Voter Heterogeneity: The Direct and Indirect Effect of Information

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Abstract:

This paper uses data from the 2004 Canadian Election Study to test the effect of information heterogeneity on vote choice. The results show that differences in information levels lead to variation in the number, type, and weight allotted to considerations in the decision process. In turn, this variation on the process side is found to result in differences in outcome for otherwise similar individuals. This difference in outcome is then dissected leading to the conclusion that a combination of positional value and salience differences explains this gap, but only when one takes into account variation in both the number and types of factors incorporated in the decision process.

Introduction:

The path to formulating a vote choice is undoubtedly as varied as the individuals making the decision. But are there general 'rules' or 'routes'? Can voters be studied according to the routes they choose? Do different routes lead to the same place? This research explores the proposition that the vote calculus of more informed individuals is more complex. More specifically, it examines whether there is a correlation between information levels and the number, type and weight allotted to factors considered in the vote calculus. Although existing literature lends plausibility to such a proposition (Bartle 2005; Campbell et al. 1960; Converse 1964; Cutler 2002; Fournier 2000; Gidengil et al. 2004; Johnston et al. 1996; Lau and Redlawsk 2006; Sniderman et al. 1991; Zaller 1992), there has been little in the way of systematic testing[1]. This lack of research leaves a number of important questions unanswered. For example, does the salience of a given factor vary systematically according to information level? Do more informed voters take account of a wider range of factors in formulating their vote choice? Do

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[1] See Fournier (2000) and Johnston et al. (1996) for notable exceptions.

differences in the number, type, and weight allotted to considerations lead to different outcomes for otherwise similar individuals?

In order to answer these questions, this work uses data from the 2004 Canadian Election Study. The central argument that will be put forth is that political information creates heterogeneity in the decision process that in turn produces systematic and significant differences in vote outcome. In the case of process side effects, it will be argued that information leads to differences in the number, type, and the weight allotted to considerations incorporated in the decision process. In turn, these informational differences on the decision side are expected to produce alternative vote outcomes for otherwise similar individuals[2]. While it is noted that differences in process may not result in differences in outcome, one of the central goals of this research is to measure the probability of similar outcomes given variation in reasoning. As such, this research seeks to further our understanding of why information matters by demonstrating that differences in levels of information systematically produce variations in reasoning and choice[3].

Building Upon the Past

While this research is unique in many ways, it is not the first to put forth the argument that otherwise similar individuals may vote differently based on their level of information. One of the earliest references to expected variation in the vote calculus according to level of political information is found in the work of Angus Campbell and his colleagues (1960):

> If someone has little perception of the candidates, of the record of the parties, of public issues or questions of group interest, his attitudes toward these things may play a less important intervening role between party identification and the vote. Presumably, among people of relatively impoverished attitude who yet have a sense of partisan loyalty, party identification has a more direct influence on behavior than it has among people with a well-elaborated view of what their choice concerns. Like the automobile buyer who knows nothing of cars except that he prefers a given make, the voter who knows simply

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[2] Patrick Fournier correctly points out that "[h]eterogeneity in decision-making is a necessary (but not sufficient) condition for individual deviations in decisions" (Fournier 2000, 32). It may be that two individuals who follow different decision processes arrive at the same outcome. However, while accepting this logic, this research aims to test *how likely* similar outcomes are given systematic differences in the process.
[3] Reference to Sniderman, Brady and Tetlock 1991.

that he is a Republican or Democrat responds directly to his stable allegiance without the mediating influence of perceptions he has formed of the objects he must choose between (Campbell et al. 1960, 136).

In other words, the individual with 'relatively impoverished attitudes' will employ a less complex reasoning process in arriving at his or her vote choice. Put simply, the *process* of candidate selection will vary depending on the individual's level of awareness and information. While there is evidence that less informed individuals consider fewer factors in their vote calculus (Bassinger 2005; Cutler 2002; Fournier 2000; Johnston et al. 1996; Lau and Redlawsk 2001), surprisingly, few researchers have picked up on Campbell et al.'s point directly or dissected the implications of their observation[4]. In doing so, this work builds upon Campbell et al.'s observation by testing the implications of heterogeneity in the process of candidate selection and by extension tapping the effects of information on vote choice.

While the issue of voter heterogeneity has been scarcely considered in much of the voting behavior research to date, it has not been completely absent. As early as 1954 Bernard Berelson and his colleagues refer to the misguided assumption of voter homogeneity. They explain that there:

> … is an assumption that the population is homogeneous socially and should be homogeneous politically; that everybody is about the same in relevant social characteristics; that, if something is a political virtue (like interest in the election), then everyone should have it; that there is such a thing as "the" typical citizen on whom uniform requirements can be imposed. The tendency in democratic literature to work with an image of "the" voter was never justified. For, as we will attempt to illustrate here, some of the most important requirements that democratic values impose on a system require a voting population that is not homogeneous but heterogeneous in its political qualities (Berelson et al. 1954, 313).

Although this early passage offers a strong argument in favour of heterogeneous vote models, there have been only limited efforts to account for the heterogeneity described by Berelson and his colleagues in much of the voting literature that followed. In fact, more than 30 years passed before Douglas Rivers directly addressed the issue of voter heterogeneity, offering evidence of the misguided implications of assuming homogeneity as well as a means by which voter heterogeneity can be modeled (Rivers 1988).

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[4] Again, see Fournier 2000 for a notable exception.

In order to demonstrate the importance and effect of voter heterogeneity Rivers develops an approach that employs rank-order preferences to tap the 'weight' accorded to individual considerations in the vote calculus. In essence, his argument is that the decision process of voters should not be modeled as homogeneous, but rather allow for variation based on voters' considerations and the weight allotted to these factors. Using data from the 1980 US National Election Study, Rivers is able to demonstrate that the importance of factors in the vote calculus is altered when the assumption of homogeneity is removed (Rivers 1988). River's results support one of the fundamental arguments of this research, suggesting that variation in the weight allotted to factors in the decision process will produce variation in outcome.

Why Information?

But why focus on information as a source of heterogeneity? Indeed, heterogeneity in vote choice could be a product of multiple influences. For example, some authors have suggested education as the most salient factor in differentiating voters (see Sniderman, Brody and Tetlock 1991). There is even evidence to suggest that, under certain conditions, education may perform better than information empirically (Fournier 2000). However, as Fournier notes, information provides a better measure than education because "… heterogeneity produced by information can be interpreted by drawing on a substantial body of conceptual and empirical work" (Fournier 2000, 65). This 'distinct conceptual identity' as Fournier describes it, as well as information's validity as an indicator of political sophistication, offers two sound arguments supporting the use of information over less precise concepts, such as education. This argument is also supported empirically in the work of Richard Johnston and his colleagues (1996). In questioning the difference between information and education as factors in explaining vote choice in the referendum on the Charlottetown Constitutional Accord, these authors find that although controlling for education does slightly diminish the information effect, information is an

important explanatory factor independent of education (Johnston et al. 1996, 227). Put simply, information matters.

Why Should Differences in Information Level Generate Differences in Process?

Why should we expect informational differences to lead to alternative decision processes for otherwise similar individuals? One explanation for informational variation in the vote calculus can be derived from the work of Herbert Simon. Simon contends that in order to understand *actual* behaviour, as opposed to that expected under the 'economic man' assumption, one must take into account the interaction of the individual's cognitive limitations with the task environment, what Simon refers to as 'bounded rationality' (Simon 1978). Building from this theory of bounded rationality, it is reasonable to assume that variation in cognitive limitations between otherwise similar individuals will produce variation in the reasoning process. Differences in both the cognitive capacity and interpretation of the 'task environment' are expected to lead to alternative 'boundaries' in which the decision is made. As Simon observed, "People reason and choose rationally, but only within the constraints imposed by their limited search and computational capacities" (Simon 1955). By extension, it is quite plausible to assume such variation in search and computational capacities will lead to alternative decision processes for otherwise similar individuals.

