

# DIGITAL DEMOCRACY PROJECT

## Research Memo #1 Media, Knowledge and Misinformation

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# DIGITAL DEMOCRACY PROJECT

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The Digital Democracy Project is a joint initiative led by the Ottawa-based Public Policy Forum and the Max Bell School of Public Policy at McGill University.

The project will study the media ecosystem in the run-up to and during Canada's October 2019 federal election by monitoring digital and social media and by conducting both regular national surveys and a study of a metered sample of online consumption. The project will communicate its preliminary research findings publicly on a regular basis from August to October 2019, and will work with journalists to analyze the spread and impact of misinformation. The study will culminate in a final report to be published by March 2020. Both the project's preliminary findings and final report will be publicly available.

The project director is Taylor Owen, Associate Professor and Beaverbrook Chair in Media, Ethics and Communications in the Max Bell School of Public Policy at McGill University. The online data analysis team is led by Derek Ruths, Associate Professor in the School of Computer Science at McGill University, and the survey analysis team is led by Peter Loewen, Professor of Political Science at the University of Toronto.

The project is funded by The Rossy Foundation, the McConnell Foundation, and the Luminate Group and with support from the Mozilla. The project is also participating in the Digital Elections Research Challenge, a collaborative research project led by Taylor Owen and Elizabeth Dubois, Assistant Professor at the University of Ottawa, and funded by a grant from Heritage Canada. The DDP will be sharing survey and online data with the 18 research projects funded through this collaboration and will highlight select findings from these projects in our regular briefings.

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# EXECUTIVE SUMMARY

## KEY FINDINGS

- 1** Consumption of traditional print, broadcast and online media remains relatively high across partisan lines. Alternative media sources that cover politics from an overtly ideological perspective are more prevalent on Twitter than among the general public.
- 2** Canadians are somewhat trusting of traditional news outlets as a source for political news, especially compared to political parties and social media.
- 3** Exposure to both mainstream media and, to a greater extent, social media is associated with higher levels of misinformation. One key point of vulnerability is the greater tendency of media consumers with strong partisan tendencies to become misinformed with news exposure, especially via social media.
- 4** The environment has emerged as the dominant policy issue for Canadians, though markedly less so for Conservative party supporters. The topic was also prominent among political candidates and journalists on Twitter. However, other issues that the public identified as important—such as healthcare and the economy—were less likely to be discussed by candidates and journalists.

This is the first report from the Digital Democracy Project, a partnership between the Public Policy Forum and the Max Bell School of Public Policy at McGill University. The goal of this report is to provide an initial snapshot of the Canadian political media ecosystem leading up to this fall's federal election. The project uses data from both public opinion polling and online media analysis to examine the media habits of the broader Canadian public as well as the political and journalistic class, with an eye to understanding the various relationships between media use, partisanship, political knowledge, and concern over policy issues. This initial report is intended to serve as a baseline from which changes throughout the election campaign can be measured.

The aim of the Digital Democracy Project is to help build the international evidence base with a robust and maximally reproducible Canadian case study. Although many studies have sought to calculate the prevalence of various forms of problematic content online, these are rarely grounded in the context of people's media consumption, and thus provide limited insights into real consequences of digital content for opinion formation and voting behaviours.<sup>1</sup> Our approach seeks to combine survey, social media and behavioural data in order to contextualize our findings.

The findings of our first report are somewhat at odds with the now-familiar story of a fragmented and low-trust media environment in which political actors and their partisan supporters have retreated to their own media echo chambers, creating fertile ground for disinformation and foreign interference to take root. Instead, we

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<sup>1</sup> Tucker, J., Guess, A., Barberá, P., Vaccari, C., Siegel, A., Sanovich, S., & Nyhan, B. (2018). Social media, political polarization, and political disinformation: A review of the scientific literature. Available at [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3144139](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3144139)

found that Canadians are more likely to receive their political news from traditional mainstream media outlets. Furthermore, news media preferences are fairly homogeneous regardless of which party people support, with the CBC, CTV and Huffington Post appearing in the Top 5 print/online news sources for supporters of all three major parties. Alternative media sources that cover politics from an ideological perspective (e.g. The Rebel, Post-Millennial, Rabble) do not crack the Top 20 news sources in the survey. However, they enjoy more prominence on Twitter among users of the top Canadian political hashtags who share links to news sites, which is an indication that the conversation on Twitter does not necessarily reflect the perspectives of the Canadian population at large.

Canadians also remain relatively trusting of mainstream news outlets in comparison with other sources of information. On a scale of 0 to 10, with 10 being the highest level of trust, Canadians trust political information from mainstream news organizations (5.8) at similar levels as their friends and family (6.0). They are comparatively much less trusting of the information provided by the major political parties (4.8), and in what they read on social media (3.3 for all respondents, 4.2 for respondents who indicated they used social media for political news in the past week).

When it comes to political knowledge, despite being only modestly well-informed about the facts relating to key policy questions, Canadians are relatively confident that they know enough to cast an informed vote. Crucially, Canadians tend to be uninformed about key issues (indicating they don't know the answer to a given policy question) as opposed to misinformed (giving the wrong answer).

In fact, the overall level of misinformation appears to be quite low in the Canadian public. The one troubling point seems to be that, while social media exposure is associated with higher levels of misinformation, so is exposure to traditional or mainstream media (though to a lesser extent). In general, it appears that simply consuming news, regardless of source, makes people susceptible to being misinformed about the issues.

Survey respondents who read or watched more traditional news media were less likely to express uncertainty about policy questions than those with low consumption, but more likely to give an incorrect response. However, respondents with high levels of social media consumption were more likely to give incorrect responses than those with lower consumption. Strongly partisan respondents were particularly susceptible to giving more wrong answers as their media consumption increased, with the difference being more pronounced for social media consumption.

So what are the key election issues for Canadians? The environment is front and centre for the public, the media and political candidates, though somewhat less so for Conservative Party supporters, for whom economic considerations dominate. This marks a sea change from the times when the economy and health care were overwhelmingly cited as the key issues for Canadians across the political spectrum. Aside from the environment, the main topics of discussion among politicians and journalists on Twitter diverge from the topics identified as priorities by survey respondents. Candidates stressed infrastructure, foreign affairs and ethics (including topics related to the SNC Lavalin scandal, the public statements of former ambassadors on China,

and similar issues) more than the general public, and were less likely to tweet links to stories about healthcare and the economy. Journalists, meanwhile, focused more heavily on ethical issues and foreign affairs.

