously.

Figure 2: Data Structure of the Original Data Matrix

id	voting behavior federal elections	voting behavior European elections	gender	age	left-right self-placement	…
1	same-sex	cross-sex	male	40	3	…
2	cross-sex	same-sex	female	22	3	…
3	mixed	mixed	female	20	2	…
…	…	…	…	…	…	…

Figure 3: Data Structure of the Stacked Data Matrix

id	elections	voting behavior	gender	age	left-right self-placement	…
1	federal	same-sex	male	40	3	…
1	European	cross-sex	male	40	3	…
2	federal	cross-sex	female	22	3	…
2	European	same-sex	female	22	3	…
3	federal	mixed	female	20	2	…
3	European	mixed	female	20	2	…
…	…	…	…	…	…	…

The original data-structure (Figure 2) did not allow for the aforementioned model to be computed. Thus, a stacked data-matrix was generated (Figure 3). This transformation resulted in a dataset in which each respondent was included twice and subsequently linked to its respective voting behavior in the federal and European elections, so that the two measurements of voting behavior were nested in the respondents.

The consequence of using a stacked-data matrix is that the assumption of independent observations is violated. Thus, in order to take the nested structure into account a cluster-robust correction to the standard errors was applied. In this context, each individual respondent can be considered a cluster. As most independent variables uniformly affect the two cases within a cluster, not taking the clustering into account would lead to a vast underestimation of the standard-error. A cluster-robust correction of the standard errors allows for the cases within a cluster to correlate, whereas the assumption of independence holds for the differences between clusters, so that:

$$(2)\ E\big[\varepsilon_{ig}\varepsilon_{jg\prime}\big] = \begin{cases} 0 & \text{if } g = g' \\ \sigma_{(ij)g} & \text{if } g \neq g' \end{cases}$$

Equation 2 shows that the correlation standard errors $\sigma_{(ij)g}$ between case i in cluster g and case j in cluster g' is expected to be independent across clusters g and to be correlated within the clusters. The cluster-robust standard-error inflates the value of the original standard-error. The relative size of the inflation of the regressor can be described as:

$$(3)\ \sqrt{1 + \rho_x\rho_\varepsilon\,(\bar{N} - 1)}$$

in which the within-cluster correlation is denoted by ρ_x the correlation between the errors within a cluster by ρ_ε, and the average cluster-size by N, which in our case is equal to two.

3. Descriptive Analyses

This chapter contains a series of descriptive analyses of gender-based voting behavior in the 2014 federal and European elections and its relation to political sophistication. First, it investigates the prevalence of gender-based voting and its relation to the sex of the voters (Hypothesis 1). Second, it evaluates the relation between gender-based voting and political sophistication (Hypothesis 2). Finally, it explores the role of the electoral context and its relation to political sophistication (Hypothesis 3 and Hypothesis 4).

3.1. Gender-Based Voting Behavior

The subsequent analyses were conducted using the data collected among the respondents that casted one or multiple preference votes. Out of the 1532 respondents who participated in the second wave of the survey, only 628 casted one or multiple preference votes in the federal elections, compared to 571 in the European elections.

Figure 4: Bar-chart of Voting Behavior in the Federal and European Elections
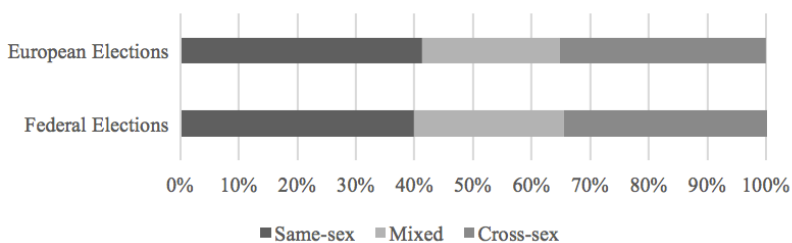
Source: 2014 PARTIREP Survey

The data presented in Figure 4 indicate that voters tend to prefer candidates of the same sex to candidates of the opposite sex. In the federal elections 40.0% of the voters casted a vote for a candidate of the same sex (95% CI [36.2;43.8]), whereas only 34.6% casted a vote

for someone of the opposite sex (95% CI [30.9;38.3]). This also holds true for the European elections, where 41.3% of the voters voted for someone of the same sex (95% CI [37.4;45.5]), and only 35.2% for a candidate of the opposite sex (95% CI [31.2;39.1]). This is in line with the idea that voters use the gender of the candidates to simplify their voting decision.

The results displayed in Table 1 and Table 2 do not support the relative deprivation hypothesis formulated in Hypothesis 1: namely that the disadvantaged position of women in terms of representation encourages women to cast a gender-based vote in order to reach the desired point of reference, namely political gender-equality. The data show that women vote substantially less for female candidates than men for male candidates. In the federal elections 26.8% of the male respondents voted for a male candidate whereas only 13.1% of the female respondents casted a same-sex vote. In the European elections the difference between men and women in terms of the propensity to cast a same-sex vote remains stable with 11.7% same-sex votes amongst female respondents and 25.7% amongst male respondents. This result corresponds with the findings of e.g. Holli and Wass (2010) and Marien et. al. (forthcoming), who also found that men are consistently more likely to cast a same-sex vote than women.

Nevertheless, a substantial part of the propensity to cast a vote for a candidate of the same sex can be explained in terms of the visibility of the position this candidate occupies on the list. Marien et al. (forthcoming) demonstrate that in spite of the gender quota, female candidates are consistently underrepresented in the most visible positions. Marien et al. (forthcoming) show that in the 2012 Belgian local elections only 20.0% of the top positions on the lists were occupied by women. Consequently, male and female candidates do not have an equal chance of being elected. In effect, analyses of preference-voting are especially prone to ballot layout-effects (Maddens, Wauters, Noppe, & Fiers, 2006). Table 1 and Table 2 present an accurate illustration of this phenomenon. In the federal elections 56.8% of the respondents that casted a same-sex vote, voted for the top candidate of the list. In the European elections, with 70.9% the proportion of same-sex voting respondents, casting a vote for the

top candidate is significantly larger ($z = -2.33$, $p = .01$). This suggests that the composition of the ballot is an even more important determinant for electoral decision making in the European elections, than in the federal elections.

The abundant supply of male candidates potentially also accounts for the observation that men are more likely to cast a same-sex vote than women. The results in Table 1 and Table 2 reveal that men are only more likely to cast a same-sex vote for the top candidate on the list. Women on the other hand, are more likely than men to cast a vote for a female candidate that occupies any other position on the list. The study of Holli and Wass (2010) suggested that although men are more likely to vote for male candidates, women appear more likely to intentionally vote for someone of the same sex. These findings may be an indication that there is an important difference between intentional and unintentional same-sex voting behavior. Thus, although men are generally more likely to vote for a candidate of the same sex than women, this can be partially explained by the composition of the list. This explanation, however, does not suffice to fully account for the differences between men and women in terms of gender-based voting behavior for two reasons. First, in the Belgian context, voters are also given the opportunity to cast a vote for the list – or list-vote – instead of a preference vote. A vote for the top candidate is therefore still a deliberate decision on account of the voter. Second, the Belgian federal electoral and ballot laws, stipulate that the first two candidates on the list have to be of the opposite gender.[6] Voting for someone of the same sex is therefore only one checkbox away from voting for someone of the opposite sex.

In conclusion, male voters show a greater tendency to vote for a candidate of the same sex than women. The data also suggest that a part of this tendency may be explained in terms of the ballot composition, more specifically the supply of male candidates, as male voters are more likely to cast a vote for the top candidate of the list, but most of the top candidates are male. It is therefore interesting to

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[6] art. 117 bis, clause 2 of the Belgian federal electoral law or 'Kieswetboek' (April 12th 1894)

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see whether this effect holds in the multivariate analyses, after controlling for the candidates' position on the list.

Table 1: Voting Behavior according to Gender and the Candidates' Position on the List in the Federal elections

	Male	Female	Total
Same-sex total	168 (26.8%)	82 (13.1%)	250 (39.9%)
First on the list	**118 (18.8%)**	24 (3.8%)	142 (22.7%)
Not first on the list	50 (8.0%)	**58 (9.3%)**	108 (17.3%)
Mixed total	88 (14.1%)	72 (11.5%)	160 (25.6%)
First on the list	**75 (12.0%)**	58 (9.3%)	133 (21.2%)
Not first on the list	13 (2.1%)	**14 (2.2%)**	27 (4.3%)
Cross-sex total	54 (8.6%)	162 (25.9%)	216 (34.5%)
First on the list	23 (3.7%)	**117 (18.7%)**	140 (22.4%
Not first on the list	**31 (5.0%)**	45 (7.2%)	76 (12.1%)
Total	310 (49.5%)	316 (50.5%)	626 (100%)

Source: 2014 PARTIREP Survey Note: the percentages and frequencies displayed in bold contribute the most in terms of their chi-squared value.

