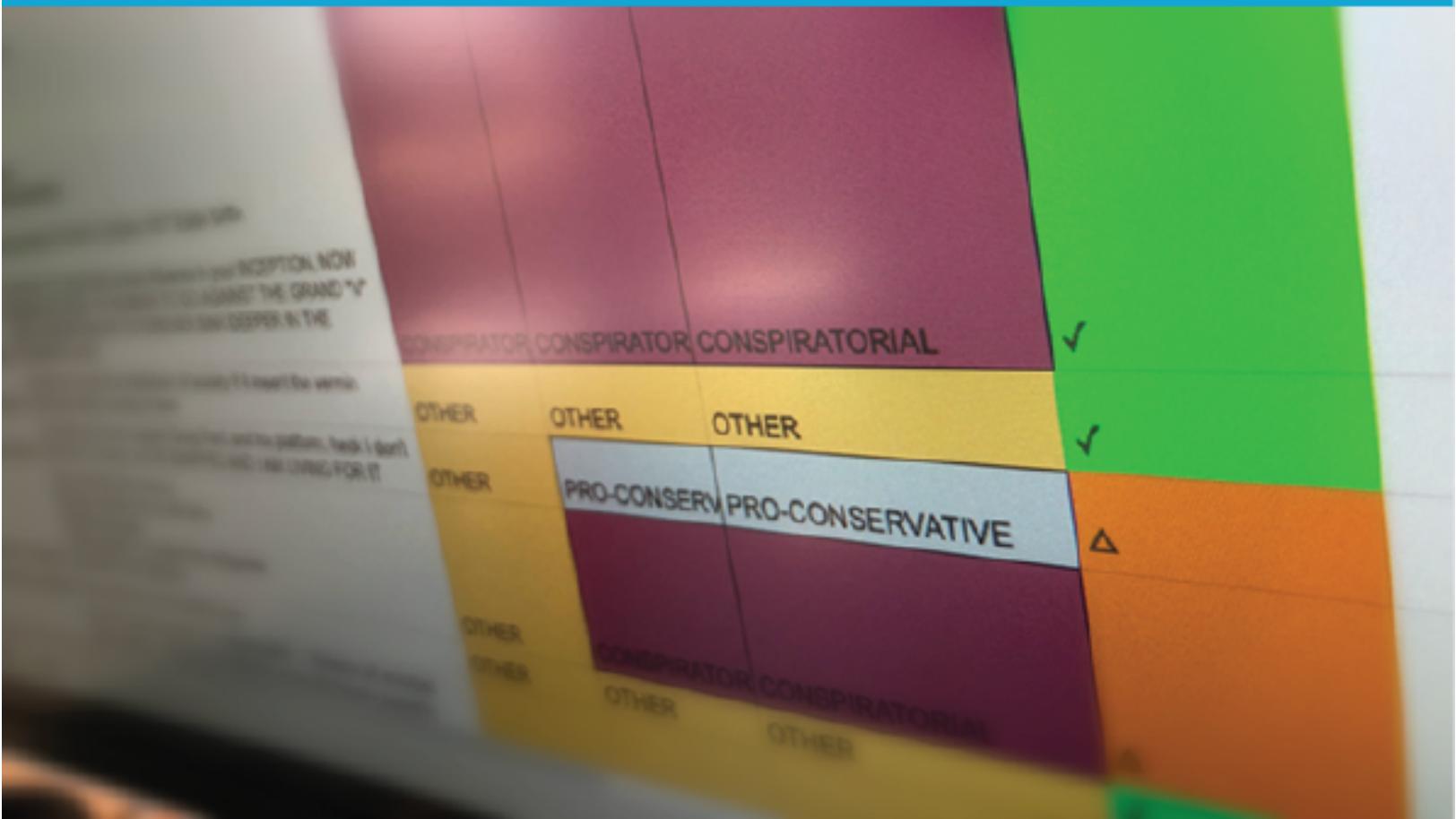


This is not a Virus, it's Tyranny

Conspiracy and Partisanship about COVID19 on
Canadian Youtube News Channels



“This is not a Virus, it’s Tyranny”: Conspiracy and Partisanship about COVID19 on Canadian YouTube News Channels

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Abstract

Les réseaux sociaux font l'objet d'un examen de plus en plus minutieux pour la diffusion de désinformation sur la COVID-19. La recherche montre que les citoyens qui sont mal informés sur la COVID-19 ou qui consomment des informations hautement partisans sur le virus sont moins susceptibles d'adopter des mesures préventives, comme le port du masque, et sont moins sujet à se faire vacciner contre le virus. Pour comprendre comment le public canadien accède aux informations et engage la discussion sur la COVID-19, nous examinons la structure des réseaux d'informations canadiens sur YouTube, réseau social le plus populaire au Canada. Nous examinons les différences entre les chaînes d'information locales, nationales, alternatives et «indésirables» sur la plate-forme pour explorer comment le public de ces chaînes discute de la COVID-19. Nous mesurons l'étendue à laquelle le complot et la partisanerie font partie du discours canadien sur le coronavirus sur YouTube. Nous constatons que la plupart des citoyens qui regardent les informations sur les chaînes YouTube canadiennes utilisent des cadres dits neutres et discutent du virus sans inclinaison conspiratrice ou partisane. Cependant, la distribution de commentaires neutres n'est pas la même sur l'ensemble de données, 77% des commentaires sur les chaînes d'informations indésirables ayant un caractère partisan. Malgré les premiers efforts de démystification des autorités sanitaires et des responsables gouvernementaux, de nombreuses conspirations sur l'origine du virus ont continué à imprégner les discussions sur la COVID-19 dans les commentaires des actualités locales et nationales sur YouTube.

Social media platforms have come under increasing scrutiny for spreading mis-and-disinformation about COVID-19. Research has shown that citizens who are misinformed about COVID-19, or who consume highly partisan news about the virus, are less likely to adopt preventative measures, like wearing a mask, and are less likely to get vaccinated against the virus. To understand how Canadian audiences find and discuss COVID-19 news on social media, we examine the structure of Canadian news and information networks on YouTube, the most popular social media platform used by Canadians. We examine the differences across local, national, alternative and “junk” news channels on the platform to explore how audiences watching these channels discuss COVID-19, measuring the extent to which conspiracy and partisanship are a part of Canadian discourse about the Coronavirus on YouTube. We

found that most citizens watching news on Canadian YouTube channels used *neutral* frames, discussing the virus without a conspiratorial or partisan tilt. However, the distribution of neutral comments was not even across the dataset, with 77% of comments on junk news channels representing partisan commentary about the virus. Despite early debunking efforts by health authorities and government officials, many conspiracies about the origin of the virus continued to permeate discussion about COVID-19 in local and national news comments on YouTube.