There are a number of studies that offer empirical evidence of Simon's theory. For example, Bettman et al. (1990), Fournier (2000) and Shanteau (1988) all find evidence that variations in the types of cues employed in the decision process varies according to information level. John Bartle (2005), Fred Cutler (2002), Richard Johnston and his colleagues (1996), and Thomas Palfrey and Keith Poole (1987) conclude that differences in the weight allotted to considerations in the vote calculus varies according to information level. In regards to the number of considerations taken into account, further evidence is marshaled through the efforts of Cutler (2002) and Johnston et al. (1996). In combination, this existing research strongly supports the arguments put forth in this study. However, while each of these

independent efforts consider one aspect of the decision process, for example, Cutler's (2002) detailed analysis of socio-demographic cues or Bartle's (2005) examination of leadership evaluations, this study goes beyond single considerations to evaluate and control for the interaction of multiple influences within the information-consideration nexus. While individually each of these studies offers insight as to why informational differences may produce heterogeneity, this work evaluates both the form and function of these differences, analyzing the effect on the process side as well as the magnitude of variance in outcome. Drawing upon this existing literature provides the pieces to the information-consideration puzzle. The objective of this research is to put these pieces together. To do so, the following hypotheses are put forth as a map to guide this investigation of information effects.

Process Effects: Routes to vote choice

H1: There will be a positive relationship between information level and the number of factors considered in formulating one's vote choice.

Johnston et al. (1996) offer evidence that differences in levels of political information lead to variation in the decision process. These authors use data from the 1992 Charlottetown Accord to show that more informed individuals consider a greater number of factors in formulating their decision (Johnston et al. 1996). According to Johnston et al., while feelings play a role in the decision regardless of information level, in the high information group these feelings are incorporated into more complex and consistent reasoning chains -"[i]nformation helped feelings find the perfect target" (Johnston et al. 1996, 244). Differences in level of information lead to variation in the decision process, both in form and factors considered.

Johnston et al.'s findings resonate in the work of others who have observed differences in vote choice based on informational heterogeneity. For example, in assessing the factors brought to bear in the vote calculus of individuals according to their level of political sophistication, Fred Cutler (2002) observes that even the most informed voters fall back on 'simple' cues, namely affective orientations; "more sophisticated voters do not transcend the use of shortcuts such as their affective orientations to

parties - they simply combine more decision criteria in a broader and deeper net than the less well informed" (Cutler 2002, 483). However, like Johnston and his colleagues, Cutler finds that while both groups of voters (high and low information groups) employ these heuristics, the more informed do so in addition to other considerations in the vote calculus (Cutler 2002).

Building upon this existing evidence, hypothesis ones serves as a test for systematic information differences in the number of considerations employed in the decision process. The expectation is that the number of considerations taken into account in formulating one's vote choice will be greater for individuals with more information (see also Sniderman, Brody and Tetlock 1991; Zaller 1992). In this analysis, a simple count of the number of considerations having a significant effect on vote choice across information groups will be used to support the presence of a more complex reasoning chain.

H2: The more informed will include more complex types of factors, such as issue considerations and underling values and beliefs, in their vote calculus compared to their less informed counterparts.

Following from Simon's work, support for the present research can also be derived from the literature on behavioural decision theory. Two particularly relevant findings from this research contend that processing capacity (Bettman et al. 1990) and prior knowledge or expertise (Shanteau 1988) will both lead to variation in the decision process. For example, Shanteau's work on expert versus non-expert decision makers finds that variation in the types of considerations or cues employed by 'experts' varies in contrast to their less informed counterparts (Shanteau 1988). As Shanteau explains:

> Both experts and novices know how to recognize and make use of multiple sources of information. What novices lack is the experience or ability to separate relevant from irrelevant sources. Thus, it is the type of information used – relevant vs. irrelevant – that distinguishes between experts and others (Shanteau 1988, 5).

Although Shanteau finds that the differences in the number of cues used by the informed and the uninformed prove non-significant, variation in the types of considerations brought to bear on the decision do lead to alternative outcomes. According to Shanteau "[w]here experts differ from novices is

in *what* information is used, not *how much*" (Shanteau 1988, 4). In other words, the types of factors taken into account vary across information groups.

Bettman et al.'s findings also support the proposition that variation in information level leads to variation in process based on the types of factors incorporated into the decision process. Bettman et al. contend "…decision makers choose strategies as a function of a strategy's demand for mental resources (i.e., the effort required to use a strategy) and the strategy's ability to produce an accurate response" (Bettman et al. 1990, 137). Variation in the perceived 'demand for mental resources' would suggest alternative strategies in the decision making process based on information level. For example, a more informed individual may perceive the use of issue considerations as a fairly effortless strategy in the decision process with a high level of accuracy. However, for a less knowledgeable individual, the use of issue positions may prove somewhat 'costly' based on the efforts involved in determining what the issues are, what position the candidates / parties have taken on the issues, and how these positions reflect his or her own opinion. A similar argument can be made for underlying values and beliefs. While all voters may be able to recognize their preferences given a series of survey questions, matching these values and beliefs to a party or candidate requires additional effort and mental resources. These efforts are expected to prove prohibitive for less informed individuals limiting the application of values and beliefs within their decision process.

Based on the arguments above, hypothesis two evaluates variation in the types of considerations employed across information groups. To do so, variance in the number of significant factors within each of the vote model blocs (see procedure, below) will be analyzed. The expectation is that the use of more complex factors, such as issue considerations and underling values and beliefs, will be most evident within the more informed segment of the population.

H3: The weight allotted to 'easier factors', such as reliance on social-group cues, will be stronger within the less informed cohort.

In more recent work, John Bartle (2005) has re-affirmed the argument of voter heterogeneity due to informational differences in the decision process. He explains "there are reasons for believing that voters place different weights on considerations ('type one heterogeneity') and/or that they think about politics in different ways ('type two heterogeneity')" (Bartle 2005, 655). In testing this proposition, Bartle uses data from the 2001 British Election Study to analyze the salience placed upon leadership. Bartle contends that understanding the weight allotted to a given consideration, in this case leadership, is important in understanding differences in the process of voting. While the results are admittedly modest, Bartle does find support for the hypothesis that differences in level of political information correspond with differences in behaviour – at least in so far as the weight given to leadership varies by information group (Bartle 2005, 670).

Thomas Palfrey and Keith Poole also provide evidence of informational-process differences based on the weight allotted to factors in the decision process. In their analysis of the 1980 US presidential election, these authors observe that the more informed tend to hold more extremist ideologies compared to their less informed counterparts (Palfrey and Poole 1987). According to these authors, these differences lead to 'inconsistent and noncommittal preferences' within the low information group as these individuals placed greater weight on inconsistent factors. In turn, this difference in the weight allotted to considerations produced more random candidate selection and issue preferences within the less informed cohort (Palfrey and Poole 1987). These findings are similar to those reported by Johnston and his colleagues (1996). Their study of voting in the 1992 referendum on the Charlottetown Accord also found that information played an important role in the vote process. In the case of the more informed, "…. [i]nformation helped voters find reasons to say Yes or No and then helped them connect those reasons to decision" (Johnston et al. 1996, 245). However, among the less informed voters, a lack of information led to a more random and disjoined outcome that did not necessarily reflect their interests (Johnston et al. 1996). Like Palfrey and Poole's findings, Johnston et al.'s results suggest that the

differences in the weight allotted to considerations in the decision process resulted in systematic differences in reasoning that ultimately lead to variation in outcome,

Taken together, these arguments support the hypothesis that the decision process will vary across information groups based on the weight allotted to considerations. Where overlap exists across groups in the application of a factor in the vote calculus, the expectations are that differences in the weight allotted to these factors will vary according to the complexity of the consideration. For example, the less informed are expected to rely more heavily on social group cues, such as religious or regional cleavages, compared to their more informed counterparts. This third hypothesis tests this proposition by comparing the weights allotted to factors in the decision process across information groups.

Outcome Effects: So What!

H4: Differences in reasoning chain complexity lead to alternative outcomes for otherwise similar individuals.

While it is important to expose informational differences in the process involved in formulating one's vote choice, the process-side effect of information may be inconsequential--at least in so far as the vote choice is concerned--if these differences in process do not lead to differences in outcome. This final hypothesis measures the effect of information testing to what extent variation in process results in variation in outcome. Based on the theories presented above, differences in the 'types' and 'mixture' of the raw materials incorporated in the vote decision are expected to produce alternative products, in this case vote choice. Following from the first set of hypotheses, differences in the decision process according to information level are expected to systematically lead to differences in the vote choice of otherwise similar individuals.

