The 2011
Canadian Election Survey

Technical Documentation

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Conditions of Release

All research based upon these data must include an acknowledgement such as the following:

> Data from the 2011 Canadian Election Survey were provided by the Institute for Social Research, York University. The survey was funded by Elections Canada, and was completed for the Canadian Election Team of Patrick Fournier (Université de Montréal), Fred Cutler (University of British Columbia), Stuart Soroka (McGill University), and Dietlind Stolle (McGill University). Neither the Institute for Social Research, Elections Canada, or the Canadian Election Survey Team are responsible for the analyses and interpretations presented here.

Researchers are requested to forward a copy of any publications or scholarly papers to the Associate Director, Institute for Social Research, The TEL Building, 88 The Pond Road, York University, 4700 Keele Street, Toronto, Ontario, M3J 1P3 and to Dr. Patrick Fournier, Département de science politique, Université de Montréal, C.P. 6128, Succ. Centre-ville, Montréal QC H3C 3J7.

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1. Study Description

The 41st Canadian General Election was held on May 2, 2011. On behalf of the Canadian Election Team (Fournier, Cutler, Soroka and Stolle), the Institute for Social Research completed four surveys with Canadians about the election, politics, and related issues. This Technical Report briefly outlines the design and conduct of the four surveys.

Telephone interviews were completed with 4,308 Canadian citizens for the campaign period survey (the CPS) and 3,362 of these respondents also completed a post election survey (the PES) via the telephone. In the CPS respondents were asked to provide their email addresses. In the PES respondents were asked for their (postal) mailing address, and those who did not provide an email address in the CPS, were asked a second time for their email address. Using this information, a mail back survey (MBS) with 1,567 respondents, and a web-based survey (WBS) with 767 respondents, were also completed.

Most CPS respondents were 'new' sample respondents obtained from a modified random digit dialling (RDD) procedure and a random selection within the household using the birthday selection method. Twenty percent (or 850) of the CPS respondents had completed the 2008 Canadian Election Survey. These 850 interviews form a panel sample component. (Some of the 2008 CPS respondents were also part of a panel and their initial CPS interview was completed in 2004 or 2006). Panel respondents were more likely to complete the 2nd to 4th survey component. For example, 90% of the panel respondents who completed the 2011 CPS also completed the 2011 PES, the comparable figure for the new sample was 75% (see Table 1.1, the variables PANEL and SUR_COMP (surveys completed) provide the information in the Table)

Table 1.1: Observations for Each Survey Component

Survey	Survey Component	Panel	New RRD Sample	Total
1st	CPS (telephone)	850	3,458	4,308
2nd	PES (telephone)	767	2,595	3,362
	% of CPS	90.2	75.0	78.0
3rd	MBS (mail)*	434	1,133	1,567
	% of PES	56.6	43.7	46.6
4th	WBS (web)	227	540	767
	% of MBS	52.3	47.7	48.9

* a small number of the MBS respondents (193 of the 1,567) were completed via the web

A rolling cross-sectional sample release was employed for the CPS. New telephone numbers were released on each of the 36 days of the campaign (interviews were not completed on Easter Sunday) and each day's sample release was called multiple times over the 10-day 'clearance period' unless a completion was obtained. As a result, sample released on day 1 to day 27 was called for the full 10 days whereas sample released on day 28 was called for 9 days, day 29's release was called for 8 days, etc. Sample released the last day of the campaign was only called on that single day. Panel sample was released in equal amounts over the first 30 days of the campaign.

Calling for the PES started on May 3, 2011, the day after the vote, and all of the respondents were called back within four days of the vote. Of course, not all respondents were available when first contacted and after 14 days of calling 50 percent of the PES interviews were completed. By day 22 almost 70 percent of the interviews were completed but small numbers of interviews were completed up until July 5th.

Most Quebec interviews were completed by Jolicoeur et Associés. ISR data collection was completed with Computer Assisted Telephone Interviewing (CATI). The Institute's CATI software is from the Computer-Assisted Survey Methods (CSM) program at the University of California, Berkeley.

The naming conventions for the variables in the data file indicate the survey source (CPS, PES MBS or WBS). For example, variables in the campaign-period survey include the prefix CPS, thus CPS_INTDATE indicates the date of interview for the campaign period completions.

2. SAMPLE DESIGN

2.1 Introduction

The RDD (new) sample component for the 2011 CPS was designed to represent the adult population of Canada defined as: Canadian citizens 18 years of age or older who speak one of Canada's official languages, English or French, and reside in private homes[1] in the ten Canadian provinces (thus excluding the territories). Because the initial survey (the CPS) was conducted by telephone, the small proportion of households in Canada without telephones were excluded from the sample population.[2]

The CPS sample was not a simple random sample. The sample is both *clustered* and *stratified* and thus falls into the class of what are now commonly called "complex samples" – *clustered* because the probability of an adult member of the household being selected for an interview varies inversely with the number of people living in that household; *stratified* because the likelihood of being interviewed varied by province of residence (residents of the smaller provinces have a greater the chance of being interviewed). In order to provide unbiased estimates it is necessary to correct for these unequal probabilities of selection.

In this section of the documentation we briefly describe the selection of households and respondents and how the weights are calculated.