Executive Summary

Social media platforms have come under increasing scrutiny for spreading misinformation about politics and science. The global Coronavirus (COVID19) pandemic has drawn significant attention to the ways in which scientific misinformation, spread online, can undermine public health and safety. Conspiracy theories about the origin and severity of COVID19, alongside misinformation about potential cures or vaccine safety, have not only decreased trust in public health authorities, but hindered the ability for governments to roll out effective policy responses. Partisan news coverage of the virus has also impacted public knowledge and willingness to adopt preventative measures that would limit the virus' spread. As most citizens access news and information about COVID19 online, a healthy information ecosystem is a necessary prerequisite to a healthy society.

Concerns around conspiracy and partisanship surrounding the global Coronavirus pandemic are relevant for Canada and Canadian public health. During the first few months of the pandemic, 96% of Canadians who used the Internet to find information about COVID-19 reported finding false, misleading, or inaccurate information about the virus (Garneau and Zossou 2021). Of the Canadians exposed to Coronavirus mis-and-disinformation, 40% reported initially believing that the information they saw was true, only later realizing it was not (Garneau and Zossou 2021). How Canadians voted has also been strongly associated with how they view the pandemic and government responses to it. Survey data has found that there are higher levels of distrust among Canadian Conservative voters, with almost half Conservative voters believing that the current federal government is withholding information about vaccines, compared to 15% of Liberals (Grenier 2020). Conservative voters are also less likely to get vaccinated (27%) compared to their Liberal (43%) and New Democrat (39%) counterparts (Grenier 2020).

Media informs the discussion and interactions inside the public sphere that eventually formulate public opinion. In Canada, social media platforms play an increasingly important role for news and information discovery. However, it is also the place where misinformation about global Coronavirus pandemic can thrive. Examining how content on social media spreads, and how audiences interact with this information, can help policymakers develop effective public policy not only for Canadian public health, but policies that also help strengthen the digital public sphere and the channels through which citizens increasingly find news and interact with political information.

In this report, we examine the structure of Canadian news and information networks on YouTube, the most popular social media platform used by Canadians. We examine the differences across local, national, alternative and “junk” news channels on the platform to evaluate whether certain kinds of news content or channels produce more engagement or interactions than others. We also explore how audiences watching these channels discuss COVID19. In particular, we measure the extent to which conspiracy and partisanship are a part of Canadian discourse about the Coronavirus on YouTube. We look across different segments of the Canadian media on YouTube to analyze whether certain audiences are more likely to discuss Coronavirus conspiracies or adopt partisan frames. We found:

- ❖ Despite concerns over the proliferation of mis-and-disinformation about the coronavirus on social media, most citizens discussing the pandemic on Canadian YouTube news channels engaged in neutral information sharing practices, discussing COVID-19 without a clear ideological or conspiratorial tilt.
- ❖ Although neutral comments made up most of the comments, the distribution of neutral comments was not even across the Canadian news ecosystem on YouTube. Compared to local, national, or alternative news outlets, junk news channels maintained the lowest number of neutral comments, and the highest number of partisan comments (77%) proportional to their audiences.
- ❖ The most discussed conspiracies by audiences watching news about COVID19 on YouTube were related to the virus being a Chinese bioweapon, blaming China for intentionally spreading the virus, and accusing marginalized groups (e.g., immigrants, Muslims, and refugees) for further spreading the virus. Despite debunking efforts by health authorities and government officials, many conspiracies about the origin of the virus continued to permeate discussion about COVID-19 in local and national news comments on YouTube.

Our findings suggest that junk news content can provoke more engagement than local and national news channels on YouTube in Canada. Despite producing a relatively small amount of content, junk news also can draw a large number of partisan comments from its audience. Thus, Canadian junk news channels can be considered a source of social division, and in the context of the pandemic, they can also be a source of danger to public health.

Recommendations

The impact of Coronavirus mis-and-disinformation is a concern, not only for Canadian public health, but also for social cohesion and the health of Canada's digital public sphere. While many comments were neutral, a strong anti-liberal narrative dominated the Coronavirus discussion on YouTube, particularly on junk news channels. Conspiracies and anti-immigration rhetoric also permeated all forms of news channels. These comments employed narratives that accused China of spreading the virus, blamed marginalized groups in Canada for further spreading the virus and weakening the economy, and undermined trust in the Canadian government's COVID19 responses. Based on our research, we make the following recommendations for Canadian regulators to consider when addressing concerns about the ongoing infodemic, as well as concerns about mis-and-disinformation in Canada more broadly.

- ❖ Regulators should require platforms to provide news channels with better and more sophisticated content moderation tools. Since many conspiratorial comments containing disinformation were spread through comments on the channels of alternative, local and national news sources, these outlets could play a greater role in moderating content on YouTube similar to the way they moderate comments on their news webpages. Moderation tools could involve:
 - Allowing news channels to create and publish and enforce their own community guidelines for publishing comments on platforms.
 - Providing news channels with the opportunity to review user comments before they are posted; and
 - Giving news channels more power to demote, downgrade, and block comments or users that publish disinformation.

- ❖ While media literacy initiatives have made great progress in keeping Canadians informed about public health measures, more work can be done to limit the spread of mis-and-disinformation about the virus (and vaccine safety as it begins its rollout). In particular, media literacy initiatives should consider:
 - Training strategies that counter social divisiveness, not just disinformation. Many of the comments across our dataset demonstrated that COVID-19 and responses to it have become political, and the politicization of the virus has led to different levels of responses among citizens.
 - Community-specific initiatives that reach vulnerable or fringe populations. Because partisan comments were prevalent among high-partisan junk news sources, audiences who consume this information will need different literacy interventions. Identifying relevant local communities and influencers to reach minorities or fringe communities will be an important part of the literacy project.

Introduction

In May 2020, a poorly made documentary-style video called *Plandemic* went viral on YouTube. The video made a series of conspiratorial claims about the novel Coronavirus, alleging, for example, that 5G networks were spreading the virus (Newton 2020). More than seven million people watched *Plandemic* before it was taken down by YouTube. However, months after the takedown, many of the conspiratorial ideas in the video continue to spread online. The deluge of disinformation surrounding 5G and the Coronavirus has also had real world implications, with mass-arson attacks against cell towers taking place around the world (Osborne 2020). In Canada, police in Quebec have also been investigating links between attacks on cell towers and 5G conspiracy theorists when a couple set multiple fires at various cell phone towers in Montreal over the course of the pandemic (Bellemare, Ho, and Nicholson 2020). Although the true impact of *Plandemic* is hard to measure, disinformation and conspiracy theories about COVID-19 can amplify fear, sow public confusion, and exacerbate social divisions, hampering the ability of governments and health organizations to effectively respond.

Since the beginning of the pandemic, Canadians have relied on information circulated online and on social media to stay informed about COVID-19. But accurate information about the virus was also accompanied by an infodemic, where large amounts of mis-and-disinformation about Coronavirus have been spreading online. During the first few months of the pandemic, 96% of Canadians who used the Internet to find information about COVID-19 reported finding false, misleading or inaccurate information about the virus (Garneau and Zossou 2021). Of the Canadians exposed to Coronavirus mis-and-disinformation, 40% reported initially believing that the information they saw to be true, only later realizing it was not (Garneau and Zossou 2021).