Support for this hypothesis can be derived from the work of Larry Bartels (1996). Bartels writes that:

> [g]iven the variety of demonstrable differences between well-informed and less well-informed citizens in sensitivity to external stimuli, diversity and precision of political

perceptions, information-processing strategies, access to shared understandings of politics, and integrative ability, it hardly seems outlandish to entertain the possibility that disparities in political information lead to systematically different vote choices by citizens in otherwise similar political circumstances (Bartels, 1996: 202).

These differences in 'information-processing strategies', as Bartels refers to them, are a central focus of this research that considers how differences in process alters outcome. According to Bartels, a variety of process-side factors are likely affected by variation in information levels that in turn lead to alternative outcomes. The following results expose these process-side factors and examine the magnitude of outcome variation.

Procedure and Findings:

In order to test the hypotheses outlined above, survey data from the 2004 Canadian Election Study are used. Quebec respondents are excluded from all analyses based on differences in the dependent variable, vote choice. The strong presence of the Bloc Quebecois creates an alternative choice set available only to Quebec voters posing difficulties when comparing these respondents with voters in the rest of Canada. As such, only respondents outside of Quebec are included in the analyses that follow[5].

In all models multinomial probit is used to model vote choice. While the interpretation of the coefficients under a multinomial probit specification is less intuitive than that of OLS regression, the nature of the models makes the OLS specification unreliable. With limited values on the dependent variable (a series of binary choices), the assumption of linearity is implausible, resulting in "… unreliable standard errors and hypothesis test" (King in Bartle 2005, 661).

In addition to the statistical arguments favouring a multinomial specification, the central goal of this research also supports the use of a multinomial setup. This research is interested in heterogeneity. As such, limiting voters to a binary choice, especially when the factors relevant to the choice may vary depending upon the parties being considered, confines the interpretation of relevant factors at best and

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[5] One way of including these respondents would be to employ a separate set of models for Quebec voters. However, given the low number of survey respondents within this province, especially when controlling for information groups, such analyses were deemed inappropriate. The exclusion of Quebec respondents as well as those missing data on key variables resulted in a final sample of 1228 respondents.

possibly conceals factors relevant to different groups of voters under alternative choice sets (Gidengil et al. 2006; Whitten and Palmer 1996). As Elisabeth Gidengil and her colleagues (2006) point out, it is quite plausible that the significance and direction of a factor in one decision set is irrelevant or even in the opposite direction for another. For example, limiting the vote choice to the Liberals versus 'other' may mask the influence of salient factors, such as union membership, in a choice between the Conservatives and the NDP (Gidengil et al. 2006). Given the focus of this study, such limitations are deemed unacceptable.

In generating a measure of political knowledge, survey respondents are divided into approximate terciles according to the number of information questions correctly answered. To do so, a knowledge scale based on 14 survey questions was created and then divided into thirds[6]. Members of the low information group were able to correctly answer 0 to 5 information questions (26.4% of the sample), the middle information group correctly answered 6 to 9 questions (39.6% of the sample) and the high information group answered 10 to 14 questions correctly (34.0% of the sample). In the first part of the study, models are run separately for each of these three groups[7]. Although this approach does not permit direct comparison of coefficients between information cohorts, it does allow for within group analysis and between group comparisons of the number and type of considerations employed. In the second stage of this study a combined model is applied to test the significance of the weight allotted to considerations across groups.

The following series of tests considers the number, type and weight allotted to various factors in the vote calculus. To analyze these, a multi-stage model is employed where each type of consideration is added in turn using a 'bloc recursive' approach. The central idea behind the 'bloc-recursive' model is

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[6] See appendix 1 for question wording.
[7] It is important to note that the coefficients and standard errors for the control group in the interaction model that follows are identical to those of the separate models. For example, when the high information group is the reference category in the full interaction model, the coefficients and standard errors for the variables that are not interacted with low or medium information are identical to those observed in the high information only model while the interaction coefficients are equal to the difference between the original coefficients with the adjusted standard error.

that individuals base their vote choice on a series of considerations, with each subsequent group of factors potentially influenced by earlier considerations (Blais et al. 2002; Campbell et al. 1960; Miller and Shanks 1996). In both Miller and Shank's (1996) and Blais et al.'s (2002) research considerations are grouped into blocs based on their assumed distance from the actual vote. While the two studies diverge in regards to the order the factors are entered, there is agreement on the types of factors included[8]. Based on the model used by Blais and his colleagues, six types of considerations are examined in the following order: socio-demographic factors, underlying values and beliefs, party identification, economic perceptions, issue opinions, and leader evaluations The order of these factors follows from arguments presented by Blais et al. who contend that this sequence represents a logical sequence with each earlier set of considerations potentially 'projecting' their influence on factors closer to the actual vote (Blais et al. 2002, 85). For example, by entering party identification into the model prior to economic considerations, it is possible to tap the independent effect of economic considerations while controlling for partisan bias. These groupings or 'blocs' form the basis of the typologies used in this study.

As noted above, separate vote models are run for each of the three information groups first in order to measure the number and type of factors relevant to the decision process. In effect, running separate models is similar to interacting information with each of the other variables in the model. This provides a simplified means of identifying what factors are important for each group and allows for inter-group comparisons in regards to both the number and types of factors employed. Columns one thru three of table 1.1 to 1.3 presents the results of these models.

- Tables 1.1 to 1.3 about here -

In regards to the raw number of relevant considerations, the hypothesis that the more informed will consider more factors in their vote calculus is supported by the data. For both the NDP versus the

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[8] The order that each set of factors is entered into the vote model will affect the size of the coefficients. However, factors that have a direct effect on the vote choice should retain significance regardless of the order in which they are entered.

Conservative and the Liberal versus the Conservative models a positive relationship is observed with the number of factors increasing with information level (see columns 1 to 3 of table 1.1 and 1.2). In both cases the most informed consider nearly twice as many factors as their least informed counterparts (23:13 in the NDP vs. Conservative model and 21:12 in the Liberal vs. Conservative model). The NDP versus Liberal model also shows that the least informed consider fewer factors, although in this case it is the middle information group that is found to consider the most. From low to high the number of factors are 10, 21 and 15 (see columns 1 to 3 of see table 1.3). The explanation for this is likely a reflection of strategic considerations.

If we assume that the most informed are more apt to vote strategically (Cox 1997), it would make sense that the vote choice for this group would be between the Liberals or the Conservatives. Even for highly informed NDP supporters strategic considerations could have led to a vote for the Liberals, in an effort to block the Conservatives from gaining power, or a Conservative vote in an effort to prevent the Liberals from being re-elected. Under such a scenario the results of the NDP versus Conservative model makes sense as the highly informed consider the extent to which the two parties differ and how these differences reflect their own positions. However, in the NDP versus Liberal model, the decision process may be less complicated. If highly informed voters have already modeled their choice as one of blocking the Liberals or the Conservatives from forming the government, consideration of a Liberal versus a NDP vote would be diminished. However, this is only one possible explanation that would require further analysis to test, a task beyond the scope of the current analysis.

Support for hypothesis two is also found within the data. It would appear that the more informed do apply different types of considerations in the decision process compared to their less informed counterparts (see columns 1 to 3 of table 1.1 – 1.3). Once again the Liberal versus Conservative choice set offers the strongest congruence with expectations. When choosing between the incumbent and most likely challengers, values and beliefs and issue considerations account for nearly 50% of all considerations within the highly informed group (see column 3 of table 1.2). In comparison, these

consideration types explain only 33% of all factors for both the medium and low information cohorts. However, while the hypothesis finds support in the Liberal – Conservative decision set, in both the NDP versus Conservative and the NDP versus Liberal models it is the medium information group that tends to place the most weight on underling values and beliefs and issue considerations (see columns 1 to 3 of table 1.1 and 1.3). In the case of the former, this translates to 53% of all considerations for the middle information group compared to 35% and 31% for the high and low information groups respectively. In the NDP versus Liberal choice set, 48% of all considerations fall within the underling values and beliefs and issue categories for the middle information cohort, while these factors make up only 27% and 30% of considerations for the high and low information groups respectively[9].

As suggested above, it is plausible that for those who were more informed, the decision in the 2004 Canadian election was between the incumbent Liberals and the only party likely to pose a challenge to their re-election, the Conservatives. As such, strategic considerations may have led to the incorporation of different types of factors in the vote calculus dependant upon the choice set. It is plausible that the more informed devoted greater resources to the decision set that included the two parties most likely to form the government. However, while the data supports this interpretation, pending further study, such a conclusion is only one possibility.

