

The COVID-19 pandemic and climate change: Two different, but equally important crises having major psychosocial impacts

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CO-LAB

Climate opinion laboratory /
Laboratoire de l'opinion climatique

The Climate Opinion Laboratory (CO-LAB)

- Is located in Quebec and brings together researchers from a variety of backgrounds and disciplines, including social marketing, behavioral science, political science, social psychology, disaster management, public health and climate change adaptation.
- Its mission is to create and sustain meaningful societal support for climate action by...
 - Conducting research to better understand how to effectively foster public engagement on climate change ;
 - Sharing innovative knowledge through publications and presentations to equip various climate change communicators ;
 - Establishing a sustainable interdisciplinary collaboration and training young researchers to address the rapidly evolving context.

PRESENTATION OBJECTIVES

1

Examine the current extent and distribution of the psychosocial impacts of the pandemic

2

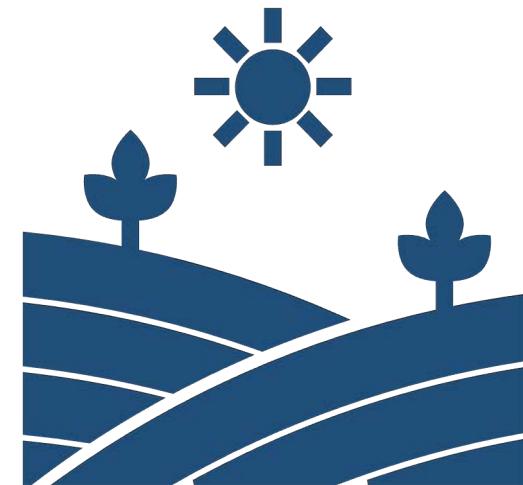
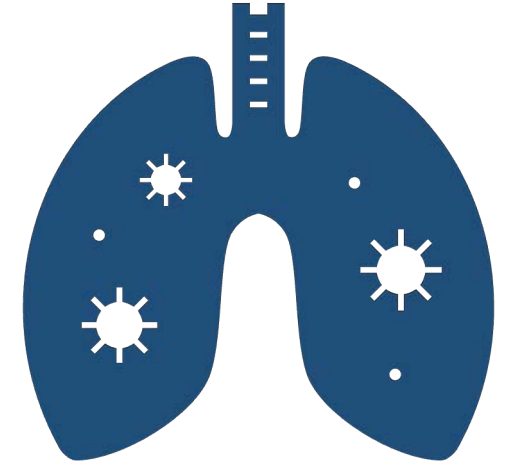
Examine the evolution of the psychological impacts and their associated factors

3

Compare the psychosocial impacts of the pandemic to the psychosocial impacts of climate change

TWO MAJOR PUBLIC HEALTH CRISES

1. COVID-19 pandemic
 - Morbidity and mortality linked to the SARS-COV-2 virus
 - Multiple collateral damage
2. Climate change
 - Heat
 - Extreme events
 - Infectious diseases
 - Air quality
 - Other (e.g. food security, migration)



STRESSORS DURING AND AFTER CRISES

Pandemic



- Fear and disruption
- Isolation and loneliness
- Stigma
- Financial burden

Infodemic



- Mistrust
- Information overload
- Denial and frustration
- Polarization

Climate change

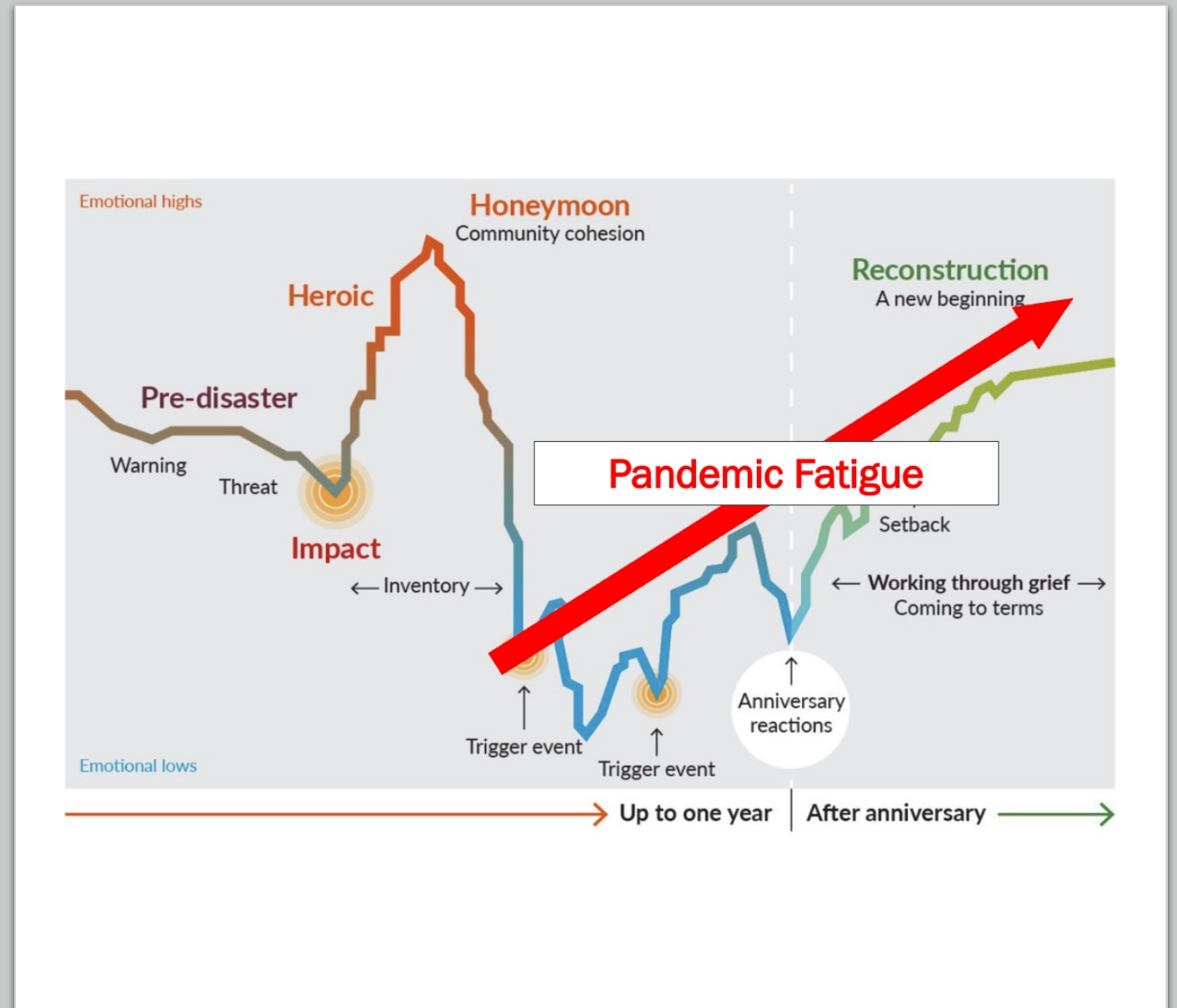


- Fear and disruption
- Human and material losses
- Financial burden

↑ Psychological Impacts ↑

PSYCHOLOGICAL IMPACTS OF CRISES

- Psychological distress
- Generalized anxiety disorder (GAD)
- Major depression episode (MDE)
- Post-traumatic stress disorder
- Suicidal ideation
- Substance abuse
- Violence
- Fatigue/poor adherence



PANDEMIC FATIGUE



Increasingly observed



Natural and expected reaction to chronic adversity



Two dimensions:

Information fatigue (e.g. : tired of hearing people talk about COVID-19)

Behavioral fatigue (e.g.. : tired of making sacrifices to fight against COVID-19)

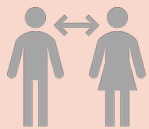
CLIMATE FATIGUE



Better understanding of the crisis but confusion on actions to be taken



Exacerbated by inconsistent government actions



Modulated by the distance of the perceived risk

ECO-ANXIETY



Broad spectrum of emotional responses to the threat posed by environmental degradation and climate change



Can lead to various reactions:

Adaptive (e.g.: pro-environmental behaviors)

Maladaptive (e.g.: avoidance)