The COVID-19 pandemic has led to increasing uncertainty for people around the world and exacerbated many of the fracture lines already emergent across society. Around the world, governments and policymakers adopted a wide range of responses to the pandemic, to varying degrees of success. While some implemented early lockdown restrictions, debt relief packages, and mandatory mask provisions, other political leaders trivialized COVID-19, adopting rhetoric that downplayed the severity of the virus and neglected to employ public health strategies to limit its spread. The different levels of governmental responses to COVID-19 created an opportunity for both homegrown and state-backed disinformation campaigns (Molner and DiResta 2020).

The uncertainty of the origins and evolution of this virus made it a rich subject for political polarization and misinformation. Research about coronavirus conspiracy theories has shown that certain audiences, particularly right-leaning ones, are more likely to share and believe pandemic-related misinformation (Havey 2020). Similarly, there are partisan differences in the adoption of preventative measures, such as physical distancing, with individuals who watch the conservative American media channel Fox News, less likely to adopt physical distancing (Gollwitzer et al. 2020). At the same time, misinformation about the virus continues to persist despite debunking, particularly around the safety of the vaccine, which is concerning given that exposure to misinformation about vaccine safety reduces

people's willingness to get one (Loomba et al. 2021). Understanding how partisanship and misinformation influence Canadian audiences' perceptions of the virus then has immediate consequences for Canada public health, especially as vaccine rollout takes place across Canada.

In this report, we examine the structure of Canadian news and information networks on YouTube, the most popular social media platform used by Canadians. We examine the differences across local, national, alternative and junk news channels on the platform to evaluate whether certain kinds of news content or channels produce more engagement or interactions than others. We also explore how audiences watching these channels discuss COVID19. In particular, we measure the extent to which conspiracy and partisanship are a part of Canadian discourse about the Coronavirus. We look across different segments of the Canadian media on YouTube to analyze whether certain audiences are more likely to discuss Coronavirus conspiracies or adopt partisan frames.

The Online Public Sphere in the Coronavirus Era

A vibrant democracy depends on a free, accessible, and autonomous public sphere. Media informs the discussion and interactions inside the public sphere that eventually formulate public opinion (Habermas, Lennox & Lennox, 1974). Advancements in information and communication technologies have led to what is commonly referred to as the “new”, “online”, or “digital” public sphere, where people interact and exchange ideas. Although this new sphere has empowered various voices across the world by enabling a horizontal flow of information (Castells 2007; Diamond 2010), malicious actors have simultaneously poisoned, co-opted, and dominated these digital spaces (Bradshaw and Howard 2017, 2018, 2019; Deibert 2019; MacKinnon 2012).

Both homegrown and foreign disinformation have increasingly become a ubiquitous part of the digital public sphere. Governments have raised many concerns on the impact of misinformation on polarizing their citizens and skewing the public opinion (Bradshaw, Neudert, and Howard 2018). Despite platforms taking measures to encourage their users to lead healthy discussions online, evidence has shown that the online sphere remains polluted with polarizing and misleading content (Knuutila et al., 2020; Dias, Pennycook, & Rand, 2020; Baker, Wade, & Walsh, 2020). The COVID19 pandemic has highlighted the fractures within the global information ecosystem, as mis-and-disinformation about the virus has led to what the World Health Organization has called an “infodemic” (World Health Organization 2020).

The spread of COVID19 mis-and-disinformation comes from a variety of domestic and foreign sources. In the early days of the pandemic, state-backed media outlets from authoritarian regimes spread conspiracies about the virus in order to undermine health authorities in democratic countries and downplay Chinese delays in responding to the initial outbreak (Bright et al. 2020; Molner and DiResta 2020). Right-wing media ecosystems also perpetuated many misinformation narratives about the severity of the virus, suggesting that government actors and scientific organizations have overstated the severity of it (Motta, Stecula, and Farhart 2020). The deluge of mis-and-disinformation about the

virus, how it spreads, and how safe and effective vaccines and other preventative measures has made it increasingly difficult for the public to navigate the online information system.

Research about coronavirus disinformation and conspiracy have different effects across audiences. For example, some studies have found that right-leaning audiences are more likely to share and believe pandemic-related misinformation compared to their left-leaning counterparts (Havey 2020). Similarly, there are partisan differences in the adoption of preventative measures, such as physical distancing or wearing a mask, with individuals who watch the conservative American media channels less likely to adopt preventative measures (Gollwitzer et al. 2020). There are also gender differences in the adoption and promotion of COVID19 conspiracy theories, with women being significantly less likely than men to endorse COVID19 conspiracy theories, regardless of political identity or affiliation (Cassese, Farhart, and Miller 2020). The adoption and spread of COVID19 conspiracies are culturally specific: in countries throughout the MENA region, for example, religion and culture play an important role in the spread of disinformation about COVID19, with religious misinformation contributing to the infodemic in some countries (Alimardani and Elswah 2020).

Canada has not been immune to the mis- and disinformation spread about COVID19 online, with many Canadians coming across COVID19 mis- and disinformation on social media (Garneau and Zoussou, 2021). While many Canadians have reported initially believing much of the mis- and disinformation about COVID19 and then later changing their opinions, in other instances, conspiratorial narratives about the virus have led to real world attacks on cell towers (Bellemare, Ho and Nicholson, 2020). How Canadians voted has also been strongly associated with how they view the pandemic and government responses to it. For example, there are higher levels of distrust among Canadian Conservative voters, with almost half Conservative voters believing that the current federal government is withholding information about vaccines, compared to 15% of their Liberal counterparts (Grenier, 2020). Conservative voters are also less likely to get vaccinated (27%) compared to their Liberal (43%) and New Democrat (39%) counterparts (Grenier, 2020).

In summary, research on mis- and disinformation on social media about COVID-19 has demonstrated that: (1) conspiracy theories about the origin and spread of the virus continue to permeate online public discussions; (2) media outlets cover the coronavirus differently, with right-wing or junk news websites tending to adopt politicized frames to spread partisan and viral content about COVID-19; and (3) hyper-partisanship is a strong indicator of beliefs in conspiratorial content, as well as the adoption of public health measures to reduce the impact of the virus on society more broadly.

To understand the extent to which conspiracy and partisanship shape Canadian conversations on social media, we examine how Canadian users on YouTube discuss coronavirus news. We ask:

RQ1: How do Canadian news and information channels on YouTube generate engagement?

RQ2: What are the key narratives Canadians discussed surrounding the COVID-19 pandemic on YouTube?

