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## Cognitive dissonance and political attitudes: The case of Canada

R. Michael M<sup>c</sup>Gregor\*

Western University, 1151 Richmond Street, London, Ontario, Canada N6A 3K7

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### ABSTRACT

While scholars accept that attitudes have an impact on behavior, cognitive dissonance theory asserts that behavior can, in turn, affect attitudes. The theory suggests attitudes may be transformed by the simple act of voting. Informed by dissonance theory and employing election study survey data from three Canadian federal elections, this article considers the impact of cognitive, affective, and behavioral factors on changes in party evaluations, arguing that elections serve as a significant stimulus for attitude change. Dissonance theory is found to be compatible with observed attitude changes between pre- and post-election questionnaires. Findings have implications for the study of attitude formation and change, the effects that campaigns and elections have upon voters, and survey design.

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### 1. Introduction

A substantial share of the literature in the field of voting behavior is devoted to the impact that political attitudes have on behavior (Blais, Gidengil, Nadeu and Nevitte, 2002; Clarke, Komberg and Scotto, 2009; Lazarsfeld, Berelson and Gaudet, 1948). In explaining election results and vote choices, political attitudes, such as party evaluations, are seen as independent variables. While psychologists suggest that causation may run in the opposite direction or that behavior can shape attitudes (Bandura, 1989), political scientists make little effort to consider this phenomenon. Since attitudinal measures are used to explain vote choice, it is appropriate to understand factors that affect these attitudes. If the act of voting, one's vote choice, election outcomes, or other factors influence attitudes, the nature of the relationships among these variables is worth examining. The question considered here, therefore, is whether such attitudes are generated through an even-handed consideration of relevant information or if they are biased by influences, which are not related to vote preferences. The answer to this question is of relevance to the study of

attitude formation and change, the effects that campaigns and elections have upon voters, and survey design.

Elections affect voter attitudes in a variety of ways. Vote choice influences the strength or direction of partisanship, issue opinions, perceptions of competitiveness, and economic evaluations (Anderson, Mendes and Tverdova, 2004; Dobson and St Angelo, 1975; Franklin, 1984; Howell, 1980; Jackson, 1975; Regan and Kilduff, 1988). Beasley and Joslyn (2001) and Mullainathan and Washington (2009) maintain that voting influences the way American voters evaluate candidates after an election, although Elinder, 2009 finds no evidence in his consideration of Swedish and American data. Bølstad, Dinas, Riera and Mayoral (in press) examine the same issue with British data but focuses only on tactical voters. The current study adds to this debate by employing dissonance theory to explain patterns of attitude changes in towards parties in Canada.

The premise of dissonance theory is that individuals are motivated to seek consistency among cognitions (Worchel, Cooper and Olson, 2000).<sup>1</sup> First proposed by Festinger (1957), the theory suggests that when related cognitions are inconsistent, a sense of psychological discomfort can arise. One way of reducing this discomfort is to alter

\* Tel.: +1 519 601 6071; fax: +1 519 601 6071.  
E-mail address: [rmcgreg8@uwo.ca](mailto:rmcgreg8@uwo.ca)

<sup>1</sup> Cognitions are defined as thoughts, pieces of knowledge, or beliefs.

cognitions until they are consistent.<sup>2</sup> Dissonance theory offers insight into a variety of social phenomena, including religious behavior, economics, worker productivity, protection from STDs, and smoking (Adams and Rosenbaum, 1962; Akerlof and Dickens, 1982; Aronson, Fried and Stone, 1991; Feather, 1962; Festinger, Riecken and Schachter, 1956; Goetzmann and Peles, 1997). Nevertheless, interest in the theory has developed only recently among political scientists.

This study uses dissonance theory to explain attitude change based on Canadian Election Study (CES) data from before and after three federal elections. The CES is a government funded survey, and has been conducted at every election since 1965. Its primary objective is to explain the decisions of Canadian voters. Following Beasley and Joslyn (2001), Mullainathan and Washington (2009), and Elinder (2009), the impact that the act of voting has on attitudes is evaluated. Aside from Bølstad et al. (in press) study, there is yet to be an investigation of this nature in a multi-party setting. This distinction is important, because the number of parties contesting an election may affect the attitudes of citizens. In a two party system such as that of the United States, there is an obvious 'other,' or competitor to one's preferred party. When more than two parties are present, as is the case in Canada, the 'us vs. them' party dynamic described by Richardson (1991) is less clear. Holding positive attitudes towards one party does not necessarily imply negative feelings towards all others, particularly if one party is seen as the primary opponent to one's preferred party. Additionally, partisan attachment is weak and unstable in Canada, so if party ratings are particularly variable in this country, there is reason to expect dissonance effects are noticeable (Leduc, Clarke, Jenson and Pammatt, 1984).