COVID-19 PANDEMIC



PANDEMIC PSYCHOSOCIAL RESPONSE SURVEY

- Two-year project funded by the CIHR (500,000\$) of an interdisciplinary and international team (lead: Université de Sherbrooke)
- Title: The role of communication strategies and media discourse in shaping psychological and behavioral response to the COVID-19 outbreak: An Interdisciplinary and international comparative analysis

3 axes **Population survey on the psychosocial and behavioral impacts of the pandemic**

Qualitative and quantitative analysis of media discourse and social networks

Network analysis to assess how official information flows through levels of governance

METHODS



- Repeated cross-sectional surveys
- Recruitment via web panels
- Various strategies used in order to increase reach :
 - Randomized recruitment
 - Social media
 - Recruitment campaigns
- Quota-based, non-probability sample
- Target of 1000 adults per country/region
- Data collection through a 20 minute online survey
- Data weighted according to age, sex, language and region of residence

SURVEY PHASES

International surveys

- Pilot survey from April 8-11th in Canada (n=600)
- 1st international survey from May 29th-juin 12th 2020 in 8 countries (n=8,806)
- 2nd international survey from November 6-8th 2020 in 8 countries (n=9,029)
- 3rd international survey from October 1st-17th in 3 countries (n=4,023)

Regional surveys

- 1st regional survey from September 4-14th in 7 regions of Québec (n=6,261)
- 2nd regional survey from November 6-8th 2020 in all regions of Québec (n=8,518)
- 3rd regional survey February 5-16th in all regions of Québec (n=10,513)
- 4th regional survey from May 21st- June 13th 2021 in all regions of Québec (n=11,321)
- 5th regional survey from October 1-17th 2021 in all regions of Québec (n=10,368)

MAIN PSYCHOLOGICAL VARIABLES

- **Moderate to severe symptoms of GAD and MDE**
 - 7 items scale (GAD-7) and 9 items scale (PHQ-9) measuring the frequency of anxious and depressive symptoms with a total score of 0-21 and 0-27 respectively. A threshold of ≥ 10 is used to identify probable GAD and probable MDE
- **Pandemic fatigue**
 - 6 items scale measuring the symptoms of information and behavioral fatigue with a score of 1-7 for each item. A threshold of > 4 (mean) is used to identify pandemic fatigue
- **Eco-anxiety**
 - 10 item scale, each item corresponding to one of 4 subscales (affective symptoms, contemplation, behavioral symptoms, anxiety about personal impacts) with a total score of 10- 50. The score is then divided into quartiles, with a 4th quartile indicating the highest level of eco-anxiety
- **Climate fatigue**
 - 6 items scale derived from the pandemic fatigue scale (the same score and threshold are used as the original scale)



SCALES

General Anxiety Disorder (GAD-7)

Participants were instructed to indicate how often in the last two weeks (not at all, several days, over half the days or nearly every day) they had been bothered by the following problems

1. Feeling nervous, anxious, or on edge
2. Not being able to stop or control worrying
3. Worrying too much about different things
4. Trouble relaxing
5. Being so restless that it's hard to sit still
6. Becoming easily annoyed or irritable
7. Feeling afraid as if something awful might happen

Patient Health Questionnaire (PHQ-9)

Participants were instructed to indicate how often in the last two weeks (not at all, several days, over half the days or nearly every day) they had been bothered by the following problems

1. Little interest or pleasure in doing things
2. Feeling down, depressed, or hopeless
3. Trouble falling asleep, or staying asleep, or sleeping too much
4. Feeling tired or having little energy
5. Poor appetite or overeating
6. Feeling bad about yourself - or that you are a failure, or have let yourself or your family down
7. Trouble concentrating on things, such as reading the newspaper or watching television
8. Moving or speaking so slowly that other people could have noticed. Or the opposite - being so fidgety or restless that you have been moving around more than usual
9. Thoughts that you would be better off dead or hurting yourself in some way



SCALES

Pandemic Fatigue Scale

Participants were instructed to indicate their response to 6 statements on a scale of 1-7, 1 corresponding to totally disagree and 7 to totally agree.

1. I am tired of all the COVID-19 discussions in TV shows, newspapers and radio programs, etc.
2. I am sick of hearing about COVID-19.
3. When friends or family members talk about COVID-19, I try to change the subject because I do not want to talk about it anymore.
4. I feel strained from following all of the behavioural regulations and recommendations around COVID-19.
5. I am tired of restraining myself to save those who are most vulnerable to COVID-19.
6. I am losing my spirit to fight against COVID-19.

MAIN RISK AND PROTECTIVE FACTORS

1. Sociodemographic factors

Sex, age, language, immigration, household composition, education, income, type of residence, type of occupation, medical history

2. Pandemic-related factors

Perceived level of threat, financial losses, stigma, quarantine, experience of COVID, loneliness

3. Climate-related factors

Perceived level of threat, financial losses, disturbances linked to climate change (climate, health, economy, infrastructure)

4. Infodemic-related factors

Type and level of information, trust towards authorities, conspiracy beliefs, political ideology

5. Protection factors

Sense of coherence, social support, sense of belonging to the community



SCALES

Conspiracy Beliefs, Based on 5 items of the Short Form Flexible Inventory of Conspiracy Suspicions (FICS)

Participants were instructed to indicate to what extent do you agree with the following statements on a scale of 1-5, 1 corresponding to strongly disagree and 5 to strongly agree.

1. The truth about “so-called COVID-19 pandemic” is being hidden from the public”
2. People need to wake up and start asking questions about “so-called climate change”
3. Legitimate questions about “so-called climate change” are being suppressed by the government, media and universities
4. Journalists, scientists and government representatives are involved in a conspiracy to conceal important information about “so-called climate change”
5. An impartial and independent investigation on “so-called climate change” would show once and for all that we were consistently lied to

SENSE OF COHERENCE



Individual predisposition (a "filter")



Three components, namely the ability to:

Understand what is happening

Make sense of the situation

Take action and find solutions



Measured with a three-item questionnaire (SOC-3)

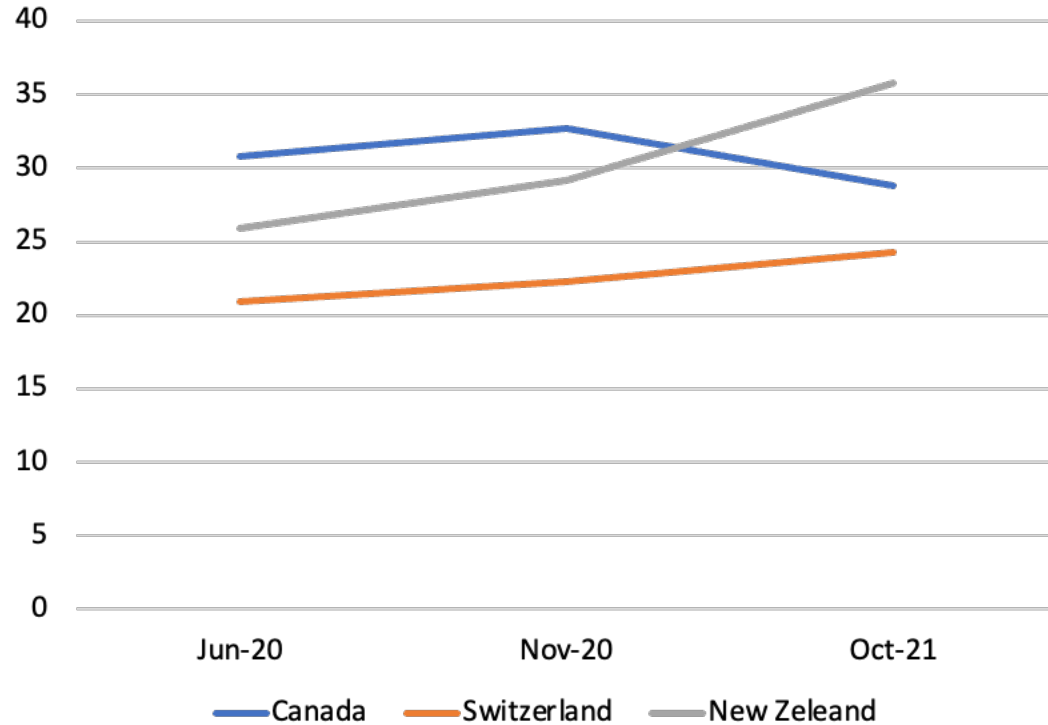
Do you usually see a solution to problems and difficulties that other people find hopeless?