Methodology

Sampling and Data Collection

In this paper, we measure the extent to which conspiratorial information and partisan narratives are a part of Canadian discourse about the Coronavirus on YouTube. We do this by examining users' interactions and engagement with English-language Canadian national, local, alternative, and junk news sources on YouTube over the course of nine months (December 2019-September 2020). In total, we examine 18 news sources: 7 local news outlets, 6 national news outlets, 3 alternative news outlets, and 2 junk news outlets. Local news outlets covered news organizations operating in large Canadian cities (i.e., City News Toronto, Calgary Herald, or the Vancouver Sun). National news outlets covered issues at the federal level (CBC News or CTV news). Alternative news sources are new digital sources of news and include outlets such as BuzzFeed or Huffington Post Canada. In line with other scholarly work on the concept of "junk news" (Bradshaw et al. 2019), we define junk news channels as news sources that meet three out of five criteria: (1) lack of professionalism, where sources do not adhere to journalistic standards of practice; (2) style, where inflammatory language or ad hominem attacks are used in communication; (3) credibility, where sources report on insubstantial claims, rely on conspiratorial or dubious sources, and do not post correction; (4) bias, where reporting is highly biased and ideologically skewed to present opinion as fact; and (5) counterfeit, where sources mimic established news sources. Junk news sources include True North and the Post Millennial (See Table 1 for the full list of the channels and their categorization).

Channels were selected based on their subscriber count, with news channels that have more than 3,000 subscribers analyzed. Although we were able to identify a large number of mainstream news channels, it was more challenging to identify Canadian-focused "junk news" channels on YouTube. One reason for the low number of junk news channels could be that Canadians who consume hyper partisan content could rely on global or American sources, rather than nationally focused news. In order to ensure we were capturing Canadian audiences, we focused on junk news channels that were based in Canada and discussed Canadian politics. For this paper, we also only focused on English-language channels since our authors predominantly speak English.

After identifying the 18 YouTube channels, we used YouTube's public API to collect data about the videos the channels uploaded from December 2019 to September 2020. We focused on videos uploaded between 1 December 2019 and 08 September 2020 to capture content being produced over the first ten months of the pandemic, covering the period in which the world discovered the existence of a novel coronavirus, and struggled to cope with its first waves. This period presents a unique opportunity for researchers because the data was collected in real time as the early stages of the pandemic unfolded, with the inevitable uncertainties as to origins and treatments of the disease, while there was still no vaccine available.

We collected the following metadata relating to the videos from YouTube: video name, video id, video tags, video views, video likes, video dislikes, number of comments. In total 12,818 videos were

uploaded by the 18 channels in our sample during the study’s timeframe. Because mainstream and junk news sources in Canada cover a variety of newsworthy topics, we narrowed our focus on videos about COVID19 by filtering by video “tags”. Tags are metadata about videos added by channel administrators to help users find content via the YouTube search function. Videos that contained coronavirus tags (such as “coronavirus”, “covid19” “SARS”, “pandemic”, and “quarantine”) were selected and all non-Covid-19 videos were discarded. In total, 4,751 videos were identified as being relevant to the topic of study. The full list of tags used to build the coronavirus video sample can be found in Appendix 2.

In order to evaluate how users discussed the Covid-19 across mainstream and junk news sources, and look for evidence of conspiracy or partisanship, we pulled out data about the comments and replies, including author, comment, time, and date, comment likes, comment dislikes, and comment replies. Author names were anonymized using a unique identifier in order to evaluate trends in commenting behavior across the dataset while protecting the privacy of individuals posting on YouTube. During the ten months of the data collection, 809,626 unique comments were collected from 252,123 unique authors. In our dataset, there were 463,397 comments and 346, 229 replies.

Table 1: Summary Statistics

Channel	Total Videos	Total Videos (COVID)	Total Views (COVID)	Total Likes (COVID)	Total Dislikes (COVID)	Total Comments (COVID)
Alternative News						
Daily Hive	19	3	12,999	34	27	70
National Observer	18	1	280,066	5,451	350	1,587
Buzzfeed Canada	309	12	9,934,216	265,854	10,283	27,992
HuffPost Canada	100	34	758,600	10,689	NA*	3,393
TOTAL(alternative)	446	50	10,985,881	282,028	10,660	33,042
Junk News Channels						
The Post Millennial	43	2	8,129	60	14	36
True North	335	81	446,504	43,757	688	18,239
TOTAL (JUNK)	378	83	454,633	43,817	702	18,275
Local News Channels						
Calgary Herald	302	82	3,863,930	1,603	412	890
CityNews Toronto	3562	1342	20,980,250	140,199	56,245	152,695
Edmonton Journal	486	64	3,484,936	2,287	1,165	953

Ottawa Citizen	462	107	3,000,713	1,935	1,516	1,941
Toronto Star	306	16	65,919	386	784	996
Toronto Sun	577	180	7,521,632	27,284	4,045	15,548
Vancouver Sun	766	41	1,105,927	637	201	426
TOTAL (LOCAL)	6461	1,832	40,023,307	174,331	64,368	173,449
National News Channels						
CBC News	205	11	15,788	316	79	62
CTV News	1108	429	13,962,243	108,057	56,245	152,695
Global News	4003	2295	203,200,574	1,094,655	337,795	710,794
National Post	160	65	9,948,170	6,334	3,081	3,744
Globe and Mail	57	1	983,799	10,230	983	10
TOTAL (NATIONAL)	5533	2,801	228,110,574	1,219,592	398,183	867,305
TOTAL (DATASET)	12818	4,766	279,574,395	1,719,768	473,913	1,092,071

Source: Authors (2021). Data collected from the YouTube API. *Data not available.

Qualitative Content Analysis

In order to analyze the data we collected about how people discussed COVID-19 on YouTube, we complemented our computational methods with a qualitative content analysis examining user-generated comments. Posting comments on social media platforms is considered a highly engaging act compared to less engaging acts such as; watching, reading or liking content (Muntinga, Moorman, and Smit 2011). Thus, analyzing comments can help us understand the points of views of users and how different communities may be absorbing or interpreting the narratives and ideologies that the publishers of the videos were trying to promote.

We evaluated users' perceptions using qualitative content analysis on a random sample of 6,104 comments (approximately 10% of all of the comments on COVID-19 videos). Using a grounded-theory approach (Charmaz 2006), we iteratively developed a typology by manually reviewing 500 comments and writing down themes. We sorted these themes into ten categories that frame users' political attitudes and perceptions of COVID19 (See the Appendix section for more details on the typology). These categories examine whether a comment was supportive, neutral, or critical of the Conservative Party, the Liberal Party, the government's imposed COVID19 restrictions and measures. Other categories

focused on examining the extent to which the comment is conspiratorial, anti-immigration, or neutral. We then applied focus coding (Charmaz 2006) to the rest of the dataset. The content analysis was conducted by three English-speaking coders. Reliability scores showed that there was a substantial agreement among the coders in terms of how to categorize tweets relative to our discourse types (Krippendorff's $\alpha = .77$). All disagreements were reviewed and collectively resolved. A full breakdown of the comment typology can be found in Appendix 3.