The report is based on the findings from two distinct sources of data. The first is a survey of 1,003 Canadians conducted in the last week of July, in which respondents were asked questions related to basic demographics, as well as their partisan, ideological and issue preferences. They were also asked to identify their recent exposure to the news media and to answer a series of fact-based policy questions to appraise their level of knowledge of basic political and policy issues and to what extent they may be misinformed on those topics.

The second source is data gathered from approximately one million tweets from June 3 to July 26 collected from the Twitter accounts of major party candidates; a set of approximately 300 political journalists; a range of politically relevant third parties; and a sampling of the general online population through their political hashtag use.

# METHODOLOGY

The Digital Democracy Project draws from two primary data sources. First, our survey data team conducted an online panel survey of 1,003 Canadian citizens 18 years and older using the Qualtrics survey platform. The sample was gathered from July 24 to July 31. Data was weighted within each region of Canada by gender and age to ensure it adequately represented the Canadian public. Survey respondents were asked questions related to basic demographics, as well as their partisan, ideological and issue preferences. They were also asked to identify their recent exposure to the news media and to answer a series of fact-based policy questions to appraise their knowledge of basic political and policy issues and to what extent they may be misinformed on those topics.

Second, data was gathered from approximately one million tweets collected from June 3 to July 26 using the Twitter Search and Streaming APIs. Data was collected from accounts belonging to four categories of Twitter users: major party candidates, plus two high-profile independent candidates (Jody Wilson-Raybould and Jane Philpott); approximately 300 political journalists; a range of politically relevant third parties; and members of the public who included Canadian political hashtags in their tweets (e.g. #cdnpoli, #polcan, #elxn43). Tweets from the latter category were collected from July 22-28. We also tracked the official Twitter accounts of news organizations that cover politics.

The third-party category is still very much in flux at this stage of the election, so we have excluded it from this report, but will revisit it once it is more firmly established. Future reports will also expand the scope and scale of Twitter search activities and extend beyond Twitter to include additional social media and digital news sources. The limitations of examining Twitter as a source for public opinion are well known: although it has become an important tool for journalists, politicians and policy-makers, it is less popular among the general public. According to the Canadian Internet Registration Authority's Internet Factbook for 2019, 23% of Canadians use Twitter, compared to 71% for Facebook and about 36% for Instagram. However, using public opinion polling in addition to Twitter analysis allows us to see how the conversation among Twitter users—including politicians and opinion leaders—aligns or diverges from the viewpoints of the more general public.

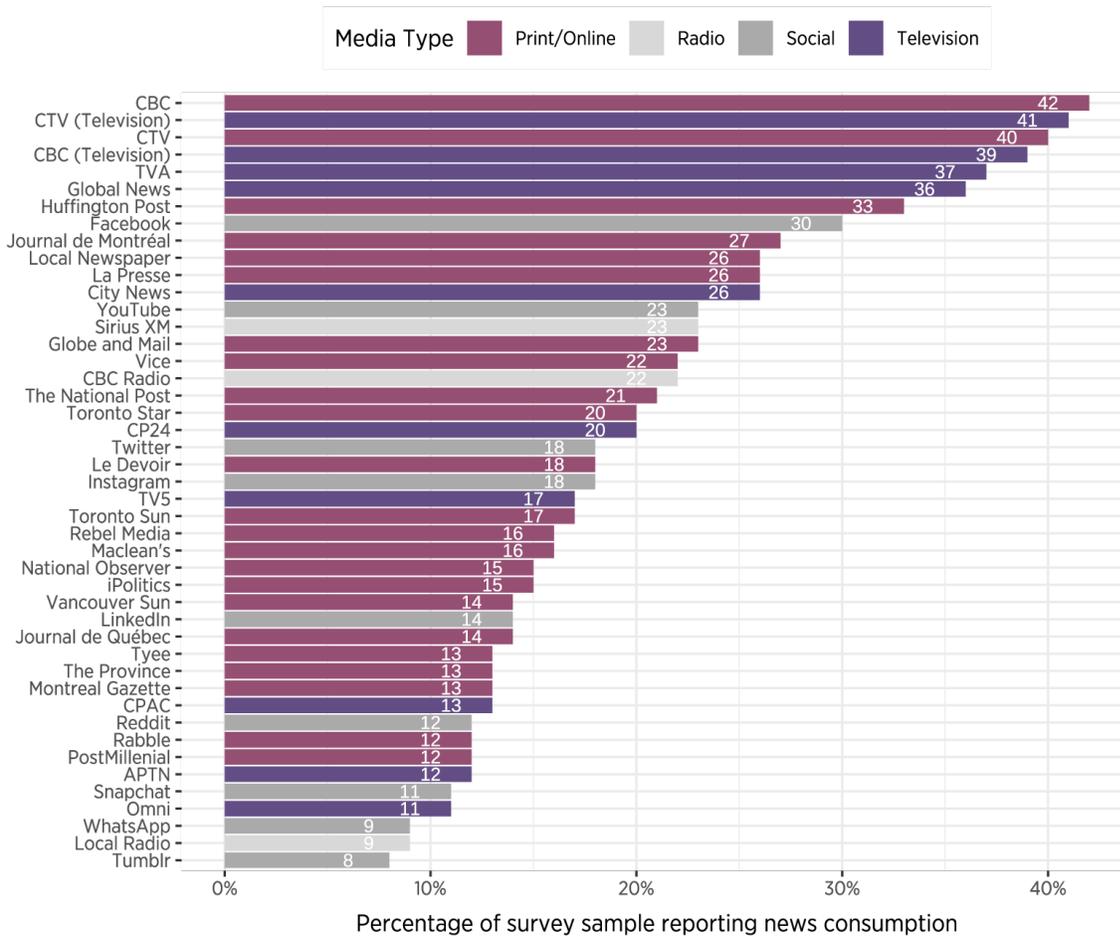
For additional detail on the methodology, see Appendix.

# FINDINGS: MEDIA CONSUMPTION

**Consumption of traditional print, television and online media remains high across partisan lines. Alternative media sources that cover politics from an overtly ideological perspective are more prevalent on Twitter than among the general public.**

We asked our survey respondents whether they had read, watched or listened to political news on a number of television, broadcast, print and online news outlets over the past week. Canadians broadly receive their political news from traditional, mainstream outlets, the top five being CBC online (42%), CTV (41%), CTV online (40%), CBC Television (39%) and TVA-Nouvelles (37%). Although many people are concerned about the rise of echo chambers, the general public does not readily consume political content from ideologically skewed alternative sources such as *Rebel Media* (16%), the *Post-Millennial* (12%) and *Rabble.ca* (12%). The full ranking of reported media consumption over the past week is shown below in Figure 1.

