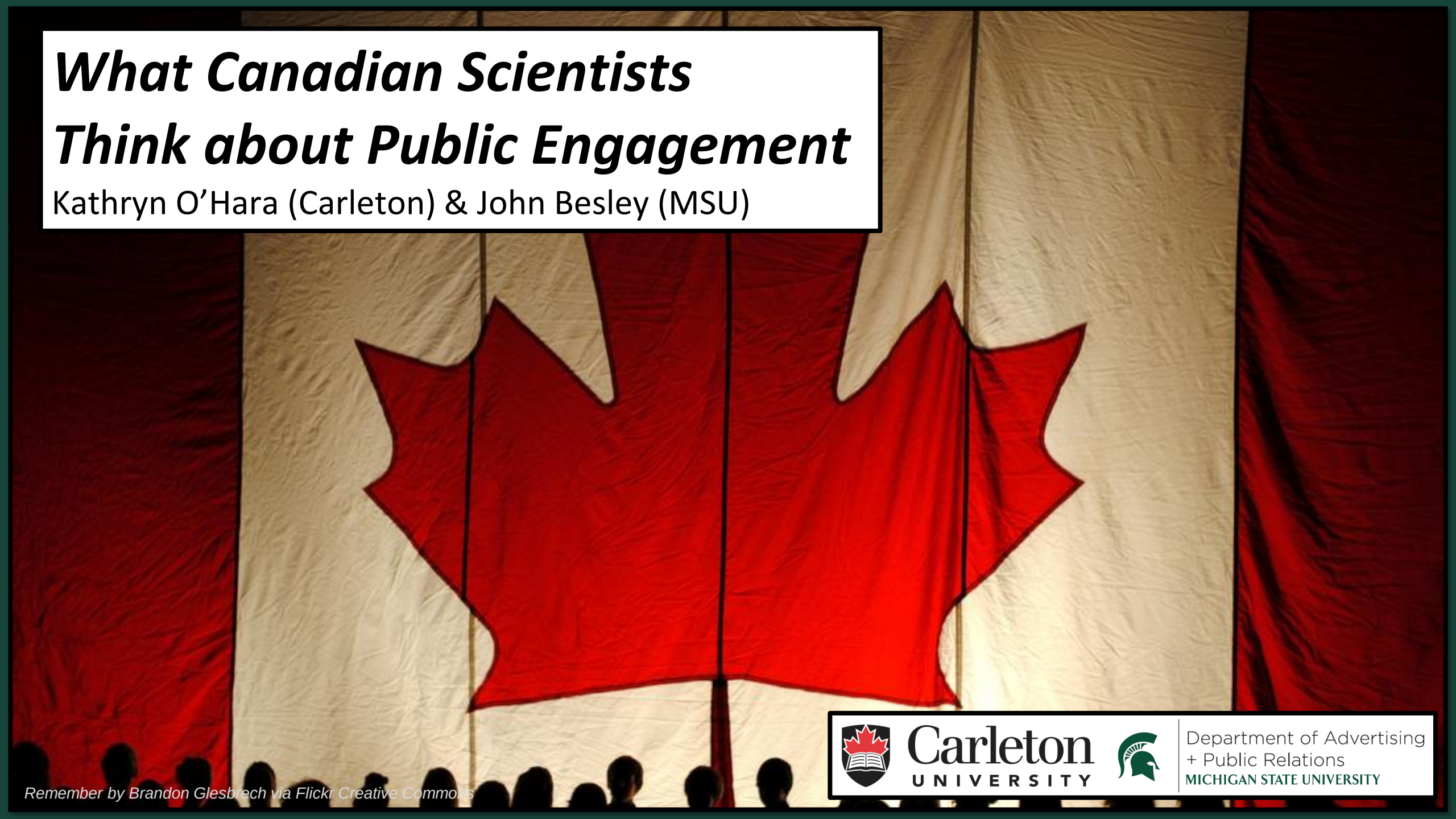
1:30pm – 3:00pm

Communication culture: Scientists' views and trainers' methods to better engage with publics and policymakers

Panel Organizer: Kathryn O'Hara
Carleton School of Journalism and Communication

What Canadian Scientists Think about Public Engagement

Kathryn O'Hara (Carleton) & John Besley (MSU)



Remember by Brandon Glesbrecht via Flickr Creative Commons

Carleton UNIVERSITY
Department of Advertising + Public Relations
MICHIGAN STATE UNIVERSITY

Context …

But … we don't know much about what Canadian scientists are doing or thinking about public engagement …

2012 Ottawa march by scientists concerned about Conservative government's science-related policies and communication limits

2017 March for Science by scientists concerned about American government science policies, as well as broader related to science in society

