CAN THE UNVACCINATED BE PERSUADED? WHY ARE SOME CANADIANS ESPECIALLY RECEPTIVE TO VACCINE DISINFORMATION?

Jack Jedwab is the President of the Association for Canadian Studies and the Canadian Institute for Identities and Migration. Holding a PhD in Canadian History from Concordia University, he taught at Université du Québec à Montréal and McGill University. He has taught courses on the history of immigration in Quebec, on ethnic minorities in Quebec, on official language minorities in Canada and on sport in Canada. He has also authored essays for books, journals and newspapers across the country, in addition to being the author of various publications and government reports on issues of immigration, multiculturalism, human rights and official languages.

INTRODUCTION

To understand the conditions that have promoted the spread of disinformation in Canada (and for that matter elsewhere) about the COVID-19 pandemic, it is essential to examine the initial response to the contagion and the public's views on vaccination once it became available. It's important to recall that at the start of the pandemic many North Americans felt that the contagion was happening either somewhere else in the world or to someone else. In other words there was widespread denial about the severity of the threat. Hence, when news of a COVID-19 outbreak first appeared in Wuhan, China many North Americans appeared to believe that it was happening 'far away'. Soon after, as the contagion spread to Italy, some doubted that it wouldn't happen here. Even when case numbers soared in New York City, persons elsewhere on the continent remained confident that its effects would be limited. And when it finally spread to other major North America cities, some insisted that it targeted only the frail and elderly.

Even as the numbers of cases, hospitalization and deaths grew dramatically across the continent, the degree of 'denial' persisted with public opinion surveys in Canada and the United States pointing to significant minorities in each country feeling that the pandemic was being blown out of proportion and/or represented a relatively minor threat to most people's health.

This background is important towards understanding the spread of disinformation around COVID-19 vaccination because of its connection with people minimizing the threat arising from the pandemic. The varying perceptions around the gravity of the pandemic preceded the introduction of mass vaccination (following Health Canada's emergency authorization of the Pfizer-BioNTech vaccine on December 9, 2020, mass vaccination efforts began across the country on December 14, 2020).

That which follows will look at the relationship between the perceived threat of the pandemic, the perceived vaccine effectiveness, the degree of public trust in government/public health officials/pharmaceutical companies, scientists and the overall effect on one's adherence to vaccine disinformation. It is contended that the adherence to vaccine disinformation

cannot be understood in isolation of the aforementioned considerations. The findings arise from selected web based surveys conducted over the period September 2020 through October 2022 by the firm Leger for the Association for Canadian Studies and for the University of Manitoba.

EVOLVING VACCINE INFORMATION/ DISINFORMATION

A Leger-ACS survey conducted in September 2020 saw close to one in five Canadians say that they would not take the vaccine and another one in five saying that they didn't know. As observed below in September 2020 amongst those saying they would not take the vaccine, some one in five respectively believed that the development of the vaccine was rushed thus questioning its effectiveness and a similar percentage were worried about the vaccine's potentially dangerous side effects. As to the other examples of concerns the table below reveals that they secured far less uptake from Canadians at that point in time (see Table 1).

As the percentage of unvaccinated Canadians declined considerably over the two plus years since September 2020 the minority of Canadians (one in ten) that remained unvaccinated by October 2022 were considerably more inclined to endorse myths/inaccurate statements about vaccination. Again, however, some statements continued to acquire greater validation from the non-vaccinated and notably around the purported hasty development of the vaccine as well the notion that securing natural immunity was preferable to vaccination. The biggest gap in views between vaccinated and unvaccinated Canadians is in their respective perception as to whether the vaccine was rushed. As seen in the table below, even amongst vaccinated Canadians, some one in five believed that the vaccine was 'rushed' leaving doubts as to its effectiveness. Some one in six vaccinated Canadians believed that natural immunity was preferable to getting the COVID-19 vaccine (see Table 2).