Table 2: Voting Behavior according to Gender and the Candidates' Position on the List in the European Elections

	Male	Female	Total
Same-sex total	161 (25.7%)	73 (11.7%)	234 (37.4%)
First on the list	**126 (20.1%)**	40 (6.4%)	166 (26.5%)
Not first on the list	35 (5.6%)	**33 (5.3%)**	68 (10.9%)
Mixed total	79 (12.6%)	54 (8.6%)	133 (21.2%)
First on the list	**69 (11.0%)**	46 (7.3%)	115 (18.4%)
Not first on the list	10 (1.6%)	**8 (1.3%)**	18 (2.9%)
Cross-sex total	49 (7.8%)	149 (23.8%)	198 (31.6%)
First on the list	29 (4.6%)	**98 (15.7%)**	127 (20.3%)
Not first on the list	**20 (3.2%)**	51 (8.1%)	71 (11.3%)
Total	310 (49.5%)	316 (50.5%)	626 (100%)

Source: 2014 PARTIREP Survey Note: the percentages and frequencies displayed in bold contribute the most in terms of their chi-squared value

3.2. Political Sophistication and Gender-Based Voting

The previous analyses suggest that the need to simplify one's voting decision using a gender-cue does not depend on the electoral context. Alternatively, it is plausible that the propensity to cast a gender-based vote is moderated by the individual capacity to collect and understand information – or political sophistication – in a given electoral context.

Table 3: Summary Statistics of the Dimensions of Political Sophistication

Variable	N	Mean	Std. Dev.	Min	Max
Political interest	2017	4.79	2.77	0	10
Education	2019	2.94	.95	1	4
Political knowledge	2019	2.19	1.46	0	5

Source: 2014 PARTIREP Survey

Table 3 shows the summary statistics of the three indicators used to operationalize political sophistication, namely political interest, educational attainment and political knowledge. The findings of Marsh (1985) already indicate that preferential voting requires a certain amount of cognitive resources. This idea was later confirmed in the Belgian context by André et al. (2012). This is caused by the fact that voters casting a list-vote can simply rely on the ideology and reputation of the party-label, rather than collecting in-depth information on the individual candidates (Erzeel & Caluwaerts, 2015).

This also holds for the 2014 Belgian federal and European elections. A series of two-sample t-tests confirm the idea that voters that casted a preference-vote in the federal elections have a significantly higher level of political interest (t[1350]=-2.74, p=.01), education (t[1351]=-2.81, p = .01) and political knowledge (t[1351]=-5.80 , p=.00). Voters who casted a preference-vote are on average more interested in politics (*M*=6.33, *SD*=2.51), higher educated (*M*=3.14, *SD*=.93) and have higher levels of political knowledge (*M*=2.58, *SD*=1.44) whereas voters who casted a list-vote show lower levels of political interest (*M*=5.94, *SD*=2.72), education (*M*=2.99, *SD*=.93) and political knowledge (*M*=2.13, *SD*=1.43).

Within the preference-voting dimension, it was theorized that gender-based voting would require lower levels of political sophistication as it can be considered a cognitive shortcut or voting-cue with the objective of reducing the transaction costs of casting a vote. Thus, it was hypothesized that same-sex voting behavior is associated with lower levels of political sophistication than other types of voting behavior (Hypothesis 2).

The latter hypothesis was tested in two post-hoc analyses with Bonferroni correction, of which the results are displayed in Table 4 and Table 5 (visualized in Figure 5). In line with the expectations, voters who casted a vote for someone of the same sex in the federal elections have a significantly lower level of political interest (M=5.65, SD=2.39) than voters who casted a mixed vote. No significant differences between different types of voting behavior could be detected with regards to the level of education ($F[2, 628] =.72, p=.99$). The results for political interest seemingly support the idea that the less sophisticated are more reliant on using a gender-cue than higher sophisticated voters. However, the results also show that voters who casted a cross-sex vote have an even lower level of political interest (M=4.89, SD=2.53). This converges with the idea that voting for someone of the same-sex would require less cognitive resources than the two other types of voting behavior.

Figure 5: Boxplot Political Interest by Voting Behavior in the Federal and European Elections
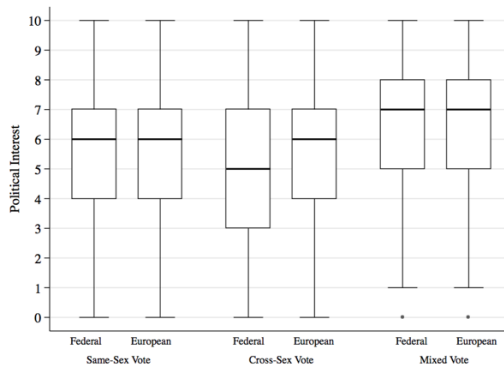
Source: 2014 PARTIREP Survey

Table 4: Voting Behavior according to Political Sophistication in the Federal Elections

		Mean	Std. Dev.	Sign. diff.
Political interest	Same-sex	5.65	2.39	mixed, cross-sex
F[2,628]=16.35***	Mixed	6.34	2.48	same-, cross-sex
	Cross-sex	4.89	2.53	mixed, same-sex
Education	Same-sex	3.18	.90	
F[2,628]=.72ns	Mixed	3.11	.87	
	Cross-sex	3.08	.90	
Political	Same-sex	2.51	1.49	
knowledge	Mixed	2.78	1.48	cross-sex
F[2,628]=5.84**	Cross-sex	2.26	1.48	mixed

Source: 2014 PARTIREP Survey. Notes: the last column displays the results of post-hoc analyses with Bonferroni correction. *<.1 **<.05 ***<.001

Table 5: Voting Behavior according to Political Sophistication in the European elections

		Mean	Std. Dev.	Sign. diff.
Political interest	Same-sex	5.44	2.61	mixed
F[2,571]=8.77***	Mixed	6.47	2.54	same-, cross-sex
	Cross-sex	5.39	2.54	mixed
Education	Same-sex	3.15	.89	
F[2,571]=.59ns	Mixed	3.24	.93	
	Cross-sex	3.13	.90	
Political	Same-sex	2.49	1.47	mixed
knowledge	Mixed	3.03	1.37	same-, cross-sex
F[2,571]=9.01***	Cross-sex	2.38	1.37	mixed

Source: 2014 PARTIREP Survey. Notes: the last column displays the results of post-hoc analyses with Bonferroni correction. *<.1 **<.05 ***<.001

3.3. Gender-Based Voting in a High- and Low-information Electoral Context

As stipulated in Hypothesis 3, the inclination to use a gender-cue may depend on the electoral context. More specifically, it was hypothesized that gender-based voting behavior would be more prevalent in the low-information context of the European elections

than in the high-information context of the federal elections, as voters would be in greater need of simplifying their voting decision in an electoral context where little information is available. At a first glance, the data displayed earlier in Figure 4 seem to support this hypothesis; with 41.4%, same-sex voting behavior is slightly more prevalent amongst the respondents in the European elections than in the federal elections, where only 39.9% of the respondents casted a same-sex vote. Given the semi-experimental nature of these data (i.e. the same respondents were studied in the federal and European elections), a McNemar test was performed to test whether this increase was significant. However, this difference proved insignificant (Chi^2=.17, p=.67). Thus Hypothesis 3 can be rejected.

The patterns observed in terms of political sophistication appear to be fairly similar in the federal and European elections. However, the post-hoc analyses displayed in Table 5 and Table 6 suggested that the contrast between the different types of voting behavior on the level of political interest is weaker in the European elections than in the federal elections: whereas all categories displayed significant differences in mean in the federal elections, only a significant difference between cross-sex and mixed vote can be observed in the European elections. This is in line with the idea formulated in Hypothesis 4, namely that the low information context of the European elections levels out the differences between individual voters on the level of political sophistication, as the lack of available information equally affects all voters.

The Cosmograph depicted in Figure 6 presents a visual representation of the results displayed in Table 6. The left side of the graph shows the relative distribution of voting behavior in the federal elections and the right side of the graph shows the relative distribution of voting behavior in the European elections. The intersecting bars provide information with regards to how respondents behave across the two elections. A line going from one category in the federal category to the same category in the European elections for instance, indicates that respondent had the same voting behavior in both elections. The thickness of the bar represents the percentage.

