# Motives and Methods:

## Building Resilience to Online Misinformation in Canada

MediaSmarts

## MediaSmarts

MediaSmarts is a Canadian not-for-profit charitable organization for digital media literacy. Our vision is that people across Canada have the critical thinking skills to engage with media as active and informed digital citizens. MediaSmarts has been developing digital media literacy programs and resources for Canadian homes, schools, and communities since 1996. MediaSmarts also conducts and disseminates original research that contributes to the development of our programs and resources and informs public policy on issues related to digital media literacy.

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## Land Acknowledgement

MediaSmarts acknowledges that it is based on the traditional unceded and occupied lands of the Algonquin Anishinaabeg. With gratitude, we acknowledge the territory to reaffirm our commitment and responsibility to building positive relationships with Inuit, First Nations, and Métis peoples from coast to coast to coast.

We strive to ground our research processes in care and reciprocity, and this includes being in a constant state of learning – especially when it comes to understanding the digital well-being and experiences of Indigenous peoples and communities across Canada. We commit to creating and maintaining respectful processes and relationships that recognize and seek to address power imbalances across the digital media literacy landscape.

# Contents

# Executive Summary

Building on MediaSmarts' successful Break the Fake (*BTF*) program, the Motives and Methods project combines citizen-focused activities with intervention research to counter misinformation and promote information verification as a social norm and habit in Canada. Specifically, this project aims to understand which intervention messaging has the greatest impact on Canadians when it comes to recognizing and responding to misinformation.

First, we developed five new *Break the Fake* (*BTF*) videos to address new contexts and technological developments in misinformation, including visual misinformation (e.g. manipulated images) and bots and artificial intelligence (e.g. deepfakes). These new videos cover why it is important and how to counter misinformation.

Next, we conducted a national survey with 5000 participants aged 18 and older, followed by interactive focus groups with 30 participants, to better understand:

- The cognitive (knowledge and skills) and affective (motivational) factors required to produce meaningful behaviour change regarding how people in Canada interact with online information.
- Whether and how the *BTF* videos are effective in improving participants' ability to identify accurate online content and reduce the likelihood that participants will share unverified content.

In this report we provide lessons learned from our literature review, a description of our mixed-methods study design, and detailed results for both phases of the research.

We discuss the specific elements of the *BTF* videos that participants felt worked best to increase their knowledge and confidence regarding how to verify information (cognitive factors) and which elements motivated them to do it (affective factors). Drawing on the findings of this study, we share best practices for developing evidence-based and effective interventions as well as recommendations for building collective resilience to misinformation in Canada.

Overall, we found that Canadians struggle to discern between true and false information (despite generally being confident in their judgements). This is especially true of visual misinformation that is slippery (meaning it contains some element of truth in it). Individuals are also more likely to share this kind of misinformation, further complicating the online information ecosystem. Canadians generally rely on mental models and heuristics to determine whether online information is true or false including guessing (or a gut instinct of whether something seems reliable), leveraging pre-existing knowledge, quickly looking something up, or analyzing the detail in images to determine their 'realness'. Although popular, the subjectivity of these mental models makes them unreliable, sometimes leading people to draw opposite conclusions about the same content. However, nudging individuals to think about the accuracy of online information as well as designing interventions with clear steps and tools for fact-checking does help strengthen Canadians' ability to recognize and respond to online misinformation.

Our evidence-based recommendations focus on designing effective interventions to counter online misinformation in the following areas:

- Visual misinformation
- Accessibility
- Motivational messaging
- Long-term effects
- Building trust and confidence
- Addressing systemic factors

This project moves beyond individualized solutions to foster collective resilience to misinformation in Canada. Our study demonstrates that digital media literacy education ***works*** and encourages a diverse group of participants to check the veracity of online content, especially before sharing it. Interventions grounded in digital media literacy provide Canadians with the tools, skills, and critical thinking to move out of information overwhelm, false biases, and dependence on unreliable mental models, towards fact-checking practices that will better serve them in discerning true and false information.

While there is still a lot of work to do, this project offers researchers, educators, policymakers, industry, and community organizations with practical, effective, and evidence-based strategies for designing interventions to address misinformation. It is our hope that through our collective efforts we will build the resilience of all people in Canada as they navigate online information.

# The State of Online Misinformation

## What We Learned from the Literature:

**Misinformation** is a broad term used to describe all types of false information. Sometimes, misinformation is specified as the unintentional (or accidental) spread of false information. In contrast, the intentional spread of false information is referred to as disinformation. In this report, we use misinformation as an umbrella term to cover both the intentional and unintentional spread of false information.

**Misinformation** is a broad term used to describe all types of false information.

MediaSmarts' research with youth demonstrates that young Canadians are worried about misinformation online. Concerned about how misinformation may impact their online experiences, especially related to their schoolwork, youth want to learn more about how to discern true from false information. Our research with parents and caregivers also revealed misinformation to be one of their top concerns when it comes to their children's online lives.

The networked nature of digital media allows consumers to access and partake in a near infinite web of connections and informational exchange. Information in this network has the potential to reach millions of other people across several different platforms (like social media and direct messaging applications). The online information landscape continues to evolve, mirroring the rapid pace of technological advancement. As artificial intelligence and other digital technology advances, so does the nature and complexity of misinformation online.

The elements affecting an individual's susceptibility to misinformation include both cognitive ('how to') skills and affective (motivational) factors as well as the form of misinformation itself. Research[1] has found that people are more likely to believe misinformation if they are strongly motivated by certain beliefs or emotions and/or if they lack the ability to think critically about the information they encounter. People are more likely to spread misinformation and less

1 Cameron Martel, Gordon Pennycook, and David G. Rand, "Reliance on Emotion Promotes Belief in Fake News," *Cognitive Research: Principles and Implications* (2020), https://doi.org/10.1186/s41235-020-00252-3

likely to check[2] if it is true when they are driven by political ideology, partisanship, and other biases. These factors can trigger strong emotions that may encourage the sharing of information without careful consideration of accuracy and credibility. Conversely, people with strong analytical thinking skills are more likely to use a set of mental shortcuts, or 'heuristics', to assess the truthfulness, accuracy, and reliability of online information.[3]

The form misinformation takes may also affect the engagement it garners. While we often think of false information (or 'fake news') as being text-based, with the recent boom of artificial intelligence (AI), concern for something different has skyrocketed: visual misinformation.

## Visual Misinformation:

**Visual misinformation** involves manipulated images and videos, including cropping or doctoring images, photoshopped images, an image that is real but framed out of context, misleading data visuals, changing video speed and filters, and AI generated images.[4] Visual forms of misinformation may be more engaging or believable than text alone, making them more effective at spreading false information.

**Visual misinformation** involves manipulated images and videos, including cropping or doctoring images, photoshopped images, an image that is real but framed out of context, misleading data visuals, changing video speed and filters, and AI generated images.

Especially common are ***cheap fakes*** which use existing content in a wrong or misleading context.[5] For example, images in the wrong context or with context that is selective or biased or real context with a manipulated or fake image. This form of misinformation continues to be prevalent[6] given how easy it is to create a fake caption for an authentic image (or video), compared to editing media for example. However, the relatively recent emergence of artificial intelligence (AI) tools (including Midjourney and ChatGPT) has given virtually anyone the power to generate hyper-realistic media. AI-generated misinformation has been on the rise since 2023,[7] adding a new

2 Pennycook, Gordon, and David G. Rand. "Lazy, Not Biased: Susceptibility to Partisan Fake News Is Better Explained by Lack of Reasoning than by Motivated Reasoning." *Cognition* (2019), https://doi.org/10.1016/j.cognition.2018.06.011.
3 ibid.
4 Teresa Weikmann and Sophie Lecheler, "Visual Disinformation in a Digital Age: A Literature Synthesis and Research Agenda," *New Media & Society*, https://doi.org/10.1177/14614448221141648.
5 Sara Ratliff, "Fake News & Digital Media Literacy: Cheapfakes and the Manipulative Editing of Media," Central Methodist University, 2025, https://centralmethodist.libguides.com/fake_news/cheapfakes.
6 Nicholas Dufour et al., "AMMeBa: A Large-Scale Survey and Dataset of Media-Based Misinformation In-The-Wild" (arXiv, 2024), https://doi.org/10.48550/arXiv.2405.11697.
7 ibid.

challenge to mitigating visual misinformation. For example, ***deep fakes***, or photos and videos where a person's face or likeness is replaced with another using AI, are becoming increasingly common forms of visual misinformation.[8]

Visual misinformation is harder to distinguish from text-based misinformation,[9] with scholars arguing for it to be considered a unique form of misinformation.[10] This is due to a few factors: first, visuals are processed differently from text; they are much easier to recall and share (looking at an image, for example, is quicker than reading text). The ease with which visual misinformation can be recalled and shared makes its reach much wider, with the potential for it to overwrite our recall of true information. In addition, visuals create richer sensory responses than text; the high degree of realism, and the tendency of visuals to evoke emotions, amplifies their impact. This has unique effects on what people believe and how they react to visual misinformation.

Given these different elements, visual misinformation tends to be ***sticky***: its secondary or more long-term effects are pervasive, strong, and long-lasting, potentially leading to loss of trust in visuals. We have already begun to see the impacts of sticky visual misinformation in public discourse about media, politicians, and science.[11]

## Communities of Focus: Older Adults

Research demonstrates that intersectional factors (including gender, education, economic status, racial identity, and age) further compound the impacts of misinformation on individuals.[12] Authentication and verification skills are inextricably linked to digital equity, with some communities requiring more support in building resilience to misinformation than others. In this report, we pay particular attention to the unique needs of one of these communities of focus: older adults.

As an age group, older adults are generally categorized as being above the age of 60 or 65; in some cases (like in this study) adults 55 and older are considered older adults. The population of older adults is projected to increase significantly over time, both within Canada and the United States, as well as the United Kingdom and across Asia.[13] Older adults share misinformation more frequently than other age groups and are particularly vulnerable to it.[14] For example, older adults over the age of 65 are seven times more likely to share media from unreliable or fabricated news domains and approximately three to four times more likely to share links to false news than their youngest counterparts (aged 18 – 29).[15]

8 Emergence of Deepfake Technology: A Review," *Technology Innovation Management Review*, 2019, https://doi.org/10.22215/timreview/1282.
9 Juan Cao et al., "Exploring the Role of Visual Content in Fake News Detection," in *Disinformation, Misinformation, and Fake News in Social Media: Emerging Research Challenges and Opportunities*, 2020, https://doi.org/10.1007/978-3-030-42699-6_8.
10 Teresa Weikmann and Sophie Lecheler, "Visual Disinformation in a Digital Age: A Literature Synthesis and Research Agenda," *New Media & Society*, 2023, https://doi.org/10.1177/14614448221141648.
11 Teresa Weikmann and Sophie Lecheler, "Visual Disinformation in a Digital Age: A Literature Synthesis and Research Agenda," *New Media & Society*, 2023, https://doi.org/10.1177/14614448221141648.
12 Hyunjin Seo et al., "Vulnerable Populations and Misinformation: A Mixed-Methods Approach to Underserved Older Adults' Online Information Assessment," *New Media & Society*, 2021, https://doi.org/10.1177/1461444820925041.
13 See: Statistics Canada Government of Canada. "A Portrait of Canada's Growing Population Aged 85 and Older from the 2021 Census," 2022, https://www12.statcan.gc.ca/census-recensement/2021/as-sa/98-200-X/2021004/98-200-X2021004-eng.cfm; Lindsey E. Wylie, Lawrence Patihis, and Leslie L. McCuller, "Misinformation Effect in Older versus Younger Adults: A Meta-Analysis and Review," in *The Elderly Eyewitness in Court*, 2014, https://doi.org/10.4324/9781315813936.
14 See: Nadia M. Brashier and Daniel L. Schacter, "Aging in an Era of Fake News," *Current Directions in Psychological Science*, 2020, https://doi.org/10.1177/0963721420915872; Jyoti Choudrie et al., "Machine Learning Techniques and Older Adults Processing of Online Information and Misinformation: A Covid 19 Study," *Computers in Human Behavior*, 2021, https://doi.org/10.1016/j.chb.2021.106716.
15 Andrew Guess, Jonathan Nagler, and Joshua Tucker, "Less than You Think: Prevalence and Predictors of Fake News Dissemination on Facebook," *Science Advances*, 2019, https://doi.org/10.1126/sciadv.aau4586.

This pattern persists even when accounting for other factors like education, ideological beliefs, partisanship, and overall sharing behaviors.

Several factors may contribute to the vulnerability of older adults including social and interpersonal change; change in cognition over time; digital inequities affecting their digital media literacy skills; and heightened cynicism about the utility of fact-checking.[16] Certain elements of older adults' cognition, such as changes in memory and reasoning, point to the need for evaluations of interventions conducted over longer periods of time. Studies have found that these factors, coupled with an implicit truth bias (or tendency to believe things are true), can contribute to unintended negative long-term effects of interventions for older adults.[17] For example, use of repeated warnings about a false claim may actually cause older adults to remember it as true over time.[18] While the feeling of familiarity of content may remain, the source and an associated negative connotation (that it was false) may not.

A similar complication is that older adults appear to stand by what they know, and what feels familiar, regardless of whether something is in fact true.[19] Their initial impressions of (or gut reactions to) whether information is true or false tend to be correct; in fact, they outperform younger individuals in this area.[20] The problem arises when there is repeated exposure to misinformation, for example, the presence of a viral false news story across multiple channels. An older adult may initially judge this story correctly as false, but over time, with increased and repeated exposure, they may come to believe the story is true.

However, longitudinal studies evaluating the effects of misinformation interventions with older adults indicate several promising practices. Interventions that provide simple, concrete strategies or tips to follow,[21] have interactive elements[22] (for example, games[23] or scenario-based videos[24]), or involve elements of peer-to-peer learning[25] have all been found to have positive, long-term effects on older adults' information discernment processes.

16 Imani Munyaka, Eszter Hargittai, and Elissa Redmiles, "The Misinformation Paradox: Older Adults Are Cynical about News Media, but Engage with It Anyway," *Journal of Online Trust and Safety*, 2022, https://doi.org/10.54501/jots.v1i4.62.
17 Ian Skurnik et al., "How Warnings about False Claims Become Recommendations," *Journal of Consumer Research*, 2005, https://doi.org/10.1086/426605.
18 ibid.
19 Nadia M. Brashier et al., "Competing Cues: Older Adults Rely on Knowledge in the Face of Fluency," *Psychology and Aging*, 2017, https://doi.org/10.1037/pag0000156.
20 Hunt Allcott and Matthew Gentzkow, "Social Media and Fake News in the 2016 Election," *Journal of Economic Perspectives*, 2017, https://doi.org/10.1257/jep.31.2.211.
21 Andrew M. Guess et al., "A Digital Media Literacy Intervention Increases Discernment between Mainstream and False News in the United States and India," *Proceedings of the National Academy of Sciences of the United States of America*, 2020, https://doi.org/10.1073/pnas.1920498117.
22 Nadia M. Brashier, "Fighting Misinformation Among the Most Vulnerable Users," *Current Opinion in Psychology*, 2024, https://doi.org/10.1016/j.copsyc.2024.101813.
23 Chang Lu et al., "Can Media Literacy Intervention Improve Fake News Credibility Assessment? A Meta-Analysis," *Cyberpsychology, Behavior, and Social Networking*, 2024, https://doi.org/10.1089/cyber.2023.0324.
24 Sarah A. Habibi and Lidya Salim, "Static vs. Dynamic Methods of Delivery for Science Communication: A Critical Analysis of User Engagement with Science on Social Media," *PLOS ONE*, 2021, https://doi.org/10.1371/journal.pone.0248507.
25 Päivi Rasi, Hanna Vuojärvi, and Susanna Rivinen, "Promoting Media Literacy Among Older People: A Systematic Review," *Adult Education Quarterly: A Journal of Research and Theory*, 2021, https://doi.org/10.1177/0741713620923755.

## Building (Collective) Resilience to Misinformation:

In general, despite many interventions developed to address misinformation, it remains largely unclear what makes these interventions successful.[26] While technical skills are important, there is increasing evidence that a healthy democracy needs citizens who are *resilient* to misinformation. To establish this, we need a comprehensive understanding of 'what works' including a host of critical thinking skills and motivational factors for promoting information verification as a social norm and habit. Limited research[27] reveals that a level of balance between strategies focused on motivational messaging (affective factors) and those that teach specific fact-checking and/or critical thinking skills (cognitive factors) is required for successful interventions. However, we need to better understand what that balance (between cognitive and affective factors) is, in what contexts, and for whom.

When it comes to addressing and preventing online harms, such as misinformation, individuals are often expected to build online resilience: to effectively self-regulate their use of digital technology and avoid harmful content. However, this problematically places the onus of responsibility for handling online problems on individuals without essential resources and supports. This individualized model of resiliency has consequences for Canadians whose quality of life and civic engagement depends on being able to critically navigate information ecosystems. Instead, our project seeks to understand the cognitive and affective factors, contexts, and evidence-based practices required to build ***collective resilience***.