## 2. Political attitudes and cognitive dissonance

Attitudes are defined as one's perceived favorability towards a specific subject (Zanna and Remsdpel, 1988). They are influenced by cognitive knowledge or beliefs, affective, and behavioral factors (Worchel et al., 2000). When reporting their attitudes, individuals draw on combinations of these cognitions to develop a response. Attitudes change over time, and dissonance theory can be used to explain such changes.

One stream of dissonance research considers the impact behavior has on attitude change. The "free choice paradigm" (Brehm, 1956; Shultz and Lepper, 1996) maintains that subjects make their behavioral choices free of manipulation by the researcher (Brehm, 1956). To reduce dissonance, individuals alter their impressions of alternatives, making positive evaluations for chosen alternatives and negative evaluations on rejected alternatives (Festinger, 1964).<sup>3</sup>

Elections are an opportunity to test cognitive dissonance theory using the free choice paradigm, because elections require people to choose between alternatives. After voting, knowledge of one's behavior becomes a cognition and can lead to post-decisional dissonance when combined with existing and potentially conflicting cognitions. To alleviate discomfort caused by dissonance, attitudes towards parties shift so that they are compatible with inalterable cognitions. This can occur by increasing the rating of the chosen alternative, decreasing the rating of the rejected alternatives, or both. This process is termed the "spreading of alternatives" by Festinger (1964) and occurs even if an individual has a strong initial preference for the chosen alternative. In contrast, individuals who do not vote have no need to alter their attitudes to correspond with their behavior because they have avoided dissonance that arises from the act of voting.

Party evaluations are an appropriate measure to study cognitive dissonance and political attitudes, as attitudes towards parties are known to have a strong relationship with vote choice (Blais et al., 2002; Rose and McAllister, 1990). These attitudes are based upon CES survey data. In many iterations of the CES, party evaluation questions are included in both the pre- and post-election questionnaire, meaning that changes between surveys can be calculated. Moreover, party feeling thermometer questions permit significant variation, so measures are sensitive to change.

The difference between party evaluation scores given of party voted for and the rejected alternatives is termed the evaluative distance (ED) between alternatives. Changes in ED ( $\Delta ED$ ), which are changes in the relative ratings of parties, are calculated by comparing pre- and post-election evaluative distances (Beasley and Joslyn, 2001; Mullainathan and Washington, 2009). Evaluative distances can change significantly between questionnaires, and the analysis below evaluates the extent to which dissonance theory is compatible with such changes.

A variety of cognitive, affective, and behavioral factors can lead to attitude change when triggered by an election and the act of voting. These factors include the importance voters place on their vote decision, partisan attachment, effects of any unpleasant effort expended during the political process, and the point in time at which a vote choice became final. Furthermore, election outcomes or whether a person votes for a winning or losing party can influence  $\Delta ED$ .

Canada's electoral system dictates that voters cast their ballots for candidates at the constituency level. With few exceptions, these candidates also represent parties at the national level.<sup>4</sup> It is, therefore, possible to vote for the party that wins nationally and a candidate who loses locally or vice versa. Canadian data allow for consideration of the relative impact of national and local results upon attitude change and for variation in the magnitude of electoral victories. Where the US presidential elections produce a single

<sup>2</sup> Other approaches include making cognitions unimportant or adding consonant cognitions.

<sup>3</sup> Bem (1967) posits that the impact of behavior on beliefs is not caused by cognitive dissonance, but by individuals inferring opinions from actions. This position has been discounted as an explanation for dissonance phenomena, however, as evidence has amassed that dissonance

does cause an unpleasant state of arousal (Hogg and Cooper, 2003; Zanna and Cooper, 1974).

<sup>4</sup> The exceptions are independent candidates and candidates from regional parties such as the Bloc Quebecois.

winner, Canada's single member plurality system allows for degrees of victory. The party with the most seats may or may not win a majority of seats in the House of Commons, and the extent of a victory may influence the manner in which attitudes towards parties change. Moreover, even if a party does not win the largest share of seats or votes, the election may be seen as a success by its supporters. On the other hand, a party that wins the most seats may be perceived as a loser if it loses its majority. This article compares the 1988 Canadian election where the Conservative party won a majority of seats in the House of Commons with the 2004 and 2006 elections where the Liberals and Conservatives won minority governments.<sup>5</sup>

### 3. Sources of dissonance

This analysis addresses the relationship between dissonance and political attitudes in two ways. First, it evaluates whether the act of voting leads to a spreading of alternatives, which can result in an increase in the rating for a chosen alternative and a decrease in the rejected alternatives. This requirement can also be met if the chosen party's score increases more than those of the alternatives or if the chosen party's score decreases less than those of the alternatives. In contrast, those who do not vote do not experience post-decisional dissonance.