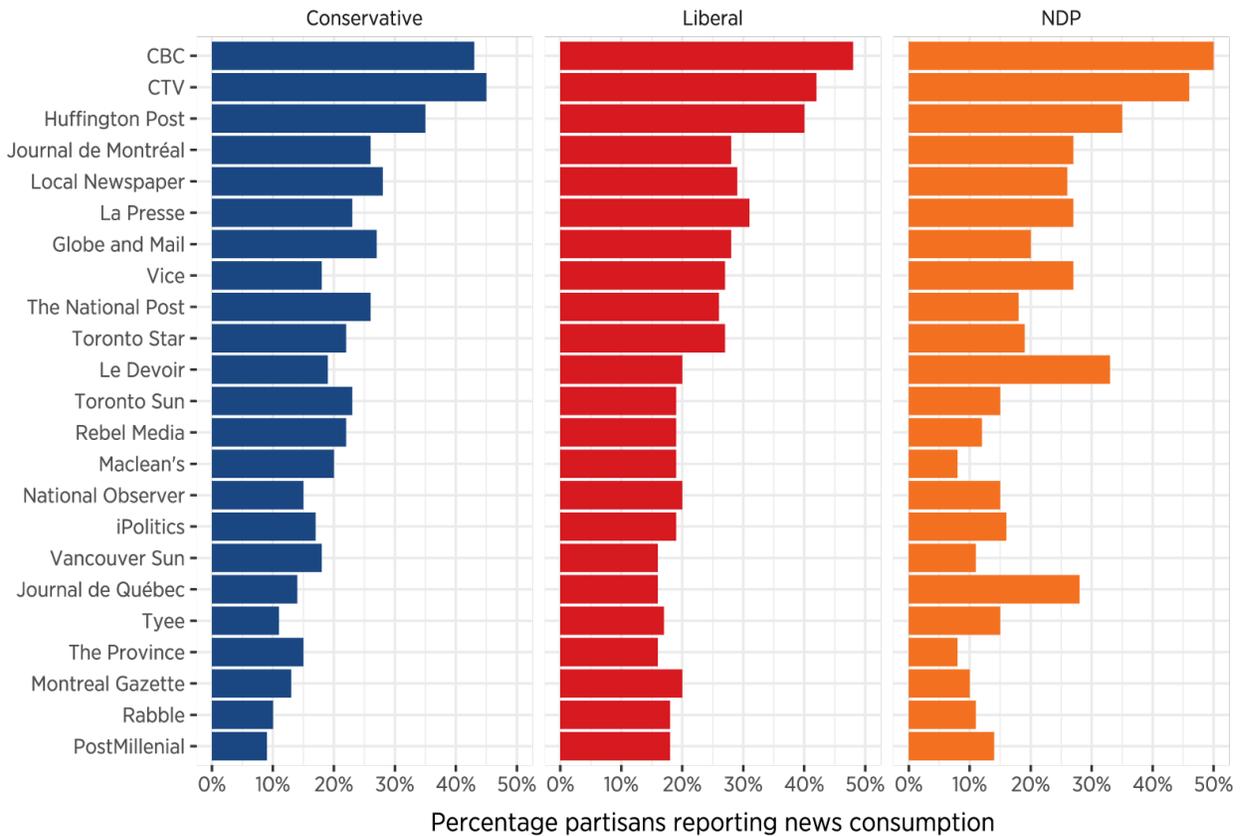
**FIGURE 1. REPORTED NEWS CONSUMPTION OVER THE PAST WEEK BY OUTLET**



Analysts have noted a growing tendency of media consumers to select news sources that support their political beliefs, generating so-called echo chambers. However, we do not see much of this phenomenon among

Canadians, especially compared to the media environment in the United States. Media preferences are relatively similar regardless of which party our respondents supported. The top five print/online news sources for Conservative supporters are CTV Online (45%), CBC Online (43%), Huffington Post (35%), the Globe and Mail (27%) and the Journal de Montreal (26%), while Liberals report highest levels of news consumption from CBC Online (48%), CTV Online (42%), the Huffington Post (40%), La Presse (31%) and the Globe and Mail (28%). Here and throughout this report, sample size considerations limit our ability to study opinions of supporters of the other smaller parties.