26 See: Nathan Walter et al., "Evaluating the Impact of Attempts to Correct Health Misinformation on Social Media: A Meta-Analysis," *Health Communication*, 2021, https://doi.org/10.1080/10410236.2020.1794553; Alberto Acerbi, Sacha Altay, and Hugo Mercier, "Research Note: Fighting Misinformation or Fighting for Information?," *Harvard Kennedy School Misinformation Review*, 2022, https://doi.org/10.37016/mr-2020-87.

27 Alexander Bor et al., ""Fact-checking" Videos Reduce Belief in Misinformation and Improve the Quality of News Shared on Twitter," *PsyArXiv*, 2020, https://doi.org/10.31234/osf.io/a7huq.

At MediaSmarts, we understand ***collective resilience*** as the ability of a community (or group of people) to collectively respond to or recover from changing and sometimes stressful or adverse environments. In the online context, this can be expressed as a person's ability to participate in safe and inclusive online communities, draw strength and support from the people around them, foster trust, and engage in meaningful dialogue.

In our own work at MediaSmarts, we address knowledge gaps regarding the importance of educating Canadians to verify online information (by providing them with tips and tools to determine the accuracy of what they see online) and motivating them to do so (for example, by underlining the risks of believing and sharing false information). Our research has found that context plays a key role in whether young people verify information (e.g. when doing research for schoolwork), suggesting that motivation is important. However, we do not yet know whether an intervention requires specific motivation messaging (e.g. why verifying information is important) or whether teaching participants how to verify information also provides them with motivation to do so. Similarly, there is evidence to suggest that overemphasizing motivation, without teaching specific skills, can lead to a state of "naïve skepticism," leaving participants equally suspicious of both reliable and unreliable sources. It remains unclear what the most effective balance is to avoid this.

***Collective resilience*** is the ability of a community or group of people to collectively respond to or recover from changing and sometimes stressful or adverse environments. In the online context, this can be expressed as a person's ability to: participate in safe and inclusive online communities, draw strength and support from the people around them, foster trust, and engage in meaningful dialogue.

In this study, we build upon and test the impacts of MediaSmarts' Break the Fake (BTF) program to uncover what makes a successful misinformation intervention. *BTF* is an educational program that teaches people how to tell what is true online through four simple steps:

1. **using fact-checking tools,**
2. **finding the source,**
3. **verifying the source, and**
4. **checking other sources.**

The efficacy of *BTF*'s "four-steps" video has been demonstrated through external research:[28] evaluated alongside five other videos, it was found to have slight but positive effects on participants' ability to discern true from false information. Our research study expands on *BTF*'s success, combining citizen-focused activities with intervention research to counter misinformation and promote information verification as a social norm and habit in Canada. We developed new *BTF* videos to address emerging contexts and technological developments in misinformation including visual misinformation. These new videos, and supporting educational resources (e.g. tip sheets), cover why it is important and how to counter misinformation. These materials were released and promoted during Media Literacy Week 2024 across several channels for maximum visibility including social media platforms, billboards, and television advertising. We worked alongside an advisory committee of researchers, practitioners, and community organizations[29] who provided expertise over the multiple phases and outputs of this project.

In evaluating these resources, we address knowledge gaps regarding the balance between cognitive and affective factors for mitigating misinformation. Our findings provide researchers, policymakers, and community organizations with evidence-based models and effective practices for designing successful interventions to counter misinformation.



28 Alexander Bor et al., ""Fact-checking" Videos Reduce Belief in Misinformation and Improve the Quality of News Shared on Twitter," *PsyArXiv*, 2020, https://doi.org/10.31234/osf.io/a7huq.
29 See the second page of this report for a list of members of the project advisory committee.

# Study Design

The research team at MediaSmarts designs projects that facilitate opportunities for participants to share their experiences, concerns, strategies, and solutions related to the internet and digital technology. We work closely with MediaSmarts' education team to design and facilitate scaffolded learning experiences that blend interactive activities (e.g. fact-checking exercises) with research methodologies (e.g. surveys and focus groups). Findings from our research serve as the foundation for our advocacy and knowledge mobilization work and the educational resources we create and share across the country.[30]

For this project, we designed an intervention research study to test the efficacy, effectiveness, and impact of five *Break the Fake* (*BTF*) videos. These videos are designed to teach people how to recognize misinformation and verify if something is true online. Over two phases of data collection, we utilized both quantitative and qualitative methods to measure the importance of cognitive ('how to') skills and affective (motivational) factors in building resilience to misinformation in Canada. Research participants, all aged 18 or older, came from across the country.

- First, we conducted an interactive quantitative survey with 5000 participants.
- Then, we conducted interactive online focus groups with 30 participants.

Details about participant recruitment, research instruments, and analysis for each phase of this study are included below. This multi-phased, mixed-methods study was designed to identify whether and how the *BTF* videos impact:

- the quality of the online information ecosystem in Canada,
- participants' ability to identify accurate content and reduce the likelihood of sharing unverified content, and
- the promotion of information verification as a social norm and personal habit in Canada.

All components of this study were designed by MediaSmarts' research and education teams. We partnered with Abacus Data to support participant recruitment through their general population (GenPop) survey panels. Additionally, we conducted our survey and focus-groups on Abacus' online research platforms. All research instruments, consent documents, participant recruitment mechanisms and modes of analysis, for both phases of this study, were designed by MediaSmarts' research and education teams. This study follows the standards for conducting research with human participants (set out in the TCPS-2) and was reviewed and approved by the Community Research Ethics Office (CREO).

30 Other recent projects that follow this research-to-resource model include Reporting Platforms: Young Canadians Evaluate Efforts to Counter Disinformation, Algorithmic Awareness: Conversations with Young Canadians about Artificial Intelligence and Privacy, and Young Canadians Speak Out: A Qualitative Research Project on Privacy and Consent.

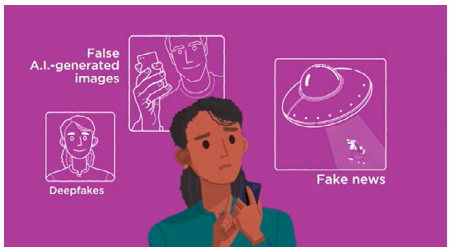
## Video Interventions:

The primary objective of this study was to contribute to the knowledge and development of evidence-based and effective strategies for strengthening resilience to misinformation in Canada. We aimed to understand what influences participants' information seeking, processing, and sharing habits. Additionally, we explored what factors would nudge them towards information authentication and verification. We wanted to understand the impacts and effectiveness of short intervention videos with 'why' messaging, 'how' messaging, and videos that combined 'how' to verify information with 'why' it is important to do so. To that end, we tested five new *BTF* videos in this study:

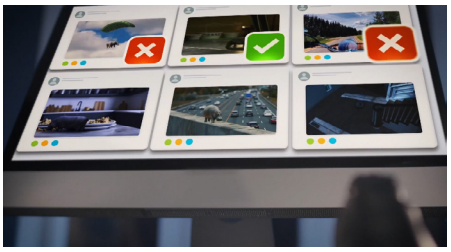

**Video A:** 'How' messaging: four steps to fact-check information online.


**Video B:** 'How' messaging: how to think critically and avoid conspiracy.

**Video C:** 'Why' messaging: AI and deepfakes make it harder to tell what's real just by looking at it.




**Video D:** 'Why' messaging: Misinformation impacts those we care about like our friends and family.



**Video E:** Combined 'Why and How' messaging: AI and deepfakes make it harder to tell what's real just by looking at it, check other reliable sources.

All videos were between 45 to 60 seconds in length, designed to be shared through social and traditional media, and were developed in English and French.

## Discernment Exercises:

To test the effectiveness of these five videos, and specifically which messaging influenced whether and how participants would discern (process) and debunk (fact-check) information, we included several fact-checking exercises in the study. Our study combined accuracy prompts (e.g. nudges) based on research[31] that demonstrates that interventions are most effective when paired with positive reinforcement and indirect suggestions about the importance of verifying information.



There is often a gap between people's *knowledge* of misinformation and their *action* or behaviour change (for example, checking the validity of a source before sharing content). A key element of our study design was understanding if, when, and how people would act or fact-check information when nudged by the accuracy and motivational prompts in the *BTF* videos. We did this through the development of several discernment exercises, designed to test participants' fact-checking skills and practices, integrated in both the quantitative (see Appendix A) and qualitative phases (see Appendix B) of the study. The discernment exercises we chose were a mix of true and false information and included multiple contexts (e.g. visual and text-based information). We included both true and false examples to account for what research has identified as people's tendency towards a false bias: that they are more likely to believe things are false (or not real) than true.[32]

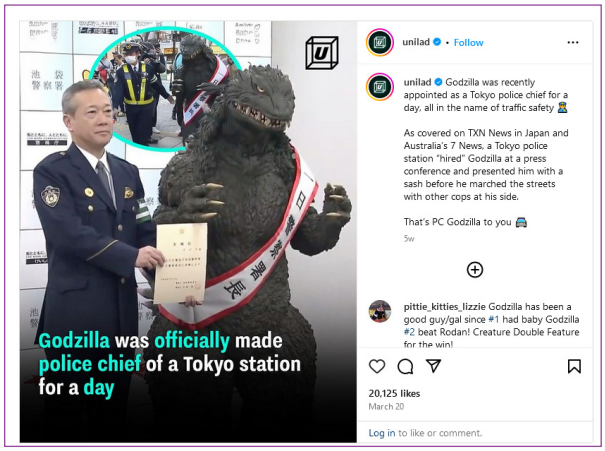


31 See: Gordon Pennycook et al., "Inoculation and Accuracy Prompting Increase Accuracy Discernment in Combination but Not Alone," *Nature Human Behaviour*, 2024, https://doi.org/10.1038/s41562-024-02023-2; Gordon Pennycook and David G. Rand, "Accuracy Prompts Are a Replicable and Generalizable Approach for Reducing the Spread of Misinformation," *Nature Communications*, 2022, https://doi.org/10.1038/s41467-022-30073-5.

32 Brian Guay et al., "How to Think about Whether Misinformation Interventions Work," *Nature Human Behaviour* 7 (2023): 1231–33, https://doi.org/10.1038/s41562-023-01667-w.

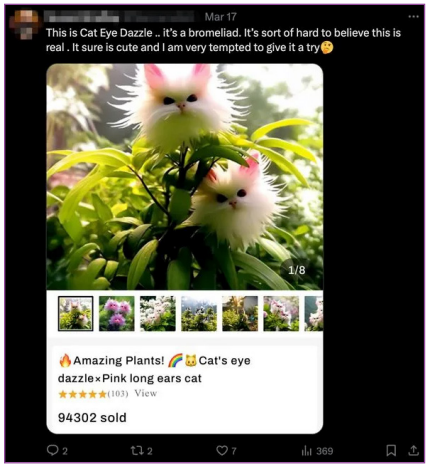
## Quantitative Discernment Exercises:

Example 1: Godzilla: **True**



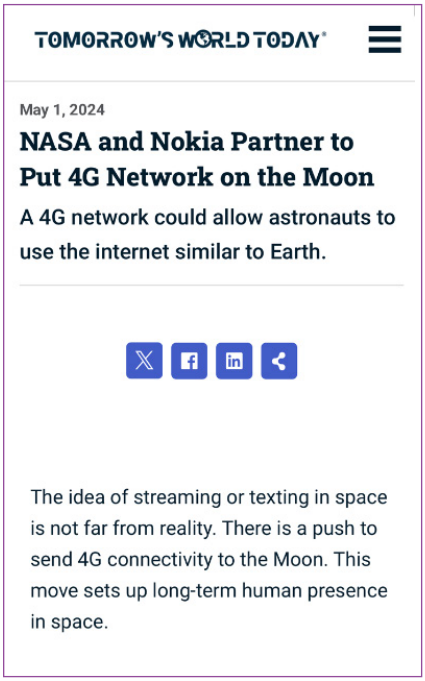

Example 2: Henry Ford: **False**


Example 3: Cat Eye Flower: **False**



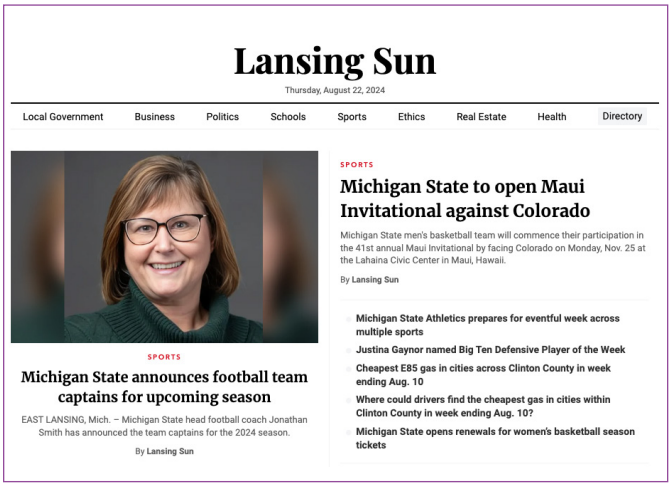

Example 4: Rock, Paper, Scissors Traffic: **True**


Example 5: Internet on the moon: **True**



## Qualitative Discernment Exercises

Spider: **Real/True**




Lansing Sun: **False**

Ultimately, the discernment exercises were designed to test whether the *BTF* videos motivated participants to engage in information verification and impacted their knowledge and skills for recognizing and responding to misinformation. However, we were also careful not to nudge participants to the point of skewing results or eliciting unrealistic responses. While we couldn't entirely eliminate priming effects or replicate the online information ecosystem participants engage with daily, our scenarios were chosen through careful deliberation by MediaSmarts' research and education teams.

In the discernment exercises, we intentionally included neutral examples of online information. We discuss our decision to avoid provocative examples — to avoid fervent or emotionally provocative discussions from influencing responses — in the challenges and considerations section below. The survey and focus groups included an 'answer key' of correct responses for the examples of information used in this study. Based on almost three decades of organizational experience, we have found that for many participants to engage meaningfully in and benefit from the research process, it is critical that they also *learn* from it.

## Quantitative Phase:

### Survey design

The total sample size (N) for the quantitative phase of the study was 5000 participants randomly divided over six groups of 833 participants each. Five of the sub-groups watched one of the *BTF* videos while one control group did not receive a video.

- **Group A** (n=833) watched *BTF* **Video A** focused on 'how' messaging: four steps to fact-check information online.
- **Group B** (n=833) watched *BTF* **Video B** focused on 'how' messaging: how to think critically and avoid conspiracy.
- **Group C** (n=833) watched *BTF* **Video C** focused on 'why' messaging: AI and deepfakes make it harder to tell what's real just by looking at it.
- **Group D** (n=833) watched *BTF* **Video D** focused on 'why' messaging: Misinformation impacts those we care about like our friends and family.
- **Group E** (n=833) watched *BTF* **Video E** focused on combined 'Why and How' messaging: AI and deepfakes make it harder to tell what's real just by looking at it, check other reliable sources.
- **Group F** (n=833), **Control Group**, did not receive a *BTF* video intervention.

The control group would provide an essential baseline comparison, while groups A through E would allow us to test various cognitive ('how' or skills based) and affective ('why' or motivational) nudges. This group design would allow us, where applicable, to isolate the effects of specific nudges while also examining the effects of the *BTF* videos generally.

The survey[33] was designed with six primary components: introductory demographic questions, *BTF* video interventions, discernment exercises, reflections on the video interventions, general attitude and perception questions, and closing demographic questions. After completing initial demographic questions, groups A through E were shown their respective *BTF* video before engaging in the discernment exercises. Group F, the control group, went straight into the discernment exercises following the demographic questions.

All participants completed all five discernment exercises (See Appendix A), including both true and false examples, in a randomized order. For each example, participants were asked how likely they found the information to be true or false, and if they were likely to share this type of information in their daily lives. We also asked participants how they decided if the information was true or false. Participants were free to open a new tab, browser window, or app (to assist in discerning and/or debunking content) but they were not actively encouraged to do so.

The next section of the survey asked about the style and content of the *BTF* videos. These questions were shown to groups A through E and not group F since the control group did not receive a *BTF* video. These questions asked participants to reflect on the accessibility, credibility/reliability, relevance, and long-term effects of the *BTF* videos. Next, participants were asked a series of agree/disagree style questions regarding their attitudes towards, and perceptions of, the information landscape. Additionally, we asked about their fact-checking knowledge, skills, and sharing behaviours. The survey closed with additional demographic questions, an opportunity for participants to express their

33 If you are interested in viewing the survey instrument used in the Motives and Methods study, please contact our Director of Research at info@mediasmarts.ca

interest in participating in the focus groups, and the answer key for the discernment exercises.

## Administration

The survey was conducted from September 16 to October 9, 2024, with 5000 adults aged 18 and older from across Canada. This includes a sample of n=156 northern residents. A random sample of participants were invited to complete the survey through Abacus Data's market research double opt-in survey panels, blended to avoid potential skews in the data from a single source. To ensure the sample was representative, interlocking quotas were set on age, gender, and region. Following fielding, results were weighted to 2021 Canadian Census data (from Statistics Canada) to ensure that results for overall percentages were not influenced by the decision to sample key demographics including: age, gender, region, racial identity, and education. Appendix C includes a breakdown of the demographics relevant to this report. The results of this study are specific to the sample studied and no formal statistical inferences can be drawn between the sample results and the broader population. Totals may not add up to 100 due to rounding.