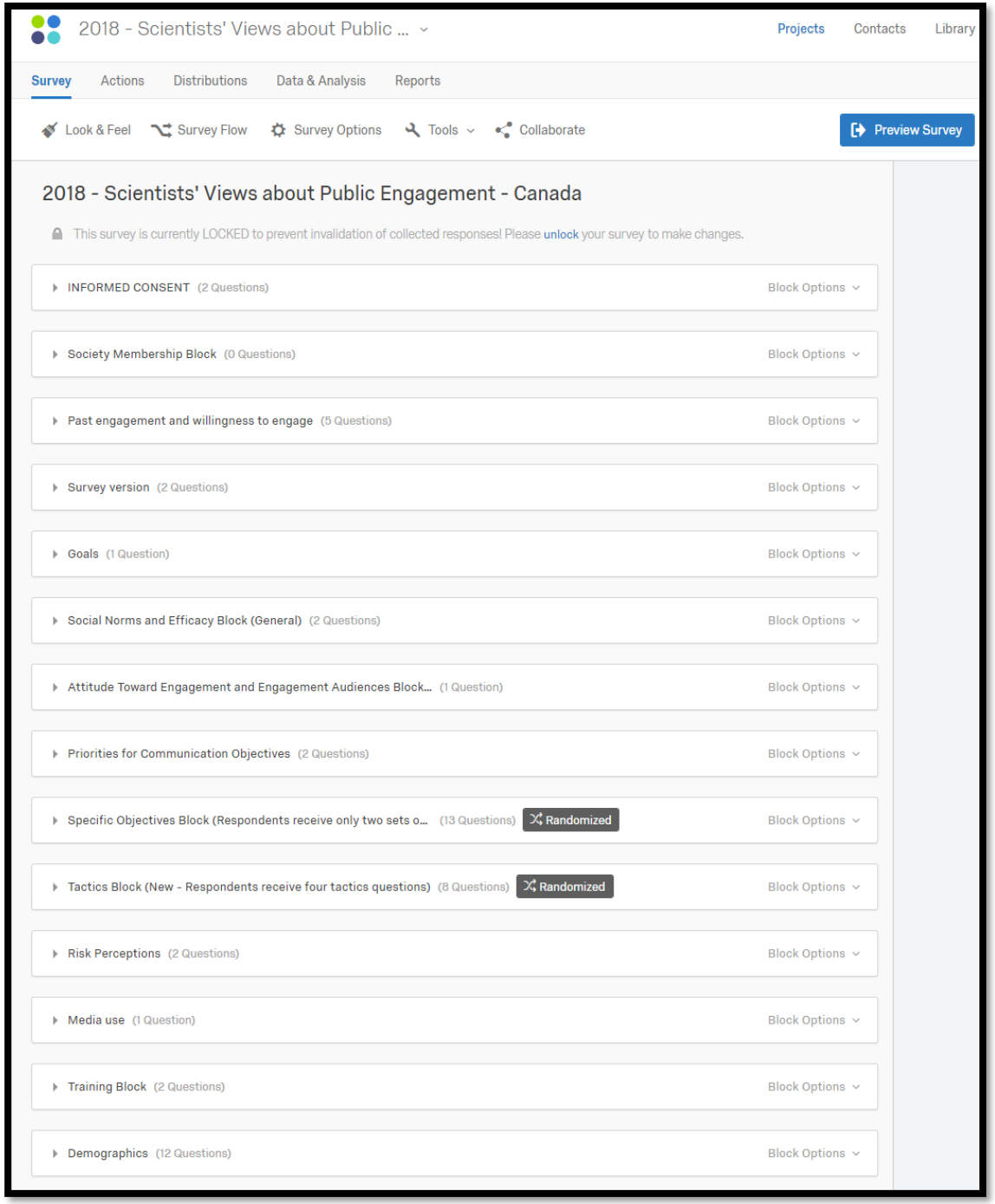
Carleton UNIVERSITY
Department of Advertising + Public Relations
MICHIGAN STATE UNIVERSITY

The survey …

- 15-25 minutes
- N = 1,142 (17% response rate)
- Dec. 2017-Jan. 2018

Sections on …

- Engagement behavior
- Views about goals/ objectives/tactics
- Demographics
- Confidential (MSU IRB)



Carleton UNIVERSITY

Department of Advertising + Public Relations
MICHIGAN STATE UNIVERSITY

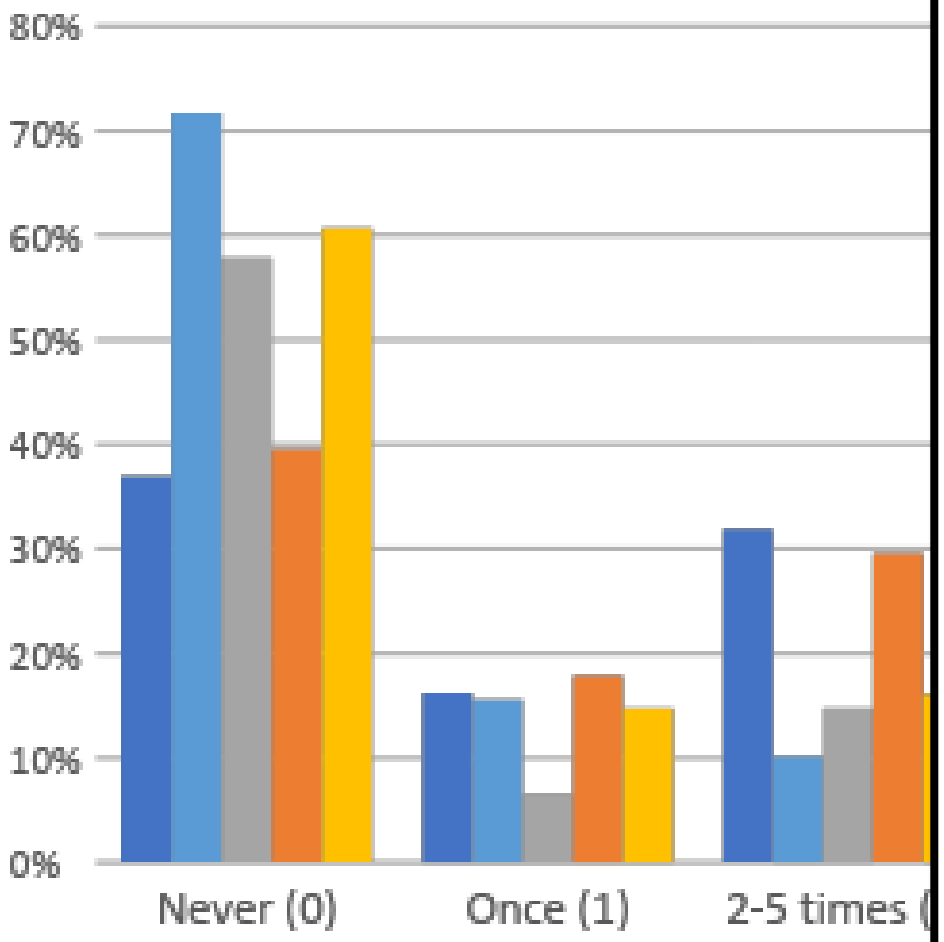
The sample …

- Average age: 52
- Identifies male: 71%
- Identifies white: 81%
- Identifies liberal: 81%
- Communication training: 55%
- Career level-Senior: 58%
- Impact-Relatively High: 62%

- Biology/Medical: 47%
- Engineering: 20%
- Computer science/Math: 16
- Physics astronomy: 11%
- Geosciences: 9%
- Chemistry: 8%
- Social/Behavourial: 4%
- Other: 5%