**FIGURE 2. REPORTED PRINT/ONLINE NEWS CONSUMPTION OVER THE PAST WEEK BY PARTISAN GROUP**

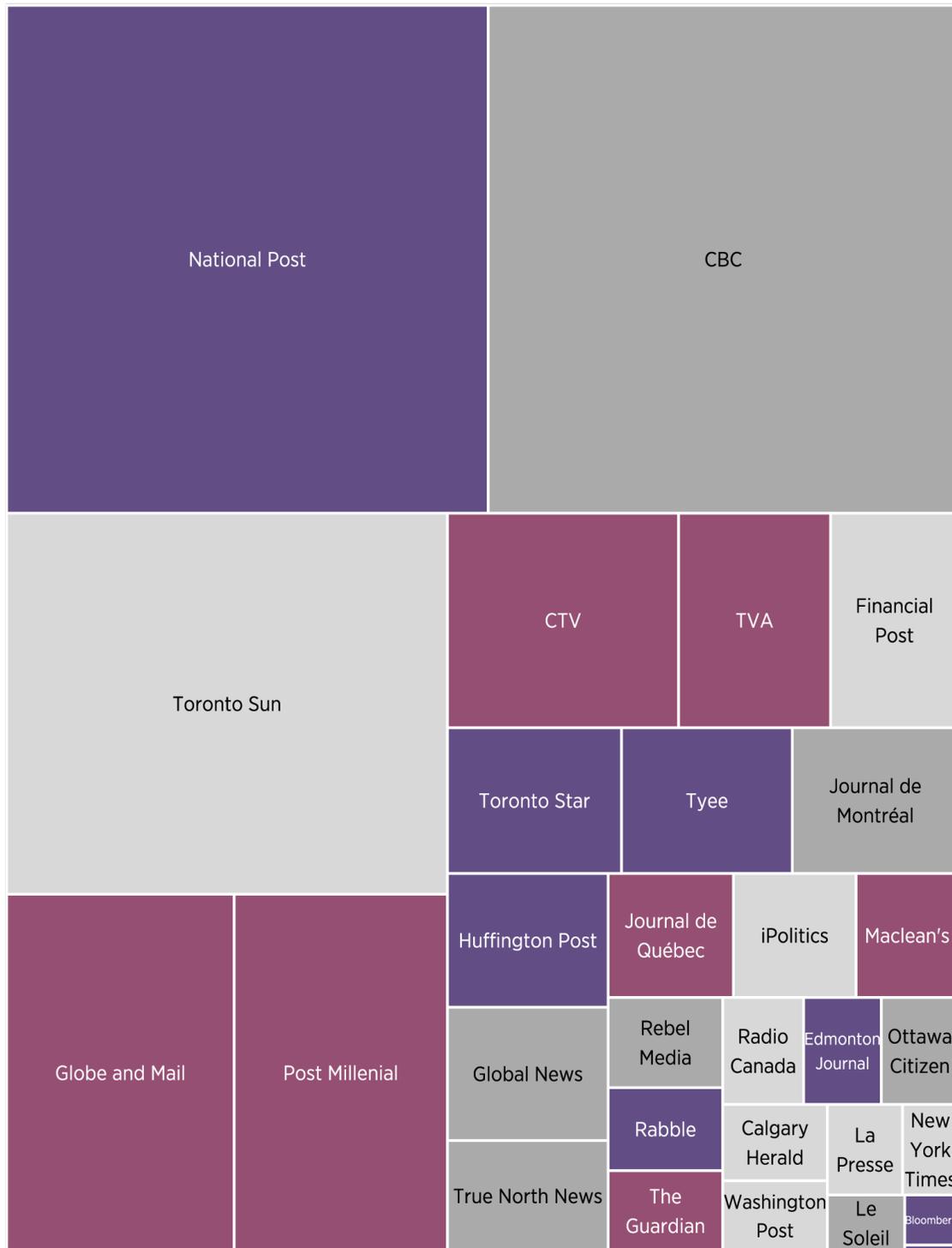


Right-wing alternative media sites such as Rebel Media (22%) and the Post-Millennial (9%) receive only modest readership among Conservative Party supporters, while the same is true of left-wing sites such as Rabble.ca (18% & 10%) among supporters of the Liberals and NDP, respectively.

However, the picture looks slightly different when looking at media sites that are most frequently shared by the general public on Twitter. For tweets using Canadian political hashtags that linked to media websites, the Post Millennial, Rabble, True North News and Rebel Media are all among the 20 most frequently shared websites despite not placing in the top 20 news sources in the survey data.

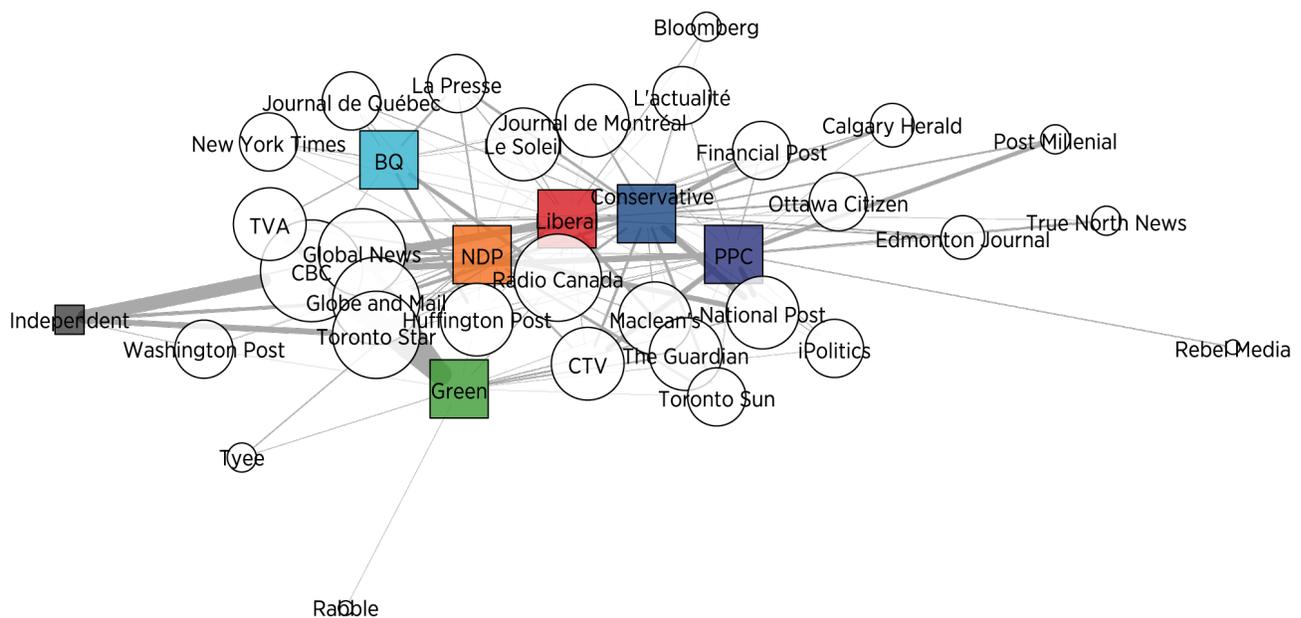
**FIGURE 3. PROPORTION OF MEDIA SOURCES CITED FROM SAMPLE OF SHARES ON TOP 10 CANADIAN POLITICS HASHTAGS**

Meanwhile, candidates for the major parties show differences in the news sites they share most frequently. The three largest parties generally share similar traditional news sources most often (e.g. CBC, Globe and Mail,



Global News), but their preferences diverge further down the list. The following directed network graph shows the relative frequency of linked news sites among the six main parties. Each media outlet is represented by a circle, the size of which reflects the frequency at which candidates link to the site. A large circle thus indicates multiple parties frequently sharing content from that outlet. The width of the lines that the parties to the outlets is based on how often candidates from that party share content from that outlet.

**FIGURE 4. LINK SHARES BY CANDIDATES OF MAJOR PARTIES TO SELECT MAJOR NEWS OUTLETS**



## TRUST

Over the course of the election campaign we will be measuring the confidence Canadians have in their knowledge of election-related issues, and the trust they have in different sources of political information. This will allow us to track growth or decline in confidence and trust as the election unfolds. We will be measuring these concepts on a scale of 0 to 10, where 10 indicates complete confidence or trust, and 0 signals a complete lack of confidence or trust.

Canadians remain relatively trusting of mainstream news outlets in comparison to other sources of political information. We asked Canadians to rate their level of trust in a number of different news organizations to provide objective and accurate information about the upcoming election. We also asked about their trust in the political information they receive from their friends and family, from political parties, and from Facebook and Twitter. Averaging across our news sources, Canadians trust mainstream news organizations (5.8) at similar levels as their friends and family (6.0). Canadians are comparatively much less trusting of the information

provided by the major political parties (4.8), and in what they read on social media (3.3 for all respondents, 4.2 for respondents who indicated they used social media for political news in the past week). Only 18% of respondents trust the information provided by political parties more than media sources on average.