There is disagreement with respect to whether voting has such effects (Beasley and Joslyn, 2001; Elinder, 2009; Mullainathan and Washington, 2009), and this article contributes to this debate using Canadian data. To evaluate the impact of act of voting on party evaluations,  $\Delta$ EDvoter values are compared to those of non-voters.<sup>6</sup> The article's first hypothesis (H1) thus is that voters exhibit an increase in  $\Delta$ ED relative to non-voters.<sup>7</sup>

Dissonance theory suggests that the act of voting triggers the effect of a number of cognitive, affective, and behavior factors on  $\Delta$ ED. These effects are evaluated by comparing voters who exhibit these characteristics to those who do not. The next five hypotheses apply to voters only.

Hypothesis 2 (H2) is that the level of importance voters assign to an election outcome is associated with ED. "The magnitude of post-decision dissonance is an increasing function of the general importance of the decision" (Festinger, 1957 p. 262). If an outcome is unimportant,

<sup>5</sup> The CES did not have a pre-election component until 1988, so previous elections cannot be used to study attitude change. The 2008 CES only contains data on post-election party evaluations for a fraction of participants, and the 2011 had no post-election data on this variable. Elections from 1993 to 2000 are excluded as they were contested by five major parties. From 2004 onwards, the old three party system returned outside of Quebec, so results from 1988 are comparable to those from 2004 to 2006.

<sup>6</sup> Some non-voters report that having voted (Silver, Anderson, and Abramson, 1986). The inclusion of such individuals biases results against H1. These people are classified as voters, but are not subject to pressure to increase ED, so the data provide an underestimation of the relationship expected by H1. This type of misreporting is not considered problematic.

<sup>7</sup> The same effect should be observed for sincere and insincere voters. The latter includes strategic and protest voting (M<sup>c</sup>Gregor, 2012). Insincere voting causes attitude-behavior dissonance (Bølstad et al., in press). Regardless of sincerity, evaluations of the party voted for relative to the alternatives should increase.

there is no need for cognitions to be consonant with one another, as unimportant cognitions cannot cause discomfort.

The next hypothesis (H3) is that partisan attachment increases  $\Delta$ ED. Partisanship is "the sense of personal attachment the individual feels towards the [party] of [one's] choice" and is affective in nature (Campbell, Gurian and Miller et al., 1954, p. 89). Knowledge that one is a partisan is a cognition that feeds into the process that determines post-election party scores. One must justify not only voting for a particular party, but also long-standing attachment to that party. While partisans may have higher pre-election EDs, voting puts pressure on such individuals to increase ED after the election, provided that they have not reached the measure's ceiling.

The remaining hypotheses are based upon behaviors. Hypothesis 4 (H4) is that dissonance is aroused when one engages in unpleasant activity in order to obtain a desirable outcome (Aronson and Mills, 1959; Harmon-Jones and Mills, 1999; Worchel et al., 2000). Individuals do not like to exert undue effort or to suffer, and as they invest unpleasant effort, the more important a decision becomes after it is made (Cooper, 1980; Axsom and Cooper, 1985). If participation in the political process is unpleasant, individuals see the victory of the party they vote for as more desirable, and the greater the pressure is to increase ED.

Hypothesis 5 (H5) is that  $\Delta$ ED is influenced by the point in time relative to election-day that an individual finalizes his or her vote choice. Many voters know long before election-day which party or candidate they will support, while others take longer to arrive at a decision (Berelson, Lazarsfeld and McPhee, 1954; Campbell, Converse, Miller and Stokes, 1960; Fournier, Nadeau, Blais, Gidengil and Nevitte, 2001). While relatively little is known about the effects of the time of voting decision (TOVD), individuals who decide early have higher  $\Delta$ ED than individuals who make up their minds late. Such voters must justify not only their vote decision, but the fact that they made this decision early.

Finally, Hypothesis 6 (H6) is that the level of electoral success achieved by the party voted for influences  $\Delta$ ED. Dissonance can arise if one's self-concept is harmed by supporting a losing party, and attitudes can change if subjects are embarrassed about their choices (Abelson, 1983; Aronson, 1968; Bass and Thomas, 1980; Stricker, 1964; Thomsen, 1938). Exposure to information has strong motivational properties and disagreement from others can cause dissonance (Brehm and Cohen, 1962; Festinger, 1957). Supporters of losing parties experience a decrease in evaluative distance when they realize they voted for a party that did not win (Granberg and Nanneman, 1986).

### 4. Data and methodology

The analysis below proceeds in two stages.<sup>8</sup> H1 is evaluated by comparing voters to non-voters on the basis of

<sup>8</sup> Election study data are available from the Canadian Opinion Research Archive [queensu.ca/cora/ces.html](http://queensu.ca/cora/ces.html). Election results are available from Elections Canada ([elections.ca](http://elections.ca)).