EFFECTIVE DIVERGENCE OVER VACCINATION

It is difficult to determine the level of commitment of survey respondents to the selected examples of disinformation to which they're exposed. In the above tables we can gauge the extent to which survey respondents are prepared to affirm myths/inaccuracies about COVID-19 vaccination and which of them resonate more so than others. But for some survey respondents, such affirmations may merely reflect a willingness to endorse anything negative about vaccination. As an example, some three in four unvaccinated who believe that the COVID-19 vaccine can change or alter their DNA, also believe that it affects fertility and that natural immunity is better than vaccination. This illustrates the degree of intersecting negative views about vaccination.

Leaving aside the differences in degrees of validation over myths/inaccuracies relative to COVID-19 vaccination, a clear distinction between vaccinated and unvaccinated Canadians appears when they're asked whether vaccines are effective. Over 80% of vaccinated Canadians believe that the vaccine is effective against COVID-19 compared with some 20% of the unvaccinated population who feel that way.

In Canada and the United States, when unvaccinated and those with a single dose were asked why they did not complete their vaccine doses most contended that they did not see vaccines as safe while others maintained that they were ineffective. In both countries, just over one in ten said they don't take vaccines thus qualifying them as 'anti vaxxers' (although others may be reluctant to give that response seeing it as 'socially undesirable'). Still the data suggest that for the most part those who reject vaccination cannot be described as 'anti-vaxxers'. It is worth noting that Americans were somewhat more likely than Canadians to report that access to vaccines was an obstacle to vaccination (see Table 3 and Table 4).

TABLE 1: PERCENTAGE RESPONDING 'TRUE, FALSE OR DON'T KNOW' TO SELECTED STATEMENTS REFLECTING VACCINE DISINFORMATION.

Canada, September 2020	True	False	I don't know
Researchers rushed the development of the COVID-19 vaccine, so its effectiveness and safety cannot be trusted	22.8%	58.8%	18.4%
The side effects of the COVID-19 vaccine are dangerous	22.8%	58.8%	18.4%
If I've already had COVID-19, I don't need a vaccine	14.9%	71.2%	13.9%
The COVID-19 vaccine can affect fertility	10.7%	50.2%	39.1%
Getting the COVID-19 vaccine means I can stop wearing my mask and taking coronavirus precautions	9.6%	82.3%	8.0%
The COVID-19 vaccine enters your cells and changes your DNA	9.4%	70.3%	20.3%

Source: Leger for the Association for Canadian Studies, September 2020

TABLE 2: PERCENTAGE RESPONDING 'TRUE' AMONGST VACCINATED AND UNVACCINATED CANADIANS TO SELECTED STATEMENTS REFLECTING VACCINE DISINFORMATION.

True	Vaccinated	Not Vaccinated	Gap between vaccinated and unvaccinated
Researchers rushed the development of the COVID-19 vaccine, so its effectiveness and safety cannot be trusted	20.3	66.1	45.8
The natural immunity I get from being sick with COVID-19 is better than the immunity I get from COVID-19 vaccination.	17.5	58.8	41.3
If I've already had COVID-19, I don't need a vaccine	9.3	42.2	32.9
The COVID-19 vaccine can affect fertility	9.3	41.9	32.6
The COVID-19 vaccine can change or alter my DNA	6.6	32.5	25.9

Source: Leger for the Association for Canadian Studies and the University of Manitoba, October 3 to October 14 2022

TABLE 3: REASONS FOR NOT COMPLETING YOUR VACCINE DOSES IN CANADA AND THE UNITED STATES AMONGST THE UNVACCINATED AND THOSE WHO HAD A SINGLE DOSE.