Table 6: (In)stability of Voting Behavior across Electoral Contexts

European	Same-sex	Mixed	Cross-sex	Total
Federal				
Same-sex	**88 (20.7%)**	23 (5.4%)	47 (11.1%)	**158(37.2%)**
Mixed	24 (5.7%)	**79 (18.6%)**	25 (5.9%)	128 (30.1%)
Cross-sex	15 (3.5%)	51 (12%)	**73 (17.2%)**	139 (32.7%)
Total	**117(38.4%)**	163(27.5%)	145 (34.1%)	425 (100%)
N = 425 (Chi^2=119.14***)				

Source: 2014 PARTIREP Survey Notes: the percentages displayed in bold contribute the most in terms of their chi-squared value.

In conclusion, against theoretical expectations, the low-information context of the European elections does not significantly seem to impact the likelihood of casting a gender-based vote. Furthermore, although there appears to be a remarkable stability in terms of voting behavior across the two elections, voters that casted a same-sex vote in both elections do not have significantly lower levels of political sophistication than voters who casted a cross-sex vote in both elections or a mixed-vote, but do have a significantly lower level of sophistication than voters that voted for candidates of different sexes across the two elections.

Figure 6: Cosmograph Showing the Volatility in Voting Behavior in the Federal and European Elections
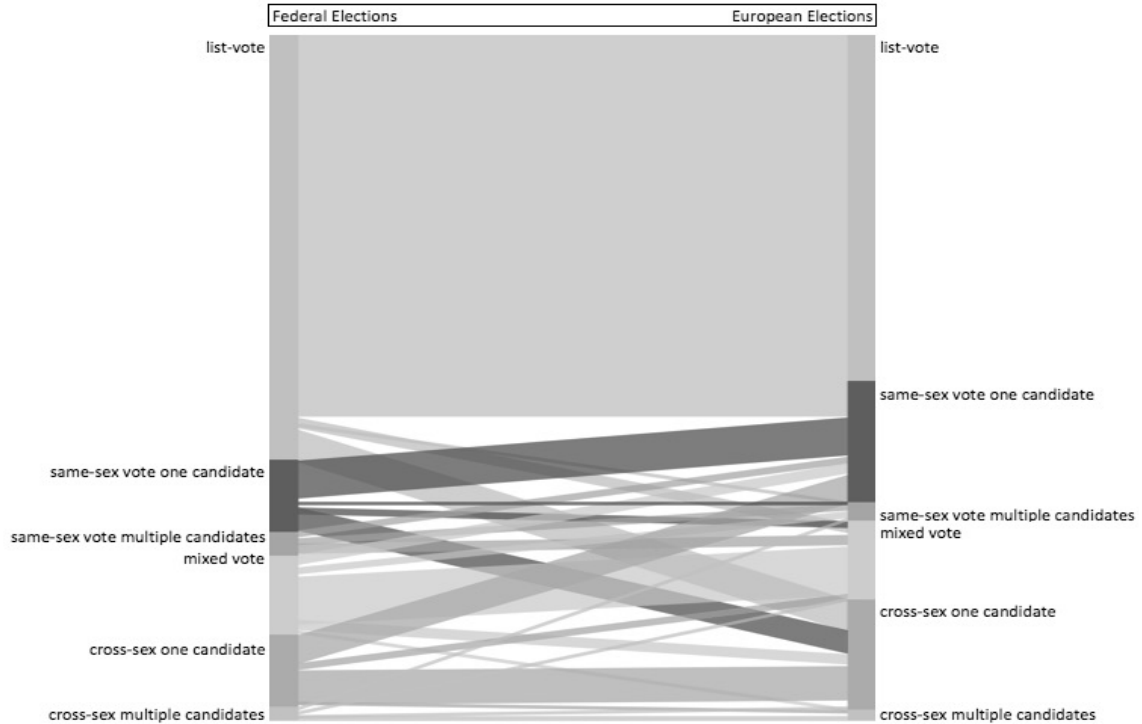
4. Multivariate Analyses

4.1. Cluster-robust Multinomial Logistic Regression Analysis[7]

In order to study the effect of political sophistication on gender-based voting behavior in first-order and second-order elections, this thesis relied on a cluster-robust multinomial logistic regression analysis. The analysis included the three substantial indicators of political sophistication[8], the electoral context, as well as a number of control variables.

Similar to the results of the post-hoc analyses presented in Table 4 and Table 5, the analysis displayed in Table 7 does not support the relative deprivation hypothesis (Hypothesis 1). Even after controlling for the candidates' position on the list men prove approximately two times more likely to cast a same-sex rather than a mixed vote than women (β = -.53, p=.01). Thus hypothesis 1 can be rejected. This implies that the abundant supply of male top candidates does not fully account for the tendency of male voters to cast a vote for someone of the same sex. Additionally, the analyses confirmed the suggestion made by e.g. Marien et al. (forthcoming) that not so much the supply of female candidates matters for their election, but their position on the list.

The second set of hypotheses identified two mechanisms that would hamper the ability to collect information needed to make an informed voting decision, causing voters to feel inclined to use a gender-cue: namely the individual disposition to collect information – or political sophistication – and the electoral context.

The analysis shows ambiguous results with regards to the effect of political sophistication on same-sex voting behavior. First, a preliminary inspection of the data indicated that, contrary to what

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[7] The syntax for the analyses in this Chapter are available in Annex H

[8] The three components of political sophistication (political interest, political knowledge and educational attainment) were tested for multicollinearity. The Variance Inflation Factor (VIF) values are reported in Annex E.

many authors assumed, the contribution of political sophistication in explaining voting behavior proved minor. The determination coefficient (McFadden's R-squared) of Model 1 in Table 7 suggests that this model can explain approximately 26.10% more variability in the data than a model including an intercept only. The unique contribution of political sophistication, however, is only 0.43% of the variance, which is very limited.

Figure 7: Predicted Probabilities of Voting Behavior according to Political Interest
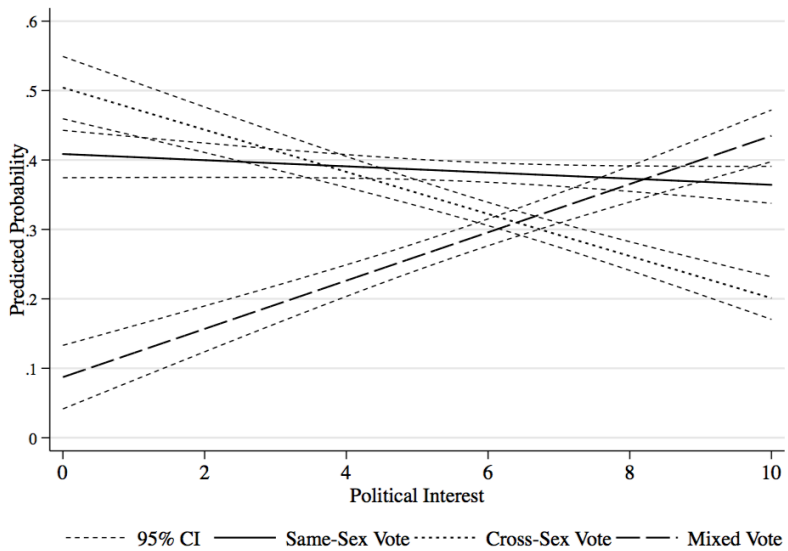
Source: 2014 PARTIREP Survey

Second, only the motivational component of political sophistication, namely political interest, appears to have a significant effect on the likelihood to cast a same-sex vote ($\beta = -.12$, p=.04). Although the coefficients pointed in the expected direction, no discernable effect could be detected for political knowledge and educational attainment. This suggests that being less interested in politics, would increase the need to simplify one's voting decision. In other words, these findings confirm Hypothesis 2. The importance of political sophistication

however, should not be embellished. The translation of these parameters (logodds) to probabilities visualized in Figure 7 shows a remarkable stability of same-sex voting behavior compared to other types of voting behavior, suggesting that the impact of political interest is very limited.

It was further hypothesized that not only political sophistication, but also the electoral context plays an important role in explaining gender-based voting behavior. However, the analysis shows no support whatsoever for the idea that the likelihood of casting a same-sex vote would be higher in an electoral context where little information is available, such as the European elections, than in the federal elections, where there are large amounts of available information (β=.14, p=.47). Thus Hypothesis 3 cannot be confirmed.

Moreover, there appears to be no systematic empirical evidence that the electoral context would somehow affect a voter's ability to collect information. The initial analyses conducted for each separate election showed that the effect of political interest (β=-.13, p=.03) was significant in the federal elections, but not in the European elections (β=.08, p=.25), which is in line with the expectations formulated in Hypothesis 4 (see Annex G). However, concluding that political sophistication indeed matters less in the low-information context of the second-order European elections than in its high-information federal counterpart, requires a more thorough analysis.

In order to test the latter Hypothesis, an interaction between the electoral context and political interest was included in the model. The results are displayed in Model 2 of Table 7. Although differences in the strength of the effect could be observed on the basis of the analyses of the separate elections, the interaction is not significant. This indicates that the effect of political interest on same-sex voting behavior in the federal elections is not significantly different from that in the European elections (β=.04, p=.64).[9]

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[9] Subsequent analyses in which an interaction between the electoral context and educational attainment/political knowledge was included, also displayed insignificant values.