Hypothesis three contends that where overlap exists across groups in the application of a factor in the decision process, differences in the weight allotted to these factors will vary according to complexity. The expectation is that the more informed would place greater emphasis on more complex considerations such as issues. Since each of the vote models used to this point is based on a multinomial probit specification, comparing directly across groups proves problematic due to differences in residual variations as a result of different samples (Allison 1999). In order to control for these variations, the

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[9] Note that the low information group fails to include any issue considerations in their vote calculus for this model. It is only underling values and beliefs that constitute 30% of considerations within their decision process.

significance of the difference in coefficients across groups is calculated using a single model that incorporates interactions with two of the three information groups[10].

The choice to use a single interaction model for comparison of differences in the weight allotted to factors and not for measuring the number and type of factors employed by each group is based on the nature of the analyses. In the case of the number and types of factors employed within the decision process, within group totals are of interest. These totals are then compared with each of the other groups. However, when comparing coefficients across groups, the analysis is aimed at direct differences at the variable, not the group level. As such, this two step approach allows us to observe the within group variation in the number and types of factors incorporated in the decision process and then measure the difference in the weights allotted to each factor across groups while taking into account residual differences between separate models. The results from these models are reported in columns four and five of table 1.1 to 1.3.

While the findings of this analysis support the hypothesis that information heterogeneity will produce variance in the weight allotted to factors in the decision process, the relationship is not as expected in regards to issue complexity. In part, this may be due to the fact that there is only a limited amount of consideration overlap across groups, especially between the least and most informed. Looking at differences in issue considerations, for example, produces only one case where an issue is relevant for both the low and high information groups; the issue of the sponsorship scandal in the Liberal versus Conservative decision set (see table 1.2). However, in this case, the difference in salience between the two groups is insignificant. Both the least and most informed placed considerable weight on the scandal in casting their ballot. In fact, in all but one case where overlap exists between the least and most informed and the difference is significant, it is the most informed who are found to place the greatest weight on the issue, regardless of issue type[11].

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[10] See footnote 7.
[11] The one exception is found in the NDP versus Liberal model where NDP party identification is more salient for the least informed (see table 1.3).

In many cases significant differences in the weight placed upon a given factor is observed where that factor is found to be relevant for only one of the groups. For example, in the Liberal versus Conservative choice set, the weight placed upon cynicism is statistically different when considering the most and least informed (see column 4 of table 1.2). However, in the individual models (columns 1 and 3 of table 1.2), cynicism is found to be statistically significant for only the high information group. The implications of this are twofold. On the one hand, the findings show that significant differences do exist across information groups in regards to the weight allotted to considerations in the decision process. However, the significance of these differences are only in relation to their more or less informed counterparts since, in many cases, the factor is not significant within the information group. The difference in the salience allotted to factors across groups is relevant (regardless of complexity), but in many cases the application of a given factor in the decision process is not; at least not for both groups.

Although the results above do not completely conform to expectations, they do offer support for the argument that information heterogeneity will produce variation in the decision process. But what are the implications of these differences? In other words, so what? The following section addresses this question by testing how the variations observed above affect outcome.

Are there significant differences in the vote choice across information groups? Table 2 presents the vote share for each party by information cohort along with the mean difference across groups. All else being equal, differences range from a low of one percentage point to a high of six points (see table 2). This suggests that there is indeed variation across groups in regards to vote choice. However, of these differences only one is found to be statistically significant; the mean difference between the low and high information groups and the Liberal vote (see table 2). It would appear that the more informed are more likely to support the Liberal party in comparison to their less informed counterparts. Although insignificant ($p<0.11$), the results suggest that the difference in the Liberal vote share between the low and high information groups was nearly unidirectional with the low information votes going to the Conservatives. These results fit with expectations suggesting that differences in the decision process do

lead to alternative outcomes. The following section dissects this difference thru a series of simulations in an effort to expose its underling causal mechanism.

- Table 2 about here -

Following the methodology of Althaus (1998), Bartels (1996), Gidengil et al. (2004) and Kaufmann and Petrocik (1999), a series of simulations are used to tap the effect of variation in the decision process as it relates to vote choice. In doing so, two explanations are considered. The first looks at how differences in positional values (PV) impact vote choice. For example, even if two otherwise similar individuals allot the same level of salience to the issue of same-sex marriage when formulating their vote, variation in their position on the issue could result in alterative outcomes[12]. To test the effect of differences in PV, vote shares are estimated for each information group given alternative PV while holding salience constant. For example, in the first simulation the low information group is assigned the PV of their medium and high information counterparts respectively. This allows for an examination of how vote choice would have changed had low information individuals held the PV of their medium or high information counterparts while maintaining low-information salience. Calculating the difference between the vote probabilities under each simulated condition provides a measure of the effect PV has on vote choice.

It is also plausible that even if individuals with different levels of information share the same PV, variation in the weight allotted to these factors could also lead to differences in vote choice. For example, while two individuals might both support gun control equally, differences in the importance placed upon this factor in the vote calculus could lead to alternative choices. In order to test this, the process above is repeated only this time holding PV constant while simulating alternative group salience and once again estimating the difference in vote probabilities under each condition.

- Tables 3.1 to 3.3 about here -

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[12] Appendix 2 provides a comparison of mean values for all factors across information groups. The results of this suggest that difference in the PV across groups is relevant.

As the results from the first set of simulations demonstrate, altering PV while holding low information salience constant results in no significant change in overall vote share for any party. While the change in the percentage of the vote varies by nearly three percentage points for both the NDP (given medium information PV) and the Liberals (given high information PV), neither are found to be statistically significant (see table 3.1). Put simply, in the case of low information individuals, positional differences offer little in the way of altering the vote choice across groups, at least given low information levels of salience.

In regards to the weight allotted to factors, more significant differences are observed. If low information individuals where to maintain their original PV but place as much weight on considerations as the medium information group, the Conservative vote share would have decreased by six percentage points (see table 3.1). Conversely, holding the PV of the medium information group constant while simulating the salience of the low information group results in a significant drop of four percentage points in the case of the NDP and an increase of the same amount for the Conservative vote share (see table 3.2). In the case of the low and medium information groups, it would appear that differences in the salience allotted to considerations best explains variation in outcome. However, given the limited (and insignificant) difference in the aggregate vote share for each party across these two groups, the observation provides somewhat limited utility.

As for the high information group, the only difference that achieves an acceptable level of statistical significance is observed in the case of the Liberal vote share (see table 3.3). Given the PV of their low information counterparts while maintaining high information issue salience, the Liberal vote share would have dropped five points. This finding suggests that nearly all of the difference between the low and high information groups in regards to aggregate Liberal vote probabilities is explained by positional value differences. This finding presents what may appear to be a contradiction. In the simulation where the PV of the high information group was matched with low information salience, the results are insignificant suggesting that for low information individuals PV differences are negligible

(see table 3.1). However, under the current conditions the results suggest that differences in the PV of the most and least informed offer the strongest explanation for variation in the Liberal vote share. The reason for this apparent contradiction can be derived from the earlier observations of differences in the number and types of factors relevant to each group.

Since the number and type of factors considered is a reflection of the weight allotted to each consideration, simulated changes in group salience will also simulate changes in the number and types of considerations relevant for that cohort. Recall that in the Liberal versus Conservative vote model, the high information group considered nearly twice as many factors as their low information counterparts (21 versus 12). In regards to consideration types, the high information group also differs from low information individuals incorporating over twice as many issue and values and beliefs considerations as their less informed counterparts. Since simulating low information salience also means simulating the number and type of factors employed by this group, the change in PV will only affect factors relevant to the low information group. For example, while significant differences exist between the least and most informed in regards to cynicism (see appendix 2), since this factor is not significant for low-information individuals in the Liberal – Conservative choice set, changing the low information cynicism value to that of the high information group will make little difference; cynicism is not a significant factor in the low-information vote calculus. Conversely, since cynicism is relevant for the high information group changing the value to that of the low information cohort should impact the outcome. This is why PV are found to be significant in explaining the difference in the Liberal vote between low and high information individuals given high information salience but insignificant when the PV of the high information group are matched with low information salience.