	What is the main reason why you have not been vaccinated or have not completed your vaccine doses?	
	Canada	United States
I do not think the vaccines are safe and could potentially be harmful to my health	38.4%	33.9%
I do not believe the vaccines are effective against COVID-19	29.8%	21.1%
I do not take any vaccines	12.2%	11.6%
I have medical restrictions that do not allow me to take the vaccine	3.9%	8.7%
I have not had the opportunity/access to get any vaccine	3.5%	10.7%
It goes against my religious faith to take the vaccine	3.1	4.7%
Other	8.1%	9.3%
Total	**100.0%**	**100.0%**

Source: Leger for the Association for Canadian Studies and the University of Manitoba, October 3 to October 14 2022

TABLE 4: PERCENTAGE WHO THINK VACCINATION AGAINST COVID-19 HAS BEEN EFFECTIVE AMONGST VACCINATED AND UNVACCINATED CANADIANS.

Over the course of the pandemic, how effective do you think vaccination against COVID-19 has been….	Vaccinated	Not Vaccinated	Total
Total Effective	**83.6%**	**22.0%**	**78.0%**
Extremely effective	54.8%	10.1%	50.7%
Somewhat effective	28.8%	11.9%	27.3%
Not too effective	7.3%	13.7%	7.9%
Not effective at all	6.1%	54.5%	10.5%
I don't know	3.0%	9.7%	3.6%
Total	100.0%	100.0%	100.0%

Source: Leger for the Association for Canadian Studies and the University of Manitoba, October 3 to October 14, 2022

A closer look into the relationship between perceptions about vaccine effectiveness and the various myths/inaccuracies relative to the vaccine reveals a considerable degree of symmetry between perceived vaccine ineffectiveness and the endorsement of myths/inaccuracies about COVID-19 vaccines. As revealed below, those regarding the vaccine as 'not effective at all' are by far most likely to believe it modifies one's DNA and affects fertility (see Table 5).

THE UNVACCINATED AND PANDEMIC EXAGGERATION

As revealed above, many unvaccinated Canadians feel that the vaccine is not only ineffective but is also harmful. We'll now examine the degree to which they regard the pandemic as a threat to public health. It is worth noting that not all vaccinated Canadians believe that the response to COVID-19 has been balanced as surveys consistently demonstrate that just under one in five such Canadians believe that the response to the pandemic has been blown out of proportion. That said, the percentage differs markedly with the nearly one in two unvaccinated Canadians that believe the reaction to the pandemic is being blown out of proportion (see Table 6).

Delving further into how the perception of the threat of the pandemic affects views on myths/inaccuracies about COVID-19 vaccination, one observes in the table below that those who feel the reaction to the pandemic has been 'blown way out of proportion' are much more likely to endorse the inaccuracies than are those who regard the response to COVID-19 as either 'correct' or 'inadequate'. The findings add yet another important layer in establishing a pattern in the perception of persons endorsing myths/inaccuracies about COVID-19 vaccination (see Table 7).

TRUST IN PUBLIC INSTITUTIONS AMONGST THE UNVACCINATED

A critical element in examining the level of adherence to vaccine disinformation is the extent to which unvaccinated Canadians trust key institutions addressing the pandemic. As observed below there are sizable differences between vaccinated and unvaccinated Canadians in the degree of distrust of the federal government, public health officials, pharmaceutical companies and scientists (see Table 8).

Amongst unvaccinated Canadians, there is an important intersection between the degree of institutional mistrust and adherence to COVID-19 myths/inaccuracies. Those 80% of unvaccinated Canadians that say they do 'not at all' trust the federal government believe that the vaccine was rushed. There are similarly high intersections between institutional distrust amongst the unvaccinated and adherence to COVID-19 myths/inaccuracies.

As revealed below the unvaccinated population reporting the highest levels of institutional distrust are overwhelmingly of the opinion that the vaccine is 'not effective at all'. This finding contrasts sharply with those vaccinated Canadians reporting the highest levels of trust in selected institutions with some 80% regarding the vaccine as extremely effective (see Table 9).

TABLE 5: CROSS TABULATION OF VACCINATED AND UNVACCINATED CANADIANS WHO THINK THE VACCINATION AGAINST COVID-19 HAS BEEN EFFECTIVE AND THEIR RESPECTIVE RESPONSES TO SELECTED STATEMENTS REFLECTING VACCINE DISINFORMATION.