Do you usually feel that your daily life is a source of personal satisfaction?

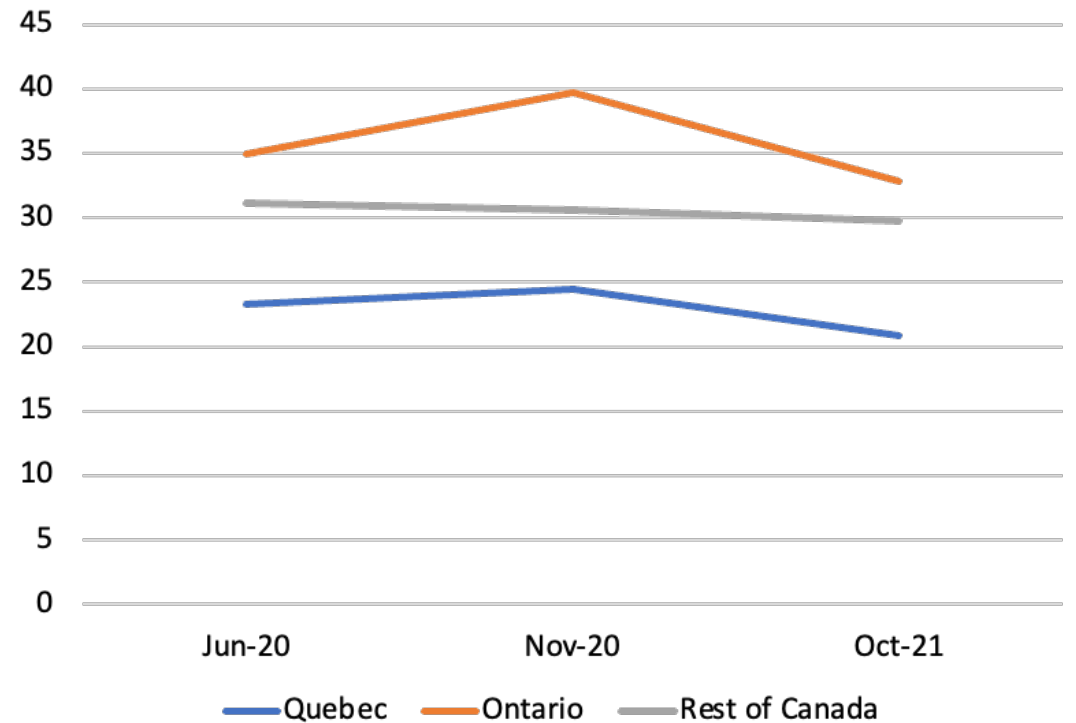
Do you usually feel that the things that happen to you in your daily life are hard to understand?