Meanwhile, our respondents have only lukewarm confidence that the next election will be free of foreign interference (5.3), and that the federal government to identify and address such interference (5.5). Liberal supporters have more confidence the next election will be free of interference (6.1) and more trust in the federal government to deal with the potential problem (6.8), compared to Conservative (5.2 & 4.5) and NDP partisans (5.3 & 5.5).

# FINDINGS: MISINFORMATION

**Exposure to both mainstream media and, to a greater extent, social media is associated with higher levels of misinformation. One key point of vulnerability is the tendency of strong partisans to become misinformed with news exposure, especially via social media.**

Over the course of the election campaign, we will evaluate Canadians’ knowledge of public policy by asking our respondents certain questions with objective, verifiable answers. We make a distinction between Canadians who are *uninformed* about policy and those who are *misinformed*. They are uninformed if they indicate they don’t know the answer to a question; they are misinformed if they answer the question incorrectly.

For this survey, we asked our respondents to answer eight questions related to the environment, immigration and refugees, social spending, and the economy. The questions and answers are found in the table below. Overall, Canadians are typically uninformed about specific matters of policy rather than misinformed. On average, respondents indicated they did not know the answer to three of eight questions (38%) and answered incorrectly on only 1.5 questions (18%). Rather impressively, respondents got more than 4 out of 10 questions correct (42%).

**TABLE 1: KNOWLEDGE OF PUBLIC POLICY ISSUES**

Question	Answer	Correct	Incorrect	Unsure
Is Canada on track to meet its climate change commitments under the Paris Accord?	No	43.9	19.3	36.8
Were total carbon emissions in Canada in 2018 higher or lower than in 2015?	Lower	20.1	39.1	40.8
On average, does Canada admit more or less refugees as a percentage of population than the United States?	More	59.4	14.8	25.8
Is the number of all immigrants (including refugees) admitted to Canada in 2018 higher or lower than in 2015?	Higher	66	9.8	24.2
Does a Canadian family with two children earning \$50,000 receive more in monthly payments from the federal government in 2018 than in 2015, or less?	More	38.4	14.9	46.8
Was the federal deficit in 2018 greater than the federal deficit in 2015?	Greater	47	14.4	38.6
Was the unemployment rate lower in 2018 or in 2015?	2018	40.8	22.8	36.5
Was the rate of economic growth, as measured by GDP, greater in the period of 2015-2019 or 2011-2015?	11-15	18.2	30.7	51.2
<b>Average %</b>		<b>41.7</b>	<b>20.7</b>	<b>37.6</b>
<b>Average Items</b>		<b>3.3</b>	<b>1.7</b>	<b>3</b>

Having a well-informed electorate requires levels of correct information to be higher than levels of incorrect information—in other words, we want Canadians to have high net levels of correct information. This matters because political parties develop policy in line with the beliefs of the electorate. If these beliefs are systematically informed by incorrect information, bad public policy may result.

Our results above show that Canadians have a modestly high net level of correct information, with respondents providing 1.6 more correct than incorrect answers to our eight questions, on average.

More troubling is how media exposure relates to information and misinformation. Both traditional and social media exposure are associated with higher levels of misinformation.

We constructed a scale that measures respondents' consumption of political news from traditional media formats and from social media. We consider those respondents who scored in the top third of news consumption to be highly exposed to political news, while those in the bottom third have low exposure.

Respondents with high levels of traditional news media exposure reported uncertainty in the answer to our fact-based questions 2 fewer times than those with lower levels of media consumption. They gave 0.9 more correct responses; however, they also gave 1.1 more incorrect responses, which means they gave 0.2 more *net-incorrect* responses than those with lower exposure. As such, traditional news media exposure appears to be associated with both correct information *and* misinformation.

This story is even more troubling when we examine social media exposure. Respondents with high levels of social media exposure gave 0.5 more correct responses. However, they also gave 1.3 more incorrect responses than those with low levels of exposure. As a result, these respondents actually gave 0.8 more *net-incorrect* responses compared to those with low levels of social media exposure.

## MEDIA EXPOSURE VS POLITICAL CONFIDENCE

It is important to try to unpack what exactly is going on here. It is possible that news media exposure is correlated with more correct information and misinformation *only because people who are exposed to the news are also more interested in and knowledgeable about politics*. Politically interested and knowledgeable citizens could be expected to know more about specific policies and give more correct answers. But on the other hand, they might also be more motivated to reject evidence that contradicts their beliefs and give more incorrect responses as well. However, based on questions we asked about respondents' political interest and knowledge, this does not appear to be the case:

- We asked respondents to rate their interest in politics on a 0 to 10 scale. More politically interested respondents gave an additional 0.8 correct answers, and only 0.4 more incorrect answers. This means they gave an additional 0.4 net-correct answers than those who are less interested overall.

- We asked respondents a series of questions based on their general knowledge of politics (i.e. the unemployment rate, who placed second in seats in the 2015 election, and the relative ideological placement of the Liberal Party, the Conservative Party, and the NDP). Those who scored high on this scale reported a correct answer 1.3 more times than those with lower levels of knowledge. They also gave 0.1 fewer incorrect responses. High levels of general political knowledge are associated with an additional 1.4 net-correct responses.
- We asked respondents to rate their confidence that they knew enough to make a good decision in the upcoming election on a 0 to 10 scale where 0 means no confidence at all, and 10 signalled they had a great deal of confidence. Our more confident respondents gave slightly more incorrect responses (1.8 versus 1.5), but even more correct answers compared to less confident respondents (3.7 versus 3.2) such that they gave an additional 0.2 net-correct responses than their less confident counterparts.

The upshot here is that our finding that news media exposure is associated with correct information *and* misinformation is unlikely to have been driven by the higher levels of political interest, knowledge or confidence of news consumers.