Tabel 7: Cluster Robust Multinomial Logistic Regression Analysis explaining Voting Behavior

	Model 1		Model 2	
	Same-sex	*Cross-sex*	*Same-sex*	*Cross-sex*
Elections (ref. federal)	.14(.19)ns	.19(.22)ns	-.14(.54)ns	-1.09(.60)†
Age	-.00(.01)ns	.01(.01)ns	-.00(.01)ns	.01(.01)ns
Left-right self-placement	-.09(.05)†	-.10(.05)†	-.09(.05)†	-.10(.05)†
Gender (ref. male)	-.54(.23)*	1.32(.23)***	-.54(.23)*	1.34(.24)***
Region: Wallonia	-.19(.23)ns	.20(.23)ns	-.19(.23)ns	.21(.23)ns
Voted top candidate: one election	-.26(.43)ns	.21(.43)ns	-.26(.43)ns	.22(.44)ns
both elections	-.78(.35)*	-.36(.37)ns	-.80(.35)*	-.36(.37)ns
Number of votes	-.24(09)**	-.73(.09)***	-.24(.09)**	-.73(.09)***
Political interest	-.11(.06)*	-.09(.05)ns	-.13(.07)†	-.20(.08)**
Political knowledge	-.16(.10)ns	-.06(.09)ns	-.16(.10)ns	-.06(.09)ns
Education: lower secondary	-.41(.82)ns	-.23(.78)ns	-.41(.82)ns	-.23(.78)ns
upper Secondary	-.55(.82)ns	-.29(.79)ns	-.55(.82)ns	-.29(.79)ns
higher Education	-.33(.79)ns	-.20(.78)ns	-.33(.80)ns	-.19(.78)ns
Political Interest ✕ Elections	---	---	.04(.08)ns	.22(.09)*
Constant	4.42(1.02)***	2.87(1.01)**	4.56(1.02)***	3.52(1.01)***
Log pseudolikelihood	-629.32		-625.694	
Pseudo R-squared	26.10%		26.53%	

Source: 2014 PARTIREP Notes: N = 844. The reference category is mixed. Sampling weights were applied. *p<.05 **p<.01 ***p<.001 †p <.1

4.2. Marginal Effects

In order to understand these results, marginal effects were calculated using the following equation:

$$(4) \quad \frac{\partial Pr[y=1|x,z]}{\partial x} = \frac{\beta}{x} \cdot p \cdot (1-p)$$

Equation 4 shows that marginal effects are calculated as a function of the increase of the derivative of the predicted probability for same-sex voting *Pr[y=1]* for a one-unit increase in the derivative of political interest *∂*x, while all other variables are held constant |*x,y*.[10] In other words, the marginal effects allow to evaluate whether the probability of same-sex voting for an individual with the aforementioned specified values differs significantly from zero (Cameron & Trivedi, p.333). This largely compensates for the limitations caused by the application of multinomial logistic regression analysis, where parameters can only be interpreted in comparison to another (reference) category. Table 8, Table 9 and Table 10 display the results for each value of political interest, the electoral context and the interaction between both variables, while all other variables are held constant at their mean.

In line with the multinomial analysis, Table 8 shows that the effect of political interest on same-sex voting for an 'average' individual is significantly different from zero across all values of political interest. The marginal effects analysis indicates for instance, that a respondent who is average in all respects, including political interest (=5) the predicted probability of casting a same-sex vote is 57%. Figure 8 visualizes these results. As the confidence interval of the predicted probability of same-sex voting does not intersect with the x-axis at any point, it is clear that the probability of same-sex voting is marginally significant from zero. However, although a clear

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[10] All marginal effects were calculated with all variables fixed at their mean value: 0.election = .5; 1.election = .5; age = 51.21; lrscale = 5.21; 1.gndr = .51; 2.gndr = .49; 1.region = .58; 2.region = .42; 0.firstlst = .15; 1.firstlst = .32; 3.firstlst=.53; vote_no=5.6; polint=5.75; polknow=2.63; 1.EDUC4 =.09; 2.EDUC4 = .16; 3.EDUC4 =.35; 4.EDUC4=.40

negative trend between the probability of same-sex voting and political interest can be observed, a contrast analysis revealed that this decrease is not significant. In Figure 8 this observation translates to the fact that the trend line falls within the confidence intervals of all other value of political interest.

Table 8: Marginal Effects of Political Interest

value	B(SE)	value	B(SE)
0	.57(.14)***	6	.48(.09)***
1	.55(.14)***	7	.51(.07)***
2	.55(.15)***	8	.47(.09)***
3	.60(.17)***	9	.37(.11)***
4	.54(.09)***	10	.37(.11)***
5	.57(.07)***		

Source: 2014 PARTIREP Survey *** p<.001 **<.01 *<.05

Figure 8: Marginal Effects of Political Interest
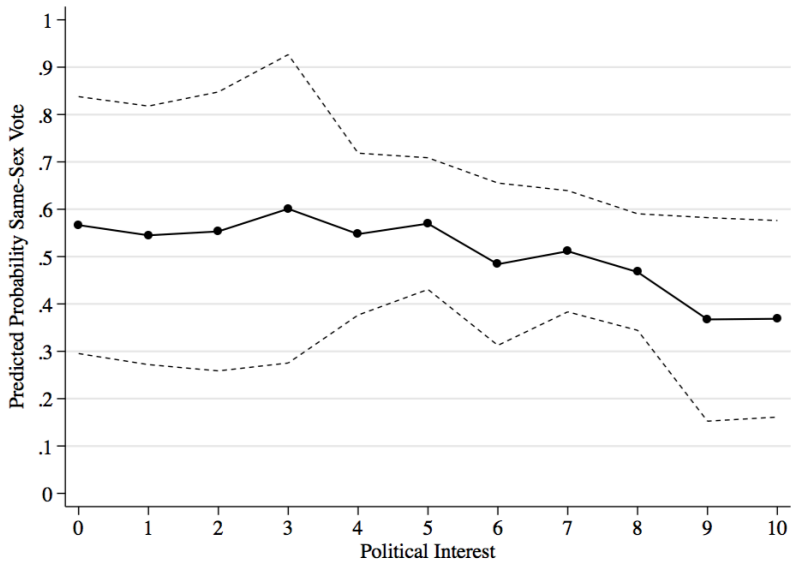
Source: 2014 PARTIREP Survey Note: The upper and lower bounds indicate a 95% confidence interval from the predicted value

Table 9: Marginal Effects of the Electoral Context

	B(SE)		B(SE)
Federal	.50(.05)***	European	.52(.05)***

Source: 2014 PARTIREP Survey *** p<.001 **<.01 *<.05

Figure 9: Marginal Effects of the Electoral Context on Same-sex Voting Behavior
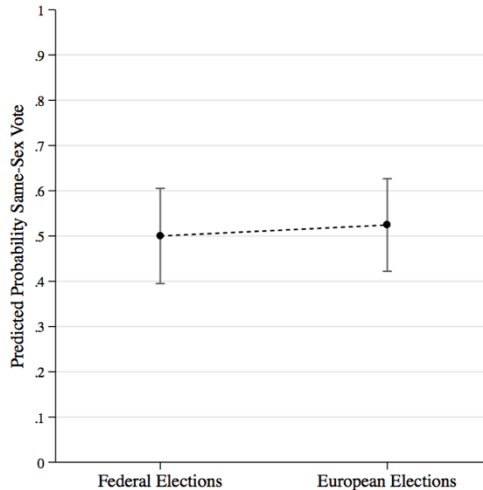
Source: 2014 PARTIREP Survey Note: the vertical whiskers indicate a 95% confidence interval.

With regards to the effect of the electoral context, the results displayed in Table 9 demonstrate that for the 'average' respondent the probability of casting a same-sex vote is significantly different from zero percent. Additionally, in line with Hypothesis 3 this probability is slightly higher in the European elections than in the federal elections. In order to test whether this difference was indeed significant, a contrast-analysis was performed. This analysis suggested that the electoral context did not yield significantly different results (Chi^2=.04, p=.85).