In addition to descriptive analysis, we conducted inferential analysis: we analyzed the data to include any notable difference in knowledge, skills, experiences, and opinions. Differences between survey groups (A through F) are highlighted in our findings if: they demonstrate a meaningful impact of one video (or the control group) over others and they are based on samples large enough to be reliable.

## Analysis

Following the fielding of the survey, MediaSmarts' research and education teams engaged in a collaborative initial analysis process whereby we gathered and triangulated points of interest and relevant findings from the top-level quantitative results to identify:

1. themes for further quantitative analysis; and
2. areas of further exploration in the qualitative focus groups.

Through this collaborative process we identified several areas of focus and themes for further quantitative data analysis including:

- Demographic and group level differences
- Discernment exercise outcomes
- Video intervention themes:
  - Accessibility
  - Credibility/reliability
  - Relevance and long-term effects
- Attitudes, behaviours and perceptions themes:
  - Fact-checking aptitudes and attitudes
  - Visual information
  - Reliability of media, trust, and skepticism
  - Media consumption and sharing behaviours

Our initial analysis also highlighted key areas of focus for the qualitative focus groups. For example, it was quickly apparent that we needed to further examine participants' discernment practices or the steps they take to fact-check information. We needed to better understand when participants fact-check, why they think it's important to do, and what 'reliability/unreliability' means to them. The focus groups would provide us with an opportunity to capture participants'

decision-making processes in detail in a way that the survey could not. Similarly, we noted the need to further understand participants' information sharing intentions and practices, the mental models participants were relying on to discern and debunk visual information, and the impacts of blanket skepticism

and false bias on debunking and discernment. Finally, the focus groups would allow us to more meaningfully examine the digital media literacy needs of communities of focus, emerging in both the literature and our initial observations from the survey, especially for older adults (aged 55 and up). With these initial findings in mind, we finalized the design of the qualitative focus groups.

## Qualitative Phase:

### Focus group design

30 participants from across Canada were recruited from the survey to participate in online focus groups that took place over three days in November 2024 on the platform Recollective. Like in the survey, participants were divided into groups; however, the focus groups did not include a control group:

- **Group A** (n=6) watched *BTF* **Video A** focused on 'how' messaging: four steps to fact-check information online.
- **Group B** (n=6) watched *BTF* **Video B** focused on 'how' messaging: how to think critically and avoid conspiracy.
- **Group C** (n=6) watched *BTF* **Video C** focused on 'why' messaging: AI and deepfakes make it harder to tell what's real just by looking at it.
- **Group D** (n=6) watched *BTF* **Video D** focused on 'why' messaging: misinformation impacts those we care about like our friends and family.
- **Group E** (n=6) watched *BTF* **Video E** focused on combined 'Why and How' messaging: AI and deepfakes make it harder to tell what's real just by looking at it, check other reliable sources.

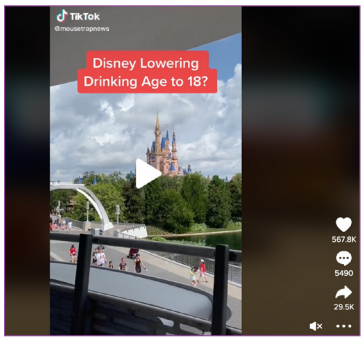
Groups A through D included a range of participants aged 18 and older while group E included participants aged 55 and older. Conducting the focus groups on Recollective allowed us to conduct the study asynchronously over three days regardless of participant location and time zone. Focus groups were conducted in English, with technical support provided by Abacus Data. Focus groups[34] including a mix of individual, small, and large group activities were pre-populated and scheduled over three-days with specific activities for each day.

Participants began the **first day** of the focus groups with individual activities. They were first asked to provide two examples of online information they recently shared and to explain why they shared it, with whom, and how. We then provided participants with several examples of true and false information (See Appendix D), in multiple contexts and forms, and we asked them to rank these examples based on what they would share publicly, privately, or not at all:

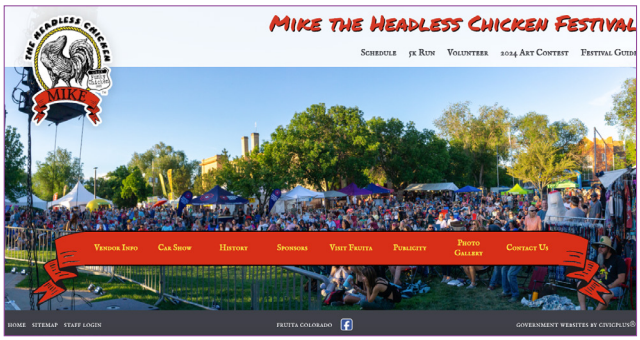
34 If you are interested in viewing the focus group guide used in the Motives and Methods study, please contact our Director of Research at info@mediasmarts.ca

## Information sharing exercises:

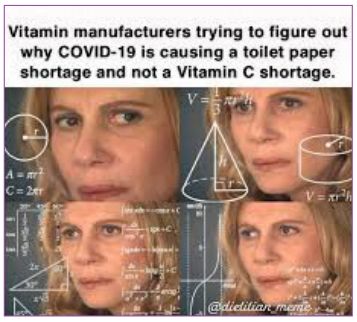
A TikTok video on Disney lowering the drinking age to 18: **False**




A website for the Mike the Headless Chicken Festival in Fruita, Colorado: **Real/True**

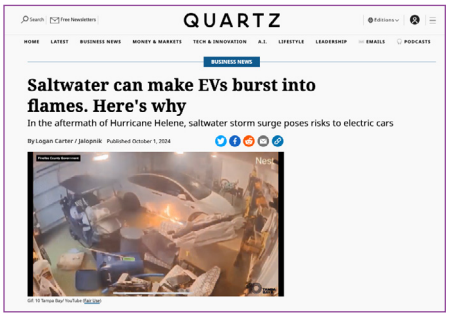



A meme about vitamin C and COVID-19: **Somewhat False**



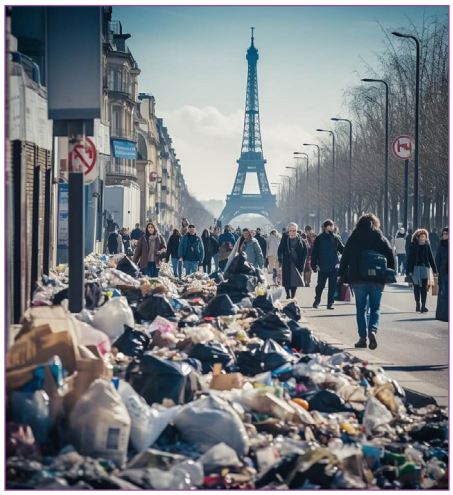

A news article about Tesla's solar energy business taking a turn for the worse: **True**


An article about saltwater causing the batteries in electric vehicles to catch fire: **True**



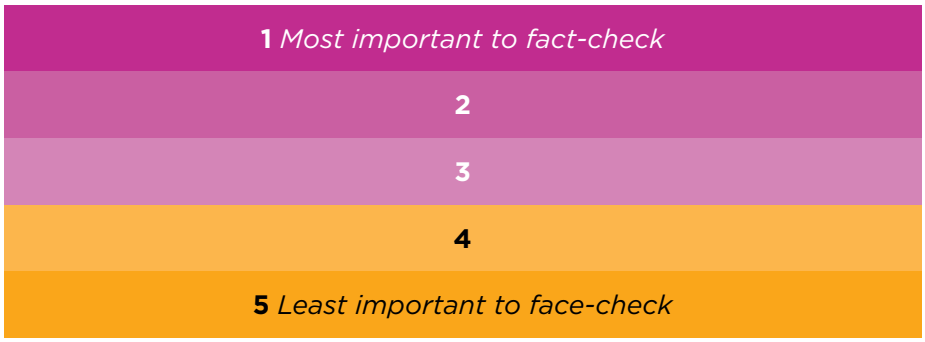

An article about a chain-smoking chimp at the Pyongyang Zoo: **True**


An image depicting Paris covered in garbage: **Fake/False**



Participants were not limited in their ranking of this information; they could choose to share all or none of these examples or some combination of sharing and not sharing at various levels (from private to public). For each example, participants were asked to explain how they came to their decision.

We then asked participants to rank these same seven examples on a scale from one to five: one being most important to fact check and five being least important to fact check.




Once again, participants were not limited in their ranking of this information; they were asked, for each example, to explain their decision-making process. After completing these individual activities, participants engaged in a small group discussion about instances in which they would or would not fact-check something and why. Participants were encouraged to provide their own answers as well as engage with other's answers by responding to or liking other comments.

The **second day** of focus group activities began with video intervention activities. Groups A through E were shown their respective *BTF* video before engaging in the discernment exercises chosen specifically for the focus groups (see Appendix B). For each example, participants were asked to share whether they thought the content was real or fake, and to explain why and how they knew. Responses to the discernment exercises were visible to the research team only (and not other participants). Following the discernment exercises, participants engaged in a large group discussion, open to all (30) participants, about their experiences with and perspectives on (including how they see and interact with) visual information. Participants were encouraged to provide their own answers as well as engage with others' answers by responding to or liking other comments.

On the **third and final day** of focus group activities participants were provided the opportunity to privately review and reflect on the previous two days' activities and discussions. Participants then returned to their small groups (A through E) and watched the same BTF video they watched on day two (Group A watched Video A and so on). After re-watching their video, participants engaged in small group discussions about the messaging of the *BTF* video including whether they agreed with it. Participants were also asked to reflect on what they thought motivated people to check online information before they share it. They were encouraged to provide their own answers as well as engage with and respond to others' (including by liking comments).

The focus groups concluded with some final individual questions regarding participants' engagement in these groups and the study at large. These 30 participants had been engaging with *BTF* content, and thinking about authenticating and verifying information, for over six weeks through both the survey and focus group phases. We wanted to take advantage of this longitudinal component of the study by asking participants to reflect on their engagement in these focus groups and the study at large.
For example, we asked participants to reflect on the ways they engage with online information and whether that has changed since their participation in this study. After completing all focus group activities, participants were provided with an answer key for the qualitative fact-checking and sharing exercises as well as links to additional *BTF* program resources.

## Administration

Focus groups took place from November 20 to 22, 2024, with participants from across Canada. Recruitment was conducted through the survey; interested participants completed a sign-up link at the end of the survey. After an initial screening and consent process candidates were selected based on demographics identified for the study (See Appendix C) including intentional oversampling for a group of older adults (55+). Participants were assigned a pseudonym to ensure their participation in the groups (with other participants and researchers) was anonymous. Any potentially identifying information shared through the focus groups was removed prior to data analysis.

## Analysis

Following the completion of the focus groups, MediaSmarts' research team engaged in a collaborative initial analysis process. We developed and triangulated themes emerging from the top-level qualitative results, including:

- Debunking and discernment practices
- Motivations to share/not share and fact-check/not fact-check content
- What makes content and sources appear reliable/unreliable
- Digital media literacy needs of older adults (55+)
- Trust/distrust of media
- The impacts and effects of visual misinformation
- Reflections on *BTF* videos and longitudinal engagement in this study



Following the completion of the focus groups, we presented our initial analysis, for both phases of this study, to our project advisory committee. Project advisors provided critical feedback on key findings surfaced in our initial analysis and suggested key areas of focus for further analysis. Advisors also offered valuable insights regarding the lessons-learned, best practices, and study design decisions that would be important to share with stakeholders in research, policy, industry, education, and community organizations.

## Challenges and Considerations:

Several studies[35] have identified ideology and emotion to be major factors in how likely individuals are to share misinformation. Most individuals who share misinformation without checking the validity of the source and/or claim(s) do so on the back of heightened emotions like rage, confirmation bias, and ideological alignment.[36] In this study, we deliberately excluded emotionally provocative and/or ideologically motivated examples of information. Studies[37] have confirmed that this type of content tends to reduce, if not entirely shut-down, people's discernment and debunking practices. As such, including emotionally or ideologically charged content in our study may have disrupted our ability to explore the nuanced ways people do engage in discernment and debunking. Further, from an ethical perspective, we did not want to expose participants to potentially activating or harmful content and did not want to risk heated discussions and comments distracting from the central objectives of the study.



The examples in this study are generally unambiguous and de-politicized forms of information. We did not explicitly test for or ask participants about ***cheap fakes*** or what we refer to in this study as ***slippery misinformation*** - information that is accurate but may be shared in a biased or selective manner (e.g. in the wrong context or with missing context). As we noted above, this is a nuanced form of misinformation that people generally have a difficult time identifying (given the level of interpretation involved in deciding the proper or missing context) making it one of the most challenging forms of misinformation. While we did not test specifically for this type of misinformation, we began to see evidence that deepfake visual misinformation (e.g. the Henry Ford quadricycle example) is a form of ***slippery misinformation.*** We speak to this throughout our analysis of study findings.

**slippery misinformation** — information that is accurate but may be shared in a biased or selective manner (e.g. in the wrong context or with missing context).

35 See: Cameron Martel, Gordon Pennycook, and David G. Rand, "Reliance on Emotion Promotes Belief in Fake News," *Cognitive Research: Principles and Implications*, 2020, https://doi.org/10.1186/s41235-020-00252-3; April A. Strickland, Charles S. Taber, and Milton Lodge, "Motivated Reasoning and Public Opinion," *Journal of Health Politics, Policy and Law*, 2011, https://doi.org/10.1215/03616878-1460524; Gordon Pennycook and David G. Rand, "Lazy, Not Biased: Susceptibility to Partisan Fake News Is Better Explained by Lack of Reasoning than by Motivated Reasoning," *Cognition, The Cognitive Science of Political Thought*, 2019, https://doi.org/10.1016/j.cognition.2018.06.011.

36 ibid.

37 ibid.

In this study, we aimed to measure participants' ability to identify accurate content and reduce the likelihood of sharing unverified content. During its design, it quickly became apparent that we could not 'do it all' and would have to make critical decisions about what to include and exclude. We had to regularly remind ourselves of these goals when we came to cross-roads in study design and analysis. For example, we recognize that all participants' authentication and verification skills are inextricably linked to the digital divide in Canada. Meaning, they are characterized by unequal digital access and skills and exacerbated by other socioeconomic inequalities.[38] While this report focuses on the needs of older adults, a separate *digital equity and inclusion brief*[39] will address the intersectional factors (including gender, race, age, education, and economic status) impacting participants' vulnerability to misinformation and their ability to mitigate it.

Developing a study of this scale and scope (a mixed-methods study with over 5000 participants) also presented some technical and design challenges. For example, in designing the fact-checking and sharing activities, we had to ensure participants' felt they were not precluded from opening a new tab (to engage in discernment and debunking), while not prefiguring this outcome. We also had to contend with the potential risks of attrition in survey and focus group completion by allowing participants the option to momentarily leave the study platform.

**We want to thank our project advisors who supported us in designing this study as well as the participants who took the time to engage in this research project.** Your experiences, concerns, and recommendations are summarized in this report and serve to strengthen the evidence base on which organizations like MediaSmarts, policymakers, platforms, and researchers can draw to strengthen and build resilience to online misinformation in Canada.



38 See: Sam Andrey et al., "Mapping Toronto's Digital Divide" (Ryerson Leadership Lab: The Brookfield Institute for Entrepreneurship and Innovation, 2021); Kara Brisson-Boivin and Samantha McAleese, "How Digital Literacy Can Help Close the Digital Divide," *Policy Options*, 2021, https://policyoptions.irpp.org/magazines/april-2021/how-digital-literacy-can-help-close-the-digital-divide/; Vladimir Bilozubenko et al., "Comparison of the Digital Economy Development Parameters in the EU Countries in the Context of Bridging the Digital Divide," 2022, http://212.1.86.13/jspui/handle/123456789/4825.

39 The Digital Equity and Inclusion Brief will be published later in Spring 2025 @MediaSmarts.ca

# Motives and Methods for Addressing Online Misinformation

In this section we summarize and discuss key findings from the quantitative phase of the project and include deeper insights from the qualitative focus groups. We will discuss findings as they relate to five themes: discernment, assessing information, sharing behaviours, fact checking aptitudes and attitudes, and visual information.

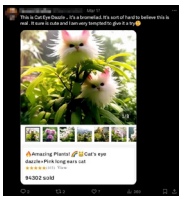
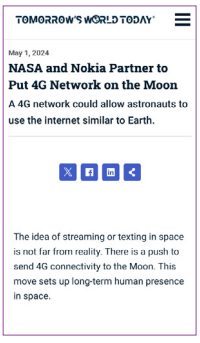
For each theme, we will discuss findings using the following structure:

- **Overall findings:** Here we present overall quantitative survey findings relative to a given theme.
- **Group findings:** Here we present any differences between participant groups in the quantitative phase of the study. Recall in the survey five groups watched a *BTF* intervention video and one control group did not see an intervention video.
- **Insights:** Where appropriate, we will include focus group insights that expand on or complement quantitative survey findings, or that relate to a demographic finding, especially regarding older adults (in focus **Group E**) who are our community of focus for this project.