These differences suggest that even if low information individuals were to have similar PV as their more informed counterparts, the differences in the number and types of factors considered would still produce group differences in outcome. Alternatively, if the low information group were to match their most informed counterparts in regards to the number, type and weight allotted to factors in their

vote calculus, the outcome would still differ between the two groups given their variation in PV. Thus it is not salience or PV differences that explain variation in choice, it is a combination of the two. As such these findings suggest that informational differences in the number, type, and weight allotted to considerations in combination with difference in the values taken on these considerations do lead to different outcomes for otherwise similar individuals.

Conclusion:

This paper set out to test information heterogeneity and the effect informational differences have on both the vote calculus and outcome. In all three decision sets the findings indicate that the least informed incorporate fewer considerations in their vote calculus compared to their more informed counterparts. In two of the three vote models the relationship is positive with the number of factors increasing with information. In regards to consideration complexity, the Liberal versus Conservative model is the only one that fits with expectations, possibly a reflection of strategic voting considerations as noted above. However, while limited, this does offer some support to the hypothesis. In regards to differences in the weight allotted to considerations that overlap across groups, it would appear that in nearly all cases the most informed place greater weight on each consideration compared to their low information counterparts. Contrary to expectations the weight allotted to considerations does not vary by factor complexity across groups.

This work also explored the effect of variation in process as it relates to variation in outcome. The results indicate that when it comes to vote choice, information heterogeneity affects outcome. In the case of low and medium information individuals, differences in vote choice are explained largely by differences in the salience that each group allots to considerations within their decision process. However, when considering difference between the low and high information groups the explanation appears somewhat more complicated. PV differences offer the most likely explanation for vote heterogeneity, but only given the increased number of considerations and consideration types of the high

information cohort. While evidence was found that points to differences between the low and high information groups in regards to both PV and salience, these differences appear to be driven by variation in the number and type of factors employed in the vote calculus. It would appear that explaining difference in vote choice across information groups is not as simple as exposing PV and salience differences; the number and type of factors relevant to each group must also be considered in order to fully understand inter-group variance.

While the results of this study support the central propositions, further comparative work would be beneficial to identify whether these findings are applicable outside of this single case. Although these results demonstrate that variation in process does produce variation in outcome, it does not preclude the possibility that alternative 'routes' could lead to the same choice. Given the circumstances surrounding the 2004 Canadian national election, including the merger of two parties to form the Conservative Party of Canada, the scandal accusations directed towards the governing Liberals, the perceived closeness of the race, as well as the introduction of three new party leaders, the results from this single analysis are tenuous. Further comparative analyses, both cross time and cross nationally would offer much insight into the robustness of these finings. While the results are encouraging, it is recognized that the addition of more cases would be essential to allow for generalization beyond this single study.

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Table 1.1: The number, type and difference of weight applied to considerations in NDP VS. Conservative vote choice by information group

	Low Info	Med Info	High Info	High – Low	High-Med
Under 35	-0.02 (0.31)	-0.12 (0.29)	0.10 (0.41)	0.12 (0.51)	0.22 (0.50)
Over 54	**-0.80 (0.44)**[a]	**-0.71 (0.31)***	**-0.73 (0.35)***	0.07 (0.56)	-0.02 (0.47)
Atlantic Resident	**1.10 (0.43)****	0.54 (0.40)	-0.05 (0.47)	**-1.15 (0.63)**[a]	-0.59 (0.61)
Western Resident	0.27 (0.29)	**-0.45 (0.24)**[a]	**-0.50 (0.25)***	**-0.77 (0.39)***	-0.05 (0.35)
Atheist	0.36 (0.38)	**0.56 (0.29)**[a]	**0.82 (0.31)****	0.46 (0.49)	0.26 (0.42)
Catholic	**0.71 (0.35)***	0.00 (0.27)	-0.04 (0.32)	-0.75 (0.47)	-0.03 (0.42)
Fundamentalist	-0.01 (0.34)	**-0.79 (0.28)****	**-1.94 (0.52)*****	**-1.93 (0.62)****	**-1.15 (0.59)**[a]
Visible Minority	**0.84 (0.47)**[a]	0.27 (0.36)	**2.24 (0.47)*****	**1.39 (0.67)***	**1.97 (0.59)*****
French Speaking	-0.53 (0.65)	0.00 (0.62)	**-1.64 (0.64)***	-1.11 (0.92)	**-1.64 (0.89)**[a]
Female	0.33 (0.30)	-0.06 (0.22)	**0.47 (0.26)**[a]	0.14 (0.40)	0.53 (0.34)
Couple	-0.42 (0.27)	-0.34 (0.24)	**-0.61 (0.31)***	-0.19 (0.41)	-0.28 (0.39)
Children	-0.44 (0.33)	-0.03 (0.25)	0.05 (0.32)	0.49 (0.46)	-0.08 (0.41)
Employed	0.58 (0.36)	-0.32 (0.31)	**-1.07 (0.35)****	**-1.65 (0.50)*****	-0.75 (0.47)
Public Service	-0.34 (0.40)	**0.71 (0.29)****	**0.60 (0.35)**[a]	**0.93 (0.53)**[a]	-0.11 (0.45)
Union Member	0.13 (0.38)	0.39 (0.29)	**0.77 (0.36)***	0.64 (0.53)	0.38 (0.47)
Low Income	0.36 (0.33)	0.17 (0.31)	0.24 (0.48)	-0.12 (0.58)	0.07 (0.57)
High Income	0.42 (0.35)	-0.33 (0.27)	**-0.47 (0.27)**[a]	**-0.90 (0.45)***	-0.15 (0.38)
HS Drop Out	0.52 (0.43)	**0.84 (0.39)***	**1.55 (0.44)*****	**1.03 (0.62)**[a]	0.71 (0.59)
Rural	**-0.78 (0.28)****	**-0.51 (0.26)***	0.20 (0.32)	**0.99 (0.43)***	**0.71 (0.41)**[a]
Total # of Socio Demo:	**3**	**5**	**11**	**9**	**4**
Pro-Quebec	0.41 (0.61)	-0.86 (0.66)	**1.91 (1.04)**[a]	1.50 (1.21)	**2.77 (1.23)***
Moral Traditionalism	**-1.09 (0.61)**[a]	**-0.86 (0.45)**[a]	**-1.29 (0.79)**[a]	-0.20 (1.00)	-0.43 (0.91)
Support Free Market	**-1.93 (1.01)**[a]	**-2.33 (0.85)****	**-4.86 (1.23)*****	**-2.93 (1.59)**[a]	**-2.53 (1.49)**[a]
Regional Alienation	-0.46 (0.48)	-0.55 (0.41)	**-1.01 (0.50)***	-0.55 (0.69)	-0.46 (0.65)
Cynicism	0.95 (0.91)	0.30 (0.78)	-0.12 (1.04)	-1.07 (1.39)	-0.42 (1.30)
Do More for Racial Equality	-0.58 (0.59)	0.13 (0.53)	**2.76 (0.84)****	**3.34 (1.02)*****	**2.63 (0.99)****
Do More for Gender Equality	1.21 (0.84)	**3.39 (0.81)*****	0.16 (1.19)	-1.05 (1.46)	**-3.23 (1.44)***
Pro Closer US Ties	**-1.65 (0.69)***	**-2.51 (0.60)*****	**-6.73 (0.93)*****	**-5.08 (1.15)*****	**-4.22 (1.10)*****
Total # of Values:	**3**	**4**	**6**	**3**	**5**
Liberal PID	0.26 (0.51)	0.48 (0.34)	0.73 (0.57)	0.47 (0.77)	0.24 (0.67)
Conservative PID	**-2.19 (0.41)*****	**-3.50 (0.67)*****	**-3.08 (0.84)*****	-0.89 (0.94)	0.42 (1.08)
NDP PID	**2.09 (0.64)*****	**3.08 (0.53)*****	**1.79 (0.78)***	-0.30 (0.78)	-1.29 (0.95)
Total # of PID:	**2**	**2**	**2**	**0**	**0**
Economic Prospective Personal	0.19 (0.50)	0.13 (0.46)	0.78 (0.69)	0.59 (1.01)	0.65 (0.83)
Economic Retro Canada	**-0.50 (0.24)***	0.10 (0.22)	0.27 (0.28)	**1.54 (0.74)***	0.34 (0.71)
Total # of Economic:	**1**	**0**	**0**	**1**	**0**
Decrease Corporate Tax	0.67 (0.49)	**0.92 (0.52)**[a]	0.53 (0.80)	-0.14 (0.94)	-0.39 (0.95)
More Immigration	0.56 (0.52)	**1.19 (0.47)****	0.03 (0.67)	-0.53 (0.85)	-1.15 (0.82)
Scrap Gun Reg.	-0.49 (0.46)	**-2.42 (0.42)*****	**-1.57 (0.62)***	-1.08 (0.77)	0.85 (0.75)
Anti-War	0.27 (0.37)	**0.63 (0.37)**[a]	0.42 (0.65)	0.15 (0.75)	-0.21 (0.75)
Oppose Private Medicare	0.61 (0.42)	**1.40 (0.48)****	**4.01 (0.69)*****	**3.40 (0.80)*****	**2.61 (0.84)****
Same-sex Marriage	0.51 (0.51)	**1.38 (0.52)****	0.33 (0.64)	-0.18 (0.82)	-1.05 (0.83)
Scandal	**-3.33 (0.96)*****	0.50 (0.92)	-0.98 (1.43)	2.35 (1.72)	-1.47 (1.70)
Total # of Issues:	**1**	**6**	**2**	**1**	**1**
Harper Evaluation	**-3.32 (1.19)****	**-6.33 (0.93)*****	**-6.79 (1.31)*****	**-3.48 (1.77)***	-0.47 (1.61)
Martin Evaluation	**-2.47 (0.85)****	-0.15 (0.80)	-0.86 (1.32)	1.62 (1.57)	-0.71 (1.54)
Layton Evaluation	**3.23 (1.07)****	**5.15 (0.91)*****	**2.82 (1.33)***	-0.42 (1.71)	-2.33 (1.61)
Total # of Leaders:	**3**	**2**	**2**	**1**	**1**
Total All Factors:	**13**	**19**	**23**	**15**	**11**