$\Delta ED$ .<sup>9</sup> Hypotheses 2 through 6 are tested using data from voters only.  $\Delta ED$  is the dependent variable in both stage of analysis and is based on party evaluation scores from pre- and post-election CES questionnaires. In contrast to studies, which consider attitudes towards one or two parties (Beasley and Joslyn, 2001; Elinder, 2009; Mullainathan and Washington, 2009),<sup>10</sup> data on three parties are included here: Liberals, Conservatives, and the New Democratic Party (NDP).<sup>11</sup> The difference between ratings of the party voted for and the average rating of rejected alternatives<sup>12</sup> is calculated for the pre-election responses, and for post-election responses.  $\Delta ED$  is based the difference between these two values.<sup>13</sup>

Mullainathan and Washington (2009) demonstrate that  $\Delta ED$  may be endogenously related to voter turnout. Pre-election ED is factored into  $\Delta ED$ , but may also influence the decision to vote. As such, it is inappropriate to assume that causality between the vote/non-vote decision and  $\Delta ED$  is unidirectional, and without accounting for reverse causation leads to biased and inconsistent estimation. This concern is addressed using two-stage least squares (2SLS) regression, where an instrumental variable used as a proxy for the potentially endogenous variable.<sup>14</sup> If a variable is endogenous, 2SLS is used instead of ordinary least squares (OLS) regression to estimate consistent parameters. Endogeneity is tested with the Hausman test. If the variables are not endogenously related, OLS estimates are appropriate, consistent, and Mullainathan and Washington's concern is remediated. While the use of an instrumental variable inflates estimated standard errors, if both 2SLS and OLS results produce statistically significant results, 2SLS estimates are preferred because they are consistent (Murray, 2006). In the case of Canadian elections, the relationship between voting and changes in evaluative distance is examined using both OLS and 2SLS.

The instrument here is a measure of whether survey respondents see voting as a civic duty. This variable has no relationship with the dependent variable,  $\Delta ED$ , but respondents who believe voting as a duty have an increased likelihood of voting (Blais, 2000). As this variable is unavailable in the 1988 data, 2SLS is applied to 2004 and 2006 only.

H2–H6 are evaluating using CES questions and election results. The importance placed on vote decisions is operationalized in two ways. For 2004 and 2006, respondents

agree that “all parties are basically the same; there isn't really a choice” (Canadian Opinion Research Archive, 2004, 2006). If one agrees with the statement, vote decisions are unimportant.<sup>15</sup> This question is absent in 1988, so two questions are used instead for this election. The issue of Canada/US free trade dominated the 1988 campaign, and each party took a maximalist position on the issue - the Conservatives favored a deal, and the Liberals and NDP were opposed (Frizzell, Pammett and Westell, 1989). Among the over 80% of respondents who viewed free trade was the most important election issue, the degree of support/opposition for free trade agreement is used as a measure of the election's importance.<sup>16</sup> The second non-behavioral hypothesis (H3) is explored through a dummy variable comparing loyal partisans to all other voters.<sup>17</sup>

The measure of unpleasant effort (H4) varies based upon the availability of CES data. In 2004, respondents were asked how much difficulty they anticipated in getting to their polling station. This question is absent in 2006, but in this election respondents were asked if they had recently donated to a political party. The assumption is that donating money is unpleasant. No such question is available for the 1988 data. To test H5, voters are classified as either campaign period or pre-campaign period deciders.<sup>18</sup> Finally, H6 is tested using vote choice dummy variables. In addition to testing the impact of voting for a party that loses at the national level, a constituency-level variable is also included.

Two restrictions are applied to this analysis. First, individuals with no pre-election vote preference are omitted, as their inclusion bias results in favor of H1. Individuals who make up their minds after their pre-election interview may be influenced by campaign events and including such voters makes it difficult to isolate the effect of voting. Second, individuals can change their vote preference between the pre-election questionnaire and election-day. These voters are inconsistent. The attitudes of inconsistent voters change dramatically, and  $\Delta ED$  is almost always negative. While campaigns can influence all voters, among inconsistent voters, we can be certain that something occurs between the pre-election interview and election-day that causes preferences to change. Accordingly, and following Beasley and Joslyn (2001), the second stage of the analysis considers consistent voters only.<sup>19</sup>

Campaign events may also impact consistent voter attitudes. To take campaign-period effects into account, a

<sup>9</sup> While the percentage of CES respondents who report not voting is smaller than the actual turnout rates from these elections, there remain enough such individuals to yield statistically significant results when this group is compared to voters.

<sup>10</sup> Elinder focuses only on support for Sweden's largest party, the Social Democrats, rather than considering ratings of multiple parties.