**TABLE 2. RESPONSES TO FACT-BASED QUESTIONS BY MEDIA EXPOSURE, POLITICAL INTEREST, POLITICAL KNOWLEDGE, AND CONFIDENCE**

	# Correct	# Unsure	# Incorrect	Net Correct
Low Traditional Media Exposure	2.8	4	1.2	1.6
High Traditional Media Exposure	3.7	2	2.3	1.4
<b>Difference</b>	<b>0.9</b>	<b>-2</b>	<b>1.1</b>	<b>-0.2</b>
Low Social Media Exposure	3.3	3.2	1.5	1.8
High Social Media Exposure	3.8	1.4	2.8	1
<b>Difference</b>	<b>0.5</b>	<b>-1.8</b>	<b>1.3</b>	<b>-0.8</b>
Low interest in politics	2.8	3.8	1.4	1.4
High interest in politics	3.6	2.6	1.8	1.8
<b>Difference</b>	<b>0.8</b>	<b>-1.2</b>	<b>0.4</b>	<b>0.4</b>
Low knowledge	2.7	3.7	1.6	1.1
High knowledge	4	2.5	1.5	2.5
<b>Difference</b>	<b>1.3</b>	<b>-1.2</b>	<b>-0.1</b>	<b>1.4</b>
Low confidence	3.2	3.3	1.5	1.7
High confidence	3.7	2.6	1.8	1.9
<b>Difference</b>	<b>0.5</b>	<b>-0.7</b>	<b>0.3</b>	<b>0.2</b>

## SOCIAL MEDIA AND PARTISANSHIP

The news, especially via social media, may provide rhetoric from political elites at odds with established facts that highly partisan citizens latch onto to defend their beliefs and identities. Our respondents show some evidence of this process. Non- and weak-partisans with high levels of media exposure give 0.5 more incorrect responses than those with low exposure. This increases to 1.3 more incorrect responses among those who are strong partisans.

The same finding holds with social media exposure. Non- and weak-partisans with high levels of social media usage give 0.5 more incorrect responses than those who rarely use social media for the news. This number rises to 1.5 among strong partisans. In contrast, there is no evidence that partisans are more likely to be correctly informed by news exposure than non-partisans. News media provide fuel for polarization on fact-based questions.

**TABLE 3. NUMBER OF INCORRECT RESPONSES BY MEDIA EXPOSURE AND STRENGTH OF PARTISANSHIP**

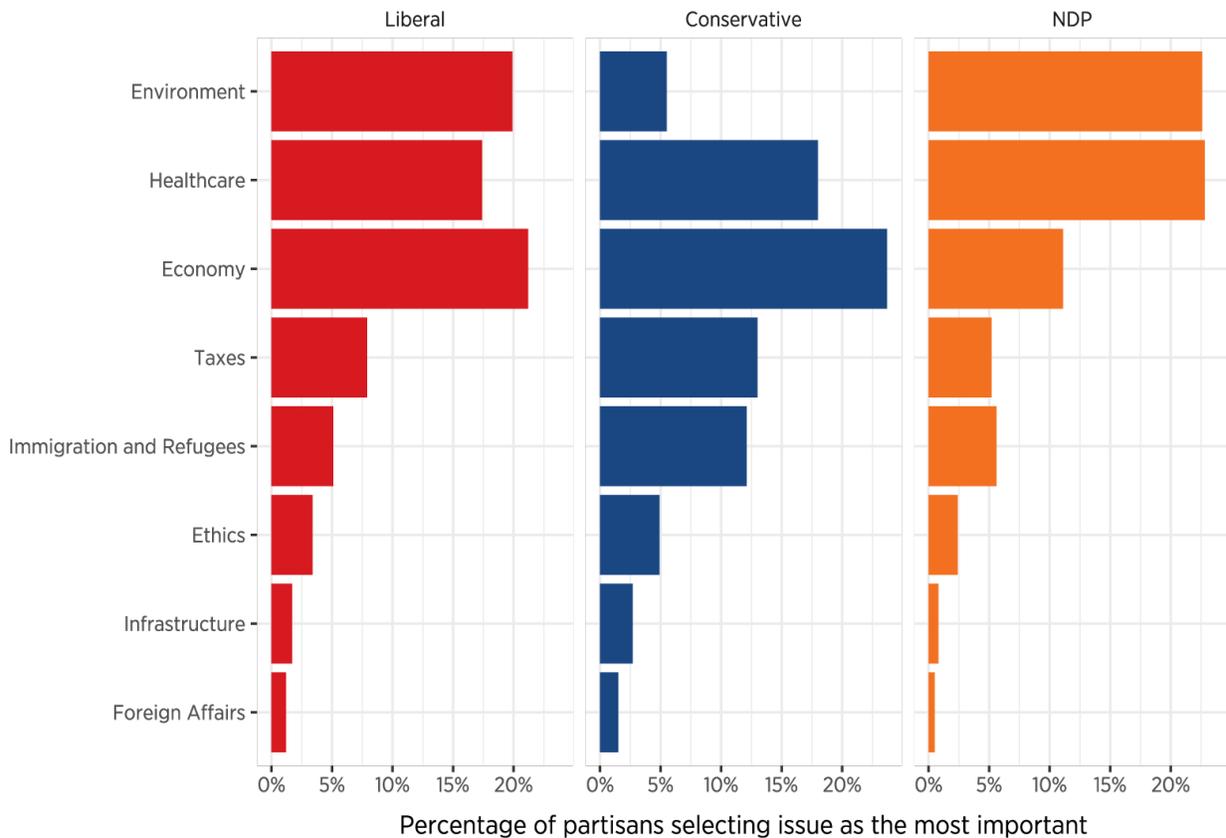
	Non/weak partisans	Fairly strong partisans	Strong partisans
Low Traditional Media Exposure	1.0	1.4	1.4
High Traditional Media Exposure	1.5	2.3	2.7
<b>Difference</b>	<b>0.5</b>	<b>0.9</b>	<b>1.3</b>
Low Social Media Exposure	1.1	1.7	1.6
High Social Media Exposure	1.6	2.8	3.1
<b>Difference</b>	<b>0.5</b>	<b>1.1</b>	<b>1.5</b>

# FINDINGS: TOP ISSUES

The environment has emerged as the top issue for Canadians this election, although markedly less so for Conservative Party supporters. The topic was also prominent among political candidates and journalists on Twitter. However, other issues that the public identified as important—such as healthcare and the economy—were less likely to be discussed by candidates and journalists.