Analysis & Discussion

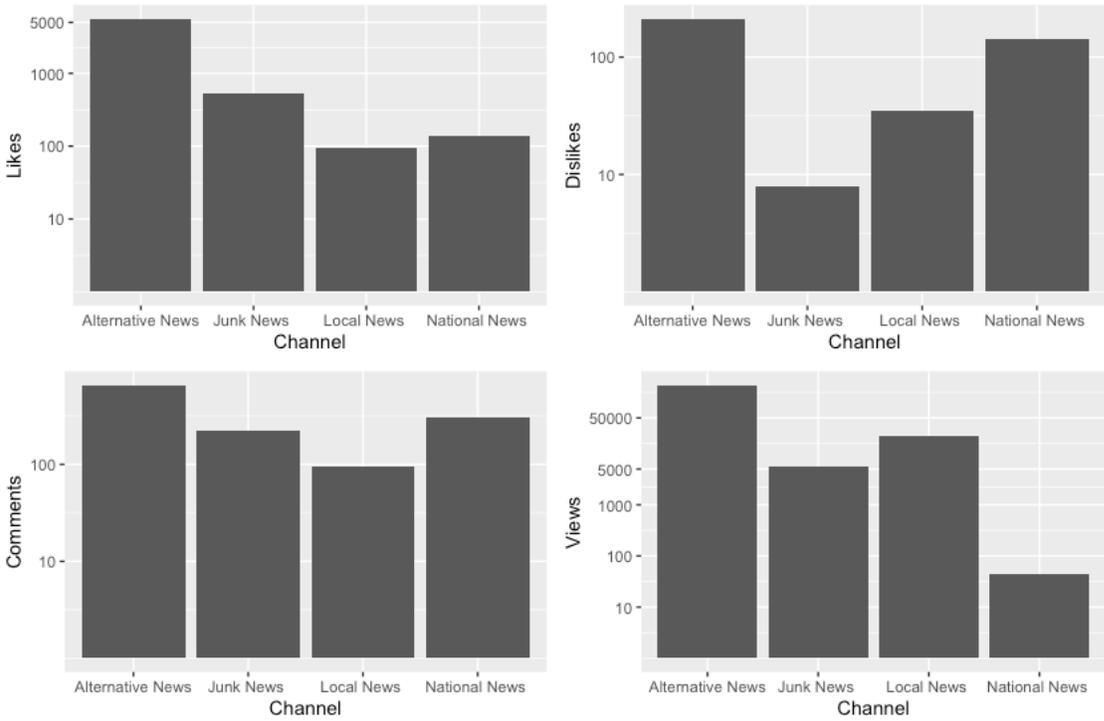
How do Canadian News and Information channels on YouTube generate engagement?

First, we wanted to understand how Canadian news and information channels on YouTube generated engagement around COVID19. Were local, national, alternative, or junk news channels better at generating likes, shares, or comments? By looking at engagement, we can gain insight into how Canadians find, share, discuss, and interact with COVID19 news content on YouTube.

By comparing the four forms of channels, we found that alternative news content was the most engaging form of content on YouTube in Canada during the ten-month-period of analysis (See figure 1). Per video, alternative channels' covid19 content generated 219,717 views, 5,640 likes, and 660 comments. While alternative news content attracted more engagement, junk news channels' likes and comments exceeded the local or national news sources— despite the small number of videos junk channels produce. While junk news channels produced, on average, 527 likes, local and national news generated only 95 and 140 likes respectively. In contrast, alternative news generated the most dislikes, with videos receiving, on average, 213 dislikes compared to junk news (8 dislikes) and local news (35 dislikes).

Although junk news generated more likes than local or national news, alternative outlets generated forty-times more views than junk news outlets, with approximately 219,717 views per video compared to junk news outlets, which produced approximately 5,477 views. Junk news channels generated significantly more discussion and likes per video (220 comments and 527 likes respectively) than local news channels (94 comments and 95 likes). However, in terms of reach, junk news channels do not dominate traffic, with most citizens in our data set accessing news and information on YouTube via professional alternative and local outlets (219,717 and 21,846 views per video respectively).

Figure 1: Channels and Engagement: Likes, Dislikes, Comments, and Views Per Video (Logarithmic Scale)

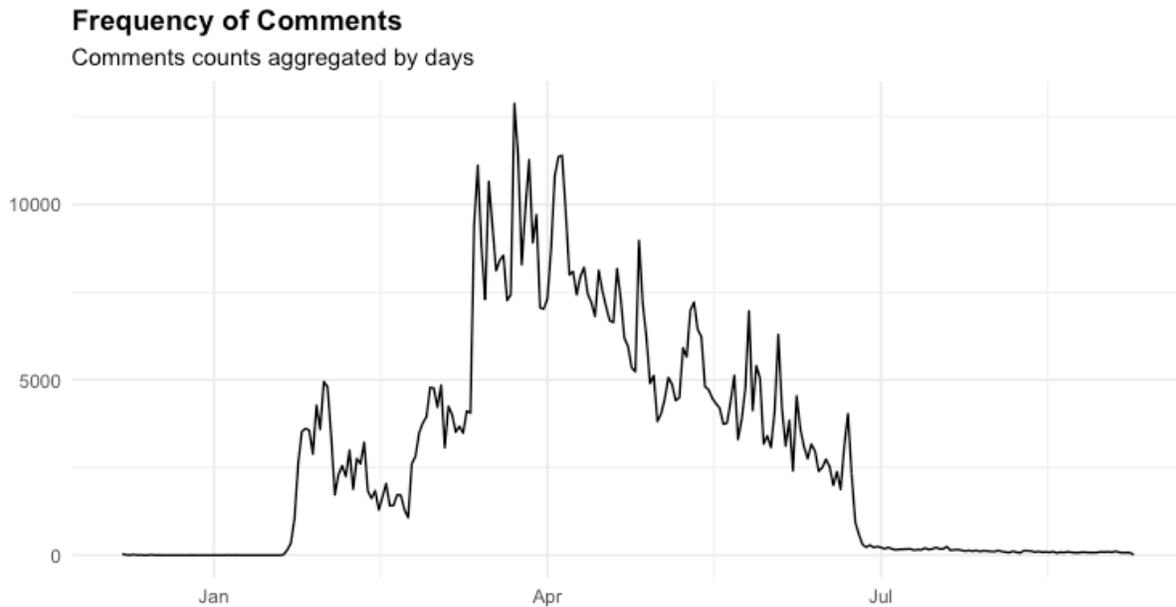


Source: Data collected from YouTube’s API from December 2019 to September 2020.

What is the frequency of COVID19 discussions on YouTube?