<sup>11</sup> Quebec's party system differed from that of the rest of Canada in 2004 and 2006 because the Bloc Quebecois only ran candidates in Quebec, so only data from outside the province are considered for these years.

<sup>12</sup> Dissonance theory predicts that attitudes towards the two parties not voted are influenced in the same manner. The presence of more than two alternatives “adds very little complexity to the analysis of the dissonance which exists after the decision is made” (Festinger, 1957, p. 36).

<sup>13</sup>  $\Delta ED = (\text{vote}_{\text{post}} - \text{opponents}_{\text{post}}) - (\text{vote}_{\text{pre}} - \text{opponents}_{\text{pre}})$

<sup>14</sup> An instrumental variable is used as a proxy for a potentially endogenous regressor to derive consistent estimates. Instruments are correlated with the endogenous explanatory variable but not with the error term. An instrument is also independent of the dependent variable.

<sup>15</sup> This question is found in the post-election questionnaire in 2004, so responses may be influenced by election results or respondents' voting behavior. In 2006, however, the question is part of the pre-election questionnaire. This difference may explain differences in the observed significance levels for this variable in the 2004 and 2006.

<sup>16</sup> The fewer than 20% of respondents who did not see free trade as the most important issue are excluded.

<sup>17</sup> Disloyal partisans are grouped with non-partisans. Voters do not have to justify long-standing attachments to a party they do not vote for.

<sup>18</sup> Cases with invalid TOVD responses are removed, after being identified using Fournier et al. (2001) method.

<sup>19</sup> While inconsistent voters are omitted here, the conclusions from this analysis do not change if they are included.

**Table 1**  
 Canadian voting vs. ΔED: 1988, 2004, and 2006.

		Model 1	Model 2	Model 3
1988	Non-voter	-4.47(1.63) <sup>***</sup>	-8.17(1.52) <sup>***</sup>	
	Inconsistent voter		-20.92(1.18) <sup>***</sup>	
	Debate	0.68(.89)	-0.56(0.83)	
	Initial ED	-0.46(.02)	-0.53(.02) <sup>***</sup>	N/A
	Constant	8.36(0.87) <sup>***</sup>	14.47(.87) <sup>***</sup>	
	N	1879	1879	
	R <sup>2</sup>	.2225	.3346	
2004	Non-voter	-6.11(1.93) <sup>***</sup>	-9.49(1.84) <sup>***</sup>	-17.20(9.96) <sup>*</sup>
	Inconsistent voter		-20.46(1.58) <sup>***</sup>	-21.44(1.98) <sup>***</sup>
	Debate	-0.01(1.14)	-1.04(1.09)	-1.16(1.09)
	Initial ED	-0.31(.02) <sup>***</sup>	-0.37(.02) <sup>***</sup>	-0.39(0.03) <sup>***</sup>
	Constant	11.09(.99) <sup>***</sup>	16.01(1.00) <sup>***</sup>	17.33(1.88) <sup>***</sup>
	N	1385	1385	1382
	R <sup>2</sup>	.1085	.2045	.1978
2006	Non-voter	-6.51(1.96) <sup>***</sup>	-8.76(1.91) <sup>***</sup>	-15.16(7.71) <sup>**</sup>
	Inconsistent voter		-15.46(1.46) <sup>***</sup>	-15.99(1.59) <sup>***</sup>
	Debate	-1.12(.99)	-1.82(.96) <sup>†</sup>	-1.70(.96) <sup>†</sup>
	Initial ED	-.33(.02) <sup>***</sup>	-0.38(.02) <sup>***</sup>	-0.39(.02) <sup>***</sup>
	Constant	8.21(1.11) <sup>***</sup>	12.36(1.14) <sup>***</sup>	12.97(1.45) <sup>***</sup>
	N	1701	1701	1690
	R <sup>2</sup>	.1329	.1862	.1823

Entries report coefficients and standard errors in parentheses.

<sup>\*</sup> Significant at .10.

<sup>\*\*</sup> Significant at .05.

<sup>\*\*\*</sup> Significant at .01.

debate variable is added.<sup>20</sup> As leader debates are known to have an impact on political opinions, individuals are categorized on whether they are interviewed before or after the debates (Blais and Boyer, 1996; Blais, Gidengil, Nadeu and Nevitte, 2003).<sup>21</sup>

Pre-election ED also is included. Due to ceiling and floor effects, individuals who have a large initial ED have little room for ED to increase after voting. In the most extreme instances, pre-election ED is 100, meaning that it is impossible for ΔED to be positive. Controlling for pre-election ED also serves to control for regression towards the mean. Stochastic processes cause some individuals with large initial ED to develop less extreme evaluative distances after an election (Beasley and Joslyn, 2001; Campbell and Kenny, 1999).