N = ~1,142

Past engagement …



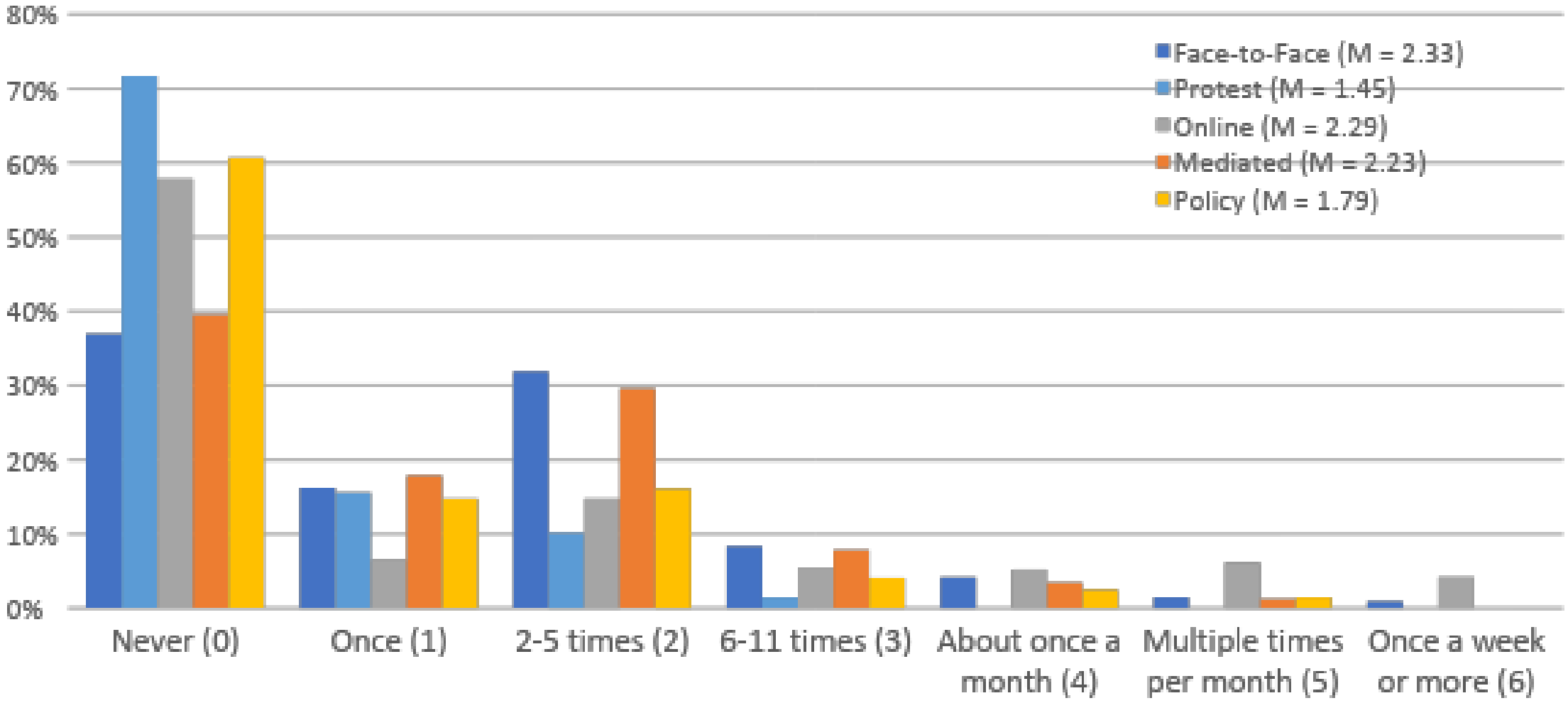
To start, about how often have you engaged with the adult public on science in the last year? For each type of engagement, please select the choice that best describes your amount of engagement.

	Never	Once	2-5 times	6-11 times	About once a month	Multiple times per month	Once a week or more
Face-to-face engagement where you discussed science with adults who are not scientists (e.g, giving a public talk or doing a demonstration).	○	○	○	○	○	○	○
Protest, direct advocacy, or demonstrations about science-related policy (e.g. March for Science, climate change march, petitions, etc.)	○	○	○	○	○	○	○
Online engagement through websites, blogs and/or social networks (e.g., Facebook, Twitter) aimed at communicating about science with adults who are not scientists.	○	○	○	○	○	○	○
Direct interaction with government policy makers (e.g., meeting with elected officials, government officials, lobbyists, etc.)	○	○	○	○	○	○	○
Interviews or briefings with a journalist or other media professional (e.g. from a newspaper, television, online news site, documentary film, etc.)	○	○	○	○	○	○	○
Other	○	○	○	○	○	○	○
Youth focused engagement through any channel (face-to-face, online, through news media, etc.)	○	○	○	○	○	○	○

Carleton UNIVERSITY
Department of Advertising + Public Relations
MICHIGAN STATE UNIVERSITY