NOTE: Multinomial probit coefficients with standard errors shown in parentheses. Reported coefficients are for single bloc only.
*** p<.001 ** p<.01 * p<.05 [a] p<.10

Table 1.2: The number, type and difference of weight applied to considerations in Liberal VS. Conservative vote choice by information group

	Low Info	Med Info	High Info	High – Low	High-Med
Under 35	0.25 (0.32)	-0.32 (0.29)	**-0.89 (0.34)****	**-1.14 (0.43)***	-0.57 (0.43)
Over 54	-0.26 (0.37)	0.13 (0.29)	-0.40 (0.28)	-0.14 (0.43)	-0.53 (0.43)
Atlantic Resident	**0.64 (0.37)[a]**	**0.92 (0.35)****	0.11 (0.36)	-0.53 (0.43)	-0.81 (0.43)
Western Resident	-0.46 (0.26)	**-0.94 (0.21)*****	**-0.84 (0.22)*****	-0.38 (0.43)	0.10 (0.43)
Atheist	-0.60 (0.38)	-0.21 (0.29)	0.27 (0.27)	**0.87 (0.43)[a]**	0.48 (0.43)
Catholic	**0.68 (0.28)***	-0.10 (0.25)	0.36 (0.26)	-0.32 (0.43)	0.45 (0.43)
Fundamentalist	-0.43 (0.26)	-0.21 (0.25)	**-1.32 (0.35)*****	**-0.89 (0.43)***	**-1.11 (0.43)****
Visible Minority	**1.21 (0.43)****	**0.77 (0.31)***	**1.76 (0.44)*****	0.55 (0.43)	**0.99 (0.43)[a]**
French Speaking	0.52 (0.58)	0.48 (0.56)	-0.32 (0.49)	-0.84 (0.43)	-0.80 (0.43)
Female	-0.01 (0.26)	0.19 (0.21)	0.09 (0.22)	0.09 (0.43)	-0.10 (0.43)
Couple	-0.13 (0.28)	-0.33 (0.23)	**-0.56 (0.26)***	-0.43 (0.43)	-0.24 (0.43)
Children	**-0.70 (0.30)***	0.29 (0.24)	0.12 (0.25)	**0.82 (0.43)***	-0.17 (0.43)
Employed	0.13 (0.33)	**0.51 (0.28)[a]**	-0.44 (0.29)	-0.57 (0.43)	**-0.95 (0.43)***
Public Service	-0.23 (0.33)	0.26 (0.27)	0.44 (0.31)	0.67 (0.43)	0.18 (0.43)
Union Member	-0.08 (0.33)	0.06 (0.27)	-0.11 (0.32)	-0.03 (0.43)	-0.17 (0.43)
Low Income	0.11 (0.29)	**0.75 (0.28)****	-0.19 (0.44)	-0.30 (0.43)	**-0.93 (0.43)[a]**
High Income	0.31 (0.34)	0.25 (0.24)	-0.10 (0.24)	-0.41 (0.43)	-0.35 (0.43)
HS Drop Out	0.39 (0.31)	0.50 (0.36)	0.59 (0.41)	0.19 (0.43)	0.09 (0.43)
Rural	-0.31 (0.26)	**-0.60 (0.23)****	**-0.59 (0.28)***	-0.28 (0.43)	0.02 (0.43)
Total # of Socio Demo:	**4**	**6**	**6**	**4**	**4**
Pro-Quebec	0.48 (0.62)	0.84 (0.59)	**2.00 (0.74)****	1.52 (0.96)	1.16 (0.95)
Moral Traditionalism	**-1.26 (0.51)****	0.30 (0.40)	-0.76 (0.59)	0.5 (0.78)	-1.06 (0.72)
Support Free Market	0.79 (0.90)	-0.16 (0.75)	**-3.54 (0.85)*****	**-4.33 (1.23)*****	**-3.38 (1.13)****
Regional Alienation	-0.45 (0.44)	-0.14 (0.36)	**-1.25 (0.37)*****	-0.80 (0.57)	**-1.11 (0.52)***
Cynicism	-0.80 (0.83)	**-3.32 (0.66)*****	**-4.31 (0.88)*****	**-3.51(1.21)****	-0.99 (1.10)
Do More for Racial Equality	0.24 (0.51)	0.21 (0.47)	0.70 (0.64)	0.46 (0.82)	0.49 (0.79)
Do More for Gender Equality	-0.71 (0.78)	**1.12 (0.67)[a]**	1.04 (0.91)	1.75 (1.20)	-0.08 (1.13)
Pro Closer US Ties	**-1.72 (0.62)****	**-2.08 (0.53)*****	**-4.25 (0.72)*****	**-2.53 (0.95)****	**-2.17 (0.89)***
Total # of Values:	**2**	**2**	**5**	**4**	**3**
Liberal PID	**2.13 (0.40)*****	**1.67 (0.30)*****	**2.17 (0.48)*****	0.04 (0.62)	0.50 (0.56)
Conservative PID	**-2.34 (0.43)*****	**-2.16 (0.35)*****	**-2.02 (0.44)*****	0.33 (0.61)	0.15 (0.56)
NDP PID	0.06 (0.58)	0.52 (0.59)	0.89 (0.75)	0.83 (0.95)	0.37 (0.96)
Total # of PID:	**2**	**2**	**2**		
Economic Prospective Personal	0.45 (0.43)	0.64 (0.41)	**1.61 (0.55)****	**1.16 (0.70)[a]**	0.98 (0.69)
Economic Retro Canada	-0.22 (0.22)	0.21 (0.18)	0.17 (0.23)	0.79 (0.63)	-0.08 (0.58)
Total # of Economic:	**0**	**0**	**1**	**1**	
Decrease Corporate Tax	0.49 (0.51)	-0.36 (0.43)	**1.46 (0.63)***	0.96 (0.81)	**1.82 (0.76)***
More Immigration	0.42 (0.47)	0.47 (0.45)	-0.81 (0.60)	-1.23 (0.77)	**-1.28 (0.75)[a]**
Scrap Gun Reg.	-0.56 (0.40)	**-1.02 (0.34)****	**-1.73 (0.53)*****	**-1.17 (0.66)[a]**	-0.71 (0.63)
Anti-War	-0.03 (0.33)	**1.10 (0.36)****	**1.37 (0.52)****	**1.40 (0.61)***	0.27 (0.63)
Oppose Private Medicare	**0.84 (0.42)***	0.24 (0.38)	**3.71 (0.63)*****	**2.87 (0.76)*****	**3.47 (0.74)*****
Same-sex Marriage	0.40 (0.45)	-0.12 (0.44)	-0.49 (0.59)	-0.90 (0.75)	-0.38 (0.74)
Scandal	**-3.45 (0.85)*****	**-3.78 (0.75)*****	**-4.65 (1.25)*****	-1.20 (1.51)	-0.87 (1.46)
Total # of Issues:	**2**	**3**	**5**	**3**	**3**
Harper Evaluation	**-3.57 (1.06)*****	**-6.58 (0.94)*****	**-8.01 (1.29)*****	**-4.44 (1.67)****	-1.43 (1.59)
Martin Evaluation	**3.05 (0.88)*****	**3.56 (0.87)*****	**5.65 (1.30)*****	**2.61 (1.57)[a]**	2.09 (1.56)
Layton Evaluation	0.01 (1.01)	0.04 (0.85)	-1.54 (1.13)	-1.55 (1.52)	-1.58 (1.41)
Total # of Leaders:	**2**	**2**	**2**	**2**	**0**
Total All Factors:	**12**	**15**	**21**	**14**	**10**