2.2 Selection of Households

To select individual survey respondents from the RDD (new) sample component of the CPS, a two-stage probability selection process was utilized. The first stage involved the selection of households by randomly selecting telephone numbers. The ideal sampling frame for the campaign-period survey would have been a complete listing of all residential telephone numbers in Canada. Unfortunately, such a listing does not exist. To select numbers ISR employs a modified form of random digit dialling. All telephone numbers in Canada consist of an area code, a "central office code" or exchange (the first three digits of the telephone number), and a suffix or "bank" (the last four digits of the number). A list of most telephone numbers in Canada

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[1] Interviews were not completed with respondents who could not speak English or French well enough to complete the survey and residents of old age homes, group homes, educational and penal institutions were excluded from the sample.

[2] Statistics Canada (www.statcan.gc.ca/daily-quotidien/070504/dq070504a-eng.htm) estimates that 1.2 percent of the households in Canada do not have telephone service, that 90.5% of households have landlines, almost 70% have cell phones, and 8.3% of households only have cell phones. Some cell phones are included in RDD samples.

can be constructed from CD-ROM versions of telephone books and other commercially available lists of telephone numbers. Numbers from these sources are included in the sampling frame. A computer is then used to generate a random sample of telephone numbers from this list.

As well as household telephone numbers, this sample includes "not-in-service" and "non-residential" telephone numbers. Typically, non-household numbers are identified the first time the interviewer calls. Most of the interviewer's subsequent efforts are then directed at encouraging an informant from the household to provide information about the number of adults living in the home, and after randomly selecting a respondent, completing the interview.

2.3 Selection of Respondents

The second stage of the sample selection process was the random selection of a respondent from the selected household. To be eligible for the interview the household member had to be an adult (18 years of age or older) and a Canadian citizen. If there was more than one eligible person in the household, the person with the next birthday was selected as the survey respondent.[3] The birthday selection method is used as it ensures a random selection of respondents and is a much less intrusive way to start an interview than asking about the number of people in the household, thus making it easier for the interviewer to secure the respondent's cooperation. Of course, for the panel component of the survey, the respondent was the person who was initially randomly selected to complete the 2008 CPS. Interviewers, when they asked to speak to the person who did the 2008 survey, had a first name or initial as well as the respondent's gender and year of birth to maximize their ability to secure the re-interview with the correct respondent.

2.4 Household Weights

Weights, to correct for unequal probabilities of selection, facilitate the production of national estimates. Panel respondents, however, were not selected as part of the 2011 national sample so they do not have weights. Weights are provided for the CPS but not the other survey components as non-response to each successive survey increases the potential for an unrepresentative sample.

The probability of an adult member of the household being selected for an interview varies inversely with the number of eligible adults living in that household. In a household with only one adult, this person has a 100 percent chance of selection, in a two-adult household each adult has a 50 percent chance of selection, and so on. Analyses based on unweighted estimates are therefore biased: members of one adult households are over-represented, and larger households

[3] See O'Rourke and Blair, 1983, for a review of the birthday selection method.

with two or more adults are under-represented.[4]

The households weights were completed as follows. As shown in Table 2.1, for Newfoundland and Labrador, 31 interviews were completed in households in which there was one adult, 82 interviews were completed in households with two adults, 10 in households with three adults, and so on. Thirty-one adults are represented by the 31 interviews in one-adult households, 164 adults are represented in the 'two-adult cluster,' and 30 in the 'three-adult cluster,' etc. In total, the 126 interviews in the province represent 237 adults.

These 237 adults represent the 406,455 adults who live in Newfoundland and Labrador. That is, we have interviewed 1 adult for every 1,715 people in the province (406,455/237 = 1,715, plus rounding). This figure (1,715) is the weight to use when data is weighted to the population size for the one-adult cluster in Newfoundland and Labrador. For respondents who live in two-adult households, the population weight is 3,430 (1,715 * 2), for three-adult households it is 5,145 (1,715 * 3), etc. The same procedure is used for each cluster (household size)/stratum (province) combination.

Table 2.1 Calculation of Household Weights For Newfoundland and Labrador

# of adults in HH	# of HHs each size	estimate of # adults	weight to population	weight to sample
			based on population of 406,455	
1 adult	31	31	1715	0.53
2 adults	82	164	3430	1.06
3 adults	10	30	5145	1.59
4 adults	3	12	6860	2.13
Totals	126	237		

[4] Weighting to correct for unequal probabilities of selection, stratification, and other factors in order to improve sample estimates is common in survey research. See, for example: Lessler and Kalsbeek, 1992 Chapter 8; Kalton, 1983 Chapter 10; Babbie, 1992 Chapter 5; and Kish, 1965, specifically addresses the issue of weighting to correct for unequal probability of selection at the household level (p. 400) and suggests, unlike most survey researchers, that household weighting may not be necessary.

Survey data can be weighted to the population or to the original sample size. Of course percent figures and all other point estimates are essentially the same whether the data are weighted to the population or the sample size. Until the advent of easy-to-use techniques for weighting complex samples in SPSS or STATA, users of survey data tended to weight to sample size so as to have the same number of observations in the weighted and unweighted data sets. Weights required for use of a CSAPLAN (using complex samples in SPSS) are provided in the data file (variable WeightBYNadults_and_TotPopn) and, should it be convenient for users, ISR will provide a CSAPLAN for the data file upon request (email: cclubine@yorku.ca).

The weights required for weighting to sample size are also provided in Table 2.1. Because the distribution of the respondents for each household size is based on the survey results, it is an estimate. Continuing with the Newfoundland and Labrador example, the weight for one-adult households (1,715) is multiplied by the total number of interviews in Newfoundland and Labrador (126) divided by the total adult population (406,455) which is .53 [1,715*(126/406,455)]. For two-adult households the calculation is: (3,430)*(126/406,455) which is 1.06. The weight for each household size follows the same formula.