Table 10: Marginal Interaction Effects between Political Interest and Electoral Context on Same-sex Voting Behavior

	Federal Elections	European Elections
Political Interest	*B(SE)*	*B(SE)*
0	.47(.18)*	.64(.17)***
1	.54(.22)*	.50(.19)***
2	.47(.19)*	.62(.17)***
3	.50(.20)*	.70(.16)***
4	.65(.12)***	.44(.11)***
5	.60(.07)***	.54(.09)***
6	.52(.10)***	.44(.12)***
7	.42(.08)***	.61(.07)***
8	.52(.08)***	.41(.08)***
9	.33(.12)**	.40(.14)**
10	.34(.13)**	.40(.15)***

Source: 2014 PARTIREP Survey *** p<.001 **<.01 *<.05

Figure 10: Marginal Interaction Effects between Political Interest and Electoral Context on Same-sex Voting Behavior

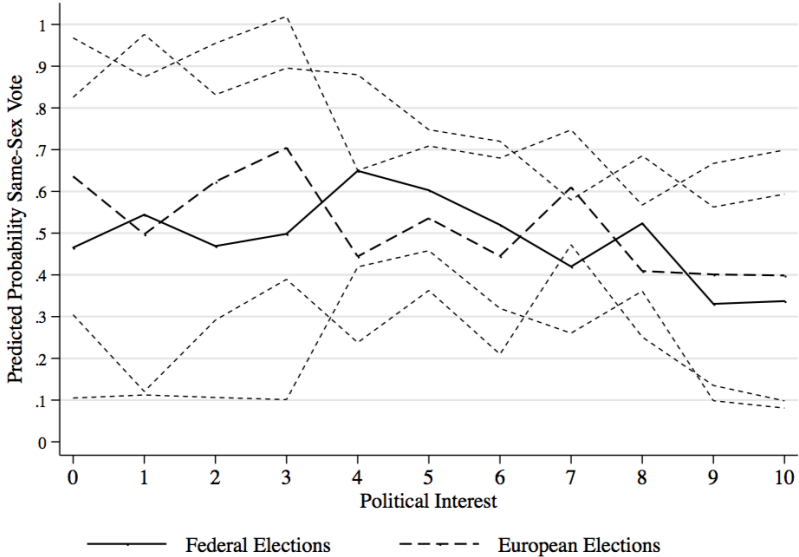Source: 2014 PARTIREP Survey Note: the upper and lower bounds indicate a 95% confidence interval

Finally, the marginal interaction-effects were calculated. Figure 10 visualizes the marginal effects for each value of political interest on the probability of casting a same-sex vote across the two elections. The fact that the predicted values of both elections completely fall within the 95% confidence interval of the other election clearly show that there is no significant difference between the federal and European elections in terms of the strength of the effect of political interest for any value of political interest. Thus, hypothesis 4 can be rejected. Note that, although significantly different from zero, the confidence intervals for the calculated effects are exceptionally wide. As a result, the clear downward trend that can be observed is rendered insignificant.

In conclusion, in line with previous findings, having little interest in political affairs increases the likelihood of casting a gender-based vote. This is a clear indication that, to some extent, same-sex voting is a type of cue-voting. However, contrary to what was previously hypothesized by other authors, there is no empirical evidence to support the claim that the electoral context matters, as gender-based voting behavior is not more prevalent in the second-order European elections, nor does it influence an individual's capacity to collect information.

4.3. Robustness Tests

In order to test whether these findings were robust, i.e. were not dependent on the specification of the model, the aforementioned analyses were repeated taking cross-sex voting as the reference category. None of the effects of political sophistication on the likelihood of casting a same-sex vote were significant, implying that the effect of political sophistication on same-sex voting did not significantly differ from its effect on cross-sex voting. This suggests that the effect of political interest on the propensity to cast a same-sex vote is not significantly different from its effect on the propensity to cast a cross-sex vote. This puts a severe constraint on the overall interpretability of the data, as the effect of political interest on same-sex voting was assumed to be significantly negative in comparison to all other categories of the dependent variable. The fact that it is not,

implies that the unique property of being a voting-cue of same-sex voting is not equally uniquely associated with lower levels of political sophistication. Consequently, there is no unambiguous empirical evidence to fully confirm hypotheses 2.

When analyzing the results, it should be taken into account that the hypotheses were aimed at testing linear relationships between political sophistication and same-sex voting behavior. However, the assumption of linearity does not necessarily hold. Thus, the linearity of the effect of political interest was tested in both elections. Translated to the context of a multinomial logistic regression analysis, this assumption entails that the relationship between the independent variable political interest and the logit of the dependent variable is linear. The insignificant value of the Chi-squared tests with Bonferroni-adjusted p-values implied that this effect was linear (Chi-squared(2)=4.39, p=.11).

5. Discussion and conclusion

5.1. Discussion

The increasing complexity of the political landscape as well as the multitude of problems caused by promissory politics, makes it increasingly hard for voters to select candidates whom they trust to defend their interests. Consequently, voters will feel inclined to use descriptive similarities, such as the sex of a candidate, to simplify their voting decision, a phenomenon that is referred to as 'gender-based voting'. The purpose of this thesis was threefold. First, it tried to determine to what extent gender group-membership mattered in casting a gender-based vote. Second, it investigated whether the inclination to use a gender-cue was less stringent for voters that are capable of collecting and understanding political information – or political sophistication – to base their vote on information other than descriptive similarities. The main contribution of this study, however, lies in the comprehensive comparison of voting behavior across different electoral contexts. More specifically, it investigated whether political sophistication would matter less in an electoral context signified by a general lack of information, or second-order elections, than in a context where information is abundantly present, which is the case in first-order elections.

In order to meet the research purpose, I analyzed the data collected within the framework of the 2014 PartiRep data. I relied on the survey-data collected in the first wave, as well as the detailed individual reports of voting behavior collected using an innovative mock-ballot technique in the second wave. Subsequently, I coded the candidates that received the preference-votes on their gender. Each respondent was then nested in its voting behavior in the federal and European election.

With regards to gender-identity, this thesis confirms the findings of previous scholarship. It finds that women are substantially less likely to cast a vote for a candidate of the same sex than men. This contravenes the relative deprivation hypothesis (Hypothesis 1). However, there are clear indications that the composition of the

voting-ballot can be considered at least partially responsible for these findings.

It was further expected high information voters would feel less inclined to cast a gender-based vote than low-information voters (Hypothesis 2). The results provide mixed support for this hypothesis. Although voters with lower levels of political sophistication were indeed more likely to cast a vote for someone of the same sex than higher sophisticated voters compared to voters that casted a mixed vote, an inspection of more stringent contrast analyses of the marginal effects, showed that for the average voter this trend was rather stable and not significant. Moreover, the additional robustness checks indicated that the hypothesized negative effect does not significantly differ from cross-sex voting behavior, suggesting that lower levels of political sophistication are not exclusively linked to same-sex voting behavior. In other words, the difference between casting one or multiple votes seems to be much more important than the sex of the candidate.

Furthermore, based on the review of the literature, I theorized that the inclination to use a gender-cue, would not only be affected by the individual disposition to collect political information, but also by the amount of information that is offered within a specific electoral context (Hypothesis 3). It was therefore hypothesized that same-sex voting behavior would be a more recurrent phenomenon in the European elections than in the federal elections. Nevertheless, the analyses showed no indication that this was indeed the case, as the effect was insignificant in the multivariate analysis and the difference between the elections also proved to be marginally insignificant.

Finally, it was expected that the limited availability of information within the electoral context of the European elections would also hamper the ability of higher sophisticated voters to collect political information, causing lower and higher sophisticated voters to be more similar with respect to their inclination to use a gender-cue. The 2014 Belgian elections provided for a unique opportunity to study this effect, as the first-order federal and second-order European elections took place simultaneously. Even more so, it was the first opportunity to test this empirical claim to reality. However, there was no evidence to support this claim. The strength of the effect of political

sophistication was not significantly different across elections, nor did it display a marginally significant difference.

In sum, it is undeniably true that voting behavior can be explained by a lack of political information. However, the analyses showed no unambiguous support for the hypothesized negative effect of political sophistication on gender-based voting behavior. Moreover, this thesis shows that the impact of this lack of information on the general disposition to cast a gender-based vote only manifests itself on an individual level, i.e. lower sophisticated showed a higher likelihood of casting a gender-based vote. In contrast to what previous studies suggested, there is no empirical evidence to conclude that the gender-based voting is affected by the electoral context, nor does it seem to be influenced by the the extent to which voters are able to collect information within a given electoral context. Thus, although this effect is small, being less sophisticated to some extent does cause voters to be in greater need of a gender-cue, whereas a limited availability of information clearly does not.

5.2. Limitations

Although the unexpected results of this study are able to shed a new light on the role of political sophistication and high- and low-information electoral contexts in explaining gender-based voting behavior, both theoretical and statistical inference to other electoral situations is unwarranted for multiple reasons.