# Discernment:

## Overall findings

In the survey discernment exercises, participants (n=5000) were asked to select how likely they find five examples of online information to be true or false on a six-point scale from *clearly true* to *clearly false* (with an additional 'prefer not to say' option). Below is a summary of participants' responses, collapsed into a binary of true or false:

| Description: | Example: | True: | False: |
|---|---|---|---|
| Example 1 (**True**) – A social media post stating that Godzilla was made police chief of a Tokyo station for a day |  | 40% | 59% |
| Example 2 (**False**) – A social media post presenting Henry Ford on a quadricycle |  | 70% | 28% |
| Example 3 (**False**) – A social media post presenting a 'cat eye dazzle' flower |  | 19% | 80% |
| Example 4 (**True**) – A news headline of traffic with the text: "Houston drivers play rock-paper-scissors to decide who moved ahead in traffic" |  | 31% | 68% |
| Example 5 (**True**) – A news headline about 4G Network on the moon |  | 39% | 59% |

Most survey participants struggled to distinguish between true and false information. A large majority did not correctly identify the accuracy of four out of the five discernment examples. The exception was the 'cat eye flower' example, which 80% of participants correctly identified as false. A comparably high percentage of participants (70%) **incorrectly** believed the deepfake (AI generated) image of Henry Ford in a quadricycle to be true. These primarily visual examples (cat eye flower and Henry Ford) garnered the highest percentage of agreement among participants, despite yielding different outcomes in identifying their accuracy. As we will note in more detail throughout this analysis, participant responses reveal insights into the kinds of visual information that are particularly difficult to discern. Participants seemed to be more successful in their discernment when it came to hyper-realistic and "fake" looking images (such as the cat eye flower), but less successful with an image that was linked to a true claim (although the image is a deepfake, Henry Ford did invent the quadricycle). Images, like the Henry Ford quadricycle, which include elements of 'truthiness' offer critical insights about the **slipperiness** of deepfakes and other sophisticated forms of visual misinformation.

We also observed a false bias among participants during discernment exercises, which means that they were more likely to say something was false, regardless of whether it was actually false. These findings are aligned with research[40] that has identified false bias as a common mental model when people discern between true or false information. Participants in our study were generally more likely, for all but one image, to state that the example is false despite being presented with a mix of three true and two false examples. This false bias is further supported by participants' self-reported confidence about their answers. More participants were likely to state that something was 'clearly false' than 'clearly true'. For example, in the case of the Godzilla post (which was true), five times as many participants incorrectly stated that it was 'clearly false' (34% clearly false vs 7% clearly true) and an even higher percentage of participants rightly identified the cat eye flower image as clearly false (45% vs 4% clearly true).

## Qualitative insight: False bias

Interestingly, a false bias was not reflected in the qualitative focus group findings. In fact, we found that participants (n=30) demonstrated a slight truth bias, meaning that they were overall more likely to say something was true than false, regardless of whether it was actually true. This may be because focus group participants were nudged to think about discernment. Having been recruited from the quantitative survey, not only did they already have the exposure, but they also spent more time watching the *BTF* videos. In the focus groups, they participated in activities, some of which were interactive, that encouraged them to think critically about authenticating and verifying online information.

This indicates that nudging may reduce false bias. The reduction of false bias is crucial to encourage Canadians to fact-check information rather than resort to being sceptical of *all* online information. Blanket skepticism does not encourage the development of the critical thinking and digital media literacy skills required to recognize and respond to misinformation.

40 Brian Guay et al., "How to Think about Whether Misinformation Interventions Work," *Nature Human Behaviour*, 2023, https://doi.org/10.1038/s41562-023-01667-w.

### Group findings

In the quantitative survey, there were no noteworthy variations between groups during discernment activities. This is a worthwhile finding because it reveals that there was little variation in discernment success between the control group, who did not see any intervention video, and the groups who watched the *BTF* intervention videos. Although this tells us less about the value of the different *BTF* intervention videos, it demonstrates the impact of accuracy prompts or nudges broadly. Simply by participating in and understanding the purpose of the study, all participants were consistently prompted to think about verification and authentication of information; this may explain the similar results in their discernment behaviours.

## Assessing Information:

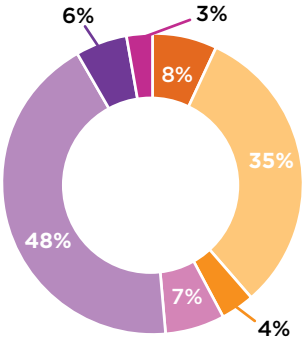
### Overall findings

In the discernment exercises, we also asked participants how they decided that an example was true or false. Most participants stated that they guessed or that the information appeared to be reliable or unreliable (depending on if they said the information was true or false). For each example, about a third of participants stated that they reached their answer because an example appeared reliable or unreliable, and approximately half of participants stated that they guessed. We observed much smaller percentages for other methods of assessing information across the examples:

- looking up the information (4-5%),
- discussing the topic with someone (7-9%),
- knowing about the topic (about 7%, apart from 16% for the Henry Ford deepfake image), and
- using some other (unidentified) means of assessment (4-7%).

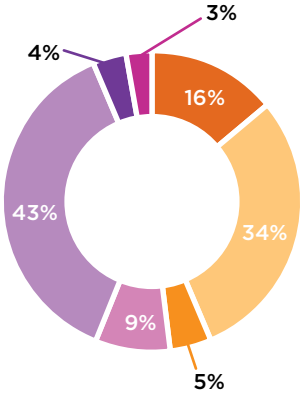
## PROCESS OF DETERMINING TRUE AND FALSE INFORMATION

### Example 1: Godzilla: **True.**

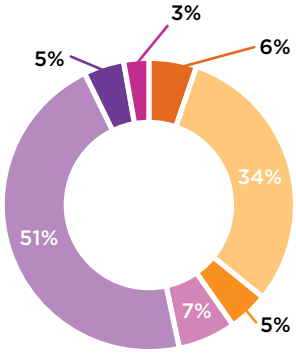




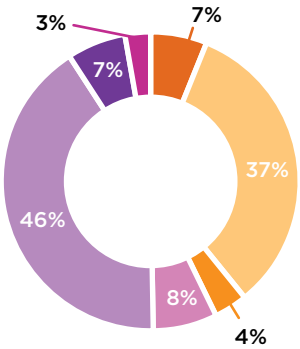
### Example 2: Henry Ford: **False.**



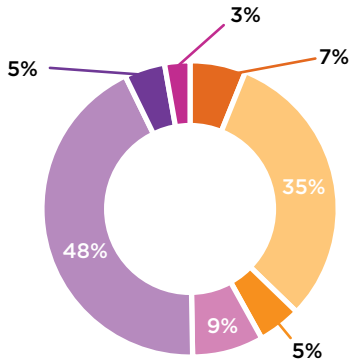

### Example 4: Rock, Paper, Scissors, Traffic: **True.**




### Example 3: Cat Eye Flower: **False.**




### Example 5: Internet on the Moon: **True.**



## Group findings

Participants in **Group A**, who watched *BTF* Video A (focused on 'how' messaging including four steps to fact-check information online) showed a slight difference in their process of assessing the authenticity of information. Compared to other groups, those in **Group A** were statistically more likely to 'look up' information related to three out of five of the discernment examples. However, only about 10% of **Group A** participants did this, compared to 6-8% among other groups. Nonetheless these findings suggest that interventions which include focused and clear steps on how to fact-check may slightly encourage fact-checking behaviors. Our results align with other research[41] which confirms that interventions focused on simple, concrete strategies or tips for discerning true and false information have positive effects.

## Qualitative insight: Processes of assessing information

Understanding Canadians' processes of assessing information was a priority for the qualitative focus groups. After asking participants if the two discernment examples (an image of a spider and the front page of an online news outlet) were true or false, we asked participants to elaborate on their decision-making processes. Focus group responses revealed similar processes to those identified in the survey, such as guessing, looking up information, and prior knowledge. However, qualitative answers offered more depth and description.

For example, many participants described that they came to their decision that the image of the spider was real or fake because it "looks fake" or "looks real."

**"I just looked at it and it doesn't look real." – Group E**

**"I decided from looking at the detail in the spider and the quality of the image makes it look real." – Group E**

Participants who relied on prior knowledge to determine the veracity of the discernment examples did so in two ways: believing something was true because they knew about it or had seen it before, and believing something to be false because they had never seen or heard about it.

**"I decided it was fake because I have never seen a spider that was colourful like this." – Group B**

**"I watch a lot of animal planet, and have seen something similar to this spider." – Group E**

For many focus group participants, determining whether something was real or fake meant tapping into their mental models (or heuristics), such as prior knowledge or experience, as clues to decipher the accuracy of information. However, we observed that the same clues or mental models for processing information used by different participants caused them to arrive at opposite conclusions. For example, some participants saw the detail on the image of the spider (which was real) as evidence that it was real, while others saw this detail as evidence that it was fake. Similarly, some participants believed that because they had never seen this spider before it must be fake, while others had seen this spider before and so believed it must be real.

41 Andrew M. Guess et al., "A Digital Media Literacy Intervention Increases Discernment between Mainstream and False News in the United States and India," *Proceedings of the National Academy of Sciences of the United States of America*, 2020, https://doi.org/10.1073/pnas.1920498117.

These conflicting conclusions demonstrate why fact-checking processes are important, and why depending on less reliable heuristics or mental models (like previous experience) may leave Canadians susceptible to misinformation.

When it came to the example of the online news outlet (which was fake), many participants engaged in an online search to verify information.

"I found its website and looked into it, it looks fairly legitimate." – Group A

"I looked online and googled Michigan State to confirm the existence of this news outlet." – Group B

However, many participants assumed that their ability to find a website for the news outlet (through a quick online search) proved that it must be a real or legitimate news outlet. In fact, over half of participants incorrectly believed this news outlet to be real. This example reminds us that we cannot always trust what we see or find simply by looking at it. It is as easy to make a completely fake news site (like the one in the example) that looks as professional as a real one and a web address alone will not tell us if the site is reliable or legitimate. Instead, we need to check the source to determine if it is in fact a real news outlet and verify the source to determine if it is trustworthy. For news sites, this means determining if they follow journalistic standards and have a good track record of publishing accurate information.

Participants were successful in correctly identifying this news outlet as fake when they applied critical thinking skills to question the content of the news articles on the site.

"It's fake. I read newspaper articles [on the site] and the information is mixed about three different subjects." – Group E

"How can that one city or town decide to bring down the gas prices, it seems not believable at all." – Group B

In summary, findings from the qualitative focus groups confirm that guessing, relying on prior knowledge, quick online searches and other heuristics such as determining whether the detail in an image "looks real" are popular but unreliable ways of assessing information. The conflicting outcomes of these assessment processes reveal the importance of engaging in multi-step authentication practices that include using fact-checking tools, verifying the reliability of a source, and checking other sources.

## Qualitative insight: What makes online information appear reliable?

In the survey, most participants assessed the authenticity of information by guessing or saying that the information "appears reliable/unreliable." Given survey participants reliance on 'reliability/unreliability' as a tool to assess information, we asked all 30 focus group participants what makes online information appear reliable or unreliable to them. When it came to reliability, participants had two main responses:

For most people, reliability depended on who published or posted the information. If they checked the source and it was either a well-known publication, a source they already know to be reliable or expert-reviewed, or posted by a trusted friend, then they considered the information reliable.

"I usually try to check the original source of the article or which friend posted it." – Group A

"I look at the source, for example the media, and if the media is a well know media, you know that they must follow some rules." – Group B

- **"For really relevant information...such as climate change [I] tend to look for peer reviewed experts, UN Climate page or solid sources such as The Economist Magazine." – Group E**
- **"They seem reliable if they state their source and it's a legitimate source. Also, I know I can always trust my local news station, so I try to mainly look to them for my news because I know they're legit!" – Group E**
- **"If you are lucky enough to have experts around, ask them for appropriate links and feedback as they have your best interest at heart." – Group E**

For other participants, reliability depended on whether it was supported by different sources:

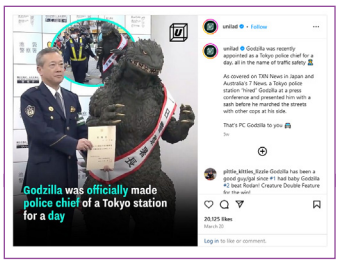
- **"I try to balance different sources." – Group E**
- **"You need to check it over and over if you can't find it in one resource you go to another." – Group E**

These findings demonstrate that, for the most part, when it comes to reliability of information participants depended on verified or trusted sources and consensus among multiple sources.

# Sharing Habits:

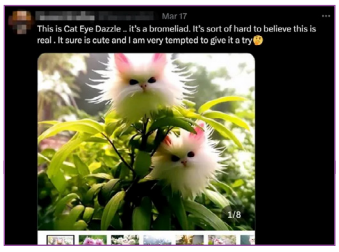
## Overall findings

Understanding sharing habits is key to understanding the spread of misinformation. In the survey, self-reported likelihood of sharing the discernment examples was consistently low among participants. Out of all the discernment examples (See Appendix A), participants were most likely to share the Henry Ford deepfake by a large margin (over a quarter of participants compared to approximately a fifth for other examples):



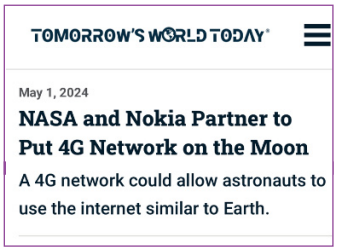

**19% of participants** are likely to share
Example 1: Godzilla post: **True**


**29% of participants** are likely to share
Example 2: Henry ford deepfake: **False**




**16% of participants** are likely to share
Example 3: Cat eye flower post: **False**


**18% of participants** are likely to share
Example 4: Rock, Paper, Scissors, Traffic: **True**

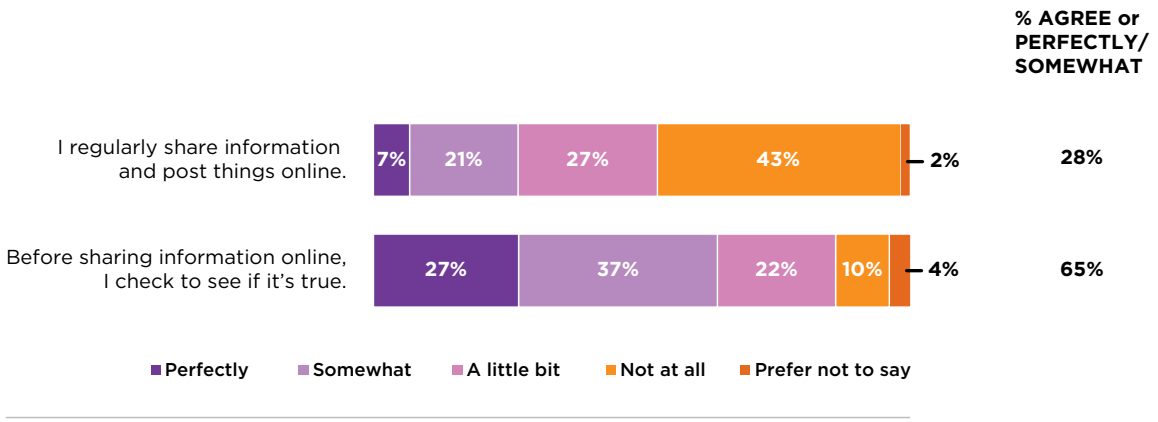



**21% of participants** are likely to share
Example 5: Internet on the moon article: **True**

The higher likelihood of sharing this deepfake image further confirms our analysis of how problematic slippery visual misinformation (information that contains elements of truth) can be. Not only was this image most likely to be incorrectly identified as true, out of all discernment examples, but it was also most likely to be shared by participants. This suggests that slippery misinformation not only impacts discernment but also sharing behaviours, which directly impacts the spread of misinformation.

Despite this concerning finding, it is worth noting that for each discernment example, participants who believed the information was false were also less likely to share it. This confirms that participants are less likely to share information they deem to be false and are therefore unlikely to knowingly contribute to misinformation in online information ecosystems.

Participant responses to the survey's remaining questions about sharing provide further evidence of Canadians' conscientiousness when sharing online information.




[Base] n=5,000

Only a quarter (28%) of participants said they regularly share information or posts online and 65% of participants said they check to see whether information is true before sharing it online. Therefore, despite difficulty discerning between true or false information, Canadians may be hesitant to share online information and may pause to check if it is true before sharing.