Dissonance theory also predicts that initial ED is related to ΔED (Festinger, 1957; Harmon-Jones and Mills, 1999). If an individual holds similar opinions towards voting options, post-decision dissonance will be high. However, as it is impossible to disentangle the impact of dissonance from that of probabilistic regression towards the mean and ceiling and floor effects, initial evaluative distance is included here as a control only.

## 5. Results

Table 1 contains three models for each election. ΔED is the dependent variable in each model, and has a range from -200 to +200.<sup>22</sup> For each election Model 1 shows OLS results with consistent and inconsistent voters grouped together, Model 2 differentiates between these two voters, and Model 3 show 2SLS results. A Hausman test was conducted to test for the presence of endogeneity. The test produces *p*-values of 0.40 and 0.43 for 2004 and 2006 respectively; the null hypothesis for exogeneity is not rejected. H1 predicts that the non-voter coefficients will be negative.

Table 1 supports H1. In all models, the coefficient for the non-voter variable is negative and statistically significant, indicating that individuals who do not vote have a negative ΔED relative to voters in Model 1 and consistent voters in Models 2 and 3.<sup>23</sup> The magnitude of the non-voter coefficient increases when consistent and inconsistent voters are separated. The statistically significant results in Model 1 provide support for H1, and including inconsistent voters upwardly biases these coefficients. Unsurprisingly, inconsistent voters in Model 2 have large negative coefficients for each period.

2SLS results in Model 3 also support H1. 2SLS results are interpreted in the same manner as OLS results.

<sup>20</sup> The debates were held on Oct. 24 (French) and Oct. 25 (English) in 1988, June 14 (French) and June 15 (English) in 2004 and Dec. 15 (English) and Dec. 16 (French) in 2006.

<sup>21</sup> Average ΔED is higher for individuals interviewed prior to the debates for all three elections. However, only in the 2006 election does this difference near statistical significance, and only at the 90% confidence level. The relationship between voting and ΔED is not influenced by pre-election interview date.

<sup>22</sup> Descriptive statistics are found in Appendix B.

<sup>23</sup> While dissonance exerts an upward pressure upon ΔED, H1 holds in instances where ΔED decreases for voters, provided that it decreases more for non-voters. Dissonance is only one of many factors that may influence party ratings, and there may be instances where attitudes towards all parties change after an election. Thus H1 is supported if the non-voter coefficient in Table 1 is negative.

**Table 2**  
 Canadian Correlates of  $\Delta$ ED: 1988, 2004, and 2006.

		1988	2004	2006
Cognitive	Importance of vote	9.34 (1.72) ***	3.17 (2.16)	4.00 (1.53) ***
	Affective			
	Partisanship	3.50 (1.18) ***	7.18 (1.61) ***	3.33 (1.19) ***
	Unpleasant effort		7.91 (3.68) **	5.10 (1.52) ***
	Pre-campaign TOVD	4.08 (1.11) ***	2.51 (1.44) *	3.78 (1.13) ***
Behavioral	Supported losing local candidate	-3.19 (1.06) ***	0.19 (1.39)	-0.03 (1.00)
	Liberal voter	-5.71 (1.23) ***	base	-7.90 (1.11) ***
	(Progressive) Conservative voter	base	3.12 (1.47) **	base
	NDP voter	-2.82 (1.39) **	1.38 (1.97)	-3.12 (1.36) **
Controls	Debate (after)	0.82 (1.07)	-0.25 (1.43)	-1.70 (1.03)
	Initial ED	-0.57 (0.03) ***	-0.38 (0.03) ***	-0.47 (0.01) ***
	Constant	7.62 (1.79) ***	5.00 (2.38) **	10.38 (1.73) ***
	N	1028	702	1311
	R <sup>2</sup>	0.3384	0.1724	0.2198

Entries report coefficients and standard errors in parentheses.

- \* Significant at .10.
- \*\* Significant at .05.
- \*\*\* Significant at .01.

Postestimation diagnostics indicate that the duty variable is a valid substitute for abstention.<sup>24</sup> The non-voter coefficients are negative in both 2004 and 2006. Therefore, both OLS and 2SLS results support H1.

H2-H6 are tested through one model for each election, where the dependent variable is  $\Delta$ ED.<sup>25</sup> Theoretical variable coefficients are expected to be positive, with the exceptions of the vote choice variables for the losing parties. OLS results are shown in Table 2.