The significant negative effect of political sophistication on the propensity to cast a gender-based vote presented in other studies conducted in the Belgian electoral context, such as the studies conducted by Erzeel and Caluwaerts (2015) and Marien et al. (forthcoming) are already a clear indication that inferring these results to other elections, may be problematic. Studying the 2014 concurrent elections, indeed presented a unique opportunity to study differences in terms of voting behavior in the first-order federal elections and the second-order European elections. Nevertheless, one needs to take into account that these elections constitute a unique case. This thesis theorized that in a context where voters are presented with multiple decisions to make, they will prioritize between the different elections

and will choose to collect information with regards to the elections that they consider most important. Perhaps this is assumption is incorrect. A possible explanation for the findings of this study, is that voters, rather than prioritizing, felt overwhelmed by the amount of information they needed to process in order to make three voting decisions, causing them to use the information they have rather than collecting new information.

Moreover, there is a possibility that a part of the explanation for the null-findings lies in the limited power of the analyses. The analyses only included respondents that casted one or multiple preference votes. 15% of the respondents were not included because they did not participate in the second wave of the survey and over half of the respondents that did participate casted a list-vote and not a preference vote. Consequently, the sample size of the analyses was reduced to approximately 560 respondents in the federal elections and 630 respondents in the European elections. As the power of an analysis is a function of both the effect size and the sample size, there is always a possibility that the relatively small sample size causes small effects of political sophistication to be rendered insignificant.

Finally, the hypotheses and the analyses departed from the notion that the European elections were a text-book case of a low-information electoral context. However, in Belgium, many of the candidates placed on the lists for the European elections are renowned politicians often on the verge of political retirement. With an increasing tendency towards personalization in politics, voters are presented with more information than was previously assumed, as many of the candidates already have a reputation. Thus, in the context of the Belgian elections of the European parliament, voters have many other simple pieces of information to base their voting decision other than a candidate's gender.

5.3. Recommendations for Future Research

The results of this study clearly show that the effect of political sophistication as well as the effect of the electoral context is negligible. Nevertheless, there are other types of cue-voting behavior for which the impact of the electoral context may be much stronger.

First, it may be conceptually interesting to explore gender-based voting as a purely intentional phenomenon. The study conducted by Holli and Wass (2010) for instance, showed that although men are more likely to cast a same-sex vote, women are more explicitly orientated towards choosing a female candidate instead of a male candidate. The descriptive analyses of this paper already showed that women are significantly more likely to cast a vote for a candidate of the same sex if that candidate is not the first on the list, which is in line with the idea that women vote for female candidates more purposefully. Thus an interesting avenue for further research is to see what fuels this female attempt to break the implicit (ballot) bias favoring men in politics.

Second, interesting patterns emerged with regards to voting behavior in first- and second-order elections. In spite of the low-information context of the European elections, more voters casted a preference-vote in these elections than in the federal elections. It may be interesting to examine whether the increasing personalization in elections affects this type of behavior.

A final possible topic that is worthwhile exploring, is whether the observed stability in terms of gender-choice, holds across other elections too and whether this is affected by political sophistication. If that is the case, then this is possibly another way in which voters can use gender as a voting-cue, without necessarily voting for someone of the same gender.

5.4. Conclusion

This dataset provided for a unique opportunity to study the effect of electoral context on gender-based voting behavior. The limited disparity between voters of different levels of political sophistication in terms of their propensity to cast a gender-based as well as the absence of any discernable effect of electoral context is remarkable. Against theoretical expectations, this thesis finds that the role of information is limited. Thus, these findings challenge the current assumptions in the current literature surrounding gender-based voting behavior. Consequently, the qualification of the sex of a candidate as a heuristic ought to be revaluated.

Second, there could be an alternative explanation for this limited disparity. These findings could be the consequence of varying motives of voters to cast a vote for someone of the same-sex, many of which are driven by a call for more descriptive representativeness. In this case many lower sophisticated voters, voters that are unable to distinguish between the many different candidates, would express their base-line gender-preference. However, as the level of political sophistication increases, so does the awareness of how little promises made during the elections mean, causing even highly sophisticated voters to express a more intentional preference for candidates with whom they share specific traits. In other words, the fact that casting a gender-based vote is widespread across different types of voters, suggests that the need for descriptive representation is not the solely result of voter apathy, nor that it can be qualified as a mere peripheral cue. Instead, as was suggested by Jane Mansbridge, descriptive representation could indeed present a viable and desirable solution to to the promissory model of representation.

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Appendices

Annex A: Dutch Summary

De literatuur omtrent *gender-based* stemgedrag omschrijft het geslacht van een kandidaat dikwijls als een manier voor kiezers om hun keuze te versimpelen. De onderliggende assumptie is dat wanneer de mogelijkheid voor de kiezer electorale informatie te verzamelen wordt ingeperkt, zij meer geneigd zullen zijn hun keuze te baseren op descriptieve gelijkenissen met de kandidaat op wie zij stemmen, zoals geslacht. Deze thesis focust op twee situaties waarin een kiezer geconfronteerd kan worden met een dergelijk gebrek aan informatie, namelijk een gebrekkige individuele dispositie om informatie te verzamelen (ook wel politieke sofisticatie) en de beperkte beschikbaarheid van informatie binnen een electorale context waarin weinig informatie wordt verstrekt. Voorgaande studies toonden reeds het belang van de eigenschappen van de kiezer, waaronder politieke sofisticatie, voor *gender-based* stemgedrag. Enkele van deze studies suggereerden reeds dat de electorale context hier wellicht ook een rol speelde. Het gebrek aan onderlinge vergelijkbaarheid van de context verschillende verkiezingen even als de benodigde data, maakte echter dat een structurele vergelijking tussen verschillende electorale contexten uitbleef. Deze thesis presenteert de eerste structurele vergelijking van *gender-based* stemgedrag en haar relatie tot politieke sofisticatie tussen verschillende electorale contexten. In dit kader maakt het een onderscheid tussen eersterangs verkiezingen zoals de federale verkiezingen, waar de kiezer wordt geconfronteerd met een grote hoeveelheid informatie, en tweederangs verkiezingen zoals de Europese verkiezingen, die getekend worden door een zeer geringe beschikbaarheid van informatie. De Belgische verkiezingen van 2014 zijn een uitgelezen kans om dit thema te bestuderen, daar de federale en Europese verkiezingen plaatsvonden op dezelfde dag. Deze vragen werden beantwoord aan de hand van een cluster-robuuste multinomiale logistische regressieanalyse van de Belgische federale en Europese verkiezingen van 2014. Wat betreft het effect van politieke sofisticatie, leveren de analyses dubbelzinnige resultaten op. Alhoewel lager gesofisticeerde kiezers meer geneigd lijken te zijn om

een *gender-based* stem uit te brengen dan hoger gesofisticeerde kiezers, blijkt dit effect niet significant in alternatieve modellen. Daarnaast blijkt de impact van de electorale context verwaarloosbaar. Samengevat kan men stellen dat *gender-based* stemgedrag slechts een zeer beperkte invloed heeft op *gender-based voting behavior*, en dat de beperkte beschikbaarheid van informatie binnen de context van de tweederangs verkiezingen zelfs geen observeerbare impact heeft

Annex B: Translated Survey

Item	Question		Answer Categories
Demographic and background variables			
V1	Register the zip code of the respondent		
V2	Register the sex of the respondent	1 2	Male Female
V3	Year of birth		
V5	What is the highest level of education you obtained (n.b. recoded into four categories)	1 2 3 4	None/primary Lower secondary Upper secondary Higher education
V34	To which extent are you interested in politics in general.	0 to 10	Not at all interested … Very interested
V40	In politics the terms 'left' and 'right' are often used. Where would you place yourself on a scale from 0 to 10, where 0 means 'left' and 10 means 'right'	0 … 5 … 10	Left Centre Right

The following five items were used to generate the variable 'political knowledge' which is measured on a 5 point scale, ranging from 0 'non of the questions answered correctly' to 5 'all questions answered correctly'

Item	Question		Answer Categories
V36	The current chair of the Chamber of Representatives is…	1 2 3 4	Armand De Decker André Flahaut Patrick Dewael Herman De Croo
V37	Which party is <u>not</u> a member of		
	… The Flemish government	1 3 6 4	CD&V N-VA Open VLD SP.A.
	… The Walloon government	22 23 21 20	CDH ECOLO MR PS

V38	How many member states does the European Union count?	1	15
		2	25
		3	27
		4	28
V39	Which party is not a member of the <u>federal</u> government	22	CDH
		3	N-VA
		6	Open VLD
		21	MR
V35	The federal parliament consists of…	1	Chamber & Government
		2	Chamber & Senate
		3	Chamber, Senate & Regional Parliaments
		4	Chamber, Senate & Government

The following items were used to link the respondents to their respective voting behavior in the federal and European elections