Note that the calculation of the household weights is based on the original sample size, but we do not have a true random sample (as households were used to locate adults) and there is no accounting for sample design effects. Weighting in this manner, so that the weighted sample size is equal to the actual number of interviews, provides researchers with a very good approximation of the precision of their sample for point estimates (such as percentages, means, correlation coefficients, coefficients of determination, and so on). While the differences are typically so small as to not be meaningful, treating the sample as if it was a simple random sample of equal size results in *in*correct estimates of standard errors and, of course, incorrect significance tests.

Rather than using the 'weight by' command in SPSS, researchers could consider the use of the complex sample module in SPSS.

2.5 Provincial Sample Distribution

The adult population of the ten Canadian households and the distribution of the survey sample among the provinces is detailed in Table 2.2. In terms of the percentage of sample per province, the design called for a slight over-representation of the smaller provinces and a corresponding under-representation in Ontario, Alberta and BC. Quebec was also over-represented in the sample (based on the assumption that the election could be won or lost in that province).

Table 2.2 Population and Sample Distribution and Provincial Weights

Province	# pop*	% of pop	# sample	% sample	Weight
Nfld	406,455	1.65	126	3.64	0.45254
PEI	105,780	0.43	123	3.56	0.12065
Nova Scotia	729,545	2.96	120	3.47	0.85288
NB	582,625	2.36	126	3.64	0.64869
Quebec	5,996,930	24.33	1,030	29.79	0.81679
Ontario	9,439,960	38.30	1,048	30.31	1.26365
Manitoba	871,460	3.54	156	4.51	0.78368
Saskatchewan	734,250	2.98	167	4.83	0.61680
Alberta	2,515,180	10.20	158	4.57	2.23320
BC	3,267,345	13.25	404	11.68	1.13457
Totals	24,649,530	100.00	3,458	100.00	

* See Statistics Canada figures at:
http://www12.statcan.gc.ca/census-recensement/2006/dp-pd/tbt/Rp-eng.cfm?LANG=E&APATH=3&DETAIL=0&DIM=0&FL=A&FREE=0&GC=0&GID=0&GK=0&GRP=1&PID=88983&PRID=0&PTYPE=88971,97154&S=0&SHOWALL=0&SUB=0&Temporal=2006&THEME=66&VID=0&VNAMEE=&VNAMEF=

Because the sample distribution is not proportional to the population size (pps) of the provinces, the data must be weighted before national estimates are derived. (No province weight is required in comparisons between provinces.) Weights are obtained by dividing the proportion of households in the province by the proportion of the households in the sample for that province. For example, Ontario has a weight of 1.26365. In preparing national estimates, each Ontario case counts for 1.26365 observations in the weighted data set; in other words, Ontario cases are "weighted up" so that the impact of the Ontario sample on national estimates is an accurate reflection of Ontario's proportion of the total number of households in Canada. Conversely, provinces where the weights are less than one, for example Newfoundland (.45254), are "weighted down." These provincial weights are incorporated into the 'pop' and 'samp' weights provided in the data file.

2.6 National Estimates

In order to produce national estimates it is advisable to correct for both the unequal probabilities of selection at the household stage and the unequal probabilities of selection based on province of residence. Three weights provided in the data file combine the household and province weight. The weight used in the CSAPLAN (see Table 2.1, fourth column) because it is calculated on the basis of population for each household-size category in each province, when used as part of a CSAPLAN, will provide national estimates. The product of the household weight (see Table 2.1, fourth column) times the provincial weight (see Table 2.2, sixth column) can also be used when national estimates are required. The variable WGTPOP (which weights the sample to the population) and WGTSAMP (which weights the sample size) when used as part of the SPSS 'weight by' command will also provide national estimates. Weighting the data (to the population when using CSAplan in SPSS) and using the WGTSAMP in the SPSS weight by command, will provide very similar but not identical estimates. Remember, however, the CSAplan provides correct estimates of standard errors and, of course, correct significance tests.

Although the weights are provided as part of the data set, users must specify the weights they wish to use in the appropriate programming language before analysing the data. If weights are not invoked the tabulations produced will be for unweighted data. Because the weights include fractions that are rounded and missing values vary by item, there will be minor variations in the number of cases for different analytical procedures and subsets of the data.

2.7 Daily Sample Distribution for the Campaign-Period Survey

The importance of campaign dynamics in understanding election results has been documented by a number of researchers (Nevitte, Blais, Gidengil, and Nadeau, 2000; Holbrook, 1996; Blais and Boyer, 1996; Johnston, Blais, Gidengil, and Nevitte, 1996; Johnston, Blais, Brady and Crête, 1992; Bartels, 1988; and Brady and Johnston, 1987). By interviewing a cross section of Canadians each day (and including date of interview as a variable in the data set), it is possible to determine the impact of events during a campaign. Using data from the election survey, the analyst can determine if support for specific policy issues, predictions of the results of the election, or ratings of the Prime Minister or the opposition leaders varied, or remained constant, over the course of the election campaign. Similarly, utilization of a rolling cross section sample facilitates division of the campaign-period data sets into temporal components. For example, analysts can divide the campaign-period data into before and after the leaders' debates, into four nine-day periods, or the beginning, middle and end of the campaign, etc.