N = ~1,142

Past engagement …



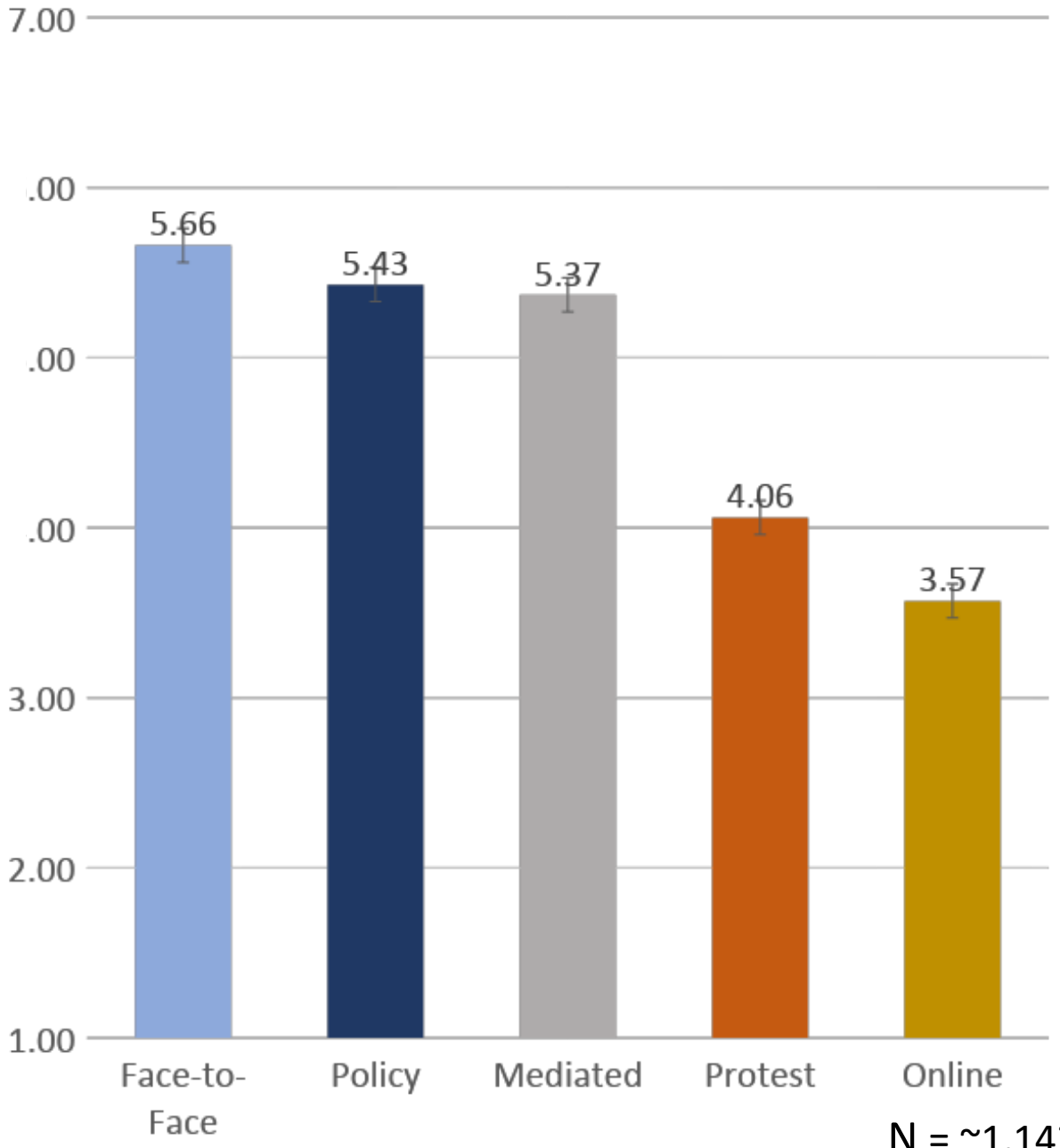
Carleton UNIVERSITY

Department of Advertising + Public Relations
MICHIGAN STATE UNIVERSITY

N = ~1,142

Willingness to engage …

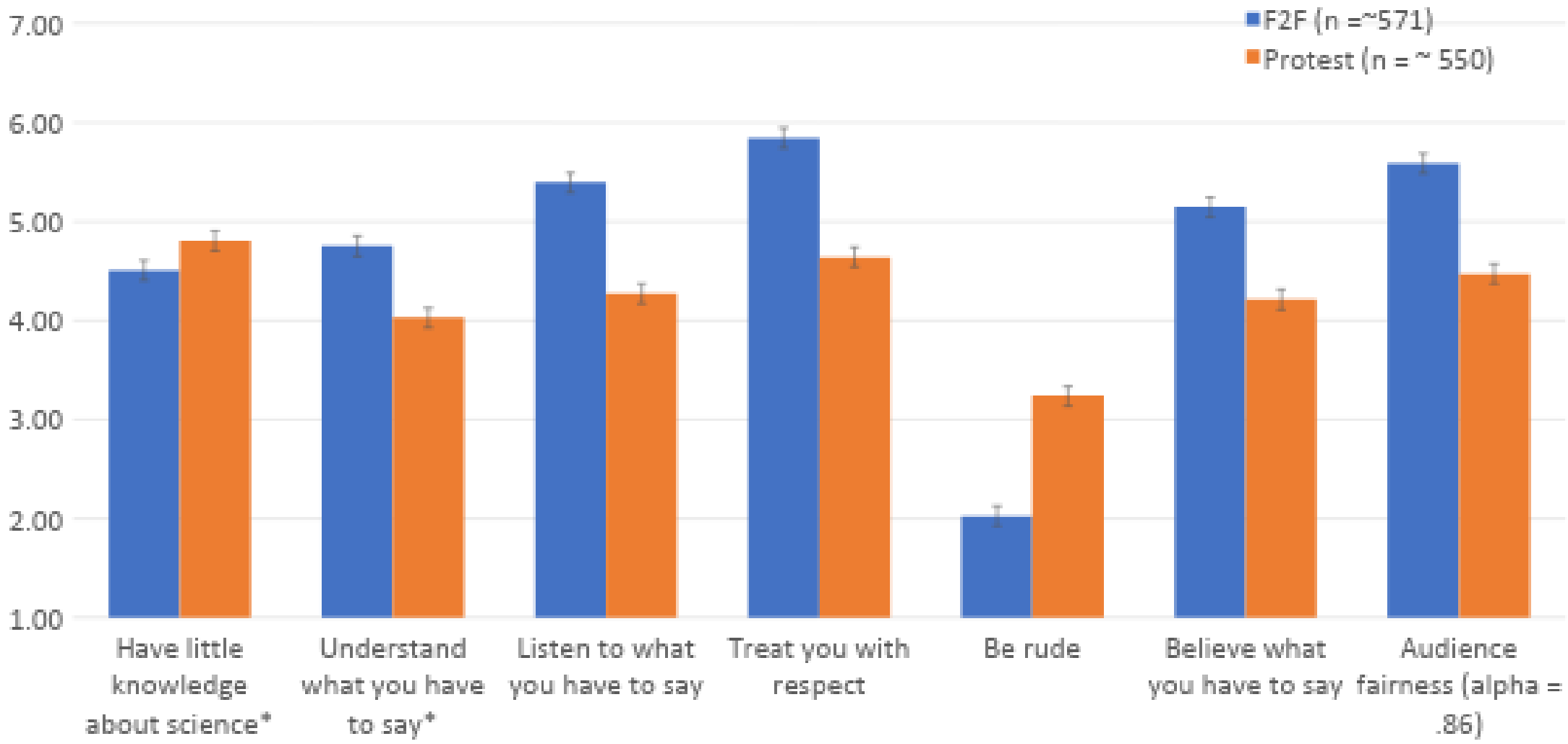
- Lots of future willingness for F2F, policy, and mediated engagement
  - Less willingness for online and protest channels



N = ~1,142

Carleton UNIVERSITY
Department of Advertising + Public Relations
MICHIGAN STATE UNIVERSITY

Attitudes towards expected engagement audiences …



Carleton UNIVERSITY
Department of Advertising + Public Relations
MICHIGAN STATE UNIVERSITY

*Not included in scale
Strongly disagree (1) – Strongly agree (7)

Beliefs about …

Engagement Norms

Next, please indicate your level of agreement or disagreement with the following statements in the context of FACE-TO-FACE engagement with ADULTS.

