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## **METHODOLOGY SUMMARY**

### **COMMUNICATIONS SECURITY ESTABLISHMENT OH BEHAVE- THE ANNUAL CYBER SECURITY AND BEHAVIORS STUDY 2022**

**PREPARED BY: ELEMENTAL DATA COLLECTION**

**PREPARED FOR: COMMUNICATIONS SECURITY  
ESTABLISHMENT**

**Ce rapport est disponible en français**

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## INTRODUCTION

The Communication Security Establishment (CSE) commissioned Elemental Data Collection to conduct quantitative research to assess the perceptions of Canadians towards the security attitudes and behaviours of the general population. Online interviews were collected from July 15, 2022, to July 19, 2022, with a sample of 1,000 Canadians, 18 years of age and older.

The following sections outline the methodology used to conduct the study, including the research objectives, sample design and data collection procedures.

### 1.1 Background

Oh, Behave! The Annual Cybersecurity Behaviors and Attitudes Report is an annual research report series that aims to better understand and share insights into people's security attitudes and behaviors. Previously conducted in the U.S. and U.K., a Canadian survey component is being added for the 2022 survey. This report sheds light on one of the most important aspects of cyber risk - the human factor. This study concentrated on a core cybersecurity behavior:

- Creating and managing passwords / • Applying Multi-Factor Authentication (MFA)
- Installing the latest updates / • Checking message legitimacy
- Recognizing and reporting phishing / • Backing up data

### 1.2 Research Objectives

Using an online survey, CSE wanted to assess the perceptions of Canadians on their security attitudes and behaviours. From the research, the CSE is looking to inform Canadians on the current state of cyber security across the country and to also be able to tailor and support future policy and communication activities of the Canadian Centre for Cyber Security. As well the data will be used to bolster the "Get Cyber Safe" public awareness campaign to continue to raise awareness of cyber security.

### 1.3 Contract Value

The total contract value of this research was \$19,100.00, excluding HST.

### 1.4 Political Neutrality Certification

I hereby certify as a Representative of Elemental Data Collection that the deliverables fully comply with the Government of Canada political neutrality requirements outlined in the Communications Policy of the Government of Canada and Procedures for Planning and Contracting Public Opinion Research. Specifically, the deliverables do not include information on electoral voting intentions, political party preferences, standings with the electorate, or ratings of the performance of a political party or its leaders.



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August 9, 2022.

## METHODOLOGICAL SUMMARY

### 2.1 Survey Methodology

An online survey was conducted with a proportionate stratified sample of 1,000 Canadians, 18 years of age and older. Based on a sample of this size, the overall results are expected to provide results accurate to within  $\pm 3.1\%$ , 19 times out of 20 (adjusted to consider sample stratification). Details regarding the methodology are outlined below.

### 2.2 Sample Design and Selection

Quotas were set to ensure that the wave of the study would have completes across the country that would allow the CSE to analysis the data on both a national and regional level. The sample frame was geographically proportionate to align the regional results.

Strata	Completed Interviews	Margin of Error (%)
Atlantic Provinces	75	$\pm 11.3$
Quebec	230	$\pm 6.5$
Ontario	380	$\pm 5.0$
Prairies	75	$\pm 11.3$
Alberta	105	$\pm 9.6$
British Columbia	135	$\pm 8.4$
Canada	1,000	$\pm 3.1$

Based on a sample of this size, the results can be considered accurate to within  $\pm 3.1\%$ , 19 times out of 20.

### 2.3 Fieldwork

The online survey was administered to 1,000 respondents, from July 15<sup>th</sup> to July 19<sup>th</sup>, 2022, using computer assisted web interviewing (CAWI) technology. The data collection was carried out by Elemental Data Collection in Ottawa, Ontario. Interviews were conducted in the respondent's official language of choice. Quotas were set to ensure that the study would target completes proportionate to the stratified regions. The average length of time required to complete an interview was 13.1 minutes.

The sponsorship of the study was kept blind to enhance the ability to reduce bias in the study. All survey respondents were informed that participation is voluntary, and that information collected is protected under the authority of privacy legislation.

## 2.4 Response Rate

In total, 13,000 Canadian respondents were approached. The overall response rate for this survey was 10.6%. This is consistent with typical response rates for online surveys of the general public 18+ conducted over this length of field period. The table below presents the detailed information.

Online Disposition Table	
Total	13000
Unresolved (U)	11092
In-scope - Non-responding (IS)	525
<i>Termination</i>	203
<i>Refusal</i>	322
In-scope - Responding units (R)	1383
<i>Completed Interview</i>	1000
<i>Quota Full</i>	383
Response Rate	10.6%

The response rates were calculated using the formula:  $R=R/(U+IS+R)$ .

## 2.5 Data Analysis

Weighting adjustments were applied to the survey data to ensure that the results were representative of the Canadian population aged 18 years of age and older. Specifically, the survey results were weighted by region, gender, and age according to the most recent Statistics Canada census of the population.

The following table presents a breakdown of actual and weighted completions by regional strata.

Strata	Unweighted Sample Size	Weighted Sample Size
Atlantic Provinces	75	68
Quebec	230	236
Ontario	380	383
Prairies	75	66
Alberta	105	110
British Columbia	135	137
<b>Total</b>	<b>1,000</b>	<b>1,000</b>

## 2.6 Non-response Analysis

A non-response analysis was conducted to assess the potential for non-response bias. Non-response is the result of a unit of the sample not participating in the survey—either refusing to take part in the survey (a refusal) or not being reached during the data collection period (non-contact). Non-response results in biases in the survey sample when there are differences between respondents and non-respondents.

To undertake the analysis for this survey, the unweighted sample distribution by gender, age, household income, employment status and level of education was compared to the actual population (based on 2016 Census figures from Statistics Canada).

	Survey Sample (Unweighted)	Population (Census 2016)	% diff (+/-)	Survey Sample (weighted)
18-34	10.83%	27.36%	-16.53%	27.42%
35-54	31.46%	34.07%	-2.61%	34.10%
55+	57.71%	38.57%	19.14%	38.48%
Male	49.24%	48.58%	0.66%	48.45%
Female	50.76%	51.42%	-0.66%	51.55%
No certificate, degree, or diploma	5.08%	11.50%	-6.42%	5.25%
High school certificate or equivalent	22.15%	23.70%	-1.55%	20.90%
Apprenticeship or trades certificate or diploma	24.09%	33.20%	-9.11%	22.17%
University degree, certificate, or diploma	48.68%	31.60%	17.08%	51.68%

As is typically found with online surveys in Canada, the final sample over-represents those with higher levels of education. Also consistent with most surveys of the general public, age is a source of sample bias in the survey. As the table indicates, younger Canadians are under-represented and older Canadians are over-represented in the survey sample. The survey results were weighted to address these variations, as well as the sample design for the survey, which was regionally proportionate. Weighting serves to reduce bias should it be present, but not to eliminate it completely. It is very unlikely that this small sampling bias introduced any meaningful bias to the survey results.

## 2.7 Data Weighting

In order to ensure that the final survey sample was proportional the current distribution of the Canadian public, the data required a weighting factor to be included. Elemental employed a process called sample balancing (also known as RIM weighting) to ensure that we could adjust the weighting factor to accurately reflect the geographical, gender and age breakouts of the current population distribution.

## 2.8 Survey Instruments

Please see accompanying documents.

2022-06-29- Annex A CybSafe - CAB 22 Survey\_ Final\_EN\_REPORT

2022-06-29- Annex A CybSafe - CAB 22 Survey\_ Final\_FR\_REPORT