The cognitive and affective factors have a positive relationship with  $\Delta$ ED, and the importance of vote decision, H2, has a statistically significant impact on  $\Delta$ ED in the anticipated direction. The cognitive and affect variables have the greatest impact on  $\Delta$ ED of any variable in 1988 but not in 2004 or 2006.<sup>26</sup> While the importance of vote variable falls short of statistical significance in 2004, this may be due to question timing. Unlike in 1988 and 2006, the question used to operationalize this variable is in the post-election questionnaire, and responses may have been influenced by the election. An election outcome that conflicts with one's preferences may cause one to downplay the importance of the election. The lone affective variable, Partisanship, H3, displays a positive and significant relationship with  $\Delta$ ED for all elections. A sense of personal attachment towards a party leads to an undeniable increase in  $\Delta$ ED after voting for that party.

H4 and H5 are also supported by Table 2. The exertion of unpleasant effort increases  $\Delta$ ED, H4. This applies in 2004, when the variable is based on how difficult it is to get to the polling station, and in 2006, when it is based on

<sup>24</sup> F-statistic values are 111.9 and 49.3 for 2004 and 2006, respectively, indicating these values are relevant in the relationship between the potentially endogenous variable and the instrument. Values above 10 are strong instruments. Weak instruments provide little improvements in consistency above OLS (Stock et al., 2002).

<sup>25</sup> Initial ED is on a scale from -100 to 100, while all other variables range from 0 to 1.

<sup>26</sup> Caution is taken when comparing the impact of this factor from one election to the next, as this variable is operationalized differently in 1988 than it is in 2004 and 2006.

**Table 3**

Canadian predicted impact of party choice upon  $\Delta$ ED: 1988, 2004, and 2006.

	1988	2004	2006
Liberal voter	-3.51	-1.63	-4.76
(Progressive) conservative voter	2.19	1.49	3.14
NDP voter	-0.62	-0.25	0.02

having made political donations. In all three elections, an early TOVD is associated with a positive  $\Delta$ ED. Individuals who have long known for whom they will vote need to reconcile the knowledge of their early TOVD with their attitudes towards parties. The act of voting reinforces the preferences of early deciders, a finding that is compatible with H5.

The results relevant to H6 are mixed. Only in 1988 does voting for a party that lost in one's riding have an independent impact on  $\Delta$ ED; this variable is not significant in 2004 or 2006. This result is surprising given that dissonance theory provides no reason to expect differences from year to year. Though future work is required to properly explain this finding, these results may suggest that the importance of constituency level results have declined relative to the national level since 1988.

National level data reveal an informative pattern with respect to H6.<sup>27</sup> The 1988 and 2006 elections, won by the Conservatives, produce the anticipated results; Liberal and NDP voters have a negative  $\Delta$ ED relative to Conservative voters. In 2004 it was the Liberals who won a plurality, though not a majority, of seats in Parliament. Contrary to H6, however, Conservative and NDP voters have a positive  $\Delta$ ED relative to Liberal voters - an outcome opposite of that which dissonance theory predicts. In all three elections, therefore, Liberal voters had a low  $\Delta$ ED.

Table 3 shows predicted  $\Delta$ ED values for voters from each party and election. Values are determined through

<sup>27</sup> The interaction of national and local loser term produces statistically insignificant results.

postestimation by manipulating the vote choice variables and leaving all other values unchanged and centered around the mean value of  $\Delta ED$  for each election. Conservative voters have the highest average  $\Delta ED$  in all three elections, despite the fact that the party placed second in 2004. Liberal voters experienced a relative decrease in  $\Delta ED$  after all three elections, even though the party won a plurality of seats in 2004. The  $\Delta ED$  of NDP supporters differs little from the population average in any election.

Though unexpected, the 2004 results do not invalidate H6. Prior to the 2004 election, the Liberal Party held a Parliamentary majority for 11 years. The party's reduction to minority status in 2004 may have caused voters to perceive the election as a loss for the Liberals and suggests that perception of party success is influenced by past results. From this perspective, the 2004 results are not surprising. Liberal voters may have been disappointed by the election outcome, and Conservative voters, after seeing their party's number of seats increase may have been pleased with the election's outcome.

## 6. Conclusion

This study applies dissonance theory to explain how political attitudes are influenced by behaviour, election results, and other political attitudes. Despite the mixed support for H6, dissonance theory is largely congruent with changes in attitudes. The act of voting causes a shift in attitudes. Among voters, the importance assigned to a vote decision, partisan attachment, expending unpleasant effort, TOVD and the outcome of an election *vis-à-vis* vote choice lead to attitude change.

The impact of these variables is substantial. In 2006, a voter who considered the election to be important, was a partisan, exerted unpleasant effort, and was an early-deciding Conservative voter had an average change in ED of +7.5 points. One who believed the election to be unimportant, was non-partisan, exerted no unpleasant effort, had a late TOVD and voted Liberal had  $\Delta ED$  of -16.6. These values represent a swing of 24.1 points, and 1988 and 2004 data produce similar results.