## Group findings

There were few noteworthy differences between survey groups when it came to the likelihood of sharing the discernment examples. Overall, participants were unlikely to share information. One group difference was that participants who watched a *BTF* intervention video (survey groups A-E) were less likely to share the cat eye flower example (which was false) compared to participants in the control group who did not watch a *BTF* video (15% of those who watched a video compared to 20% of those who didn't watch a video). This suggests that perhaps the messaging of the *BTF* videos positively impacted sharing intention among participants, making them less likely to share a false image. In this case, our finding here aligns with research that misinformation interventions reduce the likelihood of sharing false information online.[42]

## Qualitative insight: Why Canadians share

In the qualitative focus groups, we examined participants' motivations for sharing by asking them to include examples of online information they recently shared and to explain why they shared it. We found that participants primarily shared: **causes they care about** and **calls to action** (e.g. change.org petitions); **issues that affect them or those around them** (e.g. a news article about the cost of public transportation); **political content** (e.g. a post about prime minister Justin Trudeau and immigration); **entertainment or humorous content** (e.g. a video of a dog imitating its owner); and **content to express frustration at misinformation or dissuade others from believing false information** (e.g. a post about a family being scammed $22K for Taylor Swift tickets).

42 Gordon Pennycook and David G. Rand, "Accuracy Prompts Are a Replicable and Generalizable Approach for Reducing the Spread of Misinformation," *Nature Communications*, 2022, https://doi.org/10.1038/s41467-022-30073-5.

We also gave participants seven examples of online content (See Appendix D) to rank on a scale of what they would choose to share privately, publicly, both privately and publicly, or not at all, and we asked them to explain each choice. We included this activity to understand the low frequency of sharing behaviours reported in the quantitative survey, and to more broadly understand participant motivations for choosing not to share something. We learned through this ranking activity that participant motivations for not sharing were the inverse of their motivations for sharing. One of the top reasons for not sharing was that the information is not humorous, relevant, or of interest to them.

> "I'm not really interested in any of these topics and don't really have a reason to share the articles with any friends." – Group E

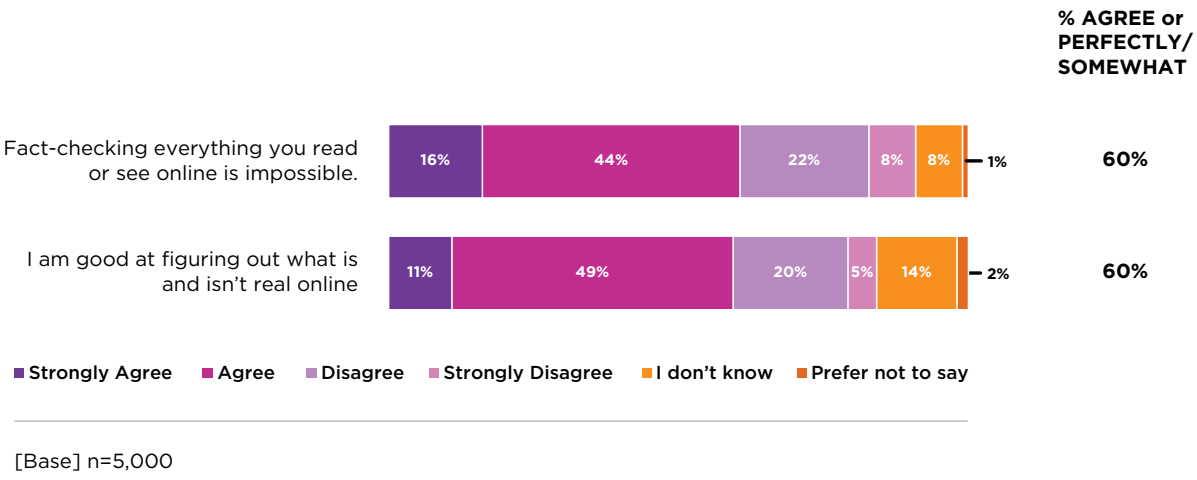
Participants also did not share information when it appeared to be untrue.

> "Not sure how much I trust the information presented on these, so unless I had a way to verify it as true, I'm hesitant to share." – Group E

This supports findings from the quantitative survey that most participants would not share information they believe is false and would fact-check information before sharing it. This leads us to our findings on participants' fact-checking aptitudes and attitudes.

## Fact-checking Aptitudes and Attitudes:

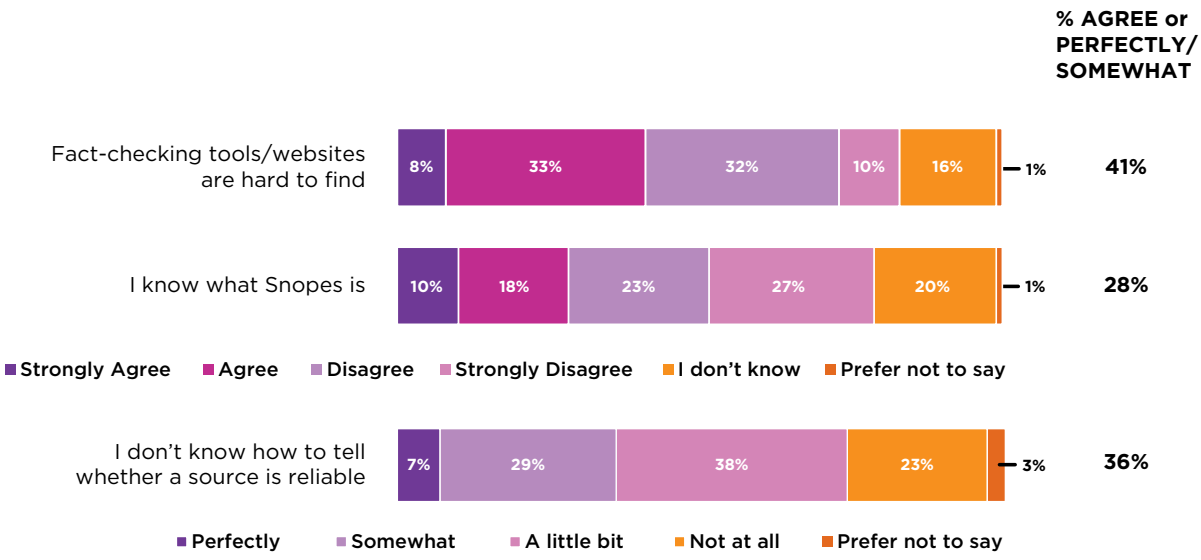
In addition to the discernment exercises, we designed a number of survey questions to understand participants fact-checking behaviours and attitudes. We asked participants whether they agree or disagree with several statements relating to their fact-checking behaviours and knowledge of fact-checking tools.




[Base] n=5,000

One key finding was a set of inconsistent beliefs held by many participants: most participants (60%) believe it is impossible to fact-check everything they read or see online however, most participants (60%) also believe they are good at figuring out what is and isn't real online. When we consider participants' positive self-assessment about their information verification abilities (I'm good at figuring out what is and isn't real online'), alongside the fact that they are unlikely to fact-check everything (since they believe it is impossible), this highlights the importance of what we found regarding participants information assessment practices. Findings revealed that participants primarily use unreliable information assessment processes including prior knowledge, guessing, and the perceived reliability/unreliability of content to determine whether something is true or false. Together, these findings confirm the importance of strengthening Canadians' knowledge and use of fact-checking tools. As well as the need for interventions that combat an understandable sense of overwhelm when it comes to the volume of information potentially requiring verification. A key component of building resilience to misinformation is teaching **information triage** — sorting and prioritizing information based on relevance, accuracy, and urgency — to combat the sense of paralysis that can set in when people are faced with an overwhelming volume of information.

In addition, many participants (41%) found fact-checking tools hard to find and very few (28%) knew what they were (e.g. 'I know what Snopes' is). A third of participants (36%) agreed, either perfectly or somewhat, and a further third (38%) agreed 'a little bit' that they don't know how to tell if a source is reliable. Despite the difficulty participants experience in finding and using fact-checking tools and determining the reliability of information, slightly more than half (56%) of participants said they get most of their news online.

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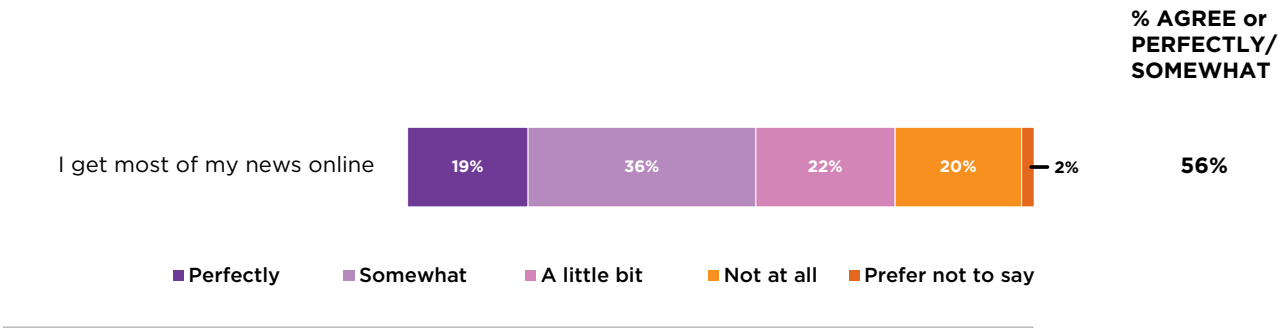


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Once again, a contradictory mental model seems to be present: Canadians get most of their news online, rely on guessing and intuition to authenticate online information, and express overwhelm and limited knowledge when it comes to fact-checking processes and tools, while still believing that they are good at determining the authenticity of online information. We know from the discernment exercise findings that most participants did not correctly discern between true and false information. The mental models they used in assessing online information did not support the fact-checking behaviours needed to reliably determine the authenticity of online information. Therefore, we designed the qualitative focus groups to further understand participants' fact-checking attitudes and aptitudes, including what motivates them to fact-check, why they do not fact-check, and in what contexts.

## Qualitative insight: Fact-checking motivations

Focus group questions designed to understand why and when participants do or don't fact-check revealed that their motivations were impacted by several factors, including:

- **Lack of time:**

"There [are] instances when I see some news and don't have the time to fact check it…" – Group A

- **Level of interest, relevance, and/or impact to them personally:**

"Even if it wasn't true who cares?" – Group E

- **Humour:**

"I really do not care whether it is true or not it's just funny" – Group A

- **Potential harm to reputation:**

"This news if true has a potential to destroy the electric car industry and should only be spread on social media if its validity is…" – Group A

- **Potential safety issues or danger:**

"This is a public interest story and is directly connected to public safety." – Group A

- **Prior knowledge:**

"There are plenty of instances in which I do not bother to fact check. This is because some topics I am very familiar with and therefore do not need to verify anything." – Group A

- **Mistrust of information on certain platforms:**

"I double check everything on TikTok.' – Group E

- **Knowledge of common misinformation about a topic:**

"Everything surrounding covid needs to be checked from all angles and all sides with so much false information from everybody out there." – Group C

Participant's answers revealed that people were more likely to fact-check information when they perceived it to be important: such as if the information could damage the reputation of an industry or put people's safety at risk. They were also more likely to fact-check if they were already suspicious of information around a particular topic (e.g. COVID-19) or on a social media platform (e.g. TikTok). However, they were less likely to fact-check when they felt something was not important or relevant to them, if they felt they already knew about the topic, or if something was 'just funny'. They also did not fact-check if they did not have time.

We also asked focus group participants about what would motivate people to fact-check information before they share it. Participant answers were insightful and seemed to reflect their personal experiences and responsibilities in the online information ecosystem. Most participants gave three categories of response:

**First**, multiple participants stated that falling victim to misinformation encourages people to fact-check information before they share it:

"I would say if people have fallen victims of online fake news or fraud before that alone will motivate them to verify any source of information they receive before circulating it or acting on it." – Group A

"Once you get burned a couple of times sharing fake information, you are going to become more and more cautious about what you share. This could be actually a good thing to stop the spread of the fakes." – Group C

**Second**, many participants also spoke of their reputation and the desire to be known as reliable by those with whom they share information:

"For me, the big thing that motivates me is my personal reputation. I have always been known among my friend circle as someone who keeps up with current events and news, so I would never want to be caught sharing something that is fake." – Group C

"I do not want to look foolish to my family and friends for posting something that I thought was real." – Group E

**Third**, others noted that fact-checking depends on perceived impact:

"I think most people only feel the need to fact check something if it directly impacts them or if it is a type of news that could harm someone's health if used improperly... most people are careful not to spread harmful information knowingly as it can have dangerous repercussions." – Group D

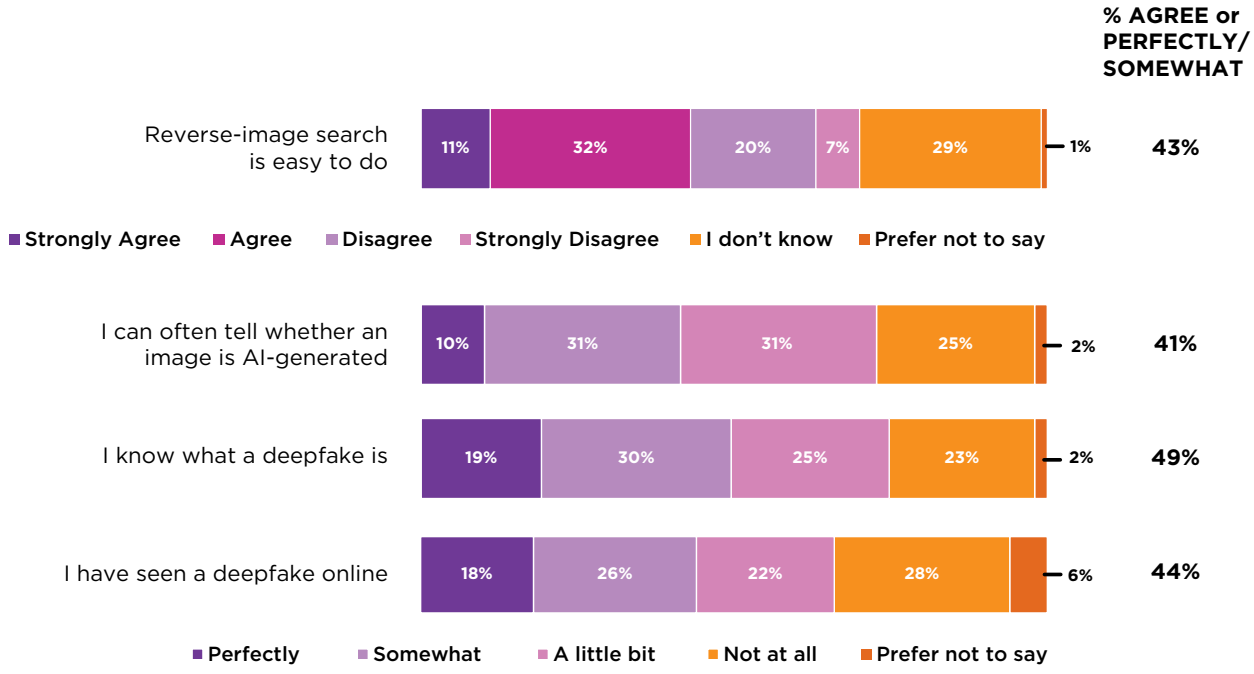
In summary, findings across the quantitative and qualitative phases of the project revealed that Canadians struggle with fact-checking tools and practices, despite perceiving themselves as good at authenticating online information. This may be due to the complex motivations behind why they do not fact-check, such as a lack of time and a reduced sense of urgency in checking information that does not seem dangerous or suspicious. Nevertheless, participant responses also reveal that they are thoughtful when it comes to sharing online information and seriously consider their reputations and responsibilities as digital citizens contributing to the online information ecosystems.

## Visual Information:

A significant aspect of this study was understanding how Canadians engage with and respond to visual information. In the themes discussed above, we highlighted two key findings regarding visual misinformation:

- Visual misinformation seems to be more slippery when a false or fake image is linked to a true claim, such as in the case of the Henry Ford deepfake. Not only is such an image more likely to be (incorrectly) accepted as true, but it is also more likely to be shared.
- More overtly fake-looking or hard-to-believe images such as the Cat Eye Flower and Godzilla social media posts appear to encourage blanket skepticism and prompt people to label them as false even when the image and claim were real. This is aligned with research[43] that demonstrates that nudges may increase people's ability to identify false information but not necessarily true information.

In the survey, we asked questions to understand Canadians' interactions with visual misinformation and tools specifically linked to verifying the authenticity of images.




[Base] n=5,000

43 Mufan Luo, Jeffrey T. Hancock, and David M. Markowitz, "Credibility Perceptions and Detection Accuracy of Fake News Headlines on Social Media: Effects of Truth-Bias and Endorsement Cues," *Communication Research*, 2022, https://doi.org/10.1177/0093650220921321.

Four in ten participants knew what a deepfake is (41%) and had seen a deepfake online (44%). Four in ten participants also agreed that a reverse-image search is easy to do, and a similar number said they can often tell whether an image is AI-generated (41%). Although several participants seem to recognize and know how to respond to visual misinformation, there is a gap between participants who can tell whether an image is AI-generated (41%) and participants who said they are good at figuring out what is real or not real online (60%), suggesting slightly less confidence when it comes to navigating visual information online. Furthermore, participant responses in the discernment activities revealed that although they report some confidence in their ability to identify AI-generated images, they struggle to do so in practice. This is especially true for the more slippery forms of visual information, such as the Henry Ford deepfake which 70% of participants incorrectly identified as true.