NOTE: Multinomial probit coefficients with standard errors shown in parentheses. Reported coefficients are for single bloc only.
*** p<.001 ** p<.01 * p<.05 [a] p<.10

Table 1.3: The number, type and difference of weight applied to considerations in NDP VS. Liberal vote choice by information group

	Low Info	Med Info	High Info	High – Low	High-Med
Under 35	-0.27 (0.32)	0.19 (0.30)	**0.99 (0.38)****	**1.26 (0.43)***	0.79 (0.43)
Over 54	-0.54 (0.46)	**-0.85 (0.31)****	-0.33 (0.34)	0.21 (0.43)	0.52 (0.43)
Atlantic Resident	0.46 (0.40)	-0.38 (0.37)	-0.16 (0.43)	-0.62 (0.43)	0.22 (0.43)
Western Resident	**0.73 (0.29)****	**0.49 (0.24)***	0.34 (0.25)	-0.39 (0.43)	-0.15 (0.43)
Atheist	**0.96 (0.41)***	**0.76 (0.29)**	**0.55 (0.29)[a]**	-0.41 (0.43)	-0.22 (0.43)
Catholic	0.04 (0.35)	0.09 (0.27)	-0.40 (0.32)	-0.43 (0.43)	-0.49 (0.43)
Fundamentalist	0.42 (0.34)	**-0.58 (0.29)***	-0.62 (0.53)	**-1.04 (0.43)[a]**	-0.04 (0.43)
Visible Minority	-0.36 (0.44)	-0.50 (0.36)	0.48 (0.44)	0.84 (0.43)	**0.98 (0.43)[a]**
French Speaking	**-1.05 (0.58)[a]**	-0.48 (0.58)	**-1.32 (0.63)***	-0.27 (0.43)	-0.85 (0.43)
Female	0.34 (0.30)	-0.24 (0.23)	0.38 (0.25)	0.05 (0.43)	**0.63 (0.43)[a]**
Couple	-0.29 (0.30)	-0.01 (0.25)	-0.05 (0.27)	0.24 (0.43)	-0.04 (0.43)
Children	0.26 (0.34)	-0.31 (0.27)	-0.07 (0.32)	-0.33 (0.43)	0.24 (0.43)
Employed	0.45 (0.38)	**-0.83 (0.34)***	**-0.63 (0.35)[a]**	**-1.08 (0.43)***	0.20 (0.43)
Public Service	-0.10 (0.39)	0.45 (0.29)	0.16 (0.34)	0.26 (0.43)	-0.29 (0.43)
Union Member	0.22 (0.37)	0.33 (0.29)	**0.89 (0.35)***	0.67 (0.43)	0.56 (0.43)
Low Income	0.25 (0.34)	**-0.58 (0.31)[a]**	0.43 (0.45)	0.17 (0.43)	**1.00 (0.43)[a]**
High Income	0.11 (0.37)	**-0.57 (0.28)***	-0.37 (0.27)	-0.48 (0.43)	0.20 (0.43)
HS Drop Out	0.13 (0.42)	0.34 (0.40)	**0.96 (0.45)***	0.83 (0.43)	0.63 (0.43)
Rural	-0.47 (0.29)	0.10 (0.26)	**0.79 (0.33)***	**1.26 (0.43)****	**0.69 (0.43)[a]**
Total # of Socio Demo:	**3**	**6**	**7**	**4**	**4**
Pro-Quebec	-0.06 (0.68)	**-1.70 (0.60)****	-0.08 (0.95)	-0.02 (1.17)	1.61 (1.13)
Moral Traditionalism	0.17 (0.62)	**-1.16 (0.45)***	-0.53 (0.67)	-0.70 (0.91)	0.63 (0.81)
Support Free Market	**-2.72 (0.99)****	**-2.17 (0.82)****	-1.32 (1.00)	1.40 (1.40)	0.85 (1.29)
Regional Alienation	-0.01 (0.47)	-0.41 (0.38)	0.24 (0.44)	0.25 (0.64)	0.64 (0.58)
Cynicism	**1.75 (0.96)[a]**	**3.62 (0.76)*****	**4.19 (0.93)*****	**2.44 (1.33)[a]**	0.57 (1.20)
Do More for Racial Equality	-0.82 (0.56)	-0.07 (0.51)	**2.06 (0.66)****	**2.88 (0.87)*****	**2.14 (0.84)***
Do More for Gender Equality	**1.92 (0.85)***	**2.26 (0.77)****	-0.88 (0.92)	**-2.80 (1.25)***	**-3.15 (1.20)****
Pro Closer US Ties	0.07 (0.70)	-0.43 (0.58)	**-2.48 (0.76)*****	**-2.56 (1.03)***	**-2.05 (0.96)***
Total # of Values:	**3**	**5**	**3**	**3**	**3**
Liberal PID	**-1.87 (0.46)*****	**-1.19 (0.30)*****	**-1.44 (0.37)*****	0.43 (0.59)	-0.25 (0.48)
Conservative PID	0.15 (0.48)	**-1.34 (0.71)[a]**	-1.06 (0.87)	-1.22 (0.99)	0.28 (1.12)
NDP PID	**2.04 (0.50)*****	**2.56 (0.50)*****	**0.90 (0.43)***	**-1.13 (0.66)[a]**	**-1.66 (0.67)***
Total # of PID:	**2**	**3**	**2**	**1**	**1**
Economic Prospective Personal	-0.26 (0.48)	-0.51 (0.42)	-0.83 (0.57)	-0.57 (0.75)	-0.32 (0.71)
Economic Retro Canada	-0.28 (0.23)	-0.11 (0.19)	0.10 (0.24)	0.76 (0.67)	0.42 (0.61)
Total # of Economic:	**0**	**0**	**0**	**0**	**0**
Decrease Corporate Tax	0.18 (0.48)	**1.28 (0.50)****	-0.93 (0.65)	-1.11 (0.81)	**-2.21 (0.82)****
More Immigration	0.14 (0.55)	0.72 (0.47)	0.84 (0.55)	0.70 (0.77)	0.12 (0.72)
Scrap Gun Reg.	0.07 (0.43)	**-1.40 (0.37)*****	0.16 (0.42)	0.09 (0.61)	**1.56 (0.56)****
Anti-War	0.31 (0.38)	-0.47 (0.39)	-0.95 (0.67)	-1.26 (0.77)	-0.48 (0.78)
Oppose Private Medicare	-0.22 (0.41)	**1.16 (0.49)***	0.30 (0.44)	0.53 (0.60)	-0.86 (0.65)
Same-sex Marriage	0.11 (0.49)	**1.50 (0.51)***	0.82 (0.53)	0.72 (0.72)	-0.67 (0.73)
Scandal	0.13 (0.89)	**4.27 (0.88)*****	**3.67 (1.06)*****	**3.55 (1.38)****	-0.60 (1.38)
Total # of Issues:	**0**	**5**	**1**	**1**	**2**
Harper Evaluation	0.25 (1.32)	0.26 (0.86)	1.21 (0.89)	0.96 (1.59)	0.96 (1.24)
Martin Evaluation	**-5.52 (0.98)*****	**-3.71 (0.78)*****	**-6.51 (1.12)*****	-0.99 (1.48)	-2.80 (1.36)*
Layton Evaluation	**3.23 (1.08)****	**5.11 (0.87)*****	**4.36 (1.00)*****	1.13 (1.47)	-0.75 (1.33)
Total # of Leaders:	**2**	**2**	**2**	**0**	**0**
Total All Factors:	**10**	**21**	**15**	**9**	**10**