Second, we wanted to understand when conversations about the pandemic were taking place. We examined the frequency of comments over the timeframe of our study (December 2019 to September 2020). Discussions on COVID19 videos were most active in mid-March 2020, following the World Health Organization’s designation of COVID19 as a global pandemic. In addition, we found that users posted fewer comments on COVID19 videos from mid-June 2020 and until we ended our data collection in September 2020. These low engagement rates might roughly correspond to the lower numbers of COVID-19 cases in Canada over the summer of 2020 (WHO, 2021). Our study ended before the second and third waves of COVID-19 cases in Canada.

Figure 2: Frequency of Comments



Source: Data collected from YouTube’s API from December to September 2020

Who led COVID19 Discussions on YouTube?

In this dataset, there were 463,397 comments and 346,229 replies, suggesting highly active interactions among the users watching news and information about COVID-19 on Canadian news channels. We found there were 252,123 unique authors in our dataset, with 158,865 users posting only one comment over the six-month period. However, there was also some evidence of “amplifier accounts”, which are accounts that deliberately seek to increase the number of voices speaking about or the attention being paid to certain messages. Unlike traditional “bot” definitions, amplifier accounts include automated, semi-automated, and highly active human-curated accounts on social media (McKelvey & Dubois, 2017). In our dataset, about 12% of the data (N= 98,161 comments) were created by only 500 users.

We also examined the top-five most active users in the dataset. While we expected these users to comment on only a single source of news, they were highly engaged in posting across local, national, alternative, and junk news channels. While we did not code the sentiment or discourse type these users engaged in, only one of the amplifier accounts was active on junk news channels. Thus, amplification in comments was not a feature of junk news, but instead was concentrated on local and national news channels. Further research could examine the behaviour of these audiences on professional news to determine the kinds of messages and frames these high frequency posters adopt, and whether this shapes the conversations taking place by users on YouTube.

Table 2
Top Five Active Users and the Channels They Engaged With

Top Active Users	No. of comments	Channels
User 1	1,667	CityNews Toronto, True North
User 2	1,293	CTV, Global News, CityNews Toronto, Toronto Sun, Ottawa Citizen, and Toronto Star
User3	1,180	True North, CTV News, Global News, CityNews Toronto, Toronto Sun, Ottawa Citizen
User4	801	HuffingtonPost Canada, CTV News, Global News, CityNews Toronto, Toronto Sun, National Post
User5	767	HuffingtonPost Canada, Global News, CityNews Toronto, Toronto Sun, National Post, Ottawa Citizen, Toronto Sun, Calgary Herald, Edmonton Journal
Total	5,708	

Source: Data collected from YouTube’s API from December to August 2020

What did audiences discuss on YouTube?

As described in detail above, conspiracy theories and partisan narratives about the virus have been rampant on social media platforms. Were these same discussions adopted by Canadian audiences watching news and information about COVID19? In order to answer this question, we conducted a qualitative content analysis on a small random sample of comments (N= 6,232) left on the videos in our dataset. We identified four key trends:

- 1. Most discussions on mainstream national, alternative, and local Canadian YouTube news channels about the COVID19 virus were neutral, with Canadians asking questions about government responses or discussing individual and personal experiences about the pandemic. However, the distribution of neutral comments was not even, with junk news channels associated with lower percentage of neutral comments compared to local, alternative, and national news.**

We found that the majority of the comments were neutral (N=2,030) comments that did not carry a positive or negative political sentiment about COVID or about politics writ large (See Figure 2 and Table 3). Rather, a large proportion of comments left on COVID19 videos were Canadians asking questions about government policies, or sharing information about COVID19 or individual personal experiences with lockdown, masks or social distancing measures. Examples of neutral comments included: “*We are in June .. Phase 3 c'mon let's go!!*” or “*Are pharmacists working in hospitals included????*”. Some of these neutral comments also asked about the state of the economy or discussed hardships facing Canadian living since the onset of the pandemic. For example, some comments stated: “*..the small businesses and the Restaurant Industry needs to be supported*” or “*There are a lot of people working 2 jobs just to make*

it, and barely making it, how are they gonna receive help funds...”. Local (61%), national (26%) and alternative (12%), news channels had the majority of these neutral comments, while junk news channels received a very small proportion of neutral comments (1%). As junk news channels tend to sensationalize news and offer hyper-partisan commentary, the low level of neutral comments on these channels could be reflective of the highly emotional and editorialized content being produced by these channels, compared to the news and information produced by local and national outlets.

2. Partisanship was a dominant frame used by Canadian YouTube audiences, particularly on Junk News channels.

We found partisanship shaped many of the conversations taking place on Canadian YouTube news and information channels. Following neutral comments, the second most common type of discourse about the pandemic drew on partisan frames about the ruling Liberal Party and Prime Minister Justin Trudeau’s government (N= 1026, or 16% of the total comments). These partisan frames attacked or criticized Justin Trudeau or the Liberal party and the policies they implemented (or did not implement) to combat the spread of COVID19. Examples of partisan comments include: “*The liberal government is corrupt*” or “*Trudeau is an Enemy Of The State*”.

Local news channels produced the number of partisan comments about the liberal party (N= 435), followed by national (N=227), alternative (N=194), and junk (N=170) news channels. However, junk news channels received the greatest proportion of partisan posts compared to the other news channels (42% of all comments on junk news channels were partisan comments about the liberal party). Thus, although national, alternative and junk news channels received a greater number of partisan comments, these comments made up a smaller proportion of the overall comments made by users on COVID-19 videos (22%, 19 and 17% respectively). Partisan discussions focused on criticizing Liberal leadership, with only 3% of comments attacking or criticizing the Conservative Party of Canada and its leaders. Partisan frames were highly critical, with less than 1% of partisan comments supporting either the Liberal or Conservative Party and their responses to the COVID19 Pandemic.

Looking closely to the data, we can see that the most popular type of comment on junk news videos was “anti-Liberal”. In other words, the majority of the comments on junk news channels were attacking or criticizing the federal government or the Prime Minister. Junk news channels had the largest proportion of anti-liberal comments compared to local, national or alternative news channels. While junk news channels on YouTube do not have a large reach in Canada, they might have a polarizing effect on small segments of the online community. The editorialization of content produced by junk channels draws significant partisan commentary compared to other sources of local or national news. Further, partisan commentary on junk news channels focused on flaming, attacking, and name-calling individuals or leaders, rather than expressing criticism or debate about policy and politics. Studies have

suggested that right-leaning audiences are less likely to adopt COVID-19 preventative measures, and junk news channels could produce a similar effect on audiences when COVID-19 becomes a politicized topic.

3. Conspiratorial comments tended to amplify anti-China and anti-immigrant narratives.

Our research questions aimed at understanding the extent to which conspiratorial content was discussed on YouTube by audiences of Canadian news and information on the platform. We found that conspiratorial comments were the third most frequently occurring category of comments in discussions about COVID19 across all the Canadian YouTube channels in our study. While previous research has highlighted how disinformation and conspiracy about COVID19 is disproportionately shared by right-leaning, partisan audiences, we did not see a similar effect on Canadian junk news channels. Rather, we found a similar proportion of conspiratorial comments across alternative, local, national and junk news. Local news outlets had the largest number (N=411) and proportion (52%) of conspiratorial comments. About 28% of comments made on national news outlets, 19% of comments made on alternative news content, and 17% of comments on junk news outlets on YouTube were conspiratorial.