## Qualitative insight: Concerns about visual misinformation

In our focus groups, participants unanimously expressed that verifying visual information was more challenging than verifying textual information. Participants expressed concerns about the ever-developing sophistication of AI, deepfakes, and other forms of visual misinformation, which are increasingly difficult to detect and authenticate.

> "I think with AI being a popular thing it's made it harder to figure out what is real and what isn't. I've seen some videos of celebrities that have ended up being fake but they look so real, it's scary!" – Group E

> "It's definitely a lot harder now to verify visual information online with AI-generated tools keep becoming more advanced. Deepfake and AI generated humans look so real these days I find it tricky to distinguish between authentic and fabricated ones." – Group B

Although some survey participants were confident in their ability to verify visual information, by examining details or using reverse-image search tools, the concerns expressed by focus group participants demonstrate the unique challenge of visual misinformation.

> **"In one way it is easier, because AI generated images can have a certain appearance and overall feel to them that make them identifiable, they can also have indicators such as unreadable/mangled text, outlandish appearance, trouble with hands, etc. The difficulty is if you can't image search it, then it becomes very difficult to fact-check it, compared to written info which can be searched manually." – Group A**

This insightful participant response reflects a major finding of this study. Authentication habits and mental models (such as examining suspicious-looking details in online images) that may have served Canadians in recognizing misinformation are becoming increasingly unreliable and outdated due to the complexity and rapid evolution of AI. Misinformation interventions require that special attention be paid to visual misinformation. Canadians need to be supported, and provided with tools, to adapt to, recognize, and respond to visual misinformation. Our participants' unique concerns with visual misinformation support research that argues for the treatment of visual misinformation as distinct (and not just an expansion of) textual misinformation.[44] Taken together, the slipperiness of AI-generated images like the Henry Ford deepfake, participant concerns about their ability to recognize visual misinformation, and the need for more tools to support these concerns, confirms that it is a unique form of misinformation and highlights the need for special attention to this type of misinformation in interventions.

44 Teresa Weikmann and Sophie Lecheler, "Visual Disinformation in a Digital Age: A Literature Synthesis and Research Agenda," *New Media & Society*, 2023, https://doi.org/10.1177/14614448221141648.

## Community of focus insight: Older adults

This study positioned older adults as a community of focus given their unique digital media literacy needs impacted by the grey digital divide. Older adults often experience unique challenges in accessing and utilizing digital technologies leading to social disadvantages and inequalities.[45] Research[46] shows that older adults are more vulnerable to misinformation and more likely to share it than their younger counterparts. Understanding the unique habits, attitudes and needs experienced by older adults is crucial to contribute to the knowledge base of how interventions can be designed to effectively support them in mitigating online misinformation.

In their responses to the discernment exercises, older adults (n=1989) demonstrated some distinct patterns. Compared to their younger counterparts (aged 18 – 29), older adults (55+) were:

- **less likely** to correctly identify the accuracy of information (e.g. select 'true' when an example was true, and 'false' when an example was false),
- **less likely** to look up information and **more likely** to guess when assessing the authenticity of information, and
- **less likely** to share information overall (e.g. whether it was true or false).

Older adults therefore struggled to distinguish between true and false content and depended on unreliable practices to discern information, such as guessing, instead of more reliable practices like looking up information. For instance, in one discernment example, 5% of older adults (aged 55+) said they looked up information, compared to 10% of younger adults (aged 18 – 29). In the same example, older adults were also more likely to say they determined the information was true or false by guessing (55% of older adults compared to 40% of younger adults).

45 Farooq Mubarak and Reima Suomi, "Elderly Forgotten? Digital Exclusion in the Information Age and the Rising Grey Digital Divide," *INQUIRY*: *The Journal of Health Care Organization, Provision, and Financing*, 2022, https://doi.org/10.1177/00469580221096272.

46 Nadia M. Brashier and Daniel L. Schacter, "Aging in an Era of Fake News," *Current Directions in Psychological Science*, 2020, https://doi.org/10.1177/0963721420915872.

When it came to their sharing habits, older adults were generally unlikely to share any information (whether it was true or false). Compared to their younger counterparts, older adults were consistently less likely to share all five of the discernment examples (see Appendix A). However, when older adults did exhibit increased likelihood of sharing, it was with false information. Older adults were more likely to say they would share the Henry Ford *deepfake* than any other example. They were also more likely to incorrectly believe this example was true. These findings support research which suggests that older adults are less adept at discernment and when they do share online information, they are more likely to share misinformation.[47]

We also observed some distinct findings when it came to older adults' fact-checking attitudes. Compared to their younger counterparts (aged 18 - 29), older adults were:

- more likely than any other age-group to say fact-checking everything you see online is impossible, and
- far less likely to say they are good at figuring out what is and isn't real online.

The lack of confidence expressed in their ability to recognize misinformation was also evident when it came to visual misinformation. Older adults were less likely to say they were certain they had seen a deepfake online (only 11% of older adults compared to 27% of younger adults). They were also less confident in their ability to tell when an image is AI-generated (only 10% of older adults compared to 32% of younger adults). In the qualitative study, older adults (focus **Group E**) continued to express low confidence in recognizing visual misinformation:

**"AI makes it much more difficult for everyday people to determine if it is real or not." – Group E**

**"[AI] has made it very impossible to say whether the news is fake or real." – Group E**

47 Andrew Guess, Jonathan Nagler, and Joshua Tucker, "Less than You Think: Prevalence and Predictors of Fake News Dissemination on Facebook," *Science Advances*, 2019, https://doi.org/10.1126/sciadv.aau4586.

Our findings demonstrate older adults' knowledge and confidence gaps in the digital media literacy skills required to recognize and respond to online misinformation, especially visual misinformation (such as deepfakes and other AI-generated images). We know from research that factors like cognitive decline and social changes impact older adults' gaps in digital media literacy skills, and leave them more vulnerable to believing and sharing misinformation, more likely to face social exclusion, and overall less able to benefit from their online environments.[48] It is becoming increasingly important to develop focused interventions that do not leave older adults behind. Instead, interventions should equip them with the digital media literacy skills required to recognize and respond to evolving forms of textual and visual misinformation.

In the next section, we discuss the specific elements of the *BTF* videos that participants felt worked best to increase their knowledge and confidence regarding how to verify information (cognitive factors) and which elements motivated them to do it (affective factors). Drawing on the findings of this study, we will share best practices for developing evidence-based and effective interventions before moving into recommendations for building collective resilience to misinformation in Canada.




48 Nadia M. Brashier and Daniel L. Schacter, "Aging in an Era of Fake News," *Current Directions in Psychological Science*, 2020, https://doi.org/10.1177/0963721420915872.

# What Makes a Good (Video) Intervention?

In the quantitative phase of the study, five out of the six groups (n=833 each) watched *BTF* videos while the sixth control group did not receive a *BTF* video intervention. For participants who did watch one of the five *BTF* videos, we asked them a series of questions about the style, content, and impacts of the videos. Three main themes emerged regarding the *BTF* video interventions: 1) accessibility, 2) credibility/reliability, 3) relevance and long-term effects.

## Accessibility:

In the quantitative survey, most participants found the *BTF* videos accessible. Most participants said they liked the style of the videos (78%) and found the videos easy to follow (88%). Only a quarter of participants (17%) found their video hard to understand or too long (15% of participants). This positive assessment of the videos' accessibility remained consistent across all five videos (A through E).

In the qualitative focus groups, participants were able to further elaborate on what they found accessible about the videos, and the study more broadly. Some participants highlighted the familiar and attention-grabbing element introduced by the re-introduction of Canada's beloved House Hippo in the *BTF* videos, including some older adults (55+) who made up the entirety of **Group E**:

> **"I really love that they did this as a throwback for us. I love the north American tiny house hippo, I think it's a great way to catch our attention and keep it. This is a great way to showcase that things in the news are fake and how they can be fake." – Group C**

> **"I liked the video I thought it was nice and cute but it kept me interested and yeah to know what is fake and what is real you really gotta pay attention and sometimes it's hard to find out what is real and what is fake with all the technology that we have today." – Group E**

Others appreciated the straightforward, impartiality of the video's messaging:

> **"I like the message of the video. I think the ad presents a message without it being preachy or trying to pick a side politically. I hope to see one day on the tv or internet." – Group D**

The accessibility of the *BTF* videos, including their style and simplicity, kept participants receptive and interested in the messaging. This kind of accessible and clear approach to video design has been shown to be particularly effective for older adults.[49] Of critical importance was what participants identified as the need for interventions to avoid political partisanship and/or messaging that is overly moralizing ('preachy'). Both of these can distract from and shut down people's receptivity to the importance of authenticating and verifying information.

49 Andrew M. Guess et al., "A Digital Media Literacy Intervention Increases Discernment between Mainstream and False News in the United States and India," *Proceedings of the National Academy of Sciences of the United States of America*, 2020, https://doi.org/10.1073/pnas.1920498117.

## Credibility/Reliability:

Another important theme emerging from this study was credibility and reliability as several participants expressed skepticism and distrust of the *BTF* videos, our study, media, and the online information ecosystem in general. A third of survey participants who watched a *BTF* video said they were suspicious of who made the video. Additionally, just over a quarter said they do not trust the message of the video. The only noteworthy difference between group responses is that viewers of **Video A** (four steps on 'how' to fact-check information) were less suspicious of who made the *BTF* video compared to the other video groups (26% in group A compared to 29-33% in groups B through E). **Group A** was also more likely to look up information in the discernment exercises, suggesting positive reception of video A's clear and practical 'how' messaging over more motivation-based messaging.

When we asked survey participants about reliability of media, and trust and skepticism more broadly, we found high levels of skepticism towards online information. Just over half of participants (54%) said they do not trust the media, and even more (62%) said they question everything they see online. Participants were especially concerned with social media, with 72% of participants saying social media is less reliable than news sites and only 22% agreeing that information on social media platforms is usually fact-checked. Distrust of social media platforms reflects what we found in our 2023 Reporting Platforms study with youth aged 16-29, who expressed concerns that platforms prioritize corporate goals over (and sometimes at the expense of) the safety and empowerment of users. These youth felt unsupported and unsafe on social media platforms, which increasingly offload fact-checking and content moderation responsibilities onto users, leaving them vulnerable to misinformation, online hate, and other online harms. This lack of trust in social media platforms, including that they are not adequately fact-checking information, is reflected in this study.

Not only were participants mistrustful of social media, but they were also suspicious of media more broadly, including news sites:

> **"All media news outlets are bought by the deep state and scripted."– Group C**

> **"I agree that mainstream media cannot be trusted." – Group E**

Blanket skepticism and suspicion of media may be caused by the persistence and scale of online misinformation — that it travels across several networked platforms — which makes it difficult for Canadians to navigate online information ecosystems. Blanket or 'naive' skepticism is a major issue identified by misinformation research, and there is currently no clear consensus on the most effective way to address it. The distrust Canadians feel towards media and the online information ecosystem, makes it critically important to present clear and credible interventions. These should point people to reliable sources of information so that they are not left to reckon with overwhelming cynicism. The positive response we observed towards 'how' messaging in the *BTF* videos indicates that interventions should focus on transparently, clearly, and reliably offering steps, including fact-checking tools, to mitigate misinformation.

## Relevance and Long-Term Effects:

Overall, participants found the *BTF* videos relevant, applicable, and impactful to their daily interactions with online information. Nearly three quarters of participants said they can relate to the messages of the videos and approximately three quarters said they can apply what they learned in the video in their lives. Nearly three quarters of participants also stated that the video made them think about what they share online.

Although one in three participants were unsure of the purpose of their particular video, and a quarter of participants said they don't really remember much of the video, it is likely that the messaging in the videos was not new to most participants: 78% reported that they already knew what the video was trying to tell them. This is expected, given increasing efforts in policy, education, and on online platforms to address misinformation. However, although most participants said they already knew the skills and information covered by the *BTF* videos, most participants also relied on their gut or intuition when discerning between true and false information in the study activities. This raises the question of how interventions can encourage Canadians to apply their knowledge and skills when it comes to authenticating and verifying online information.

There were few meaningful variations between videos when it came to the relevance and impact of the specific messaging and approach (cognitive vs. affective focus). Those who watched **video A** ('how to' steps for fact-checking) were more likely to say they can apply the video to their daily lives (80%, compared to 75-68% for other videos). By a smaller margin, **group A** was also least likely to say they didn't remember much of the video (21% compared to 23-28% for other groups). This suggests applicability and message retention occur with clear and practical 'how to' (skills-based) misinformation interventions. Those who watched **video C** (AI and deepfakes make it harder to tell what's real just by looking at it) were less likely to say they already knew what the video was trying to tell them and that they can apply what they learned in the video to their real life. Participants may have resonated less with the motivational "why" messaging of this video, but perhaps also did not know what the video was telling them because it focused on visual misinformation, which our study shows is less familiar to participants.

The 30 focus group participants in this study had been thinking about authenticating and verifying information for over six weeks (between their survey and focus group engagement). Longitudinal studies are rare in current misinformation research,[50] so we wanted to take advantage of this aspect of our study to examine the impacts of the *BTF* videos specifically and participation in the study more broadly. Responses revealed that across their participation in both phases of the study, participants were positively impacted by the *BTF* videos as well as the critical information assessment skills they gained from the study more generally.

Focus group participants reported that since first engaging in the study (during the quantitative survey), they have more awareness of the risks posed by visual misinformation and are more careful when it comes to verifying online information.

> **"Absolutely I would be a lot more cautious approaching new information online in the future and double check it's credibility." – Group D**

50 Carolin-Theresa Ziemer and Tobias Rothmund, "Psychological Underpinnings of Misinformation Countermeasures: A Systematic Scoping Review," *Journal of Media Psychology*, 2024, https://doi.org/10.1027/1864-1105/a000407.

"[This study] has changed my perspective and made me want to fact check online information more than I currently do. I have learned not to trust everything I see on the internet." – Group E

Some participants were still overwhelmed by the amount of misinformation online:

"I am thinking that it is going to become harder to determine what is real and what is fake. I think this study has enforced my thoughts that I can't take anything for granted that it is truthful." – Group D

However, participants also noted the value of the fact-checking tools and processes they received from the *BTF* videos, and the study more generally, in helping them navigate online information:

"I've started to look at other online news sources more often, to confirm whether information that I read online is accurate or false and compare that information with supporting information." – Group B

"I've saved Breakthefake into my bookmarks and even tried looking on a few searches on stuff that I know was misinformation." – Group D

"The fact checking sites have been most helpful, I would certainly use them in the future!" – Group A

Participants also had a changed understanding of themselves as digital citizens and the responsibility they have when sharing information online:

"[I have learned] to be a responsible online citizen, choosing what to and what not to share online." – Group A

## Diversity of Intervention Approaches:

In addition to insights regarding the effectiveness of the study as a whole, a key element of the effectiveness of the *BTF* videos was that all videos had similar levels of impact, with only slight variations between video messaging. This study, in alignment with current misinformation research,[51] confirms that a variety of approaches to misinformation interventions can be successful. While it may appear that a more favorable outcome would have been to identify one video that worked better than the others, from an implementation perspective, it is better news that all intervention videos positively impacted participants.

A diversity of messaging and approaches to interventions is helpful to avoid the problem of habituation and attrition that could arise with focusing on one approach. Additionally, the flexibility provided with multiple ways to develop a successful intervention allows for new approaches to address the rapidly evolving nature of online misinformation. This is particularly important given the findings in this study (and others) that visual misinformation is a unique form of misinformation requiring specific interventions distinct from those developed for text-based misinformation.

Therefore, in communicating what makes a good intervention, the good news of this study is that there are multiple things that do work. Above, we cover accessibility, credibility and trust, relevance, and long-term effects. However, we identify one additional insight regarding what makes a successful intervention emerging from our study design, observations of participant responses, and discussions between MediaSmarts' team members and our advisory committee: the importance of positive messaging and intellectual humility.

51 Lisa Fazio et al., "Combating Misinformation: A Megastudy of Nine Interventions Designed to Reduce the Sharing of and Belief in False and Misleading Headline," 2024, https://doi.org/10.31234/osf.io/uyjha.

## Empowering Messaging and Intellectual Humility:

The importance of empowering messaging and **intellectual humility** arises from and is supported by two key findings:

1. That participants generally struggled with discerning between true and false information despite believing that they were good at doing so.
2. The overwhelm and distrust expressed by participants when it came to visual misinformation and the impossibility of fact-checking all online information.

These two findings indicate the importance of approaching Canadians with empowering messaging to acknowledge and counter the overwhelming nature of online misinformation and encourage intellectual humility. Doing so will help move Canadians away from the unreliable heuristics and false confidence that may impede their ability to recognize and respond to misinformation.

**Intellectual humility** involves recognizing the limits of our own knowledge and being open to the possibility of being wrong.