V6	Please open the pink booklet. Which party did you vote for in the federal election of the Chamber of Representatives	1	CD&V
		2	Groen
		3	N-VA
		4	SP.A
		5	Vlaams Belang
		6	Open VLD
		7	LDD
		8	PvdA+
		20	PS
		21	MR
		22	CDH
		23	ECOLO
		24	FDF
		25	FN
		26	PTB GO
		27	PP (Parti Populaire)
		98	Other
		10	Blanc
		11	Invalid
		12	Did not vote

V10	In the federal elections, did you vote for the party's list or for one or multiple individual candidates on that list?	1	List
		2	One or multiple candidates
V11	Can you give me the number or the name of the candidate(s) you voted for? The corresponding information can be found in the pink booklet.	1	name candidate no.1
		2	name candidate no.2
		3	name candidate no.3
		4	name candidate no.4
		…	
V15	Please open the blue booklet. Which party did you vote for in the European elections?	1	CD&V
		2	Groen
		3	N-VA
		4	SP.A
		5	Vlaams Belang
		6	Open VLD
		7	LDD
		8	PvdA+
		20	PS
		21	MR
		22	CDH
		23	ECOLO
		24	FDF
		25	FN
		26	PTB GO
		27	PP (Parti Populaire)
		98	Other
		10	Blanc
		11	Invalid
		12	Did not vote
V16	In the European elections, did you vote for the party's list or for one or multiple individual candidates on that list?	1	List
		2	One or multiple candidates
V18	Can you give me the number or the name of the candidate(s) you voted for? The corresponding information can be found in the blue booklet.	1	name candidate no.1
		2	name candidate no.2
		3	name candidate no.3
		4	name candidate no.4
		…	

Annex C: Summary Statistics

Variable	N	Mean	Std. Dev.	Min	Max
Election (federal)	4038	.5	.50	0	1
European					
Age	4038	47.97	17.31	18	84
Left-right Scale	3942	4.94	2.09	0	10
Gender: Female	4038	.50	.50	0	1
Region: Wallonia	2940	.46	.50	0	1
Vote First List (none)					
Once	854	.31	.56	0	1
Twice	854	.54	.50	0	1
Number of Votes	4038	1.50	4.70	0	56
Political Interest	4034	4.79	2.77	0	10
Political Knowledge	4038	2.19	1.46	0	5
Education (none)					
Lower Secondary	4038	.22	.41	0	1
Upper Secondary	4038	.36	.48	0	1
Higher	4038	.34	.47	0	1

Annex D: Methodology

The categorical nature of our dependent variable makes it unfit to be estimated in a linear model, as depicted in Equation 1:

$$(1)\ y_i = \alpha + \beta_1 X_1 + \beta_2 X_2 \ldots \beta_n X_n$$

Equation 1 shows the fundamental limitation of using a linear model to estimate a categorical outcome variable. The equality sign implies that the regression coefficient β of an independent variable X indicates a continuous rate of change in the dependent variable. Yet, there are only three possible integer outcomes in our dependent variable, namely same-sex vote (1), mixed vote (2) and cross-sex vote (3):

$$(2)\ y_i \in (1, 2, 3)$$

In other words, the equality sign in Equation 1 is fundamentally misplaced, as the equation suggests that there are more possible outcomes than is actually the case. The second problem with this formulation is caused by the fact that the numbers of our dependent variable do not have a numerical meaning per se. An alternative for looking for linearity in the value of the outcome variable, is assuming linearity in the odds of a certain outcome variable occurring – or in this case a specific type of voting behavior – compared to another outcome occurring or 'reference category'. This is the fundamental idea behind generalized linear models. In a generalized linear model, the dependent variable is transformed into a variable with linear properties. In the case of a categorical outcome variable a logit link-function is used to transform the dependent variable into a variable with linear properties:

$$(3)\ logit\left(\pi\left(y = 1\right)\right) = ln\left(\frac{\pi}{1-\pi}\right) = \alpha + \beta_1 X_1 + \beta_2 X_2 \ldots \beta_n X_n$$

$$\text{(Sharma, 1995, p. 182)}$$

Equation 3 is pre-eminently appropriate to estimate a binary logistic regression model, where the outcome variable is programmed as the natural logarithm of the probability of a specific event occurring ($P(1) = \pi$) compared to the event not occurring ($P(0) = 1 - \pi$). The regression coefficient β of a variable X indicates a rate of change in the log odds in the dependent variable.

Similar to a binary logistic regression, multinomial logistic regression is used to predict the log odds of a dependent variable in function of a number of independent variables. The outcome variable, however, no longer follows a binomial distribution, but a multinomial distribution, in this case with three outcome categories, of which the total number of categories is denoted by the letter J and a specific outcome category by the lower case letter j. The log odds are then calculated as the probability of one outcome category occurring compared to a reference category, in this case 2 or 'mixed vote' (Sharma, 1995, p. 244).

$$(4)\ logit\left(P(Y_{ij} = j)\right) = ln\left(\frac{\pi_j}{\pi_J}\right) = \beta_{0j} + \sum_{p=1}^{p} \beta_{pj} x_{pij}$$

<div align="right">(Sharma, 1995, p. 244)</div>

The outcome variable is now programmed as the 'odds' of an event occurring, i.e. the natural logarithm of the probability that a specific event occurs ($\boldsymbol{\pi_j}$ which is same- or cross-sex voting) compared to the probability that a baseline event occurs ($\boldsymbol{\pi_J}$ or mixed-voting)(Sharma, 1995, p. 244). The notation of parameter $\boldsymbol{\beta_{0j}}$ indicates that the intercept $\boldsymbol{\beta_0}$, or the predicted log-odds while all other variables are held equal to zero, can differ across across different categories of the outcome variable j. The remaining parameters $\sum_{p=1}^{p} \boldsymbol{\beta_{pj} x_{pij}}$ can be interpreted as regression coefficients denoted by the index p. Thus $\boldsymbol{\beta_{pj} x_{pij}}$ indicates the increase in the log-odds of an event j occurring for a respondent i in situation for a one-unit increase in a variable x. The log odds can then be transformed to odds by calculating the exponential value:

$$(5)\ odds = exp\left[ln\left(\frac{\pi_j}{\pi_J}\right)\right] = e^{\alpha_j + \beta_{j1} X_1 + \beta_{j2} X_2 \dots \beta_{jn} X_n}$$

<div align="right">(Sharma, 1995, p. 183)</div>

The odds in its turn can be converted to probabilities, using the following transformation:

$$(6)\ \pi = \frac{odds}{1+odds} \text{ or alternatively } \pi = \frac{e^{\alpha_j + \beta_{j1} X_1 + \beta_{j2} X_2 \dots \beta_{jn} X_n}}{1 + e^{\alpha_j + \beta_{j1} X_1 + \beta_{j2} X_2 \dots \beta_{jn} X_n}}$$

This thesis will test two models. The first model serves to test the effect of gender and political sophistication on voting behavior:

(9) $ln\left(\frac{\pi_j}{\pi_{mixed}}\right) = \beta_{0j} + \beta_{1j}gender_{ij} + \beta_{2j}polint_{ij} +$
$\quad \beta_{3j}polknow_{ij} + \beta_{4j}education_{ij} + \sum_{p=1}^{p}\beta_{pj}x_{pij}$

The significance of the parameters will then be tested using the Wald test (Sharma, 1995, p. 189):

(10) $\chi^2 = \left(\frac{\hat{\beta} - \beta}{s_\beta}\right) \sim \chi^2$

In other words, this test evaluates whether the standardized (divided by the standard deviation of the parameter) difference between the observed value of the parameter differs significantly from the hypothesized effect size specified in the null-hypothesis of zero[11].

(11) $ln\left(\frac{\pi_j}{\pi_{mixed}}\right) = \beta_{0j} + \beta_{1j}gender_{ij} + \beta_{2j}polint_{ij} +$
$\quad \beta_{3j}polknow_{ij} + \beta_{4j}education_{ij} + \beta_{3j}polint * election_{ij} +$
$\quad \sum_{p=1}^{p}\beta_{pj}x_{pij}$

The presence of an interaction effect, in this case between sex and political sophistication, suggests that the effect of political knowledge on the probability of belonging to outcome category j compared to belonging to the reference category, differs significantly across elections, as suggested by Hypothesis 4.

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[11] The Chi-squared evaluation of Model fit will be explained in Appendix A 'Hypothesis Testing and Evaluation of the Model Fit'

Annex E: Tests for Multicollinearity

Variable	VIF	1/VIF
Election: European	1.00	1.00
Age	1.19	0.84
Left-right Scale	1.04	0.96
Gender: Female	1.13	.89
Region: Wallonia	1.09	.92
Vote First List (no)		
Once	2.21	.45
Twice	2.33	.42
Number of Votes	1.08	.92
Political Interest	1.24	.81
Political Knowledge	1.22	.82
Education (none)		
Lower Secondary	2.34	.43
Upper Secondary	3.46	.29
Higher	3.69	.27

The Variance Inflation Factor (VIF) indicates the extent to which the variance of a variable is inflated due to the presence of other variables in the model. The square-root of the VIF is the factor with which the standard errors increase due to the presence of these variables. A conservative rule of thumb is that the VIF should not be higher than 4, which means that the standard errors are not allowed to inflate more than twice its original size. More liberal tests maintain a cut-off value of 10. This Table displays no values larger than 4 and all relatively high values are categories within the same variable. Based on this analyses, it can be concluded that no problems with regards to multicollinearity in the data could be detected.