EVOLUTION OF ANXIETY AND DEPRESSION

Evolution of Probable GAD and MDE According to Participating Countries

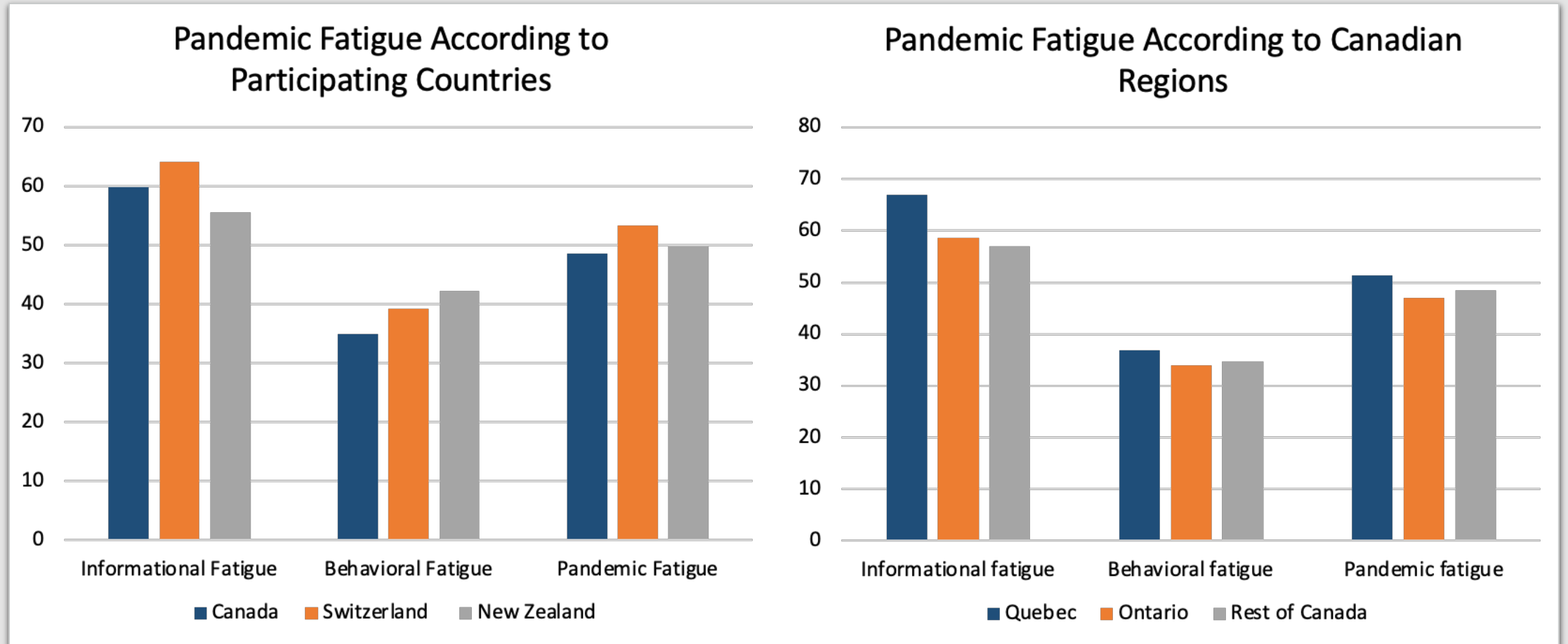


Evolution of Probable GAD and MDE According to Canadian Regions

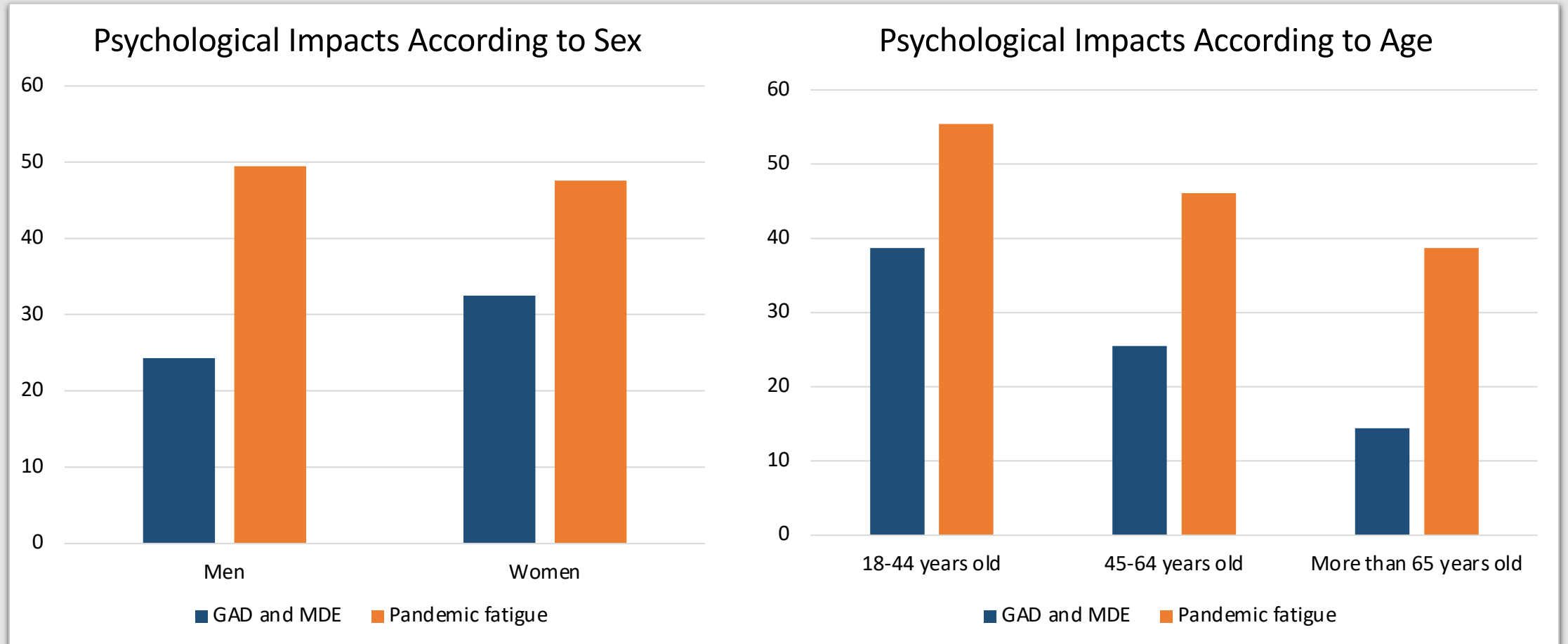


PANDEMIC FATIGUE

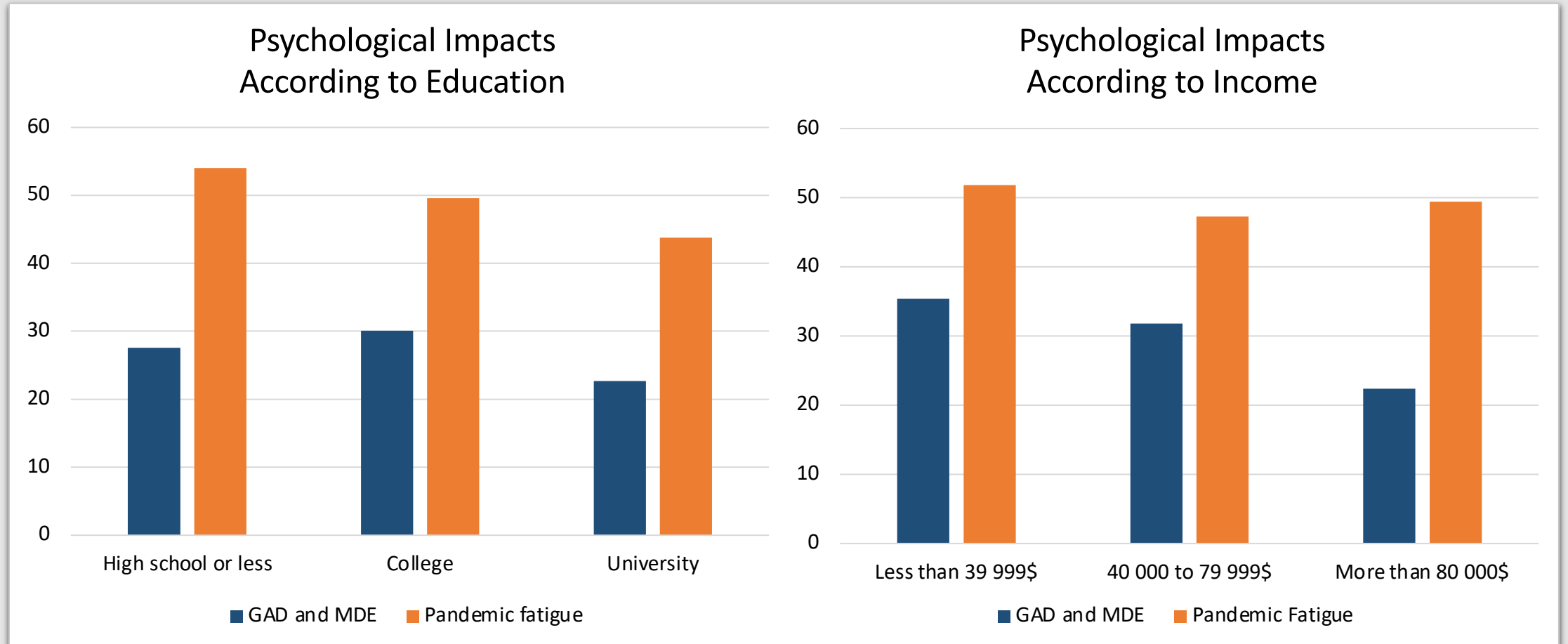
OCTOBER 2021



PSYCHOLOGICAL IMPACTS IN CANADA OCTOBER 2021



PSYCHOLOGICAL IMPACTS IN CANADA OCTOBER 2021



RISK AND PROTECTION FACTORS (CANADA)

These factors modulate the severity of the psychological responses

GAD and MDE affect disproportionately those who

- Have a weak sense of coherence (ORa 5.2)
- Have very low levels of trust towards the authorities (ORa 3.5)
- Perceive a high level of threat towards COVID-19 for themselves or their family (ORa 1.9)
- Adopt conspiracy beliefs towards COVID-19 (ORa 1.8)

Pandemic fatigue levels are found to be greater in individuals who

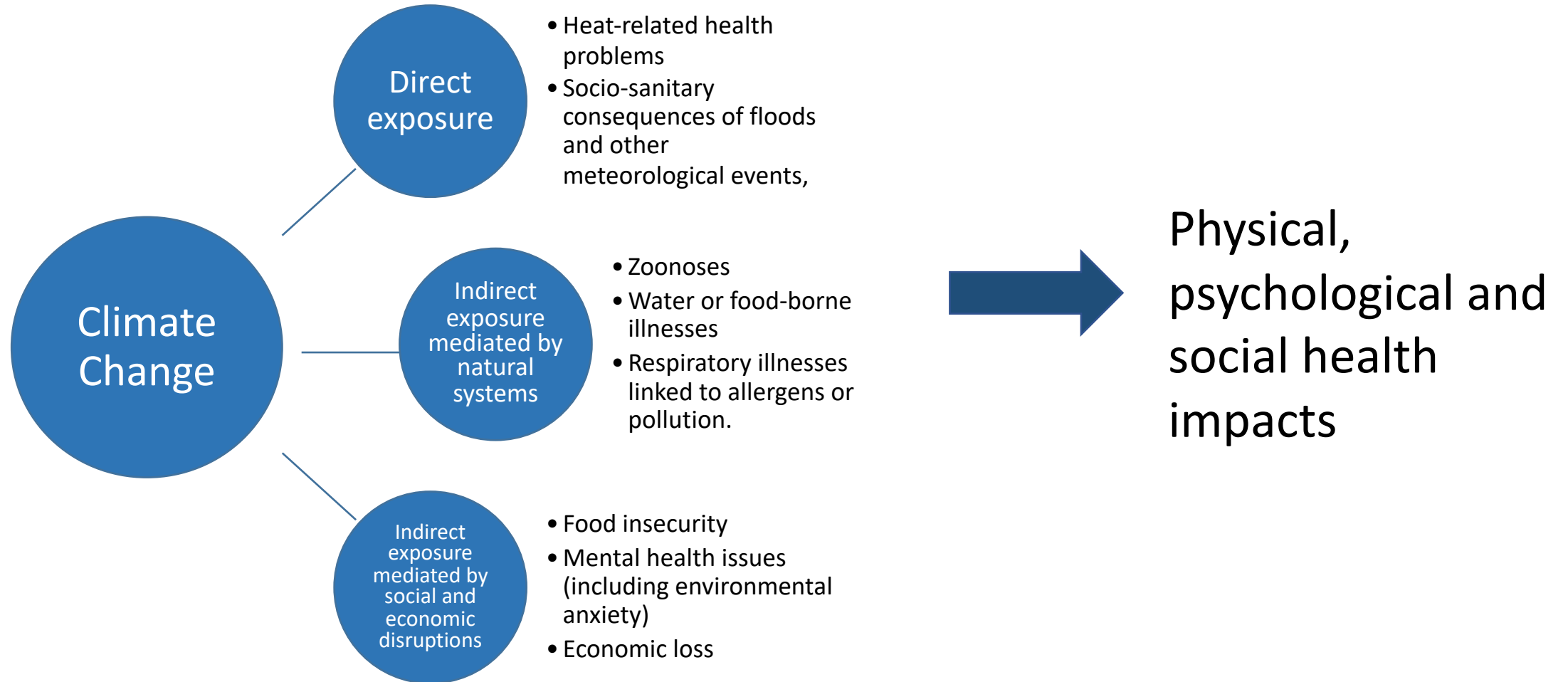
- Have very low levels of trust towards the authorities (ORa 13.7)
- Adopt conspiracy beliefs toward COVID-19 (ORa 7.9)
- Agree with right-wing political views (ORa 7.4)
- Have a weak sense of coherence (ORa 1.4)
- **Contrary to anxiety and depression, the perception of a high level of threat for the world decreases the presence of pandemic fatigue (ORa 0.62)**



CLIMATE CRISIS



HOW DOES CLIMATE CHANGE IMPACT OUR HEALTH?