NOTE: Multinomial probit coefficients with standard errors shown in parentheses. Reported coefficients are for single bloc only.
*** p<.001   ** p<.01   * p<.05   [a] p<.10

Table 2: The Effect of Information Heterogeneity on Vote Choice

	NDP	Conservatives	Liberal
Low Information	22%	41%	37%
Medium Information	23%	38%	39%
High Information	21%	36%	43%
Mean Difference Low to Med	-1	3	-2
Mean Difference Low to High	1	5	**-6***
Mean Difference Med to High	2	2	-4

NOTE: Mean vote share probabilities and differences.
*** p<.001 ** p<.01 * p<.05 ª p<.10

Table 3.1: The Effect of Salience and Positional Value Differences In Vote Choice - Low Info Vote Probabilities:

	NDP	Conservatives	Liberal	NDP Diff	CON Diff	LIB Diff
Original Vote Share	22%	41%	37%	-	-	-
Low info Sal with medium info PV	19%	42%	39%	3	-1	-2
Low info Sal with high info PV	20%	40%	40%	1	1	-3
Low info PV with med info Sal	24%	35%	41%	-2	**6***	-4
Low info PV with high info Sal	23%	40%	38%	-1	1	-1

NOTE: Mean vote share probabilities and differences.
*** p<.001 ** p<.01 * p<.05 ª p<.10

Table 3.2: The Effect of Salience and Positional Value Differences In Vote Choice - Med Info Vote Probabilities:

	NDP	Conservatives	Liberal	NDP Diff	CON Diff	LIB Diff
Original Vote Share	23%	38%	39%	-	-	-
Med info Sal with low info PV	24%	35%	41%	-1	3	-2
Med info Sal with high info PV	24%	35%	40%	-1	3	-1
Med info PV with low info Sal	19%	42%	39%	**4***	**-4ª**	0
Med info PV with high info Sal	23%	37%	41%	0	1	-2

NOTE: Mean vote share probabilities and differences.
*** p<.001 ** p<.01 * p<.05 ª p<.10

Table 3.3: The Effect of Salience and Positional Value Differences In Vote Choice - High Info Vote Probabilities:

	NDP	Conservatives	Liberal	NDP Diff	CON Diff	LIB Diff
Original Vote Share	21%	36%	43%	-	-	-
High info Sal with low info PV	23%	40%	38%	-2	-4	**5ª**
High info Sal with med info PV	23%	37%	41%	-2	-1	2
High info PV with low info Sal	20%	40%	40%	1	-4	3
High info PV with med info Sal	24%	35%	40%	-3	1	3

NOTE: Mean vote share probabilities and differences.
*** p<.001 ** p<.01 * p<.05 ª p<.10

Appendix 1: Knowledge scale question wording / Alpha Score:

cps_n1_2 Do you happen to recall which party is promising to get rid of the gun registry?

cps_n2_3 And which party is promising to do away with the Federal Sales Tax on family essentials? / And which party is promising to do away with the GST on family essentials ?

cps_n4_2 Which party is promising to increase military spending by 2 billion dollars each year?

cps_n5_1 Which party is promising to spend 250 million for fighting AIDS in poor countries?

cps_n6_1 Do you happen to recall which party is promising to spend 4 billion dollars to reduce waiting times for surgeries?

cps_n7_3 which party is promising an inheritance tax on estates over 1 million dollars?

cps_kn_a Do you happen to recall the name of the Minister of Finance of Canada?

cps_kn_b And the name of the British Prime Minister?

cps_kn_c The name of the female cabinet minister who ran against Paul Martin for the leadership of the Liberal Party?

cps_know We would like to see how widely known some political figures are. Do you happen to recall the name of the Premier of your Province?

pes_d6 Do you happen to know which government has the PRIMARY responsibility for health, education and social welfare? The federal government,the provincial government, or the municipal government?

pes_e1 Do you happen to recall the name of the leader of the Federal Liberal Party?

pes_e2 Do you happen to recall the name of the leader of the Federal Conservative Party?

pes_e4 Do you happen to recall the name of the leader of the Federal NDP (the New Democratic Party)?

Alpha= 0.7932

Appendix 2: Mean distribution by information group

	Low Info	Med Info	High Info
Under 35	**0.29 (.03)***	**0.22 (0.02)**	0.14 (0.02)
Over 54	**0.27 (.02)***	**0.30 (0.02)***	0.41 (0.02)
Atlantic Resident	0.12 (.02)	0.10 (0.01)	0.09 (0.01)
Western Resident	**0.32 (.03)***	0.40 (0.02)	0.41 (0.02)
Atheist	**0.17 (.02)**	**0.20 (0.02)***	0.26 (0.02)
Catholic	**0.32 (.03)***	0.28 (0.02)	0.24 (0.02)
Fundamentalist	**0.32 (.03)***	**0.22 (0.02)***	0.13 (0.02)
Visible Minority	0.11 (.02)	0.11 (0.01)	0.08 (0.01)
French Speaking	0.06 (.01)	0.04 (0.01)	0.04 (0.01)
Female	**0.62 (.03)***	**0.49 (0.02)***	0.41 (0.02)
Couple	0.71 (.03)	0.71 (0.02)	0.74 (0.02)
Children	**0.46 (.03)***	**0.38 (0.02)ᵃ**	0.32 (0.02)
Employed	0.67 (.03)	0.66 (0.02)	0.66 (0.02)
Public Service	0.31 (.03)	0.23 (0.02)	0.28 (0.02)
Union Member	0.32 (.03)	0.31 (0.02)	0.27 (0.02)
Low Income	**0.25 (.02)***	**0.20 (0.02)***	0.08 (0.01)
High Income	**0.22 (.02)***	**0.31 (0.02)***	0.44 (0.02)
HS Drop Out	**0.22 (.02)***	0.10 (0.01)	0.07 (0.01)
Rural	**0.32 (.03)***	**0.26 (0.02)***	0.17 (0.02)
Pro-Quebec	**0.44 (.01)***	**0.43 (0.01)***	0.50 (0.01)
Moral Traditionalism	**0.48 (.02)***	**0.43 (0.01)***	0.35 (0.01)
Support Free Market	0.53 (.01)	0.52 (0.01)	0.54 (0.01)
Regional Alienation	0.53 (.02)	**0.62 (0.02)ᵃ**	0.57 (0.02)
Cynicism	**0.57 (.01)***	**0.54 (0.01)***	0.49 (0.01)
Do More for Racial Equality	0.63 (.02)	0.63 (0.01)	0.65 (0.01)
Do More for Gender Equality	**0.66 (.01)ᵃ**	0.67 (0.01)	0.69 (0.01)
Pro Closer US Ties	0.57 (.01)	0.57 (0.01)	0.58 (0.01)
Liberal PID	**0.24 (.02)***	0.28 (0.02)	0.32 (0.02)
Conservative PID	0.22 (.02)	0.24 (0.02)	0.26 (0.02)
NDP PID	0.11 (.02)	0.10 (0.01)	0.13 (0.02)
Economic Prospective Personal	**0.49 (.02)**	0.53 (0.01)	0.56 (0.02)
Economic Retro Canada	**0.40 (.02)***	**0.52 (0.02)***	0.64 (0.02)
Decrease Corporate Tax	0.33 (.02)	**0.26 (0.01)***	0.35 (0.02)
More Immigration	**0.36 (.02)***	**0.43 (0.01)***	0.57 (0.02)
Scrap Gun Reg.	0.57 (.02)	**0.68 (0.02)***	0.62 (0.02)
Anti-War	**0.77 (.02)ᵃ**	**0.78 (0.02)ᵃ**	0.83 (0.02)
Oppose Private Medicare	**0.63 (.02)**	**0.64 (0.02)***	0.54 (0.02)
Same-sex Marriage	**0.44 (.02)***	**0.46 (0.02)**	0.55 (0.02)
Scandal	**0.65 (.01) ᵃ**	0.68 (0.01)	0.68 (0.01)
Harper Evaluation	0.49 (.01)	0.50 (0.01)	0.51 (0.01)
Martin Evaluation	**0.47 (.01)***	**0.51 (0.01)***	0.56 (0.01)
Layton Evaluation	**0.46 (.01)***	0.48 (0.01)	0.50 (0.01)

NOTE: Mean values with significant differences in relation to the high information group indicated.
*** p<.001 ** p<.01 * p<.05 ᵃ p<.10