**Intellectual humility** involves recognizing the limits of our own knowledge and being open to the possibility of being wrong. During design and analysis, MediaSmarts made an intentional decision to avoid blaming and shaming in our interventions, as literature[52] indicates this may backfire. Best practice instead suggests framing interventions as empowering (for example, equipping participants with simple and straightforward tools for fact-checking). Paired with empowering messaging, it is important to get Canadians thinking about intellectual humility by signaling to participants that we may not be as good as we think we are at discernment. This does not entirely dismiss participants' heuristics, which may serve them sometimes, but rather highlights the fact that we all need tools to support us because everyone can be biased or wrong. From this starting point, we can then highlight the importance of trying to build skills that could more reliably serve us in navigating online information ecosystems. The key here is to take the blame off the individual while supporting the individual with clear and concise steps (and tools) for discerning and fact-checking information.

52 Daniel L. Rosenfeld and A. Janet Tomiyama, "Jab My Arm, Not My Morality: Perceived Moral Reproach as a Barrier to COVID-19 Vaccine Uptake," *Social Science & Medicine*, 2022, https://doi.org/10.1016/j.socscimed.2022.114699.

Intellectual humility also addresses our findings that some people do not fact-check information because it does not seem relevant or interesting or because it is 'just funny'. Interventions should encourage people to consider that what a person may understand as humorous, such as a meme about COVID-19, can create or contribute to misinformation online. Interventions should communicate that shared information is not limited to a person's immediate bubble and can easily and quickly spread beyond the person we immediately shared it with (for example, if we make a post public or our post is re-shared). Intellectual humility is about understanding that our beliefs and assumptions may be wrong, and in the context of misinformation, it is crucial to consider how you may fall victim to or contribute to misinformation without realizing it.

Perhaps most promising is that intellectuality humility aligns with a collective approach to building resilience to misinformation. Research demonstrates that intellectual humility is more readily achievable and effective in collectives than in individuals, since humans tend to be more adept at recognizing and attending to other people's intellectual limitations rather than their own.[53] Achieving collective resilience through intellectual humility does not require heroic efforts on the part of an individual. Instead, it is interventions that, through critical digital media literacy education, encourage commitments from communities (and platforms) to foster environments that promote constructive criticism, healthy and respectful debate, and intellectual transparency.[54]

Finally, to counter the overwhelm felt by Canadians, interventions should emphasize that no one has to be an expert, even with emerging forms of misinformation that require special attention such as visual misinformation. Participants expressed concerns that they can no longer rely on tried and trusted mechanisms for determining accuracy, such as examining the detail in photos, that used to be generally reliable. Participants were worried that a person with average technological knowledge and skills would be unable to properly identify visual misinformation. Furthermore, participants expressed general overwhelm at the speed with which AI is progressing and the difficulty they have in distinguishing AI generated images from other images. However, interventions can stress that simple tools (like reverse image searching) that require little to no technological knowledge can help with verifying visual information. As such, interventions can also demonstrate that it is possible to recognize and respond to online misinformation, in all forms, without needing to be an expert.

Interventions founded in intellectual humility and empowerment, and developed with accessibility, credibility, relevance, and long-term impact in mind, can build collective online resilience among Canadians as they navigate online information ecosystems.

53 Elizabeth J. Krumrei-Mancuso et al., "Toward an Understanding of Collective Intellectual Humility," *Trends in Cognitive Sciences*, 2025, https://doi.org/10.1016/j.tics.2024.09.006.
54 ibid.

# Building Resilience to Online Misinformation in Canada

## Recommendations:

In this section, we provide recommendations for designing effective misinformation interventions that are leveraged from our study findings, existing literature, as well as insights from our advisory committee. Our recommendations are organized based on the following themes: visual misinformation, accessibility, motivational messaging, long-term effects, building trust and confidence, and addressing systemic factors.

## Visual Misinformation

We recommend visual misinformation be considered a unique addition to the information ecosystem. Keeping this at the forefront of our suggestions, we list recommendations specific to visual misinformation below.

- **Emphasize visual misinformation:** videos focusing on visual misinformation should convey this as the sole message. It should not be contrasted or positioned as an extension of text-based misinformation.
- **Use positive messaging:** people find it harder to identify visual misinformation.
  - Canadians are feeling overwhelmed by how fast AI is advancing. The prevalence of AI-generated images has further complicated the information landscape, making it increasingly difficult to distinguish between real and false images.
  - To help ease this anxiety, interventions should reassure people that they do not need to be experts to identify visual misinformation. Providing people with simple tools for fact-checking visual media (like reverse-image searching), and clear steps for how to use them, will empower them to mitigate visual misinformation.
- **Avoid 'hacks':** hacks for detecting of AI-generated content may lose their validity as AI continues to evolve. For example, looking for blinking as a form of deepfake-detection was quickly followed up by increased blinking in deepfake technology.[55]

55 Chandell Gosse and Jacquelyn Burkell, "Politics and Porn: How News Media Characterizes Problems Presented by Deepfakes," *Critical Studies in Media Communication*, 2025, https://doi.org/10.1080/15295036.2020.1832697.

## Accessibility

Having a video that is easy to understand is key to effectively communicating the message of an intervention. The following recommendations highlight the different aspects of what makes a video accessible:

- **Length:** video interventions should be shorter in length to keep the viewer's attention. Based on the positive feedback on our videos, we recommend a length of approximately *60 seconds or less*.
- **Comprehension:** video interventions should be easy to understand and follow. Several elements can affect how easy it is to understand a video intervention.
  - **Use clear language:** use plain, straightforward vocabulary. Doing so will help lessen language barriers for a diverse Canadian population.
  - **Simplicity:** focus on conveying a single message rather than introducing several topics in one video.
  - **Be straightforward:** be direct in your approach to the message and don't introduce unrelated elements.
    - **Older adults** in particular benefit from simple, clear, and transparent interventions.
- **Relevance:** the video should resonate with users' every day, lived experiences.
  - To highlight this, interventions can provide actionable advice to people that is easily applicable to their daily lives.
  - Alternatively, interventions can also use real-life examples in their messaging. However, examples ought to be chosen carefully. Attention should be paid to the activating effects of exposing especially marginalized communities to further harm as well as the potential risks of furthering people's tendency towards false bias in information processing.
- **User feedback:** if possible, test-run an early version of your intervention with a small group of participants. This can provide valuable insights into the accessibility and relevance of the video early in the development process.

## Motivational Messaging

Empowering interventions that support people can boost individuals' confidence in navigating online information. Interventions should avoid messaging that place the blame for misinformation on the individual. Our recommendations focus on how to motivate individuals to overcome information paralysis through empowerment instead of shaming and blaming.

- **Acknowledge the perceived difficulty of fact-checking:** especially for visual misinformation, doing so highlights these challenges as part of a collective experience. This may reassure individuals that they are not alone in facing these concerns.
  - As an example, interventions could include scenarios and personal anecdotes involving the challenges of misinformation. Clear and easy-to-follow steps for addressing these challenges should follow these scenarios.
  - Scenario-based videos include an element of interactivity, which is found to work well in interventions for **older adults.**
  - As we've noted, interventions should remind people that often fact-checking information is a simple and straight-forward process.
- **Encourage intellectual humility:** without dismissing individuals' internal heuristics for evaluating information, fostering intellectual humility involves gently encouraging them to (re)evaluate their perceived ability to discern true from false information. Some ways interventions can do this include:
  - Explaining the role bias plays in forming opinions and acknowledge the role it plays in different contexts (for example, news sources, algorithms, and self-conducted research all include an element of bias).
  - Highlighting the importance of acknowledging the limits of our own knowledge as well as the limits of mental models (like guessing or relying on intuition) for assessing information.
  - Addressing the misinformation paradox present among Canadians. That is, the percentage of individuals who are confident in their ability to fact-check, yet also indicate they find the process difficult to do. Emphasizing that this phenomenon is true for most people can lift the blame off the individual.
  - Highlighting the interconnected, networked nature of the online information ecosystem may improve users' understanding of how information spreads.
    - Many people share unchecked information they deem insignificant within their immediate social circles. However, doing so means they have no control over where this information then goes: who reposts it or who shares it further without the original sharer's knowledge. Explaining the connected nature of online platforms, and how information circulates within and across them, may encourage individuals to reflect on what they share, when, and how: considering it in the context of the broader digital landscape as opposed to their private, social bubbles.

- **Highlight information triage:** Canadians are overwhelmed with the amount of information they see online. To help deal with this information overload, interventions can encourage and teach information triage.
  - Stress that not every piece of information individuals come across online needs to be fact-checked. Instead, people can prioritize what to fact-check based on its relevance, sense of importance, and urgency.
  - Provide concrete examples to demonstrate how triage works within an online context.
    - For example, while not feasible to fact-check all memes an individual comes across, it may be critical to do so if it involves medical, historical, or political information.
    - Similarly, if there is information immediately affecting viewers (like people purchasing seeds for a 'cat eye flower' which does not exist), fact-checking is essential.

## Long-term Effects

For an intervention to be truly successful, its effects must persist over time. There are several elements that can affect the long-term retention of interventions.

- **Include diversity in approaches:** our study results revealed few differences between videos focused on **motives** (why it's important to fact-check) versus **methods** (how to fact-check). Interventions can embrace multiple messages and forms, so long as they are in separate, short, accessible formats. Interventions should not try to do all these things at once. Embracing a variety of styles, forms, and messages will avoid habituation from repeated exposure to the same message and/or form over time.
- **Focus on discerning both true and false information:** scenario-based interventions must take care to incorporate a mixture of true and false information. Doing so mitigates the risk of encouraging a false bias (the tendency people have to believe all information they see is false).
- **Provide clear steps to verify information:** our study found individuals tend to remember videos with practical, skills-based steps they can apply to fact-check information in their daily lives.
  - Providing simple, easy to follow tips to verify information has historically been effective in interventions for **older adults.**
- **Nudge people to reflect:** Getting people in the mindset of thinking critically about online information will increase the likelihood that they will check information before sharing it. Nudging also makes it more likely that people will consider how they are sharing information (publicly or privately) and with whom.

## Building Trust and Confidence

Mitigating cynicism regarding the accuracy of online information can be difficult but ultimately involves building trust and increasing people's confidence that they can determine what is true and false online.

- **Use the 'how':** present reliable, actionable information and tools rather than messaging that may be perceived as moralizing ('preachy') or partisan (political).
- **Point to reliable sources:** direct people to a variety of credible sources, explaining what makes them reliable. This includes teaching people how to check and verify a source is reliable (e.g. news sites that follow journalistic standards and have a good track record of publishing accurate information) rather than relying on appearances or consensus which can often be misleading and wrong.
- **Be transparent:** viewers may be suspicious of the creators of misinformation interventions, potentially affecting its efficacy. Tell people who you are (what your organization does) and where they can learn more about the work you do. Tell people, in a clear and accessible way, about the goals and objectives of your intervention including how it was funded.

## Addressing Systemic Factors

Alongside the use of best practices to design and develop interventions, external and systemic supports are key to their success.

- Given how quickly technology evolves, ongoing **research** is required to match its pace. As the landscape around information changes, new complexities are added and people's needs change. Conducting research to understand these differences allows for addressing these challenges as they arise, furthering knowledge on the topic and providing individuals with the skills they need early on.
- **Education** is a key part of building collective resilience to the emerging issues affecting the online information ecosystem.
  - Digital media literacy is the right of every digital citizen; it involves life-long learning that promotes ethical digital citizenship and builds collective resilience.
  - MediaSmarts continues to advocate for access to universal resources, training, and support which consider the diverse needs of Canadians and will help close the digital divide in Canada.
- The design of online **platforms** (like social media sites) facilitates the spread of misinformation.
  - Platforms should be held accountable and build in tools that improve the quality of online information.
  - This includes incorporating fact-checking tools which are transparent in their workings, taking stronger action to identify and curb visual misinformation, and researching and implementing best practices in ethical algorithm design to reduce the spread of misinformation.

- Collaboration among **community organizations** and other key stakeholders (especially those that serve the diverse needs of marginalized communities) is essential to the implementation of effective interventions.
  - Researchers, industry, policy makers, and community organizations need to more collaboratively share their experiences with implementing interventions. This includes what works, but more importantly what *doesn't* work, for whom, how, and in what contexts.
  - This transparency and collaboration will ensure our *collective* action has a greater impact in equipping individuals with the critical skills they need to navigate the online information ecosystem.

The good news of this study is that a variety of approaches to educational interventions for mitigating misinformation *work*. Given this, the more support for, and collaboration among, organizations developing and implementing interventions the better.

# Next Steps

This multi-phased, mixed methods study examined Canadians' fact-checking processes, aptitudes, and attitudes, as well as their sharing habits and motivations. Through a survey and interactive focus groups, we measured the importance of cognitive ('how to' skills) and affective (motivational) factors in misinformation interventions. The results of this study provide the evidence-based for building interventions that can support Canadians' collective resilience to online misinformation.

This project builds on current research and MediaSmarts' previous studies highlighting the challenges and sense of overwhelm Canadians face when fact-checking online information. This is especially true of sophisticated technology like AI and new forms of misinformation including visual misinformation. Although Canadians generally believe that they are good at authenticating information online, they also lean heavily on unreliable heuristics (e.g. judging information by visual cues, guessing, and intuition). This study confirms that interventions are needed to build Canadians collective resilience to misinformation by encouraging intellectual humility and empowering them to fact-check information. While Canadians demonstrate consideration for the impacts of sharing (especially unverified) online information, the key is supporting people to translate their desire to be responsible digital citizens into action.

The good news is that this study demonstrates that accuracy prompts and digital media literacy education work to move participants from knowledge to action. Getting Canadians to pause and think about the authenticity of online information encourages them to apply the fact-checking skills they may know about but, at times, do not use. Digital media literacy provides Canadians with the tools, skills, and critical thinking models to move out of overwhelm, false biases, and dependence on unreliable heuristics. Instead, it points them towards fact-checking practices that will better serve them in discerning true and false information. Focus group participants almost unanimously expressed that the study activities, including the *BTF* intervention videos and fact-checking tools, motivated and empowered them to more regularly engage in fact-checking practices. We encourage you to check out the tools and resources available at BreaktheFake.ca to learn more about how you can help break the fake in Canada. Clear and accessible accuracy prompts, coupled with simple and direct digital media literacy skills, provide the foundation for building collective resilience to misinformation in Canada.

This study confirms that a diversity of strategies, including those that focus on motives (affective factors) as well as those that focus on methods (cognitive factors), can work to empower Canadians to recognize and respond to online misinformation. Grounded in the findings emerging from this study, we have provided evidence-based recommendations for developing successful interventions that are accessible, empowering, address issues of credibility and skepticism, attend to the challenges of visual misinformation, and generate long-term effects. Researchers and practitioners need to continue to develop and test the efficacy of a variety of intervention strategies moving forward.

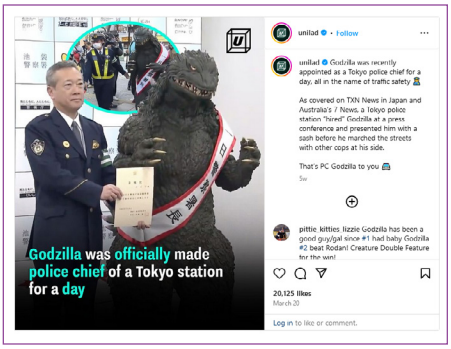
For over 25 years, MediaSmarts has advocated for a national digital media literacy action plan for Canada, to foster a unified and flexible approach for preventing and addressing complex online harms, including misinformation, at individual, communal, and systems levels. An action plan for digital media literacy would empower Canadians to critically, effectively, and responsibly access, use, understand, and engage with media (in all forms) which is at the core of collective online resilience and digital well-being. A national action plan is especially crucial to systematically support those impacted by the digital divide in Canada, which leaves marginalized communities more vulnerable to misinformation with less access to the interventions needed to address it.

Findings and recommendations from this study will be shared with community partners, policymakers, researchers, and platforms to expand our knowledge on how to mitigate online misinformation. We will continue advocating for and providing the critical digital media literacy education that is the right of every digital citizen and is essential for building collective resilience to online misinformation in Canada.