Conspiracy theories about COVID19 discussed by audiences of Canadian news and information channels on YouTube covered a variety of topics. Many of the prominent topics focus on the origin of the virus, reflecting the uncertainty around the early days of the pandemic and the spread of COVID19. A large number of conspiratorial comments also expressed anti-China rhetoric, accusing the country of purposely spreading the virus as a tool of bio-warfare. Some of the earliest conspiracies about COVID-19 focused on the origin of the virus, and since our data analysis was conducted during the first few months of the global pandemic when there was a great deal of fear and uncertainty, and many of the debunking messages might not yet have reached audiences. For future research, it would be interesting to assess how many Canadians still hold conspiratorial views about COVID-19.

4. Canadians expressed more positive sentiment towards government responses to the COVID19 pandemic compared to negative or denialist sentiment about preventative measures.

About 11% of the comments we analysed qualitatively were pro-response –comments that speak positively about the government’s response to COVID-19. This type of comment was more common among followers of the Local YouTube channels with about 69% supporting the government’s actions in relation to the Pandemic (N= 463 comments) compared to followers of national, alternative, and junk YouTube channels (N=168 (25%), 33 (5%) and 8 (1%) comments respectively). These comments were supportive of the government-imposed lockdown, travel measures, and economic decisions. One example of a pro-response comment includes: *“Ontario already shut down public schools today until*

further due. So go back to your homes, and hold on to your loved ones. The pandemic is coming". However, these pro-response comments were not widely spread in our sample, indicating that users were more likely to post conspiratorial, anti-liberal, or neutral comments than express their support to the current Canadian government.

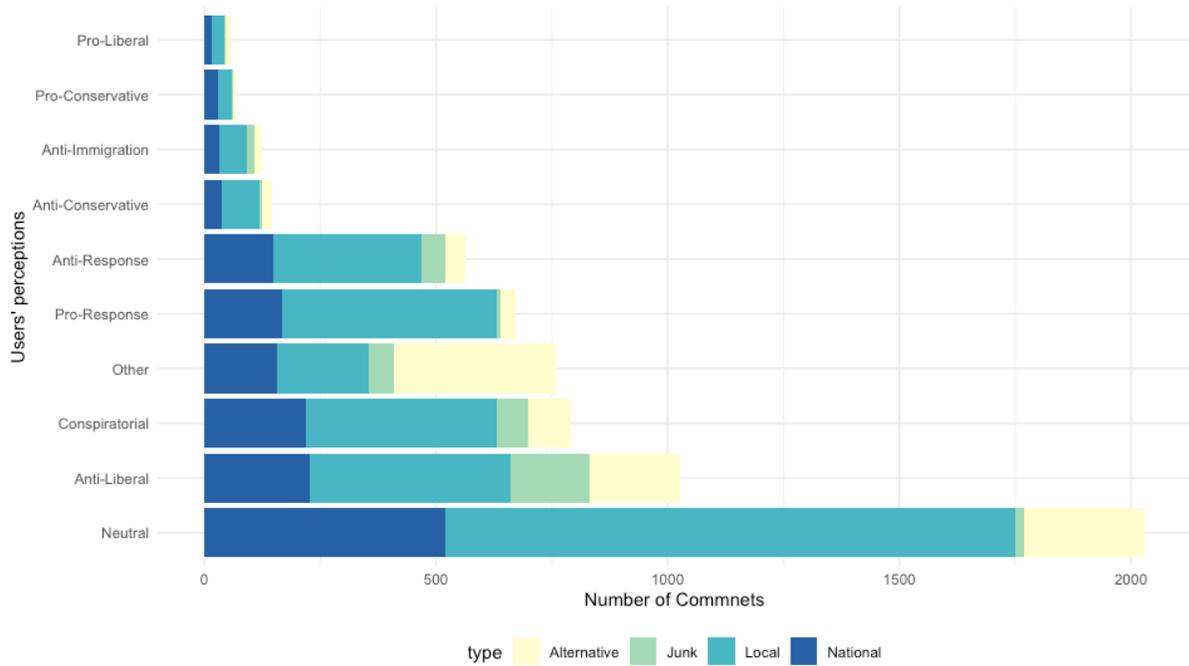
About 9% of the comments attacked and criticized the government's COVID-19 measures. An example of a comment criticizing government responses to COVID-19 includes: *"Canada is doing too much in the wrong ways and not enough in others !!!!... You are pushing millions into poverty"*. This suggests that users were more likely to criticize the government itself by writing a comment that attacked the Liberal Party than criticizing the government's COVID-19 measures. In other words, in some instances the pandemic became politicized and turned into a topic where ideological preferences were integrated into the comments.

Table 3 : Summary of Coding Decisions

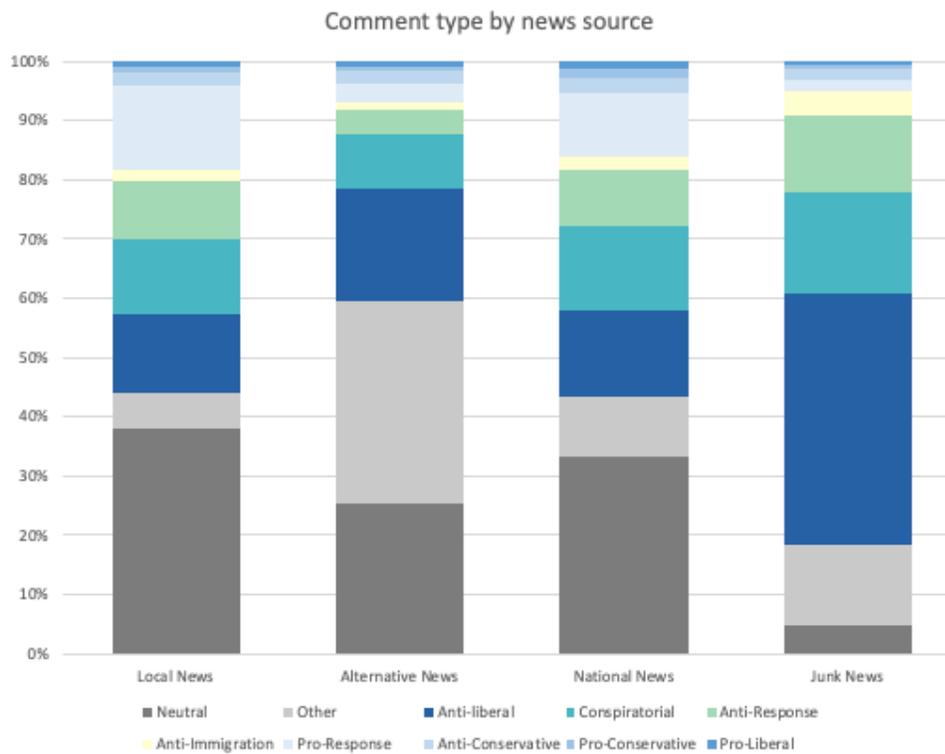
Code	Local News	Alternative News	National News	Junk News	Total
Neutral	1232	260	519	19	2030
Other	199	349	156	54	758
Anti-liberal	435	194	227	170	1026
Conspiratorial	411	91	220	69	791
Anti-Response	321	42	148	51	562
Anti-Immigration	59	15	33	17	124
Pro-Response	463	33	168	8	672
Anti-Conservative	80	20	38	7	145
Pro-Conservative	30	6	29	3	68
Pro-Liberal	26	11	17	2	56
Total	3,256	1,021	1,555	400	6,232

Source: Authors (2021). Data collected from YouTube's API from December to August 2020.