It is critical to any analysis which includes date of interview as a continuous or contingent variable that the sociodemographic characteristics of the survey respondents do not systematically vary over time. Because 'easy-to-reach' respondents (people who are more often home and willing to do the interview when first contacted) have different characteristics than 'hard-to-reach' respondents (Groves, 1989; Hawkins, 1975; and Dunkleberg and Day, 1973), it is important that

each day of interviewing includes a mix of easy and hard-to-reach people. Assume, for example, that educational achievement is found to covary with attitudes about a specific election issue such as the importance of creating jobs. If more of the interviews at the beginning of data collection were completed with respondents with lower levels of education (and if they were more supportive of job creation efforts as compared to paying down the debt), and if more of the interviews at the end of data collection were completed with respondents with high levels of education (and they were less supportive of job creation efforts), it would be possible to mistake a change in respondent characteristics for a change in attitudes.

Given the small sample for any one day, daily variation in the number of completed interviews is expected. However this variation is less pronounced when the number of completed interviews is averaged over a three- or five-day period. Variation in the number of interviews per day varies in part because some days, for example Fridays, tend to have lower co-operation rates and other days, such as Sundays, have higher rates. Other factors such as the weather ("nice" days have lower co-operation rates), the complement of interviewers working each shift (there is variation among interviewers in the response rates they obtain), and the number of days before the vote (all things being equal, co-operation increases the closer to the vote the interview attempt is made). There is an attempt to minimize the variation by controlling the amount of sample released each day for calling. Each day of sample release was, within provinces, divided into "sample replicates." Each sample replicate was a random sample of the day's release. Three to five replicates were released each day depending on the factors noted above. Interviews were not collected on Easter Sunday.

2.8 Post-Election Sample

The sample for the post-election survey was comprised of respondents to the CPS. At the end of the CPS, interviewers ensured that they had a first name or some other identifier (such as the respondent's initials or position in the household, e.g., mother). This information, as well as the sex and year of birth of the CPS respondent, and the respondent's telephone number, was recorded on a "cover sheet." At the start of the PES, the cover sheets were put into a random order (shuffled) so that the time of the first call for the PES was not related to the date of interview, or the day of sample release during the CPS. The interviewer called and asked for the person by name or identifier. If there was any concern about reaching the correct person the interviewer also checked age and gender.

2.9 Mail-back Sample

At the end of the post-election survey, respondents were asked to provide their postal address so they could be sent the mail-back survey. Mail-back information was provided by 70 percent of the PES respondents. This number is down from the 78 to 82% obtained in previous versions of the PES. Part of this decline seems related to the request for an email address in the CPS. More than half (2,329 or 54.1%) of the CPS respondents provided an email address but those who did so were significantly less likely to provide a postal address in the PES.

Separate weights were not prepared for the PES, MBS, or WBS data (as these are not random samples of the population).

3. Data Collection

3.1 Introduction

A description of the data collection procedures is outlined in this section of the technical documentation. Supervisors monitored (listened to) about 10 percent of interviewers' calls to verify that the interviewers were reading questions and recording answers correctly.

3.2 Data Collection Procedures

3.21 CPS and PES Number of Calls

In order to maximize the chances of getting a completed interview from each telephone number in the CPS sample, call attempts were made during the day and the evening - for both week and weekend days. Typically, between two and four call attempts were made each day (split between day and evening hours) during the first four days that a sample was released. Although over half of the interviews completed in the CPS took three or fewer call attempts, four percent of the completed interviews required ten or more calls (Table 3.1).

Table 3.1 Number of Call Attempts: 2011 Campaign-Period and Post-Election Surveys

	CPS		PES	
Calls	#	%	#	%
1	1083	25	653	20
2	1002	24	584	17
3	691	16	375	11
4	442	10	273	8
5	344	8	243	7
6-9	569	13	577	17
10-14	173	4	333	10
15 or more	4	0	324	10
Totals	4308	100	3362	100

Reinterviewing for the 2011 PES survey commenced May 3, the day after the election. In terms of call attempts, more effort was required to complete the PES than for the CPS. In the later only four percent of the interviews took ten or more calls, while 20 percent of the PES interviews took ten or more call attempts. The variables CPS_ATEMPTS and PES_ATEMPTS identify the number of calls required to obtain a completion. Note that the larger number of interviews completed on the tenth or subsequent call attempts in the PES was crucial to achieving an acceptable reinterview rate and the lack of these '10-or-more-call-attempt-interviews' in the CPS helps to explain the large difference in response rates between the two surveys. Of course the truncated number of calls on the CPS results from the use of the rolling cross section sample release.

3.22 CPS and PES Refusal Conversions

In addition to making numerous call attempts and spreading these attempts over day, evening and weekend time slots, efforts were made to "convert" refusers on both the CPS and PES. Respondents and/or households who refused to participate when initially contacted by an interviewer were contacted a second time in both surveys. (Often, several call attempts were required to reach refusers.) In the CPS, refusal conversion attempts had to be made within the 10 day calling period whereas in the PES the conversion attempts were typically made two or three weeks after the initial refusal. The number of converted refusals in the CPS data file is 234 or about five and one-half percent of the completions. There were fewer converted refusals in the PES (144, or four percent of the interviews), but the likelihood of a successful conversion was much higher in the PES. Just over one-quarter of the initial PES refusals were converted but the percent for the CPS was 6.5. As compared to the CPS, the higher conversion rate, like the greater number of calls to 'hard-to-reach' respondents, result in a higher response to the PES survey. The variables CPS_REFUSALS and PES_REFUSALS identify whether the interview was a "standard" completion or a "converted" refusal.