	Strongly Disagree						Strongly Agree
I think my colleagues would respect someone who participates in this type of public engagement	O	O	O	O	O	O	O
My colleagues expect scientists like me to take part in this type of public engagement	O	O	O	O	O	O	O
My colleagues would make negative comments about scientists who take part in this type of activity	O	O	O	O	O	O	O
My colleagues aren't interested doing this type of activity themselves	O	O	O	O	O	O	O
My colleagues participate in this type of public engagement regularly	O	O	O	O	O	O	O
Generally speaking, I care what my colleagues think about participation in this type of public engagement	O	O	O	O	O	O	O
This type of public engagement is commonly practiced by my colleagues	O	O	O	O	O	O	O

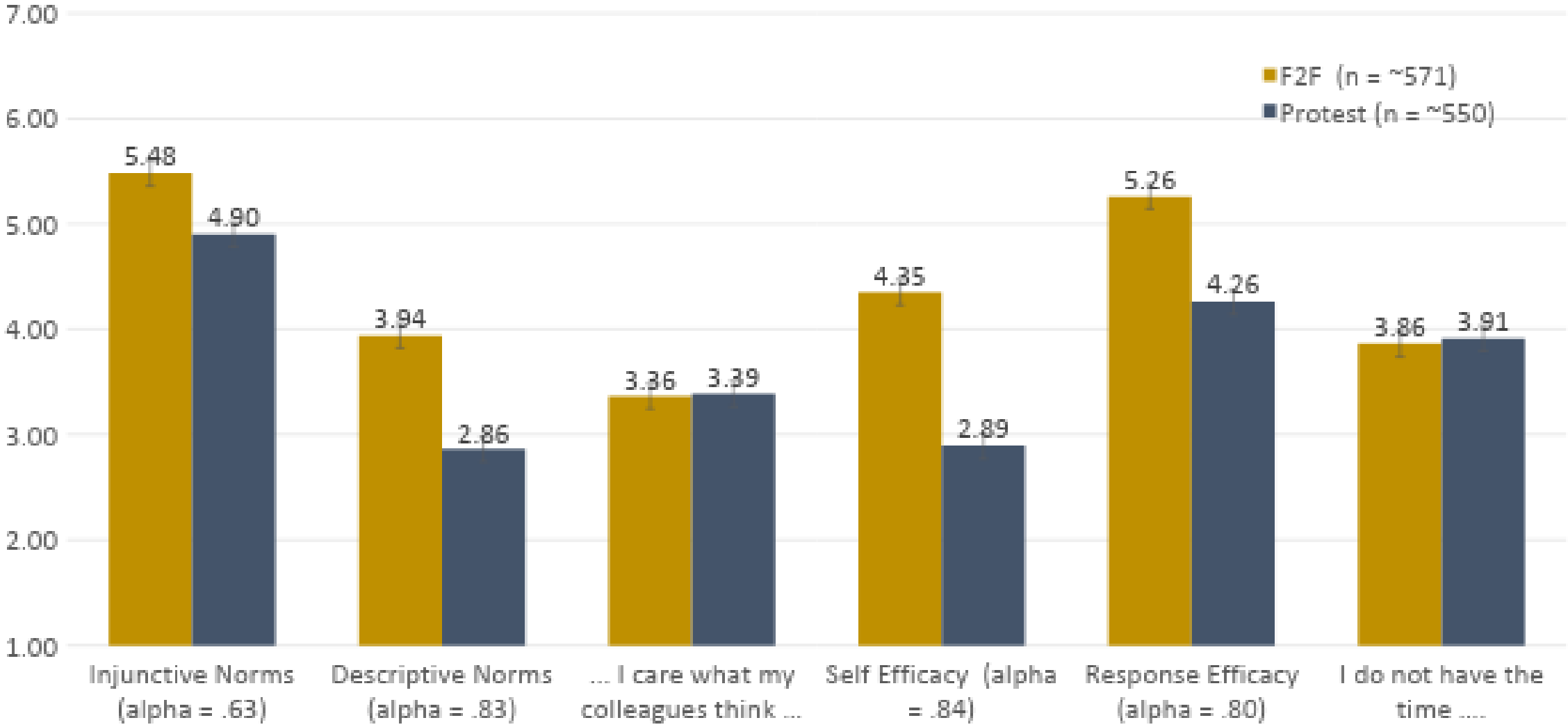
Engagement-related Efficacy

We would also like you to indicate your level of agreement or disagreement with the following statements in the context of FACE-TO-FACE engagement with ADULTS.

	Strongly Disagree						Strongly Agree
I am skilled at this type of public engagement	O	O	O	O	O	O	O
I am better than many scientists I know at this type of engagement	O	O	O	O	O	O	O
This type of public engagement is useful in solving the types of problems that the scientific community faces	O	O	O	O	O	O	O
I do not have the time to communicate effectively with the public about my research	O	O	O	O	O	O	O
This type of public engagement is difficult for me	O	O	O	O	O	O	O
I think this type of public engagement can make a difference in society	O	O	O	O	O	O	O
This type of public engagement is probably a waste of scientists' time	O	O	O	O	O	O	O

Strongly disagree (1) – Strongly agree (7)