# Appendices

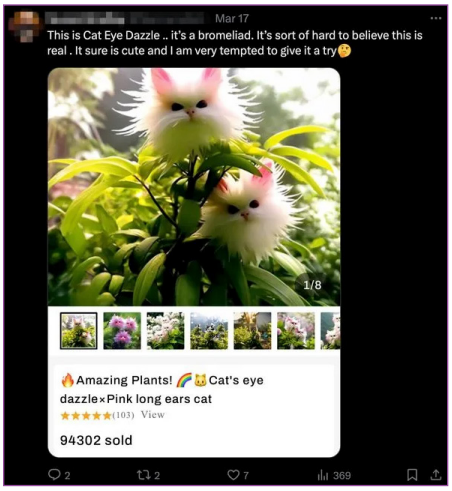
## Appendix A: Quantitative Discernment Exercises

Example 1: Godzilla: **True**



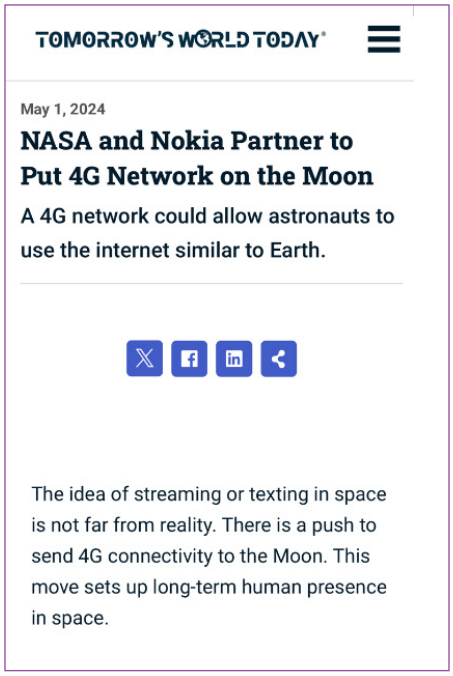

Example 2: Henry Ford: **False**


Example 3: Cat Eye Flower: **False**




Example 4: Rock, Paper, Scissors, Traffic: **True**

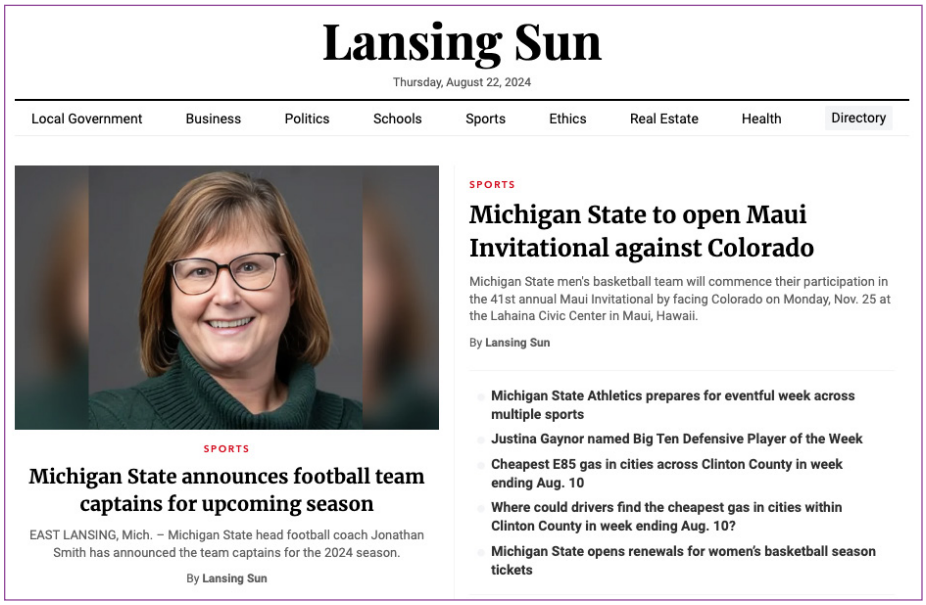

Example 5: Internet on the moon: **True**



# Appendix B: Qualitative Discernment Exercises

Spider: **Real/True**

Lansing Sun: **False**



Lansing Sun

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SPORTS

**Michigan State to open Maui Invitational against Colorado**

Michigan State men's basketball team will commence their participation in the 41st annual Maui Invitational by facing Colorado on Monday, Nov. 25 at the Lahaina Civic Center in Maui, Hawaii.

By **Lansing Sun**

- **Michigan State Athletics prepares for eventful week across multiple sports**
- **Justina Gaynor named Big Ten Defensive Player of the Week**
- **Cheapest E85 gas in cities across Clinton County in week ending Aug. 10**
- **Where could drivers find the cheapest gas in cities within Clinton County in week ending Aug. 10?**
- **Michigan State opens renewals for women's basketball season tickets**

SPORTS

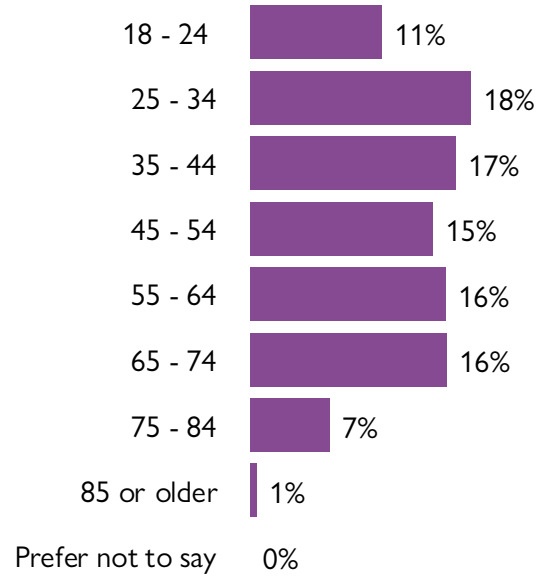
**Michigan State announces football team captains for upcoming season**

EAST LANSING, Mich. – Michigan State head football coach Jonathan Smith has announced the team captains for the 2024 season.

By **Lansing Sun**

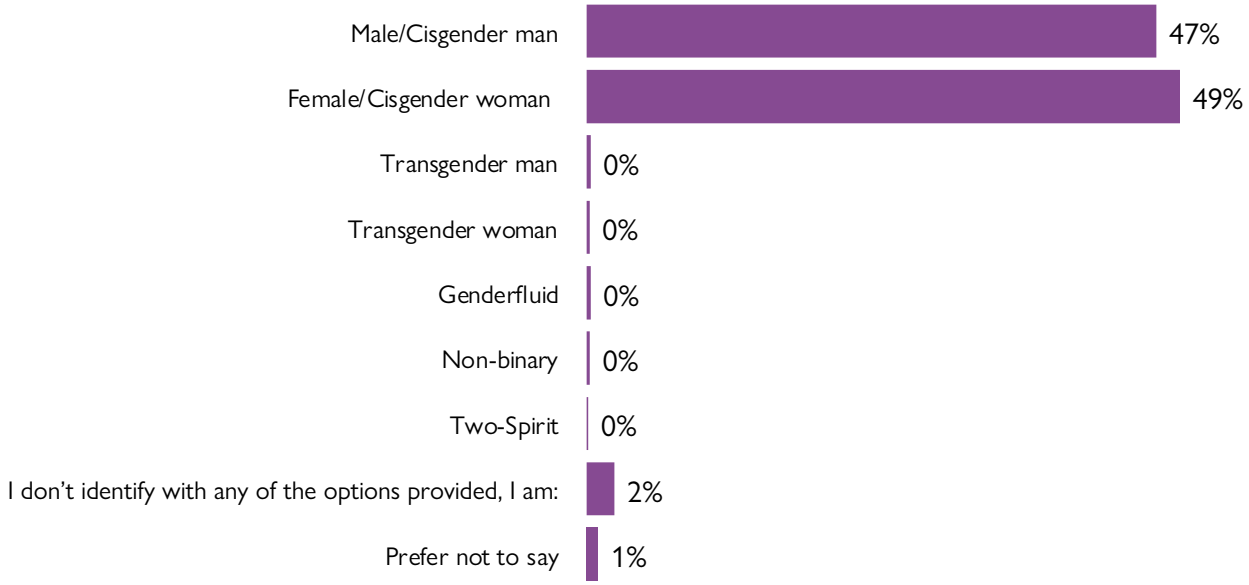
# Appendix C: Survey Demographics

## AGE



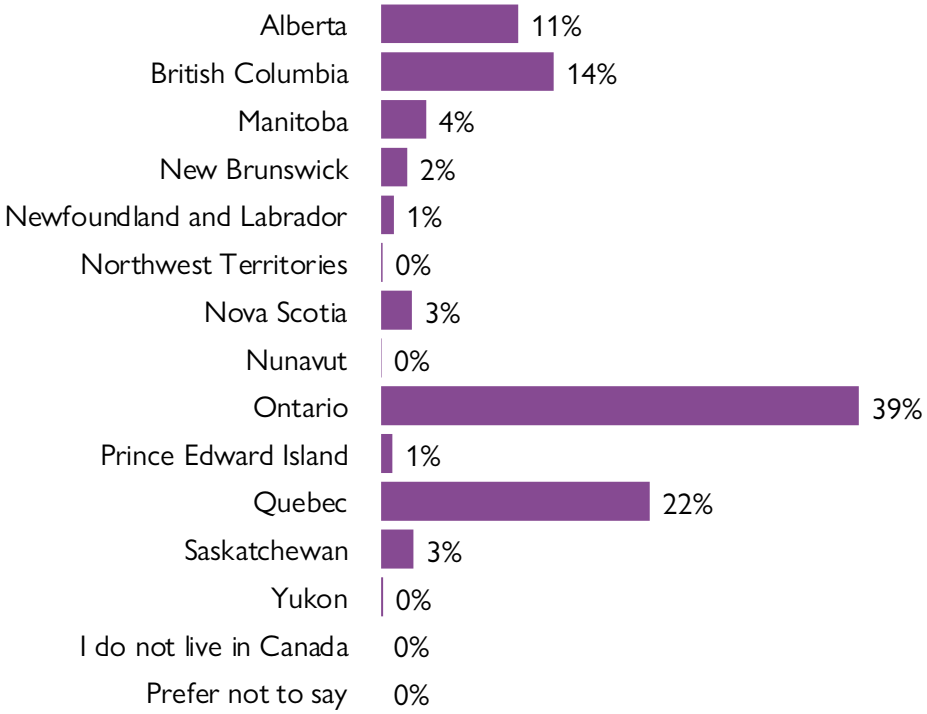

[Base] n=5,000

## GENDER



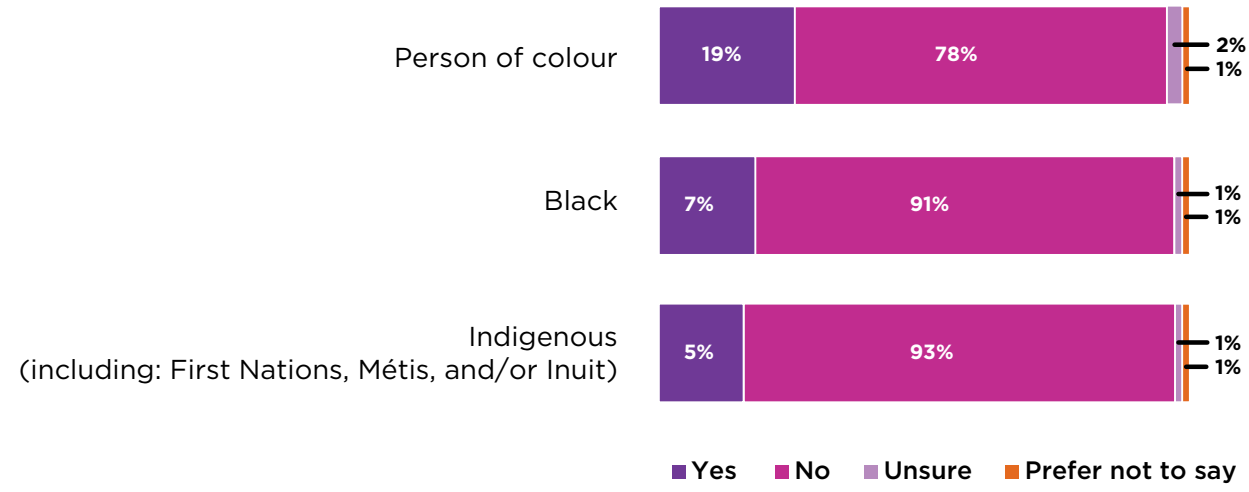

[Base] n=5,000

## REGION



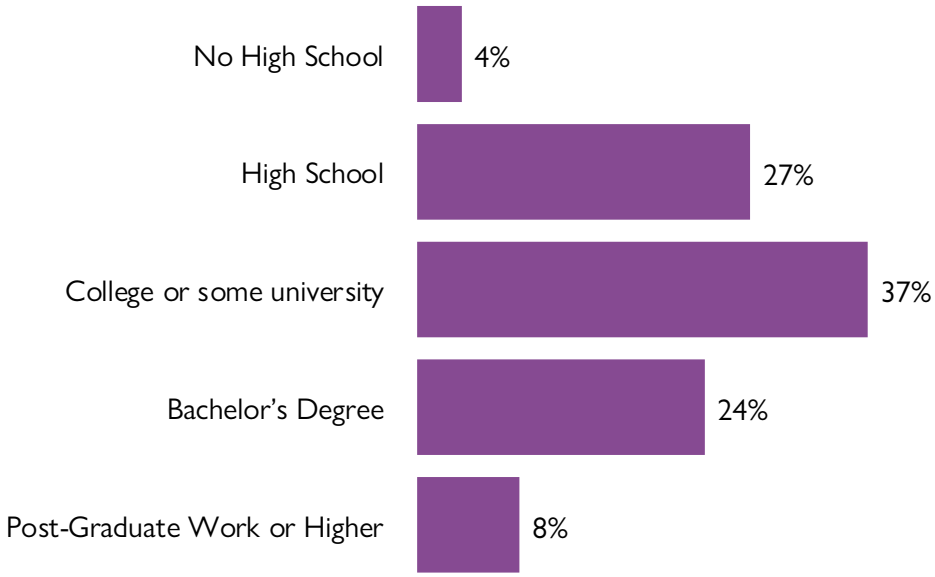

[Base] n=5,000

## RACIAL IDENTITY




[Base] n=5,000

## EDUCATION



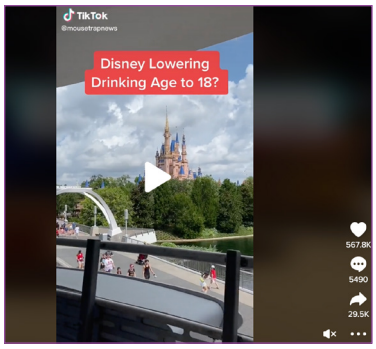

[Base] n=5,000

**Survey Sample Demographics, Weighted:**

| | Total | 100% | n=5002 |
|---|---|---|---|
| **Age** | 18 - 24 | 11% | 437 |
| | 25 - 34 | 18% | 922 |
| | 35 - 44 | 17% | 876 |
| | 45 - 54 | 15% | 778 |
| | 55 - 64 | 16% | 876 |
| | 65 - 74 | 16% | 758 |
| | 75 - 84 | 7% | 329 |
| | 55+ | 39% | 1989 |
| | 85 or older | 1% | 26 |
| **Region** | Western Canada (BC) | 14% | 601 |
| | Prairies (AB, MB, SK) | 18% | 856 |
| | Central Canada (ON, QB) | 61% | 3071 |
| | Atlantic Canada (NB, NFL, NS, PEI) | 7% | 318 |
| | Northern Canada (NWT, NU, YK) | 0% | 156 |
| **Gender** | Male/Cisgender Man | 47% | 2332 |
| | Female/Cisgender Woman | 49% | 2451 |
| | Gender Diverse | 4% | 175 |
| **Racial Identity** | Black | 7% | 374 |
| | Indigenous (First Nations, Inuit, Metis) | 5% | 249 |
| | IBPOC | 24% | 1242 |
| | Person of colour | 19% | 995 |
| **Education** | Highschool and below (high school and no high school) | 31% | 1326 |
| | College or Undergraduate (college or some university, bachelor's degree) | 61% | 3158 |
| | Post-graduate or higher | 8% | 518 |

# Appendix D: Information Sharing Exercises

A TikTok video on Disney lowering the drinking age to 18: **False**

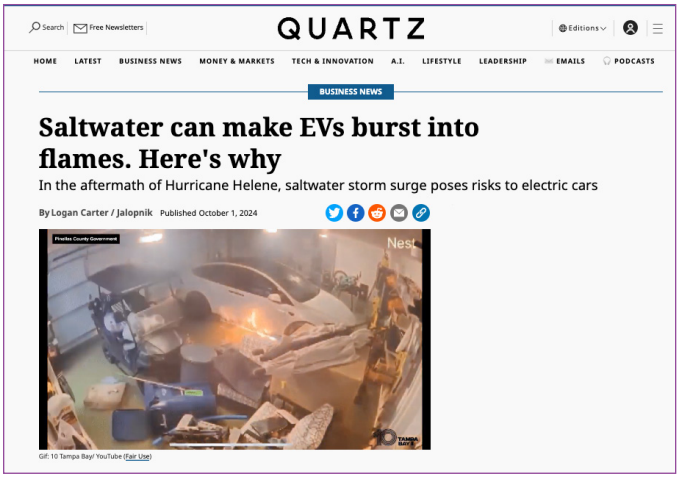



A website for the Mike the Headless Chicken Festival in Fruita, Colorado: **Real/True**


A meme about vitamin C and COVID-19: **Somewhat False**


A news article about Tesla's solar energy business taking a turn for the worse: **True**


An article about saltwater causing the batteries in electric vehicles to catch fire: **True**



An article about a chain-smoking chimp at the Pyongyang Zoo: **True**


An image depicting Paris covered in garbage: **Fake/False**