The careful attention to the number and timing of callbacks and refusal conversions is designed to increase the response rate, thereby improving sample representativeness. Many researchers have found that respondents who are 'hard-to-reach' and those who 'refused' have characteristics that are somewhat different from typical survey responders (Dunkelberg and Day, 1973; Fitzgerald and Fuller, 1982; and McDonald, 1979).

3.23 Mail-back Survey

At the end of the PES, respondents were asked if they would be willing to provide an address so that a mail-back questionnaire could be sent to them. One-quarter of the PES respondents declined to provide an address and could not be included in the MBS component of the CES. The PES respondents who provided mailing addresses received up to five contacts encouraging them to complete and return the mail-back questionnaire. The first contact included the questionnaire, a covering letter, and a postage-paid pre-addressed return envelope. The second was a reminder/thank you card (resembling a post card) sent one week after the first questionnaire package was sent. The first and second mail contacts were sent to all respondents. The mailings

were staggered and sent every week at the start of the PES calling and somewhat less often near the end of calling. A second questionnaire (plus covering letter and return envelope) was sent only to non-responders and typically was mailed about three weeks after the first reminder card. One week later the second reminder card was sent. Finally, telephone calls were made to all non-responders about two weeks after the last reminder card was sent.

Approximately two weeks into the data collection schedule for the MBS workers at Canada Post started rotating strikes. For about two weeks starting June 2 mail delivery throughout the country was erratic and for the following two weeks there was a complete shut down of mail delivery until the postal workers were legislated back to work at the end of the month. During the time period covered by the rotating strikes, questionnaires were sent to potential respondents. In the last two weeks of June a web version of the MBS was sent to those respondents for whom we had addresses, who had completed the PES, and had not been sent a MBS in the mail. The strategy was modestly successful as response to the MBS was higher when the survey was sent in the mail as compared to when it was sent via the web. While the strike delayed the completion of the MBS, as noted below the reinterview rate for the mail survey, 46%, while less than the rate achieved in previous MBS surveys (where the reinterview rate was a bit better than 50 percent) was not dramatically lower.

3.24 Web-based Survey

When asked to provide an email address, almost equal numbers of respondents refused to do so (23%) or indicated they did not have an email address (23%). The remaining 54% of respondents (2,329) provided an address and 767 of these CPS respondents (33%) completed the web-based survey. Four reminders/requests were sent via email and, for those who had also provided a postal address, a fifth request to complete the web-based survey was sent. This fifth reminder, via the post, generated more response than the third and fourth email reminders.

3.3 Response and Re-Iinterview Rates

3.31 Campaign-Period Survey Response Rate

There are numerous ways to calculate response rates in survey research (Dillman, 2000; Smith, 1995; Groves, 1989; and Groves and Lyberg, 1988). The method used in this project is conservative; most other ways of calculating the response rate would produce inflated values. The response rate was defined as the number of completed interviews divided by the estimated number of eligible households times 100 percent.

Details on the calculation of the response rate for the 2011 CPS are as follows. Of the 14,390 telephone numbers included in the sample, 9,793 were identified as being eligible households (completions [n=4,308] + refusals [n=3,422] + callbacks [n=2,063], see Table 3.2). Not eligible households (where the respondent was unable to speak English or French, was not physically or mentally healthy enough to complete the interview, was not a Canadian citizen, etc. [n=1,067]),

and nonresidential and not-in-service numbers [n=2,540]) accounted for 3,607 of the telephone numbers. It was not possible to determine the eligibility status for 990 of the sample telephone numbers. For response rate calculations, it was assumed that the proportion of these 990 numbers which were eligible household numbers was the same as it was in the rest of the sample.

This proportion, or "household eligibility rate" was .736 (eligibles [9,793]/(eligibles [9,793] + not eligibles [3,607]) = .73). The estimated total number of eligibles was then computed as 10,517 (9,793 + [.73 x 990] = 10,517). Dividing the number of completions (4,308) by the estimated number of eligibles (10,517) gives a final response rate of 41percent.

Many organizations would not include "eligibility not determined" numbers in the denominator for the response rate calculations on the argument that few of these numbers would be eligible households. (See: Groves and Lyberg, 1988 for a debate on this issue.) This version of the response rate, sometimes called a completion rate, calculated as completions/known eligibles is 44 percent (4,308/9,793). Other organizations calculate response rates as the number of completions over the number of completions plus refusals. This version of the response rate, which is sometimes known as the participation rate, is 56 percent (4,308/4,308+3,422).

Table 3.2 Final Sample Disposition and Response Rate: 2011 CPS

Results	number	percent
completions	4,308	30
refusals	3,422	24
callbacks	2,063	14
ill/aged/language problem/absent/not a citizen/died	1,067	7
not-in-service & nonresidential	2,540	18
eligibility not determined	990	7
total	14,390	100
household eligibility rate	-	0.73
estimated number of eligibles	10,517	-
response rate	-	41

Because of the rolling cross section sample design, numbers released for calling on the last days of the campaign survey get fewer calls and no refusal conversion attempts thus a lower response rate is achieved. The response rate for the sample released for the last three days of the campaign

was almost 20 points lower than that obtained for the sample released earlier. While this sample release strategy helps to explain why the election survey has a lower response rate than most other surveys completed at ISR, it does not explain the general decline in response rates at ISR and elsewhere. The lower response rate is indicative of a similar trend in declining response rates at ISR and as reported by American survey researchers in the 1990s. See reports by: Curtin, Presser and Singer, 2005 and Groves, Dillman, Eltinge and Little, 2002.