Beliefs about Engagement Norms and Efficacy

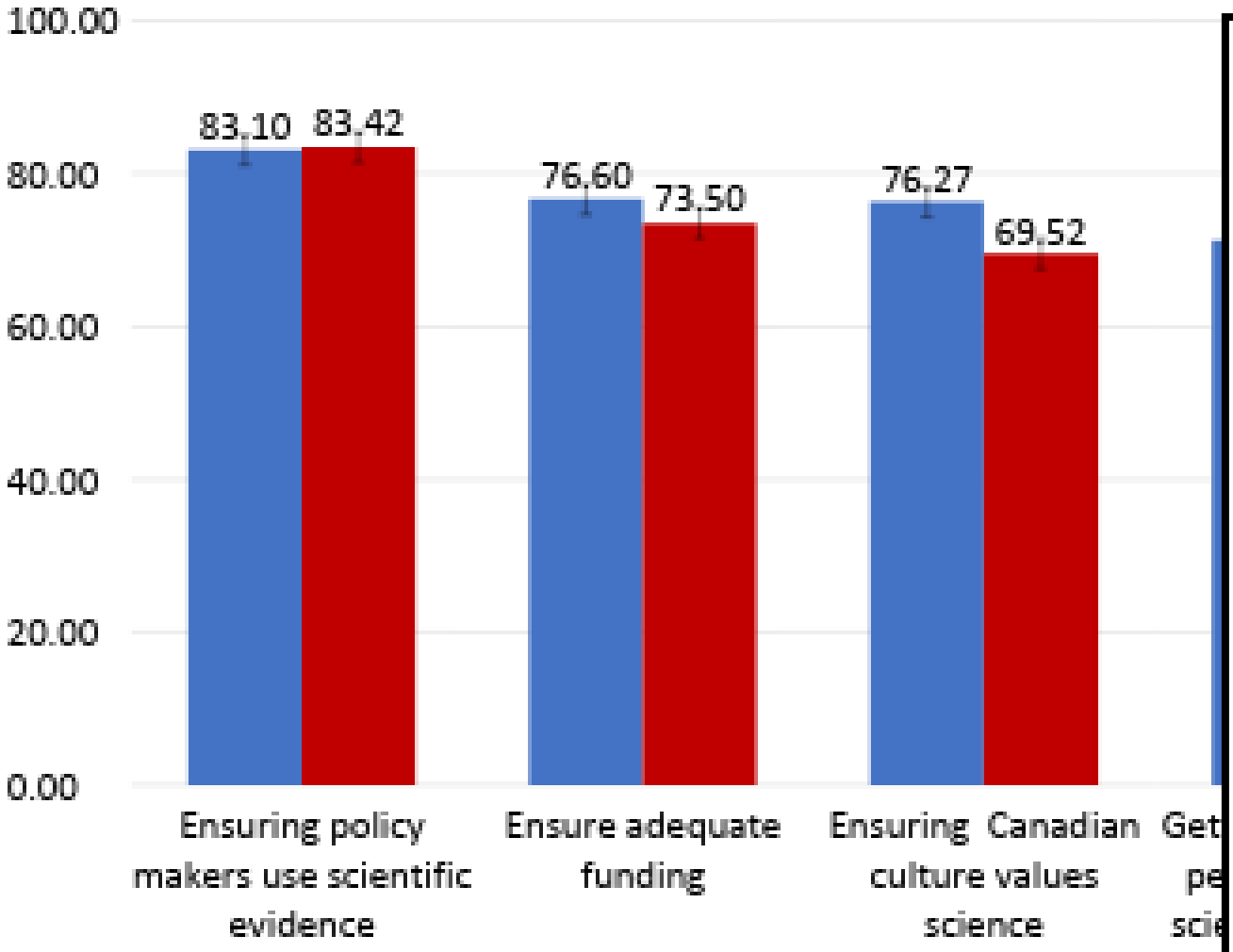


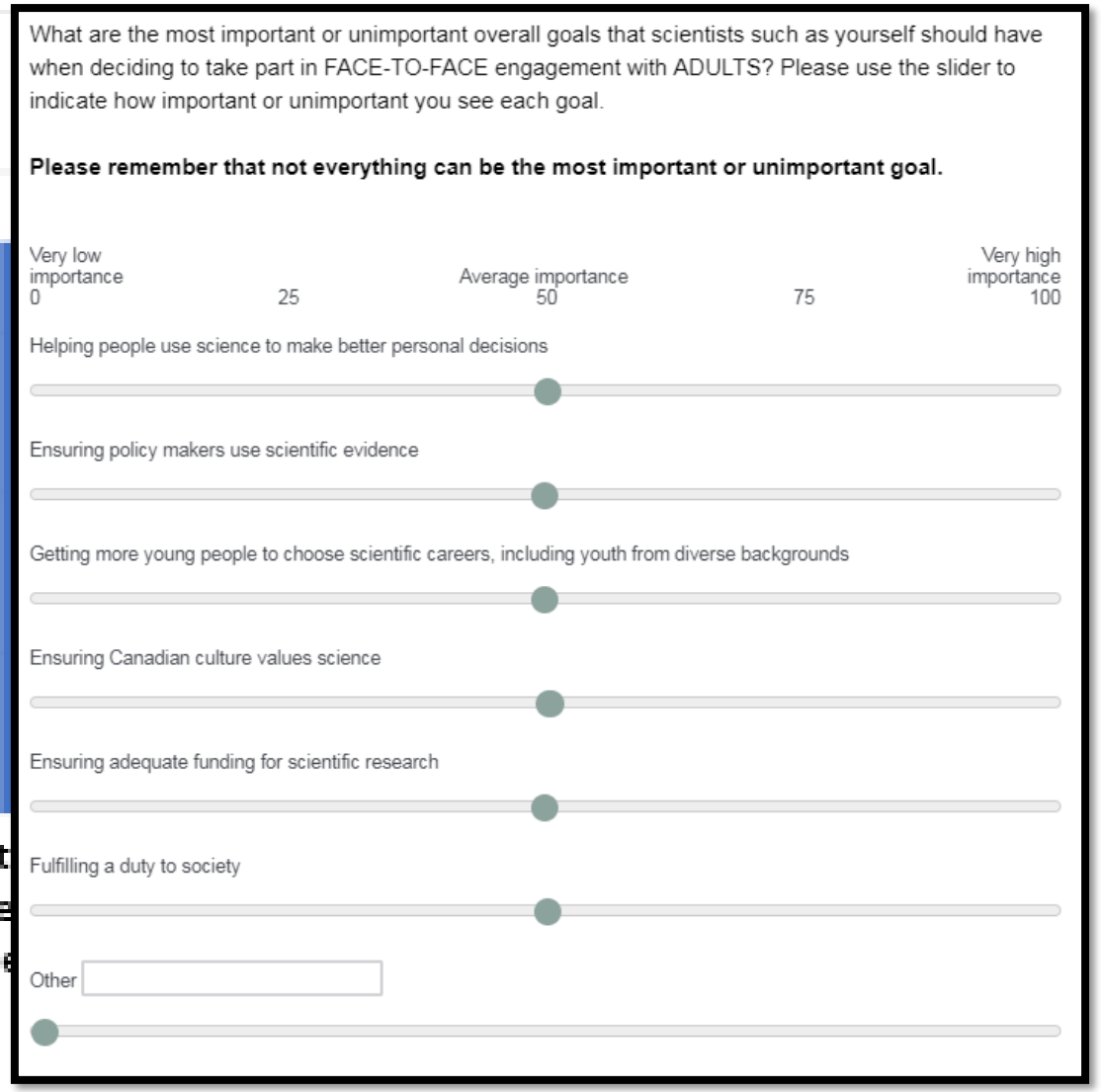
Carleton UNIVERSITY

Department of Advertising + Public Relations
MICHIGAN STATE UNIVERSITY

Strongly disagree (1) – Strongly agree (7)