MAIN PSYCHOLOGICAL VARIABLES

- **Moderate to severe symptoms of GAD and MDE**
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- **Pandemic fatigue**
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- **Eco-anxiety**
 - 10 item scale, each item corresponding to one of 4 subscales (affective symptoms, contemplation, behavioral symptoms, anxiety about personal impacts) with a total score of 10- 50. The score is then divided into quartiles, with a 4th quartile indicating the highest level of eco-anxiety
- **Climate fatigue**
 - 6 items scale derived from the pandemic fatigue scale (the same score and threshold are used as the original scale)



SCALES

Eco-anxiety Scale Adapted From « Hogg Eco-anxiety Scale (HEAS-13)

Participants were instructed to indicate how often (almost always, often, sometimes, rarely, never) they experienced different symptoms of climate-related anxiety

1. Feeling nervous, worried or anxious
2. Being afraid
3. Not being able to stop thinking about climate change and other future environmental problems
4. Not being able to stop thinking about past events related to climate change
5. Having difficulty sleeping
6. Having a hard time enjoying social situations with my family and friends
7. Having a hard time working or studying
8. Feeling anxious about the impact of my own behaviours on the planet
9. Feeling anxious about my personal ability to contribute to resolving global environmental problems
10. Being worried about the future of humanity



SCALES

Climate Fatigue Scale

The scale was adapted from the pandemic fatigue scale. The same items were used but modified to inquire about climate change. Participants were instructed to indicate their response to 6 statements on a scale of 1-7, 1 corresponding to totally disagree and 7 to totally agree.

1. I am tired of all the climate change discussions in TV shows, newspapers, and radio programs, etc.
2. I am sick of hearing about climate change.
3. When friends or family members talk about climate change, I try to change the subject because I do not want to talk about it anymore.
4. I feel strained from following all of the behavioural regulations and recommendations around climate change.
5. I am tired of restraining myself to save those who are most vulnerable to climate change.
6. I am losing my spirit to fight against climate change.

IMPORTANCE TO ACT ON THE CLIMATE CRISIS

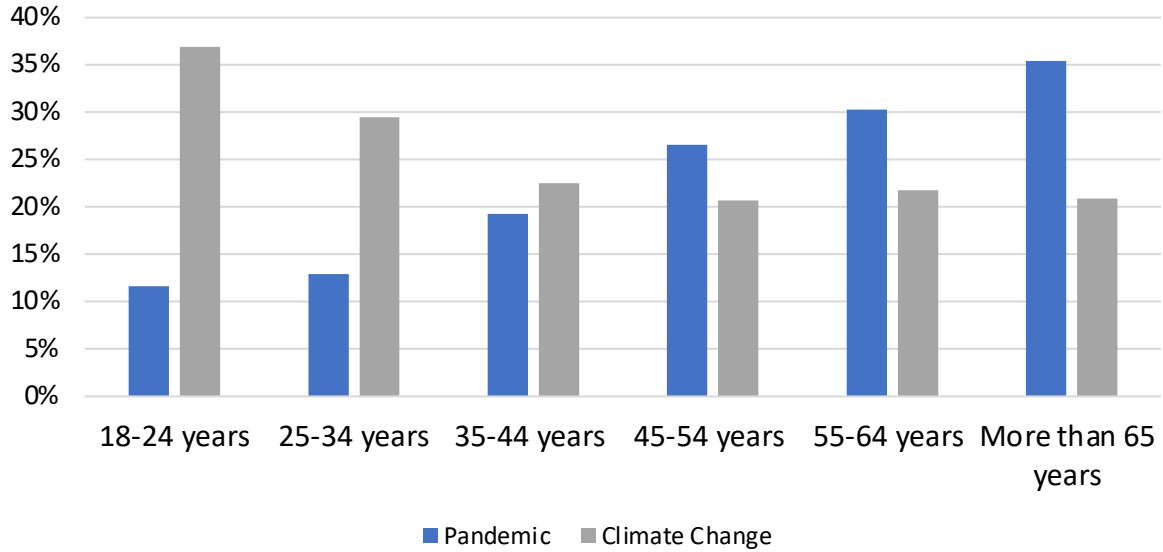
More than **six in 10** Canadian adults report having experienced disruptions related to climate change in the last 5 years, including:

- Extreme events (59%)
- Material damage (19%)
- Health problems (19%)
- Financial losses (17%)

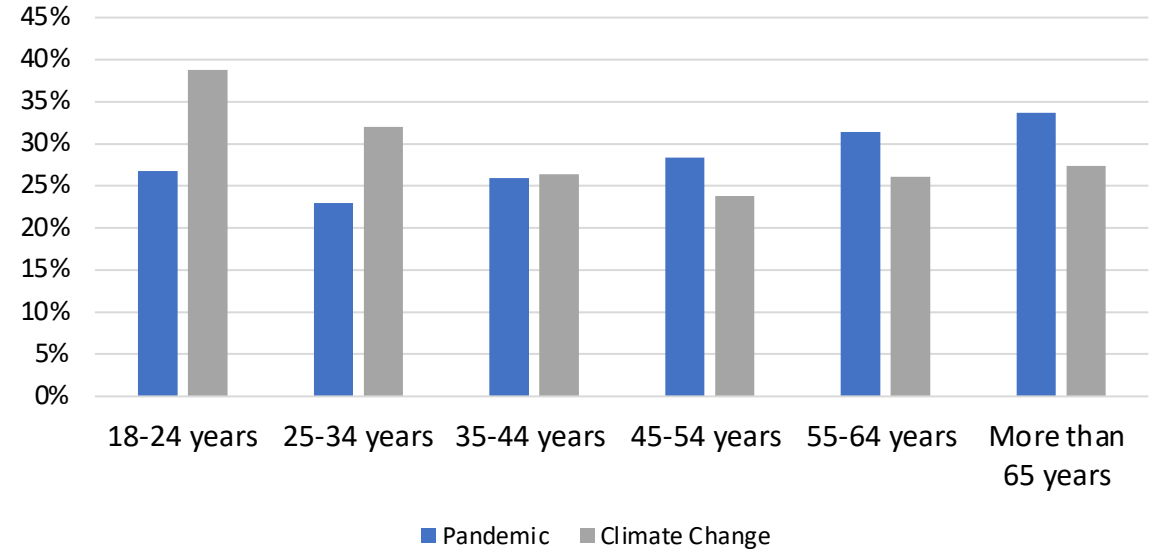
Even during this global pandemic, many Canadians view the climate crisis as a priority

- **38%** of Canadians perceive climate change to be as much of a threat to the world as COVID-19 and **17%** perceive it to be a greater threat.
- **23%** of Canadians strongly agree that it is not possible to fight climate change without including the 'health' dimension in the measures and policies put in place