3.32 Post-Election Survey Re-Interview Rate

The PES reinterview rate in 2011, 78%, was higher than the 73% achieved in 2008 and the 76% achieved in 2006, and was the same as the rate for 2000. The reinterview rate was markedly lower for the RDD component (76%) than the reinterview rate for the panel component (90%).

About three-quarters of the non-response to the PES was accounted for by refusals and callbacks. Illness or death of CPS respondents, never answered telephones (typically 20 or more calls), and changes in telephone numbers (PES respondents had their number changed and the new number was unlisted; the number was changed and the new number listed by the telephone company reached the wrong household; respondent left the household and those remaining in the household either could not or would not provide a new number) account for the remaining non-response to the PES.

3.33 Mail-back and Web-based Re-Interview Return Rate

As noted above, the number of mail-back and web-based completions was 1,567 and 767, respectively. Of those who provided an address at the end of the PES and were sent the MBS, 67% returned a completed questionnaire and this represents 46% of the PES respondents. Both these percentages – the percent providing addresses and the percent responding – are about five percent lower than those obtained in the MBS in the last few election surveys. Certainly, the mail strike during the data collection time period for the MBS did not help but without the 197 MBS surveys collected over the web the reinterview rates would have been lower.

In the CPS, 2,329 respondents provided an email address. Those who refused to provide an email address in the CPS were asked a second time for one in the PES, and 120 (of the 968, or 12%) who answered negatively in the CPS did so. Thus the total number of respondents sent a request to complete the web survey was 2,449. Of these, 767 or 31% completed the WBS. Over 120 additional respondents withdrew from the WBS questionnaire after completing 55 or fewer of the approximately 150 questions in the web-based survey. This 'quit rate' is high compared to the telephone survey, where very few respondents stop once they have started the interview. We do not know how many MBS respondents started but quit part way through the MBS questionnaire as respondents do not mail partial completions back. On the web, every key stroke is tracked so it is possible to know the number of respondents who start but do not finish. Nevertheless, the lower reinterview rate and the high quit rate suggest, as is being increasingly noted by other researchers, that web- based surveys must be short.

Another way to think about the re-interview rate for the WBS is to look at the portion of MBS respondents who completed the survey. Almost half as many respondents competed the WBS as completed the MBS. From this perspective, the re-interview rate of 49% for the WBS was actually a little higher than it was for the MBS (46%). As was the case for the other survey components, the re-interview for the WBS rate was higher for panel respondents (52%) than new sample respondents (48%). Note, however, the difference was less than for the PES or the MBS.

4. Questionnaire Issues and Data Processing

4.1 Introduction

Computer Assisted Telephone Interviewing (CATI) was used for data collection in the CPS and the PES. With CATI, interviewers read questions from a computer screen and enter answers directly into a series of computer files for processing. CATI software automates skip patterns so that interviewers do not have to determine the next appropriate question to ask, allows questions to be date stamped so they can be asked on certain set days, and provides a mechanism for systematically varying the order in which respondents receive questions or deliberate variations in question wording. CATI code, while relatively easy to follow, is cumbersome and requires considerable space as each question (almost always), no matter how small, requires a separate computer screen (a page in CATI language) for viewing. To facilitate use of the data, easy-to-read copies of the CPS and PES questionnaire, as well as a copy of the MBS and an easy-to-read copy of the web-based survey can be provided from the CES team or the ISR website. In the easy-to-read versions of the questionnaire, CATI code has been replaced with an abbreviated description of how the questionnaire was delivered to respondents. Copies of the CATI questionnaires are available from ISR upon request.

Note that most variables in the campaign-period survey include the prefix CPS. The prefixes PES, MBS, and WBS are used to indicate that the variable is from the post-election, mail-back, and web-based surveys, respectively.

4.2 Assigning Missing Values

With some frequency, in both the CPS and PES survey, whether or not a respondent is asked a question is conditional on answers to previous questions. For example, respondents who said they were certain not to vote (CPS11_10) were not asked questions about their vote intentions (CPS11_11 to CPS11_16. These respondents have "missing data" for the questions they skipped. Also, respondents who answered they were 'unlikely to vote' or answered 'don't know' or 'refused to answer' the likelihood of voting question (CPS11_10) were not asked the party they were voting for (CPS11_11) nor the party they were leaning towards voting for (CPS11_12), but they were asked: "If you do vote, what party will you vote for?" (CPS11_13). The most complex conditional logic used in the surveys was utilized in the vote intention section of the CPS questionnaire and the vote reporting section of the PES questionnaire.

By and large, the reasons for having missing data are, with a little examination of related questions, self-evident. There are times, however, when the reason for skipping questions is not quite as obvious. In the CPS, the order that respondents were asked to rate the leaders was randomized. When asked about any one specific leader, respondents who answered they did not know any of the leaders (questions CPS11_23 to CPS11_26) were not asked about the other leaders. (Because the order of the questions asking for leader ratings was random, the number of cases assigned a missing value on these questions varies somewhat between questions.) Similarly,

respondents who say they do not know anything about any one party are not asked about the remaining parties.

Respondents who indicated in the campaign-period survey that they were not working were not asked to describe their occupation or answer questions related to their job in the post-election survey (PES 11_91 - PES11_ 93). Also, respondents who indicated they did not have children in the CPS were not asked about children's schooling in the PES (question PES11_102).