Scientists' long-term engagement goals

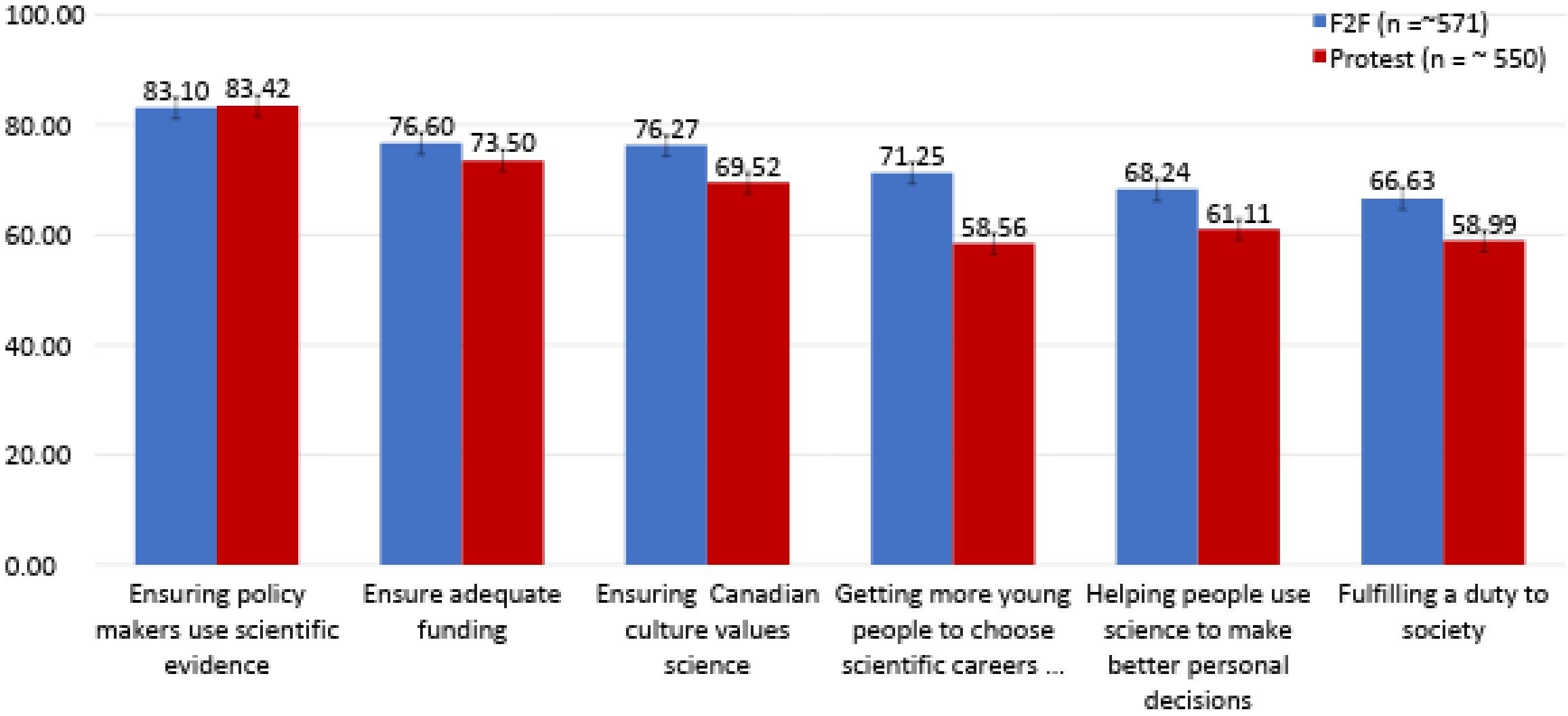




Very low importance (0) – Very high importance (100)

Carleton UNIVERSITY
Department of Advertising + Public Relations
MICHIGAN STATE UNIVERSITY