	Vaccination against COVID-19 - Over the course of the pandemic, how effective do you think the vaccine is?			
	Extremely effective	Somewhat effective	Not too effective	Not effective at all
The COVID-19 vaccine can affect fertility—Based on your knowledge about COVID-19 vaccines	5.3%	9.2%	20.9%	48.0%
If I've already had COVID-19, I don't need a vaccine	3.8%	9.2%	24.7%	51.4%
Researchers rushed the development of the COVID-19 vaccine, so its effectiveness and safety cannot be trusted	8.8%	24.4%	49.8%	78.4%
The COVID-19 vaccine can change or alter my DNA	3.6%	8.0%	13.0%	34.8%
The natural immunity I get from being sick with COVID-19 is better than the immunity I get from COVID-19 vaccination	8.9%	20.0%	40.2%	69.6%

Source: Leger for the Association for Canadian Studies and the University of Manitoba, October 3 to October 14, 2022

TABLE 6: PERCENTAGE OF VACCINATED AND UNVACCINATED CANADIANS WHO THINK THAT THE PUBLIC RESPONSE TO COVID-19 HAS BEEN BLOWN WAY OUT OF PROPORTION, CORRECT OR INSUFFICIENT.

COVID-19 pandemic—Do you believe the following issues are important and need to be addressed or are being blown out of proportion?	Vaccinated	Not Vaccinated
Being blown way out of proportion	18.2%	47.9%
Correct level of response to this important issue	59.8%	35.4%
Insufficient level of response to this important issue	22.0%	16.7%
Total	**100.0%**	**100.0%**

Source: Leger for the Association for Canadian Studies and the University of Manitoba, October 3 to October 14, 2022

TABLE 7: CROSS TAB: PERCENTAGE OF VACCINATED AND UNVACCINATED CANADIANS WHO THINK THAT THE PUBLIC RESPONSE TO COVID-19 HAS BEEN BLOWN WAY OUT OF PROPORTION, CORRECT OR INSUFFICIENT AND THEIR RESPECTIVE RESPONSES TO SELECTED STATEMENTS REFLECTING VACCINE DISINFORMATION.

True	Being blown way out of proportion	Correct level of response to this important issue	Insufficient level of response to this important issue
Researchers rushed the development of the COVID-19 vaccine, so its effectiveness and safety cannot be trusted	59.4%	14.6%	14.9%
The natural immunity I get from being sick with COVID-19 is better than the immunity I get from COVID-19 vaccination	55.5%	12.7%	8.7%
If I've already had COVID-19, I don't need a vaccine	38.0%	5.7%	3.4%
The COVID-19 vaccine can affect fertility	34.5%	6.0%	6.1%
The COVID-19 vaccine can change or alter my DNA	25.9%	3.8%	5.0%

Source: Leger for the Association for Canadian Studies and the University of Manitoba, October 3 to October 14, 2022

TABLE 8: PERCENTAGE OF VACCINATED AND UNVACCINATED CANADIANS THAT RESPECTIVELY DISTRUST THE FEDERAL GOVERNMENT , PHARMACEUTICAL COMPANIES, PUBLIC HEALTH OFFICIALS AND SCIENTISTS TO ADDRESS THE COVID-19 PANDEMIC.

% distrust when it comes to addressing COVID-19 pandemic	Vaccinated	Not Vaccinated	Gap between vaccinated and unvaccinated
Pharmaceutical Companies	34.4	75.4	41.0
Federal Government	35.4	73.3	37.9
Public Health Officials	19.7	65.8	46.1
Scientists	12.7	55.3	42.6

Source: Leger for the Association for Canadian Studies and the University of Manitoba, October 3 to October 14, 2022

TABLE 9: PERCENTAGE OF UNVACCINATED CANADIANS WHO BELIEVE THE VACCINE IS INEFFECTIVE AND THAT SAY THEY DO NOT AT ALL TRUST SELECTED INSTITUTIONS (FEDERAL GOVERNMENT , PHARMACEUTICAL COMPANIES, PUBLIC HEALTH OFFICIALS AND SCIENTISTS) TO ADDRESS THE COVID-19 PANDEMIC COMPARED WITH THE PERCENTAGE OF VACCINATED CANADIANS WHO BELIEVE THE VACCINE IS EXTREMELY EFFECTIVE AND THAT SAY THEY DO TRUST 'A LOT' OF SELECTED INSTITUTIONS.