Respondents who completed only the CPS are assigned 'system missing' (sysmis) status for all questions in the PES, MBS, and WBS (as they were not asked these questions). In both the MBS and the WBS, unlike the two telephone surveys, it was easy for respondents to skip questions. To distinguish the difference between not answering these surveys at all (survey non-response) and not answering a specific question (item non-response), a value of 9 (with the label "left blank" as these respondents just did not provide an answer) was used.

In addition, there are a few questionnaire design decisions that account for large amounts of missing data. These include questions that were province-specific and those asked only before or after certain set dates.

4.21 Province- and Date-Specific Questions

There were four questions, two in the CPS and two in the PES, that were only asked of respondents in Quebec. These were:

- rating the Bloc Québécois (CPS11_21),
- rating the leader of the Bloc - Duceppe (CPS11_26),
- prediction of the possible effect of separation on the 'language situation' in Quebec (PES11_391), and
- belief in the need or lack thereof for a sovereignist party in Quebec (PES11_52c).

Respondents residing in a province other than Quebec have missing data for these questions.

The debate questions (CPS11_76, the English debate and CPS11_77, the French debate) were asked only of respondents interviewed after the debates took place. Whether the respondent was asked about the English or French debate was determined by the language they were using to complete the interview. A frequency count for either of these questions will produce missing data for all interviews completed before the dates of the debate. And French speakers will have missing data on the English debate question and English speakers will have missing data on the French debate question.

4.3 Randomization of Question Order and Response Options

The logical operators resident in CATI were used to randomize the order in which respondents received items in several sections of the two telephone questionnaires. Given that order effects

have been identified in surveys, but are not always easy to predict (Schuman and Presser, 1981), the order randomization was designed primarily as a precautionary measure to limit the impact question order had on overall response. CATI was also used to vary the wording of questions. The importance of the way in which issues are framed in question wording has been recognized by survey researchers (Converse and Presser, 1986; and Schuman and Presser, 1981).

The software used at ISR makes it easy for users of the data to determine what effect, if any, the random order and variation in question wording had on response. To examine the effect of randomization the user must run cross tabulations of the questions of interest by the random number variables (RANDOM*X*, where *X* is the specific random number used for the question(s) of interest, along with the year and survey identifiers). The random numbers were created before interviewing commenced and were added to the data set as part of the sample record (along with telephone number, ID number, etc.). The range and value of each random number (i.e., a range of 2 with values 1 and 2 each of which was used about one-half of the time, or a range of 3 with values of 1, 2 and 3 with each used one-third of the time, etc.) can be determined by running a frequency count on the random number as each random number is a variable in the data set.

4.31 Question Order Randomizations in the Telephone Survey Components of the 2011 CES

4.311 Party and Leader Ratings

Respondents in the CPS were asked to rate the five (main) parties (CPS11_18- CPS11_21) and party leaders (CPS11_23- CPS11_26) on a 0 to 100 scale where 0 meant they really disliked and 100 they really liked the party/leader. As in previous versions of the CPS, the order in which a respondent was asked to rate the political parties and their leaders was randomized. Because the randomization was for four leaders/parties there were 24 different possible orders (the product of 4*3*2*1). Each respondent was randomly assigned a random number which was a four-digit string of numbers (see variable itemseq). The item sequence numbers were comprised of the digits 1, 2, 3, and 4 and ranged from 1234 to 4321 (where the digit 1 referred to Harper/ Conservative Party, 2 was for Ignatieff /Liberal Party, etc. The order of the four digits in the string determined the order in which the respondent was asked to rate the parties and their leaders. During the execution of the survey, CATI went to look at the first digit of the four digit string and then followed the code as constructed in the same way as the code was used for leader ratings. When the itemseq was 1234, the leaders (and parties) were presented to respondents in the following order: Conservative, Liberal, NDP, Bloc. When itemseq was 4321 the order was: Bloc, NDP, Liberal, Conservative. The same random number (itemseq) was used for both parties and leaders.

Given the small number of respondents receiving each of the possible sequences of questions, the randomization is precautionary. (A frequency count for itemseq shows about four percent of respondents were assigned to each order.) There is some evidence that ratings on a scale are relative to the first rating given by the respondent. For example, if leader "A" is given a 40 and leader "B" is liked more, they will be given a number higher than 40; if they are liked less, a

number lower than 40 will be given. Thus the first rating acts as an anchor point from which respondents adjust up or down as they are asked their ratings for other leaders. Because the exact placement of the first rating may have more variance than the ratings that follow, randomizing the order in which the leaders are ranked will minimize this effect.

Respondents were also asked for ratings of the Green Party but this rating was not part of the randomization and was always the last party rated (that is, after respondents provided ratings for the Liberals, Conservatives, NDP and Bloc). Ratings for Elisabeth May, the Green Party leader, were also requested after ratings had been given for the other four leaders. Respondents who volunteered they did not know *any* of the leaders well enough to rate them were not asked for ratings and non-Quebec respondents were not asked to rate Duceppe, thus accounting for missing values at the leader ratings questions.

4.312 Leader Traits

Respondents were asked to rate the party leaders on one of four characteristics. Respondents were asked how well one of the following terms described each leader: is competent, a strong leader, is honest, and really cares about people. The order that the leaders were presented to the respondents was determined by itemseq, thus the order was the same as that for the party and party leaders. Which of the four characteristics delivered to each respondent was determined by RANDOM5. When it was 1 respondents were asked about competency for each leader, when it was 2 they rated each leader on strong leadership, etc.