Annex F: Hypothesis Testing and Evaluation of the Model-fit

There are two approaches to testing the null and alternative hypotheses of the slopes. The first approach tests the significance of all parameters related to one variable simultaneously. The second approach allows us to evaluate the significance of a single parameter. The likelihood ratio test can be used for the former approach by comparing a non-restricted model, in which the variable of interest is included, with a restricted model containing an intercept only (Sharma, 1995, p. 189). It then evaluates whether the difference between the two models is significantly large. The test statistic can be obtained using the following equation:

$$G^2 = -2 \ln \left(\frac{L_0}{L_1} \right) = [-2 \ln(L_0)] - [-2\ln(L_1)]$$

(Sharma, 1995, p. 190)

in which L_0 refers to the likelihood of the restricted model and L_1 to the likelihood of the unrestricted model. In our case, the outcome of the likelihood ratio test is however of little interest, as we are interested in the effect of e.g. political sophistication for each separate category of the dependent variable, rather than the model as a whole. The significance of individual parameters on the other hand is of great interests. The Wald test is used to test the value of a single parameter:

$$\chi^2 = \left(\frac{\hat{\beta} - \beta}{s_\beta} \right) \sim \chi^2$$

(Sharma, 1995, p. 189)

In other words, this test evaluates whether the standardized (divided by the standard deviation of the parameter) difference between the observed value of the parameter differs significantly from the hypothesized effect size of zero.

      The goodness of fit of the model can be evaluated using the chi squared test statistic, which is a summation of the squared deviance between the observed and expected outcome value divided by the expected outcome value (Sharma, 1995, p. 194). Again, this test is also of little importance to us given the nature of our research question. The objective is not to estimate a model that is an adequate representation of voting behavior or to estimate the most parsimonious model, instead this thesis focusses on the existence of a specific phenomenon that hypothetically only occurs in only a few categories of our outcome variable. Therefore, the main variables of interest,

such as political sophistication and gender, may not necessarily contribute positively to the goodness of fit, but the significance of individual parameters in a specific category of the outcome variable will still contribute substantial information to answer our research question.

Annex G: Multinomial Logistic Regression Analyses explaining Voting Behavior

Federal elections	Model 1		Model 2	
	Same-sex B(SE)	*Cross-sex B(SE)*	*Same-sex B(SE)*	*Cross-sex B(SE)*
Position on the list: first (ref. not)	-1.23(.43)**	-.58(.41)ns	-1.28 (.42)***	-.64(.41)ns
Number of preference-votes	-.50(.19)**	-1.61(.21)***	-.49(.18)***	-1.59(.20)***
Left-right self-placement	-.08(.06)ns	-.10(.06)ns	-.07(.06)ns	-.08(.06)ns
Political Sophistication				
Political interest			-.13(.06)**	-.13(.06)**
Educational attainment			.05(.15)ns	-.12(.15)ns
Political knowledge			-.08(.10)ns	-.03(.10)ns
Gender: female (ref. male)	-.64(.25)**	1.46(.27)***	-.81(.24)***	1.34(.27)***
Age	-.02(.01)*	.01(.01)ns	-.01(.01)ns	.01(.01)ns
Region: Wallonia (ref. Flanders)	-.07(.28)ns	.01(.28)ns	-.03(.27)ns	.01(.28)ns
Constant	4.10(.67)***	3.05(.70)***	4.74(.89)***	4.27(.93)***
Log pseudolikelihood	-440.877		-436.318	
McFadden's R-squared	.2980		.3052	

Source: 2014 PARTIREP Notes: The reference category is mixed. The analysis only included respondents that casted one or multiple preference-votes. Sampling weights were applied. *p<.1 **p<.05 ***p<.001

	Model 1		Model 2	
	Same-sex B(SE)	*Cross-sex B(SE)*	*Same-sex B(SE)*	*Cross-sex B(SE)*
Position on the list: first (ref. not)	-.53(.37)ns	-.47(.40)ns	-.50(.38)ns	-.44(.40)ns
Number of preference-votes	-1.38(.70)*	-.47(.40)ns	-1.33(.68)**	-2.61(.51)***
Left-right self-placement	-.12(.06)**	-.01(.07)ns	-.11(.06)*	.00(.07)ns
Political Sophistication				
Political interest			-.09(.07)ns	-.08(.07)ns
Educational attainment			-.05(.22)ns	-.03(.22)ns
Political knowledge			-.25(.15)ns	-.17(/15)ns
Gender: female (ref. male)	.03(.29)*	1.9(.32)***	-.26(.31)ns	1.73(.33)***
Age	.00(.01)ns	.01(.01)ns	.00(.01)ns	.02(.01)ns
Region: Wallonia (ref. Flanders)	-.39(.29)ns	.12(.32)ns	-.32(.30)ns	.16(.32)ns
Constant	4.57(1.13)***	3.35(1.03)***	5.66(1.06)***	4.22(1.16)***
Log pseudolikelihood	-375.09		-371.24	
McFadden's R-squared	.3336		.3405	

Source: 2014 PARTIREP Notes: The reference category is mixed. The analysis only included respondents that casted one or multiple preference-votes. Sampling weights were applied. *p<.1 **p<.05 ***p<.001

Annex H: Syntax of the multivariate analyses

1. Stacking the data
. stack intnr GBV_fed intnr GBV_EU, into(intnr GBV) clear wide

2. Cluster-robust multinomial logistic regression: Model 1
. mlogit GBV i.election age lrscale i.gndr i.regio_3 i.firstlst vote_no polint polknow i.EDUC4 [pweight = FINALweightg], baseoutcome(3) vce(cluster intnr) nolog

> *Marginal effects political interest*
> . margins, at (polint=(0(1)10))
>
> *Marginal effects electoral context*
> . margins election, atmeans
>
> *Contrast analysis electoral context*
> . margins election, post
> . test _b[2.election] = _b[1.election]

3. Cluster-robust multinomial logistic regression: Model 2
. mlogit GBV i.election age lrscale i.gndr i.regio_3 i.firstlst vote_no polint polknow i.EDUC4 polint##i.election [pweight = FINALweightg], baseoutcome(3) vce(cluster intnr) nolog

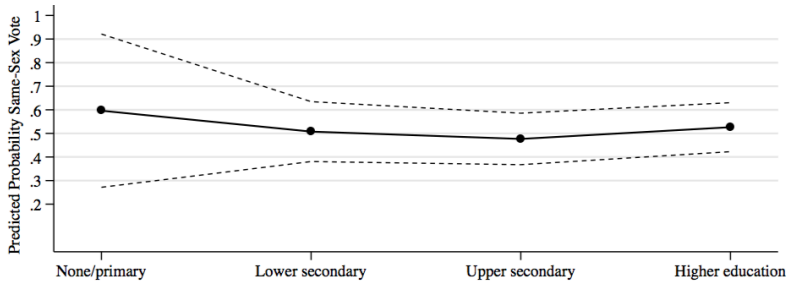> *Marginal effects interaction elections*political interest*
> . margins election#polint, atmeans

Note: Edited data-sets are available upon request

Annex I: Marginal Effects Political Interest and Education
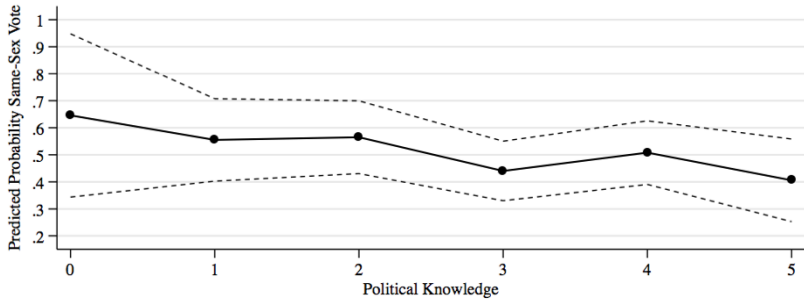
value	B(SE)
0	.65(.15)***
1	.56(.08)***
2	.56(.07)***
3	.44(.06)***
4	.51(.06)***
5	.41(.08)***

value	B(SE)
none	.60(.16)***
lower secondary	.51(.06)***
upper secondary	.48(.06)***
higher	.53(.05)***