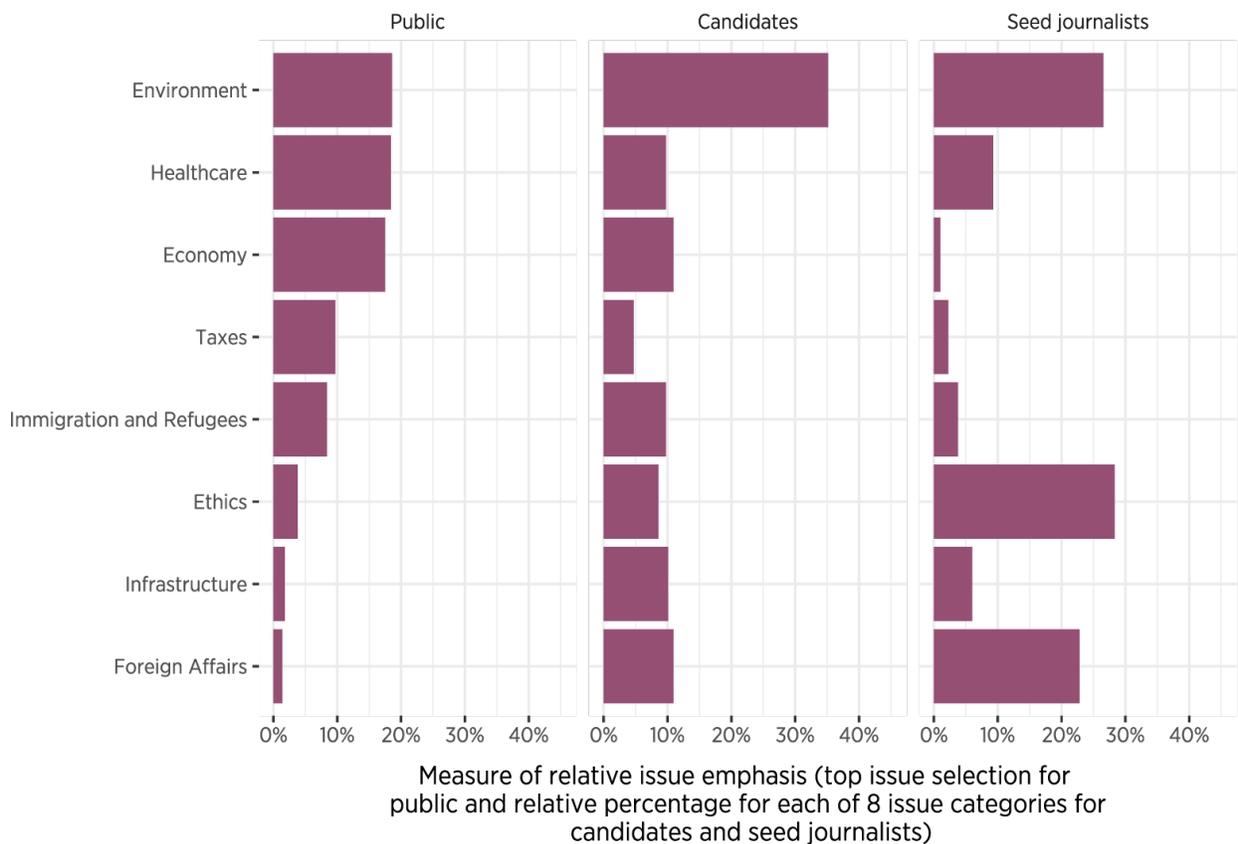
Our survey respondents were asked to select the most important issue to them in the upcoming election. They ranked the environment first (19%), just barely edging out health care and the economy (both 18%). Immigration (10%) and taxes (8%) trail further behind. There are differences in the rankings across the supporters of the three main parties. Conservative Party supporters are much less likely to rank the environment as their most important issue (6%) than Liberal Party (20%) and NDP supporters (26%). They are more likely to rank immigration (12%) and taxes (13%) highly, compared to Liberal (5%, 8%) and NDP supporters (6%, 5%).

**FIGURE 5. MOST IMPORTANT ISSUE BY PARTISAN SUPPORTERS IN THE GENERAL PUBLIC**



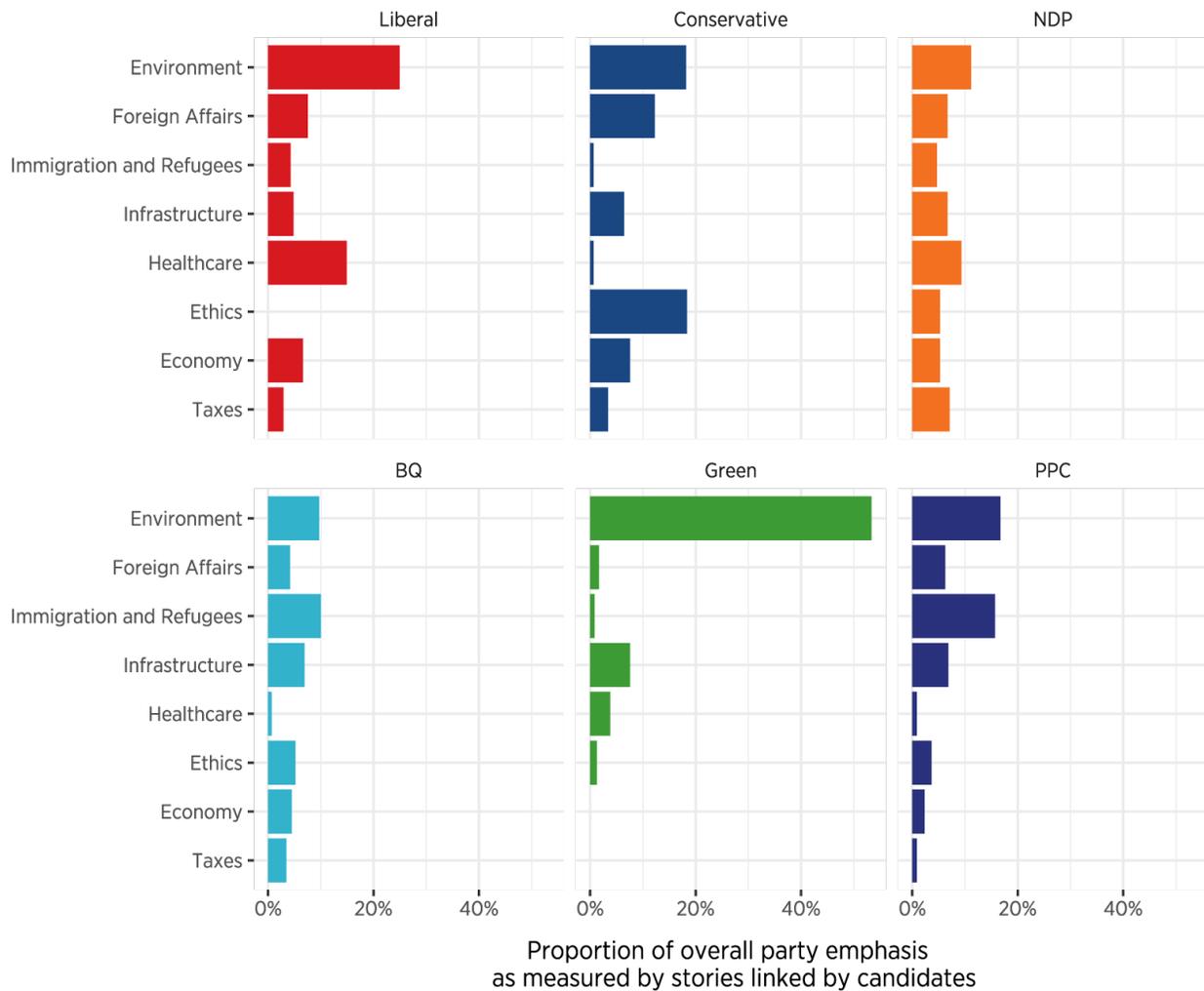
The public's perception of the most important issues in this election are not entirely reflected in the emphasis journalists and political candidates place on those issues in their conversations on Twitter. The chart below shows how frequently links pertaining to eight issues from the public survey were shared on Twitter by candidates and journalists. Candidates and journalists reflect the public's interest in the environment, but beyond that their topics of focus diverge. Candidates stressed infrastructure, foreign affairs and ethics (including topics related to the SNC Lavalin scandal, the public statements of former ambassadors to China, and similar issues) more than the general public, and were less likely to tweet about healthcare and the economy. Meanwhile the journalists examined here have focused more heavily on ethics and foreign affairs over the past two months.