Future research should consider whether these effects are merely short term in nature, or if they influence attitudes in the longer term. 2004 and 2006 CES data provide modest insight into this matter. Some CES respondents were interviewed in both years, so party evaluations can be tracked from one election to the next.  $\Delta ED$  can be based upon pre-election evaluative distances from 2004 and 2006, rather than comparing pre- and post-election ratings from a single election.

The data do not provide evidence that the act of voting has long term effects. Reproducing the models in Table 1, using inter-election  $\Delta ED$  as the dependent variable, OLS non-voter coefficients are statistically insignificant, though the 2SLS results are significant.<sup>28</sup> These mixed results are not surprising given the conflicting conclusions of other authors on this matter (Mullainathan and Washington, 2009; Elinder, 2009).

Reproducing Table 2 with inter-election  $\Delta ED$  indicates that some factors have a long term impacts on voter's attitudes.<sup>29</sup> Though the importance, effort, and TOVD variables are insignificant, partisanship and vote choice provide significant and positive findings. Being a loyal partisan or voting for either the Conservatives or NDP in 2004 led to an increase in  $\Delta ED$  that was maintained until 2006. Some dissonance related factors, therefore, have lasting impacts on attitudes towards parties, even if the simple act of voting does not.

Rather than being generated through an even handed consideration of relevant information, political attitudes are biased by behavioral, affective, and cognitive factors. Responses to subjective attitudinal questions differ systematically between pre- and post-election questionnaires. As such measures are commonly used to explain vote choice, researchers must be conscious of the impact that elections can have. It is important to base such explanations on the attitudes respondents hold while still able to contemplate their decisions, rather than after an election takes place. Whenever possible, subjective data should be gathered prior to election-day, before attitudes change is triggered by the act of voting.

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## Appendix A. CES Questions

Vote intentions: Which party do you think you will vote for? Is there a party you are leaning towards (if stated that they are undecided)? If you decided to vote, which party do you think you will vote for (if stated that they would not vote)?

Difficulty of decision/initial ED: How do you feel about the \_\_\_ Party? (pre and post election questionnaires)

Importance of vote: 1988: What is the most important campaign issue to you? How strongly do you support/oppose free trade? 2004, 2006: Do you agree or disagree with the following statement: All political parties are the same, there really isn't a difference?

Partisanship: In federal politics, do you usually think of yourself as a: \_\_\_?

Unpleasant effort: 2004: How difficult is it for you to get to a polling station? 2006: Have you ever donated to a political party? When was this?

TOVD: When did you decide that you were going to vote \_\_\_?

Vote choice: Which party did you vote for?

## Appendix B. Canadian Election Descriptive Statistics, 1988, 2006, and 2008

Table B.1.

<sup>28</sup> Results not shown but available from author upon request.

<sup>29</sup> Results not shown but available from author upon request.

**Table B.1**  
 Canadian election descriptive statistics.

		Mean	Std. Dev.	Min	Max
1988 (N = 1028)	Change in ED	-1.72	20.11	-79.5	95
	Importance of vote	0.69	0.31	0	1
	Partisan	0.71	0.46	0	1
	Unpleasant effort	n/a			
	Pre-campaign TOVD	0.59	0.49	0	1
	Supported losing local candidate	0.49	0.50	0	1
	Liberal voter	0.29	0.45	0	1
	Conservative voter	0.52	0.50	0	1
	NDP voter	0.20	0.40	0	1
	Interviewed after debate	0.64	0.48	0	1
	Initial ED	30.51	22.03	-65	100
2004 (N = 702)	Change in ED	3.95	18.86	-72.5	91
	Importance of vote	0.71	0.31	0	1
	Partisan	0.74	0.44	0	1
	Unpleasant effort	0.09	0.18	0	1
	Pre-campaign TOVD	0.64	0.48	0	1
	Supported losing Local candidate	0.48	0.50	0	1
	Liberal voter	0.37	0.48	0	1
	Conservative voter	0.43	0.50	0	1
	NDP voter	0.19	0.39	0	1
	Interviewed after debate	0.29	0.46	0	1
	Initial ED	33.26	22.29	-45	100
2006 (N = 1311)	Change in ED	-3.44	19.33	-105	82.5
	Importance of vote	0.64	0.32	0	1
	Partisan	0.75	0.43	0	1
	Unpleasant effort	0.12	0.32	0	1
	Pre-campaign TOVD	0.73	0.44	0	1
	Supported losing local candidate	0.44	0.50	0	1
	Liberal voter	0.32	0.47	0	1
	Conservative voter	0.49	0.50	0	1
	NDP voter	0.19	0.39	0	1
	Interviewed after debate	0.70	0.46	0	1
	Initial ED	38.43	21.93	-33	100

Note: Results include only those cases included in the Models in Table 2.

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