Unvaccinated...that do 'not at all' trust the following:	Percent who believe that the vaccine is not effective at all	Vaccinated and trust the following 'a lot'	Percent who believe that the vaccine is extremely effective
Pharmaceutical Companies	78.3%	Pharmaceutical Companies	86.5%
Federal Government	78.6%	Federal Government	83.7%
Public Health Officials	87.2%	Public Health Officials	82.4%
Scientists	83%	Scientists	74.9%

Source: Leger for the Association for Canadian Studies and the University of Manitoba, October 3 to October 14, 2022.

CONCLUSION

Policy makers tasked with coordinating efforts at mass public vaccination have expressed legitimate concerns over the propagation of disinformation about the COVID-19 vaccine. But public information campaigns aimed at attacking myths/inaccuracies head on risk not succeeding in achieving their desired aim amongst the remaining numbers of unvaccinated Canadians. That's in part because it is essential to address the underlying causes for vaccine refusal to combat disinformation.

An American study by Lin et al. concludes that "In pursuing interventions to reach the unvaccinated community, it is vital not to marginalize their concerns due to the resentment that can result. A compromise must be found that incentivizes vaccination without antagonizing or isolating unvaccinated individuals."

Others view the prospects for persuading the unvaccinated with considerably less optimism. A September 2021 survey of unvaccinated Americans for CNBC reveals that 83% say they do not plan to get vaccinated. The CNBC/Change Research poll notes that amongst the unvaccinated 87% said their decision wouldn't change even if their employer mandated them to do so. The November 2022 Leger-ACS-University of Manitoba survey reveals that amongst the remaining ten percent of unvaccinated Canadians more than 90% say they have no intention of getting vaccinated.

In December 2022, Dr Anthony Fauci observed that in the United States, "...we have been stuck at 68% of the population being fully vaccinated with the primary series. And we realized months ago, literally several months ago, that we were not going to get much past that no matter what we said." Fauci hoped that "...when people see how that approach leads to more hospitalizations and deaths of people, and it hits home to people, that they [will then] understand."

As regards vaccine disinformation, our survey research confirms that adherence to it is closely associated with elevated rates of institutional distrust and/or the minimizing of the threat of the contagion to personal and public health. Ideally policy makers would want to alter the perception of unvaccinated Canadians about the seriousness of the pandemic as well as identify persons or institutions that they trust to carry that message. That, however, may be a daunting task as the survey data suggest that the views of those who remain unvaccinated appear to be fairly locked-in (see Table 6).

REFERENCES

1. Association of American Medical Colleges "Interview with Dr. Anthony Fauci" by Gabrielle Redford, December 22, 2022 in https://www.aamc.org/news-insights/anthony-fauci-md-fighting-misinformation-inspiring-next-generation-and-why-we-still-need-physician.
2. Leger Marketing for the Association for Canadian Studies.
3. Leger Marketing, Association for Canadian Studies and the University of Manitoba.
4. Cheryl Lin, Taylor Parker, Kartik Pejavara, Danielle Smith, Rungting Tu and ikuei Tu.
5. "I Would Never Push a Vaccine on You: A Qualitative Study of Social Norms and Pressure in Vaccine Behavior in the U.S" in Vaccines 2022, 10(9), 1402; https://doi.org/10.3390/vaccines10091402
6. Robert Towey "CNBC poll shows very little will persuade unvaccinated Americans to get COVID-19 shots" September 10, 2021.