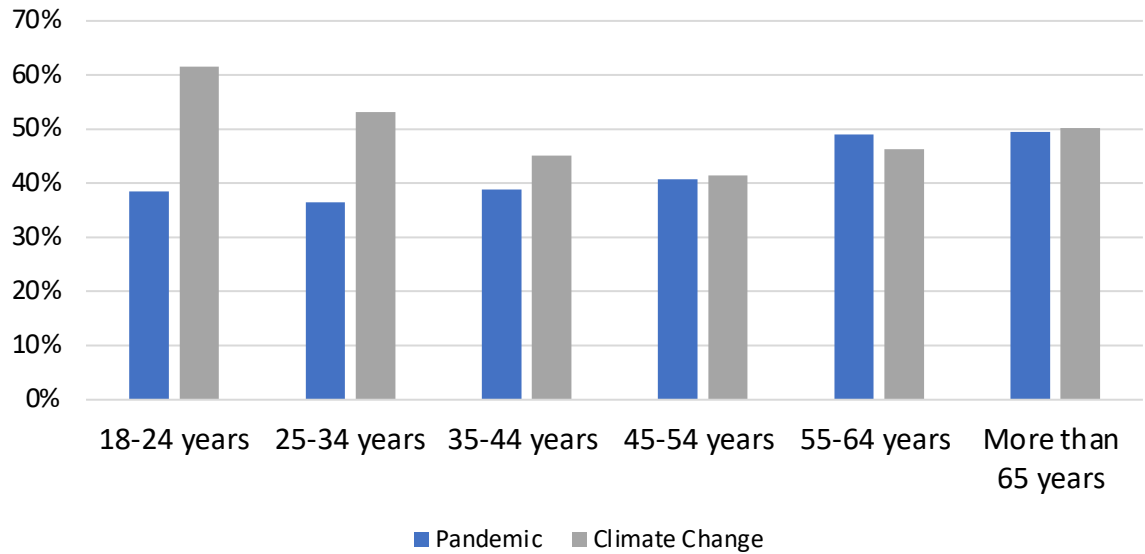
Perceived Risk for Oneself



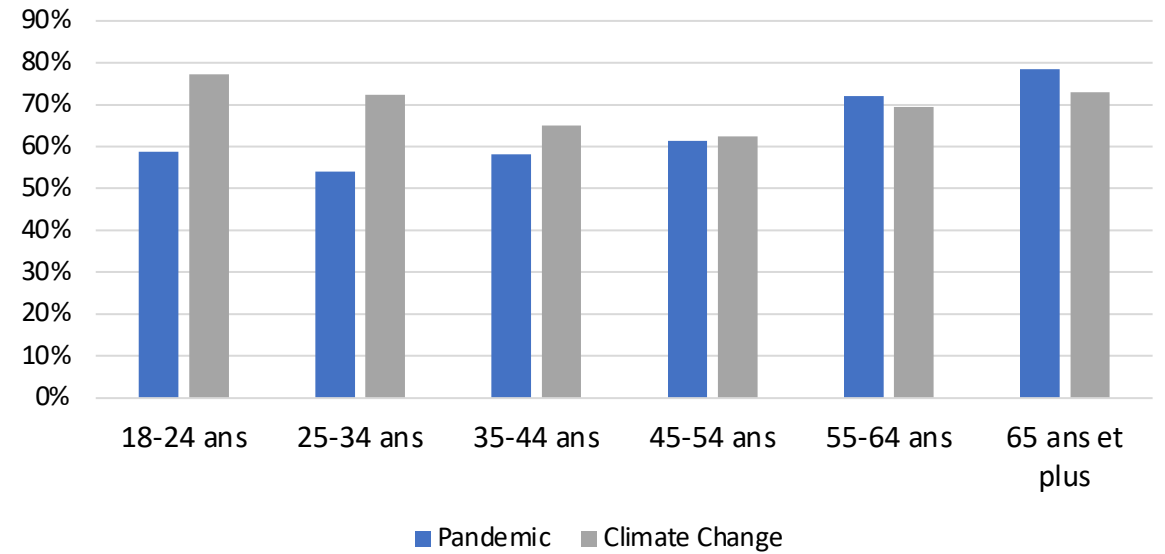
Perceived Risk for their Family



Perceived Risk for their Country



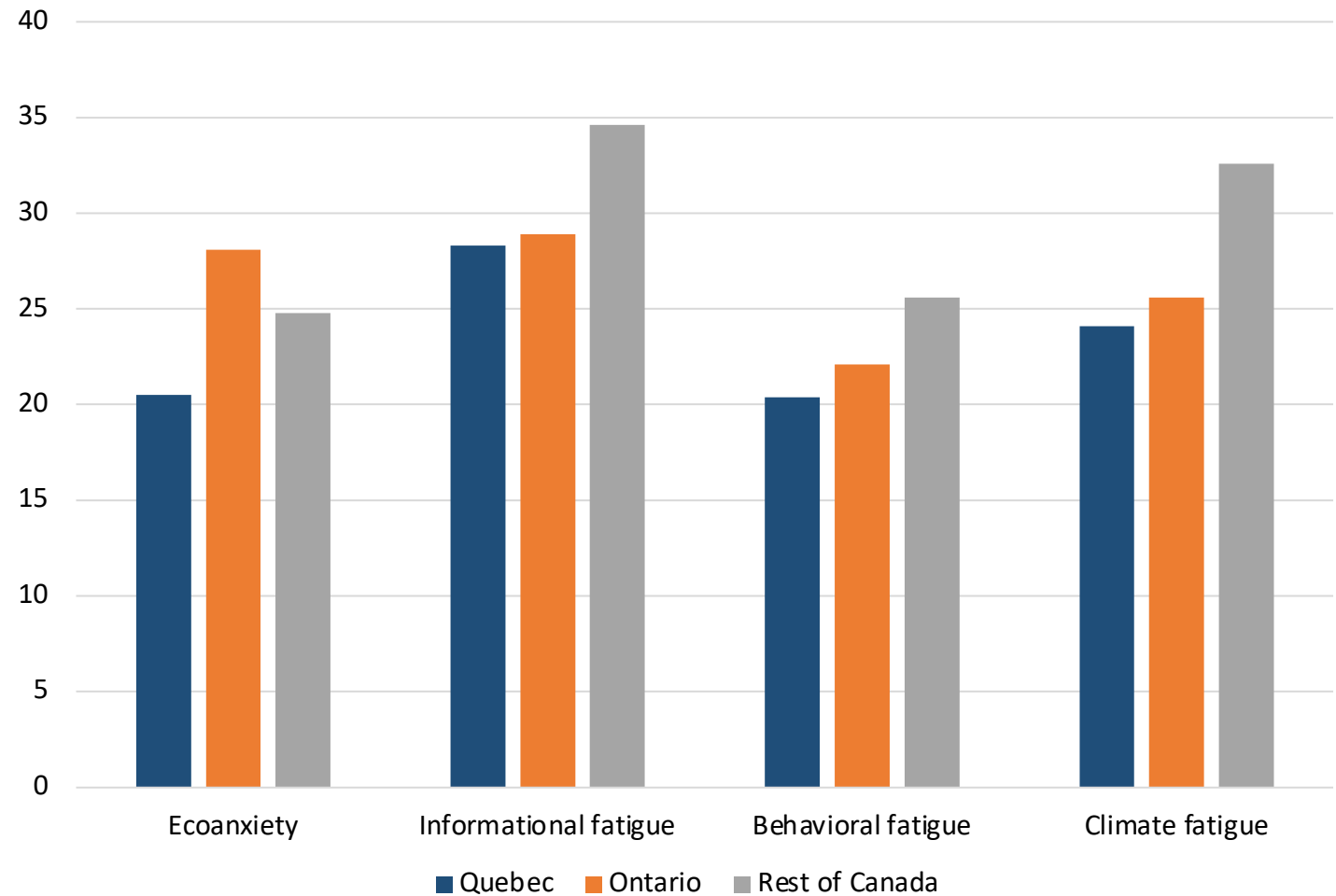
Perceived Risk for the World



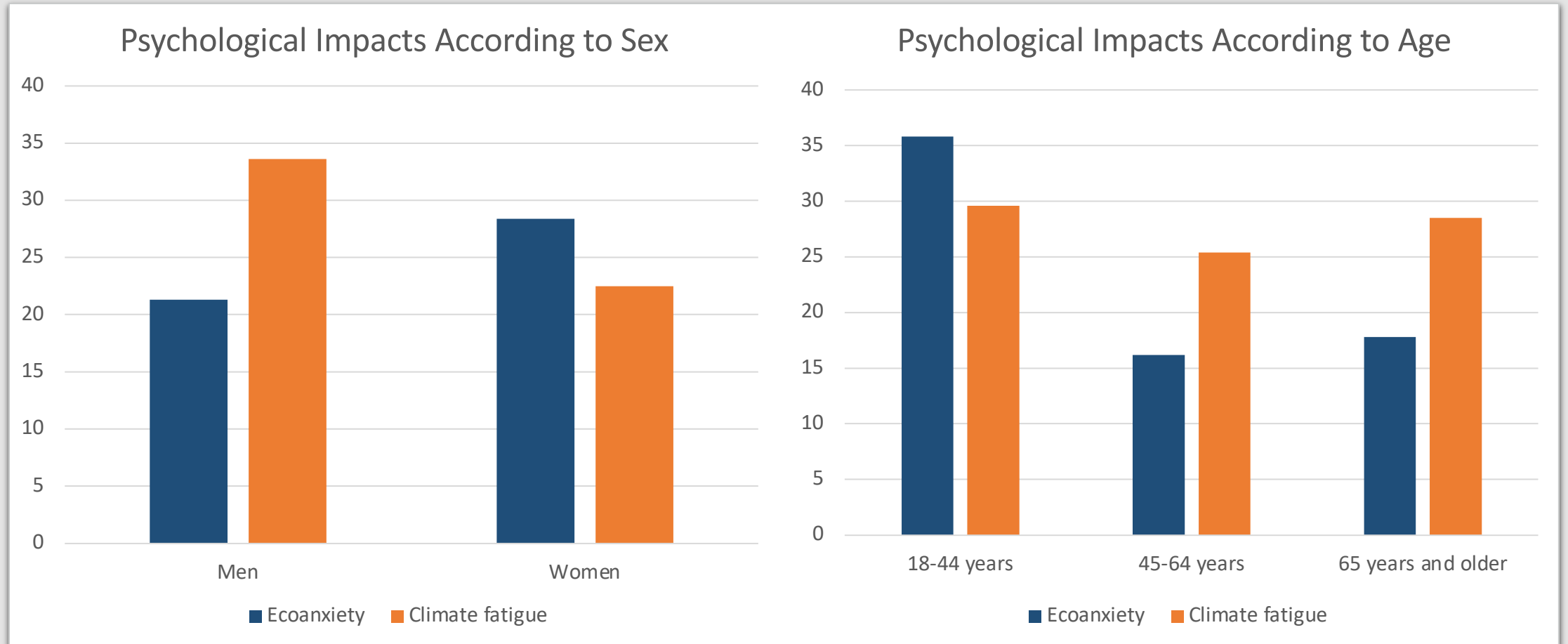
PSYCHOLOGICAL IMPACTS OF CLIMATE CHANGE

INTRA CANADA COMPARISON
OCTOBER 2021

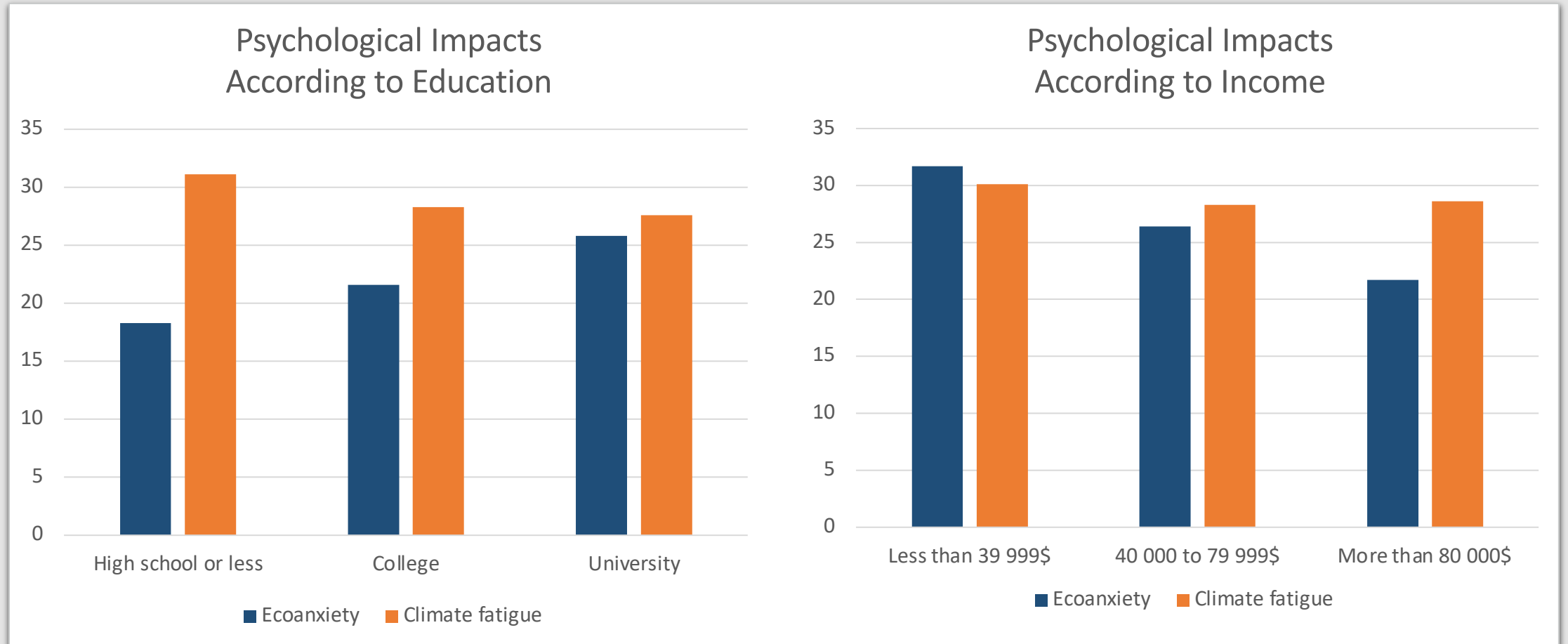
Eco-anxiety and Climate Fatigue
According to Canadian Regions



PSYCHOLOGICAL IMPACTS IN CANADA OCTOBER 2021



PSYCHOLOGICAL IMPACTS IN CANADA OCTOBER 2021



RISK FACTORS (CANADA)

Eco-anxiety affects disproportionately those who

- Have experienced significant financial losses due to climate change (ORa 6.0)
- Perceive a high level of threat towards climate change for themselves/their family (ORa 3.4)
- Have a weak sense of coherence (ORa 2.4)
- Have been exposed to extreme meteorological events (ORa 1.6)

Climate fatigue level is found to be greater in individuals who

- Adopt conspiracy beliefs on climate change (ORa 7.3)
- Have very low levels of trust in authorities (ORa 4.8)
- Have right-wing political views (ORa 3.0)
- Perceive a low level of threat towards climate change for themselves/their family (ORa 2.7)

PANDEMIC, CLIMATIC, AND INFODEMIC RELATED FACTORS

The perception and attitudes of Canadians have changed significantly since the beginning of the pandemic

- The perceived threat of the pandemic has decreased
- The level of trust towards the authorities, and more specifically the government, has decreased
- Political views seem to have shifted to the extremes, both left and right.