Notes: Percentages have been rounded by the authors.



Source: Data collected from YouTube's API from December 2019 to September 2020



Conclusion

The uncertainty surrounding the COVID-19 pandemic made it a rich subject for disinformation and polarization. Political, health, and religious misinformation in relation to the virus flooded social media platforms, exacerbating the information disorder that already existed. In Canada, the majority of Internet users reported seeing COVID-19 misinformation when the pandemic started to be experienced locally, from March 2020. Almost half of them believed some of the misleading stories to be true at the start of the pandemic (Garneau and Zoussou, 2021). Although the Canadian government and social media platforms introduced many measures to reduce the impact of the infodemic, conspiratorial and misleading content related to COVID-19 continues to spread online.

Research on this subject has mainly focused on exploring the coverage of the pandemic, analyse the main trends of misinformation, and investigate its spread. We also lack studies that examine the extent to which social media users in Canada discuss COVID-19 conspiracies or adopt partisan frames in their online conversations. This is important for understanding the broader effect the pandemic has had on social cohesion, and the need to explore the links between online conversations and offline interactions. In this study, we explored user comments about COVID-19, and evaluated user comments on junk, alternative, local, and national news channels on YouTube from December 2019 to September 2020.

We realized that locating junk news content on YouTube in Canada is a challenging task compared to other Western democracies. Unlike the United States, for example, which has a large network of hyper-partisan media sources, Canadian local, alternative, and national news dominate the information space on YouTube. However, although alternative news channel produced the most engaging content about COVID-19, junk news channels continue to drive engagement —more than local channels. We also found that most dominant types of comment by users of junk news channels were conspiratorial and partisan, unlike local, alternative and national news, where comments were more neutral and informational in nature. Thus, junk news channels tend to be a source of social division, although given the small reach of these channels, their polarizing effect might not be as large as initially assumed.

Measuring the extent to which YouTube drives polarization and conspiracy theories remains a difficult task. While our analysis demonstrates some trends (that junk news channels tend to attract audiences that discuss conspiracy and partisanship), it is hard to measure the broader effect these channels have on exacerbating social division. YouTube's API allows researchers to access some data about channels and user behaviour, compared to other platforms where access is much more restricted. However, the news and information ecosystem is part of a "hybrid" system (Chadwick, 2013), where audiences consume information from a variety of online and offline sources, ultimately shaping political values and opinions. Although YouTube is one of the most used platforms in Canada, it is not the only place people find news and information online. Accessing data from other platforms, like Facebook, still remains incredibly difficult for researchers, and these limitations prevent cross-platform studies that could provide more insight into these complex social phenomena. To draw more concrete correlations

between online information consumption and offline behavior will require better access to data held by social media companies.

Nevertheless, we found that junk news channels on YouTube, although small in number, are capable of generating high engagement, and audiences adopt partisan and conspiratorial frames in their online discussions. Thus, when adopting digital literacy measures, community-based approaches to countering disinformation and conspiratorial narratives as well as reducing polarization are important for improving public health. However, our data also shows that many Canadians are just interested in discussing the impact of the pandemic on their lives - without any partisan or conspiratorial frames. Local news channels also drove positive conversations about measures that showed many Canadians were willing to adopt early government responses to the pandemic, and supported travel bans and social distancing. Despite all the concerns about an infodemic, social media can also be a place to support the dissemination of information and build local communities.

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APPENDIX

Comment Typology

PRO CONSERVATIVE (PCON): Comments that speak positively about the Conservative Party of Canada or any of its leaders, political representatives, or ideas.

ANTI CONSERVATIVE (ACON): Comments that speak negatively about the Conservative Party of Canada or any of its leaders, political representatives, or ideas.

PRO LIBERAL (PLIB): Comments that speak positively about the Liberal Party of Canada or any of its leaders, political representatives, or ideas.

ANTI LIBERAL (ALIB): Comments that speak negatively about the Liberal Party of Canada or any of its leaders, political representatives, or ideas.

PRO GOVERNMENT COVID RESPONSES (PCOVID): Comments that speak positively about the government's response to COVID-19. This would include comments that are supportive of the lockdown, masks, self-isolation, and other economic policies.

ANTI GOVERNMENT COVID RESPONSES (ACOVID): Comments that speak negatively about the government's response to COVID-19. This will include comments that are against the lockdown, masks, self-isolation, and other economic policies.

CONSPIRATORIAL (CONSPIRACY): Comments that refer to known conspiracy theories, particularly about George Soros or China, doomsday, or posts that are anti-science.

ANTI-IMMIGRATION (AIMM): Comments that carry anti-immigration or anti-refugee sentiment

NEUTRAL (NEUTRAL): Comments that are neutral statements and do not carry a positive or negative sentiment about any of the topics above. This could include asking questions to fellow YouTube users, or sharing other information.

NA/OTHER (NA): Not all comments will be interpretable. These comments can be coded as NA. Other NA comments can include comments in another language, spam, or about other countries other than Canada.

List of Coronavirus Tags

- Coronavirus (3808)
- Covid-19 (3439)
- coronavirus outbreak (2126)
- coronavirus update (1755)
- coronavirus news (1726)
- Corona virus (1699)
- corona virus update (1663)
- coronavirus latest news (1635)
- show=covid19news (1243)
- coronavirus update news live stream (839)
- coronavirus pandemic (747)
- coronavirus today (533)
- pandemic (513)
- coronavirus quarantine (489)
- covid19 (459)
- coronavirus headlines (439)
- #coronavirus (387)
- COVID (221)
- Canada Coronavirus (205)
- world health organization (180)
- China coronavirus (158)
- covid-19 pandemic (156)
- WHO (150)
- social distancing (150)

- Coronavirus Canada (149)
- novel coronavirus (131)
- Covid-19 outbreak (124)
- Ontario COVID-19 (122)
- Virus (118)
- COVID-19 Ontario (115)
- canada covid-19 (109)
- 1130covid19 (109)

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