4.313 Attention to Issues

In the Campaign Period Survey, respondents were asked how much attention they personally paid to six issues: health care, welfare, education, the environment, crime and justice, defence, and international affairs (CPS11_2 - CPS11-7). When RANDOM1a was 1, the order was as noted in the preceding sentence. When it was 2, the order was (CPS11_3 - CPS11-7 followed by CPS11_2), when it was the 3 the order was CPS11_4 - CPS11-7 followed by CPS11_2 and CPS11_3), etc.

4.314 Spending Cuts and Taxes

In the CPS, respondents were asked about changes to personal and corporate tax rates (CPS11_30 and CPS11_31) immediately prior to a set of questions about government spending. When RANDOM7 was 1, respondents were asked if they thought their personal taxes should increase, decrease or stay about the same, prior to being asked the same questions about corporate tax. The corporate tax question was asked first, followed by the personal tax question when RANDOM7 was 2.

Immediately after the two tax questions, respondents were asked if government should "spend more, spend less or spend about the same as now" on seven different areas. The spending areas were the same as the issues asked about in the attention issues noted above (CPS11_2 - CPS11-7).

The order the spending question were asked was also determined by RANDOM1A so respondents were asked the issues and spending questions in the same order.

Respondents were also asked about provincial government spending on five areas: welfare (PES11_69), health care (PES11_70), education (PES11_71), the environment (PES11_72), and crime and justice (PES11_73). The order that the questions were asked was determined by RANDOM5. When it had a value of 1 the order was 69,70, 71, 72, 73, when it was 2 the order was 70, 71, 72, 73, 69, when it was 3 the order was 71, 72, 73, 69,70, etc.

4.315 Split Sample Wording Variation in the Post-Election Survey.

There were three split sample wording variations in the PES. At PES11_30, respondents were asked either: "To help stop climate change, should governments double the taxes on ***gas and heating oil***?" or "To help stop climate change, should governments increase the taxes on ***gas***." Which version of the question respondents were asked was determined by RANDOM1: when it was 1 respondents were asked about gas and heating oil, and when it was 2 they were just asked about gas.

Survey item PES11_57 also includes a subtle wording variation about "the BEST way to deal with major economic problems." When RANDOM3 was 1 respondents' answer options were: "***more*** government involvement, or leave it to the private sector" and when it was 2 they could answer government involvement, or leave it to the private sector?

The final split sample on wording was for PES_59A, the federal party identification question. The first version of the question asked respondents if they usually ***think of themselves*** as a Liberal, Conservative, etc. The second asked respondents if they ***identified with*** the Liberals, Conservatives, etc. When RANDOM4 was 1 respondents were asked the first version of the question, when it was 2 they got the second version.

4.4 Coding of Open-Ended Questions and "Other Specify" Options

4.41 Open-Ended Questions

There were only two open-ended questions in the telephone surveys. Respondents were asked about the most important issue to them personally in the election in both the campaign (CPS11_1) and post-election surveys (PES11_2). In the PES, respondents who had reported they were working for pay in the CPS were asked to describe their occupation.

4.411 Most Important Issue (CPS and PES Questionnaires)

In both the campaign-period and post-election surveys, respondents were asked to identify the issue which was most important to them personally in the election. Most respondents provided a single response, and codes were developed for the more common "double answers" – for

example, health care and education. If a respondent provided more than one response that could not be coded into a single category, the first response was coded (unless it was not codeable and then the second response was used). To the extent possible, the same set of codes were used in 2011 as used in 2008, 2006 and 2004 in order to facilitate between-survey comparisons.

4.412 Occupation Coding

In the Campaign-Period Survey respondents were asked their employment status. In the Post-Election Survey respondents who reported they were employed in the CPS were asked for details abut their occupation and this information was used to assign a National Occupation Code (NOC codes). There are multiple versions of NOC and, as was the case in 2006 and 2008, the HRDC version was employed for the coding. Copies of the codes are available both in book form and on line (http://www5.hrsdc.gc.ca/NOC/English/NOC/2011/Welcome.aspx). Respondent who only completed the campaign-period survey as well as respondents who were not working or refused to provide their occupation all have missing values (i.e. no NOC code).

4.413 Other Specify Answers

Many of the questions allowed for a response other than those provided to respondents by interviewers. For example, questions about vote intentions or voting behaviour included an option for the respondents to provide an answer other than the ones read by the interviewer. When respondents gave these 'other' answers interviewers were asked to write out - specify - how the respondents answered. For every question these 'other specify' answers were reviewed and, when possible, coded into existing response categories. For a very small number of questions a new answer category was created (and for these questions the data file will have response options that are not listed for the questionnaire).

Respondents could also write out answers in the MBS and the WBS and these text answers were also reviewed and treated in the manner as other specify comments in telephone surveys.

4.5 Geographic Variables

For those respondents for whom a postal code was available, their code was run through Statistics Canada's Postal Code Conversion File (PCCF). The conversion file can be purchased from Statistics Canada. The postal code is used to provide a range of geographic/location data such as Census Metropolitan Area codes (variable CMA_11 in the data file), Census Tract (CT_11), Dissemination Area (DA_11), Latitude and Longitude (LAT_11 and LONG_11), etc. The suffix 11 indicates the year/version of the postal code conversion file (where 11 means the 2011 file). Details about the conversion file and the variables provided from the conversion can be found by a Goggle Search (PCCF documentation) or by visiting the following address:

http://ivt.crepuq.qc.ca/recensements/recensement2006/documentation/92-153-g2011002-eng.pdf pccf documentation

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