Risk and Protection Factors	Quebec		Ontario		Rest of Canada	
	2020	2021	2020	2021	2020	2021
High Perceived Threat to Self/Family for COVID-19	37,2%	28,3% (-)	37,6%	30,4% (-)	30,8%	29,8%
High Perceived Threat to Self/Family for Climate Change	ND	29,0%	ND	35,5%	ND	30,0%
Level of Trust Towards the Government						
<i>Very weak</i>	6,6%	7,0%	6,0%	16,1% (+)	9,9%	16,0% (+)
<i>Weak</i>	5,9%	8,3%	8,1%	12,2% (+)	10,9%	11,5%
<i>Moderate</i>	16,3%	26,6% (+)	21,8%	29,6% (+)	23,6%	27,8%
<i>High</i>	42,3%	42,9%	43,6%	32,3% (-)	38,0%	34,6%
<i>Very high</i>	28,9%	15,6% (-)	20,5%	9,8% (-)	17,7%	10,1% (-)
Level of Trust Towards the Authorities						
<i>Very weak</i>	3,0%	3,0%	3,4%	7,7% (+)	5,6%	7,1%
<i>Weak</i>	4,9%	6,0%	4,9%	8,9% (+)	8,4%	10,4%
<i>Moderate</i>	17,0%	23,4% (+)	19,5%	27,9% (+)	20,5%	24,9% (+)
<i>High</i>	47,0%	50,2%	46,3%	44,3% (-)	44,8%	48,5%
<i>Very high</i>	28,1%	17,4% (-)	25,9%	11,3% (-)	20,7%	9,2% (-)
Conspiracy Beliefs Towards COVID-19	ND	19,6%	ND	26,7%	ND	28,8%
Conspiracy Beliefs Towards Climate Change	ND	21,5%	ND	30,7%	ND	32,8%
Political Polarization						
<i>Left</i>	6,4%	11,1% (+)	13,1%	17,1% (+)	11,9%	12,5%
<i>Center</i>	85,5%	80,0% (-)	71,9%	69,7%	75,3%	71,0%
<i>Right</i>	8,1%	8,9%	15,0%	13,3%	12,8%	16,5% (+)
High Sense of Coherence	43,4%	41,5%	30,7%	32,1%	34,4%	32,6%

SOLVING TWO CRISES AT ONCE



CHOOSING THE RIGHT TRAJECTORY

In the context of a crisis, especially if it is prolonged, which is the case for both COVID-19 and the climate change crises, communities can move towards a corrosive or therapeutic trajectory, depending on the conditions put in place.

Corrosive trajectory

Social division

Culture of blame

Distrust of authorities

Helplessness

One-way information

Confusion

Marginalization

Therapeutic trajectory

Social cohesion

Respect and forgiveness

Mobilization and collaboration

Sense of control

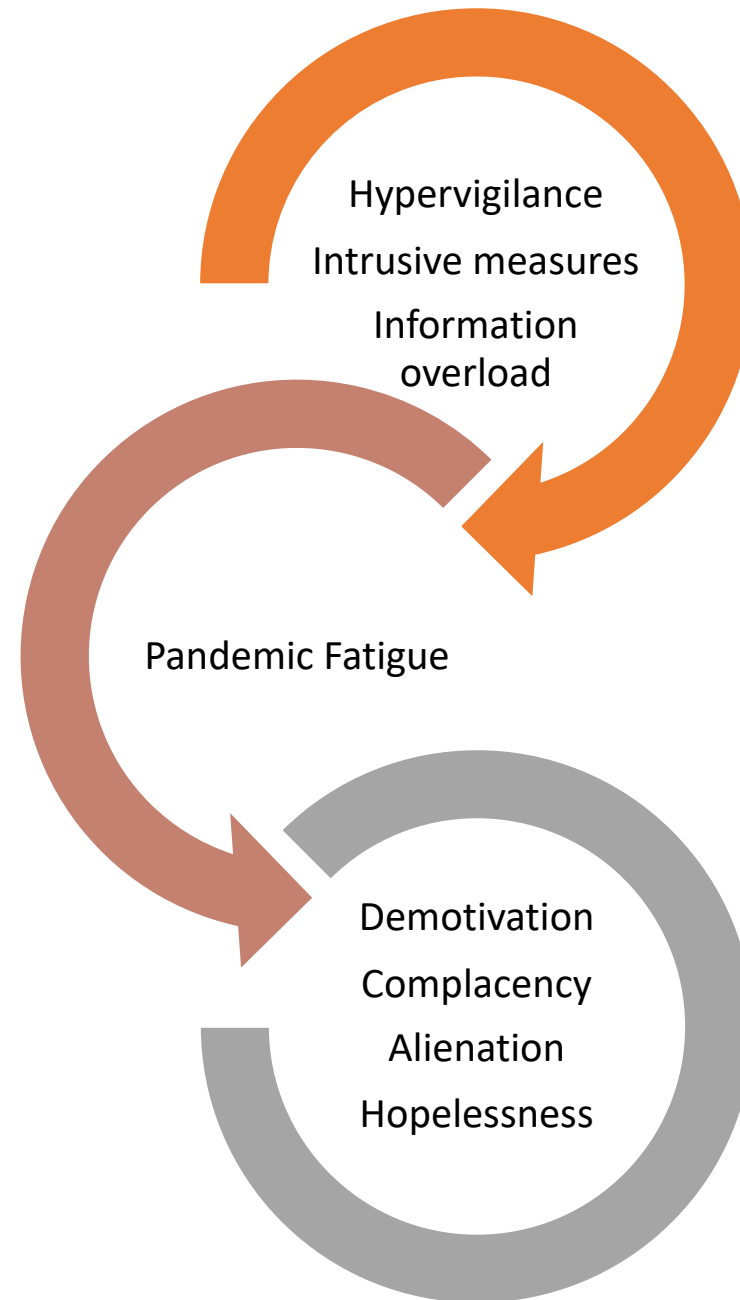
Consultation and Participation

Coherence

Inclusion of marginalized groups

HOW DOES THE INFODEMIC INFLUENCE PANDEMIC FATIGUE?

- In response of the pandemic in Canada, a state of health emergency has been declared for two years. This **hypervigilance**, combined with **intrusive measures** and **information overload**, have fueled pandemic fatigue
- Over time, there is an increased risk of pandemic fatigue due to:
 - The perceived threat becoming less than the perceived losses
 - The urge for self-determination and freedom
 - The normalization of the crisis



HOW DOES THE INFODEMIC INFLUENCE CLIMATE FATIGUE?

- In June 2021, more than half of the population of Quebec (51%) expressed being ready to make several changes to their way of life in order to contribute to the fight against climate change.
- However, people who perceived themselves as less informed, who rarely seek out for information through the traditional media, who had a conspiratorial view of climate change, who had low levels of trust in the authorities or who had a right-wing political ideology were less likely to report the readiness to adopt changes or modify their lifestyle.
- The **level and type of information** seem to be determining factors in the adoption of behaviors favorable to the fight against climate change.

RESTORING COMMUNITY DIALOGUE (1)

- As seen, pandemic and climate fatigue are both growing issues that share many features.
- For any initiative, policy or communication aimed at maintaining or strengthening adherence to health measures in times of crisis, the WHO offers **five basic principles**.
- These principles must be considered in order to adequately communicate with the public and reduce psychosocial impacts of crises.

Principles	Definitions
Transparency	Share the reasons behind the sanitary measures and any changes made
Consistency	Be as consistent as possible in messages and actions
Predictability	Use objective criteria to support any changes made
Equity	Seeking the highest possible level of equity in health measures
Coordination	Avoid mixed messages between spokespersons

RESTORING COMMUNITY DIALOGUE (2)

- Most people are well informed however, emotions and context have a greater impact on behaviors
- Strategies to provide information and advice probably not sufficient
- Need for a transition towards a greater sense of control and more citizen participation

Spectrum of Citizen Participation



Information

One-way communication method
Ex. dissemination of data in the media



Consultation

Communication based on exchanges and feedback
ex. survey, focus group



Involvement

Discussions/consideration of concerns during the process
Ex. local committee



Co-decision

Partnership / integration of recommendations
Ex. decision table



Empowerment

Final decisions made by local actors/citizens
Ex. accompaniment

4 MAIN STRATEGIES TO FIGHT PANDEMIC AND CLIMATE FATIGUE

Seek to understand people

- Identify demotivated groups and try to understand them (motivations, barriers)

Involve them in the search for solutions

- Moving from “the crisis controls us” to “together we can control the crisis”

Reduce risk returning to "normal" life

- Moving from “don’t” to “finding an alternative”

Acknowledge their pain

- Recognize that most people have suffered the consequences of the crisis



Conclusion

- All types of crises generate important mental health impacts, with some individuals being more at risk, especially younger and less affluent groups.
- The level of risk perception has a significant link with climatic and pandemic fatigue, making it necessary to better identify and explain the risks towards the population by these two crises.
- Pandemic and climate fatigue can potentially limit the application of measures or actions to deal with health and climate crises and induce harmful behavioral changes.