**FIGURE 6. MOST IMPORTANT ISSUES IN THE GENERAL PUBLIC (LEFT); ISSUES EMPHASIZED BY CANDIDATES (CENTRE) AND JOURNALISTS (RIGHT) ON TWITTER**



We can further break down the candidate emphasis on Twitter by political party. Here there are interesting divergences, with the Conservatives more interested in stories about ethics and the Liberals sharing information about healthcare and focusing on the policy moves they have taken on the environment, such as a ban on single-use plastics and the climate emergency declared in early June. The NDP has been tackling the broadest range of issues, with special emphasis on their healthcare and climate plans.

**FIGURE 7. ISSUE EMPHASES BY CANDIDATES OF EACH POLITICAL PARTY**



## APPENDIX: METHODS DETAIL

Our survey data team conducted an online panel survey of 1,003 Canadian citizens 18 years and older using the Qualtrics survey platform. The sample was gathered from July 24-31. Data was weighted within each region of Canada by gender and age based on data from the 2016 Canadian census. We used an iterative proportional fitting algorithm for our weighting procedure with a minimum weight of 0.09 (N=16) and a maximum weight of 5.06 (N=3).

Survey respondents were asked questions related to basic demographics, as well as their partisan, ideological and issue preferences. They were also asked to identify their recent exposure to the news media and to answer a series of fact-based policy questions to appraise their knowledge of basic political and policy issues and to what extent they may be misinformed on those topics. The median time it took respondents to complete the survey was 19 minutes. The survey instrument is available upon request.

The results of our news exposure questions using the full sample generalize to the population with 95% confidence interval of +/- 2-3%. Confidence intervals are wider for French-language outlets and for partisan subsets. The findings from our questions measuring trust in information sources and confidence in elections can generalize to the population with a 95% confidence interval of +/-0.2. Confidence intervals are wider for partisan sub-sets. Results from our analysis of the relationship between information and news consumption can be generalized to the population with a 95% confidence interval of +/-0.1. Confidence intervals are wider for partisan strength sub-sets. Finally, our results related to respondents' most important problem can be generalized to the full population with a 95% confidence interval of +/-1-2%.

The online analyses were carried out using Twitter data gathered from a seed list of four sets of accounts representing distinct populations: candidates, political journalists, third parties, and the general online population. Third parties include registered third parties, academics who comment frequently on Canadian elections, premiers, advocacy groups, writers, and other influential personalities. In addition, official Twitter accounts of politics-oriented newspapers, journals, programs and blogs were assembled, but those were not treated as a distinct population and are gathered for tracking purposes online.

From this seed list, 381,821 tweets were collected between June 3 and July 28. This dataset includes all original tweets made by seed accounts as well as all retweets and replies that were made by these accounts.

The number of active candidates per party on Twitter is shown in the following table (with the cutoff for inclusion being July 30). This reflects the higher number of Members of Parliament for the Liberal and Conservative Parties; as the election approaches and riding nomination contests conclude we anticipate the number of candidates active on Twitter for the smaller parties to approach that of the major ones.

<b>Affiliation</b>	<b>Count</b>	<b>Relative Frequency (%)</b>
Liberal	208.0	34.15
Conservative	191.0	31.36
NDP	86.0	14.12
PPC	56.0	9.20
Green	44.0	7.22
BQ	22.0	3.61
Independent	2.0	0.33
Total	609.0	1.00

The journalist seed list consists of approximately 300 journalists drawn from across the political spectrum. We invite outlets to submit their journalists and handles for inclusion in subsequent reports. Additionally, we will be adding all journalists who engage with candidates or our seed list of third parties and other journalists or who reach a threshold of activity on Canadian politics hashtags—we anticipate that the set of journalists tracked for subsequent reports will grow rapidly.

In order to capture political discourse of the general online population, the Twitter Search API was used to obtain a sample of tweets between July 12 and July 28. All 703,491 tweets in this list contained one or multiple seed hashtags. The seed hashtags include main Canadian politics and Canadian election hashtags, all the hashtags for the main parties, and a subset of the partisan hashtags. We will add to this seed hashtag list by looking at co-occurrence of hashtags.

The issue emphasis on Twitter measures were constructed by gathering a subset of the top URLs overall and those shared by each of the six main parties. Each of these URLs was then classified as one of the following 16 issue areas listed below through manual coding. Other focus areas such as horserace reporting were discarded for this report.

- |                              |                         |                                 |
|------------------------------|-------------------------|---------------------------------|
| <b>Economy</b>               | <b>Infrastructure</b>   | <b>Immigration and refugees</b> |
| <b>Healthcare</b>            | <b>Transportation</b>   | <b>Taxes</b>                    |
| <b>Crime</b>                 | <b>Day care</b>         | <b>National security</b>        |
| <b>Environment</b>           | <b>Foreign affairs</b>  | <b>CBC</b>                      |
| <b>Schools and education</b> | <b>Ethics</b>           |                                 |
| <b>Homelessness</b>          | <b>Electoral reform</b> |                                 |

Retweets by a member of the seed list containing links were also considered as a share. Note that many links posted on Twitter use URL shortening and thus a URL expansion step was required.

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