Scientists' long-term engagement goals

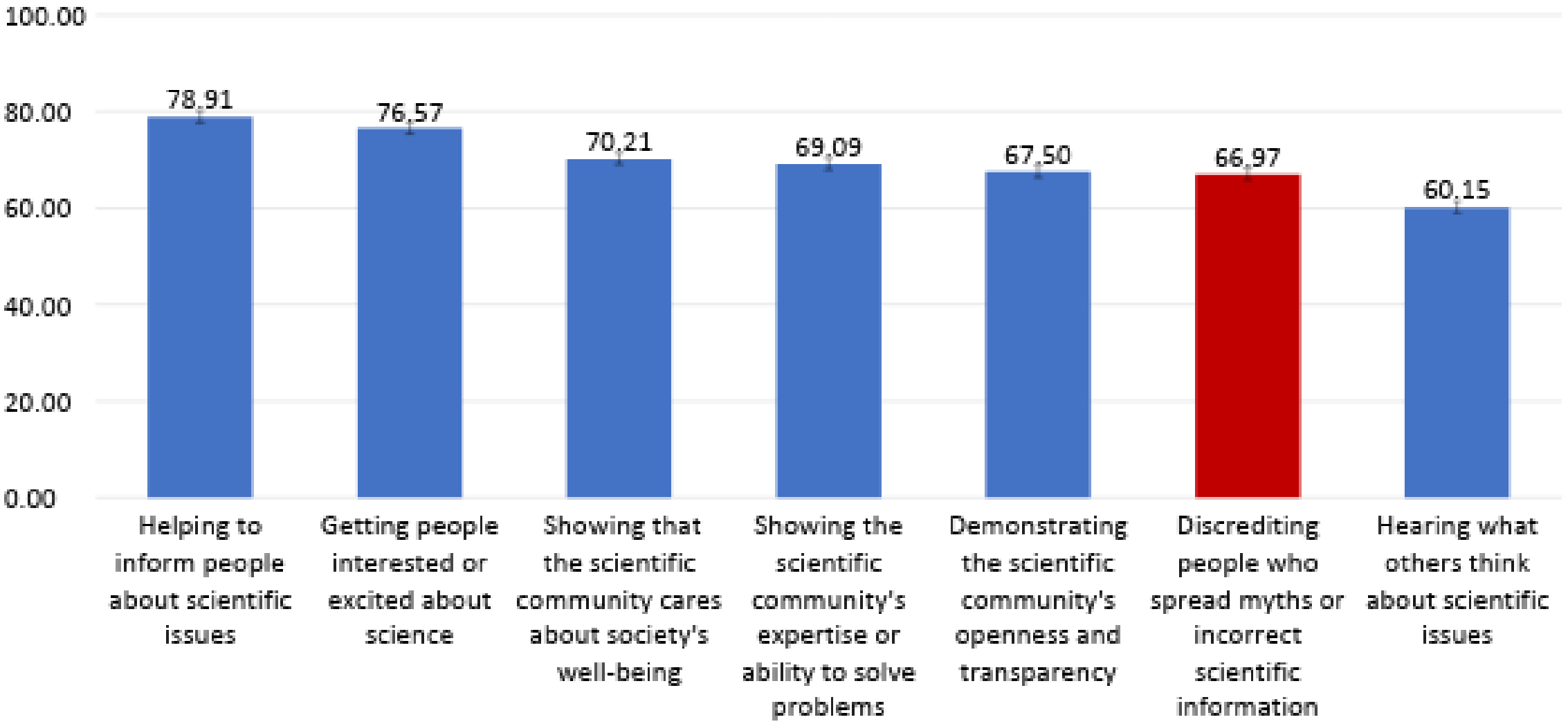


Carleton UNIVERSITY

Department of Advertising + Public Relations
MICHIGAN STATE UNIVERSITY

Very low importance (0) – Very high importance (100)

Scientists' immediate engagement objectives



Carleton UNIVERSITY

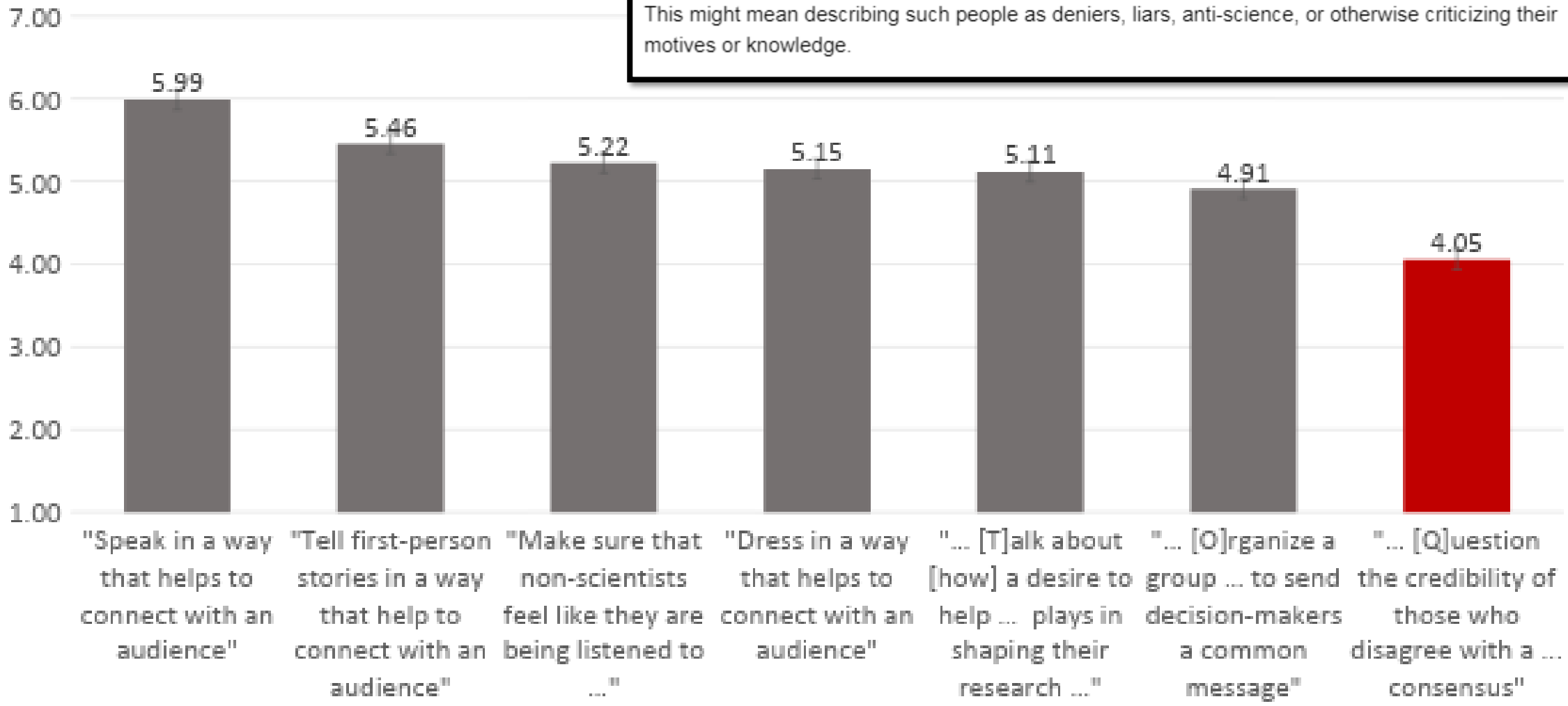
Department of Advertising + Public Relations
MICHIGAN STATE UNIVERSITY

Very low importance (0) – Very high importance (100)

Willingness to use eng

One choice that scientists can make to achieve some communication objectives is to publicly question the credibility of those who disagree with a scientific consensus.

This might mean describing such people as deniers, liars, anti-science, or otherwise criticizing their motives or knowledge.

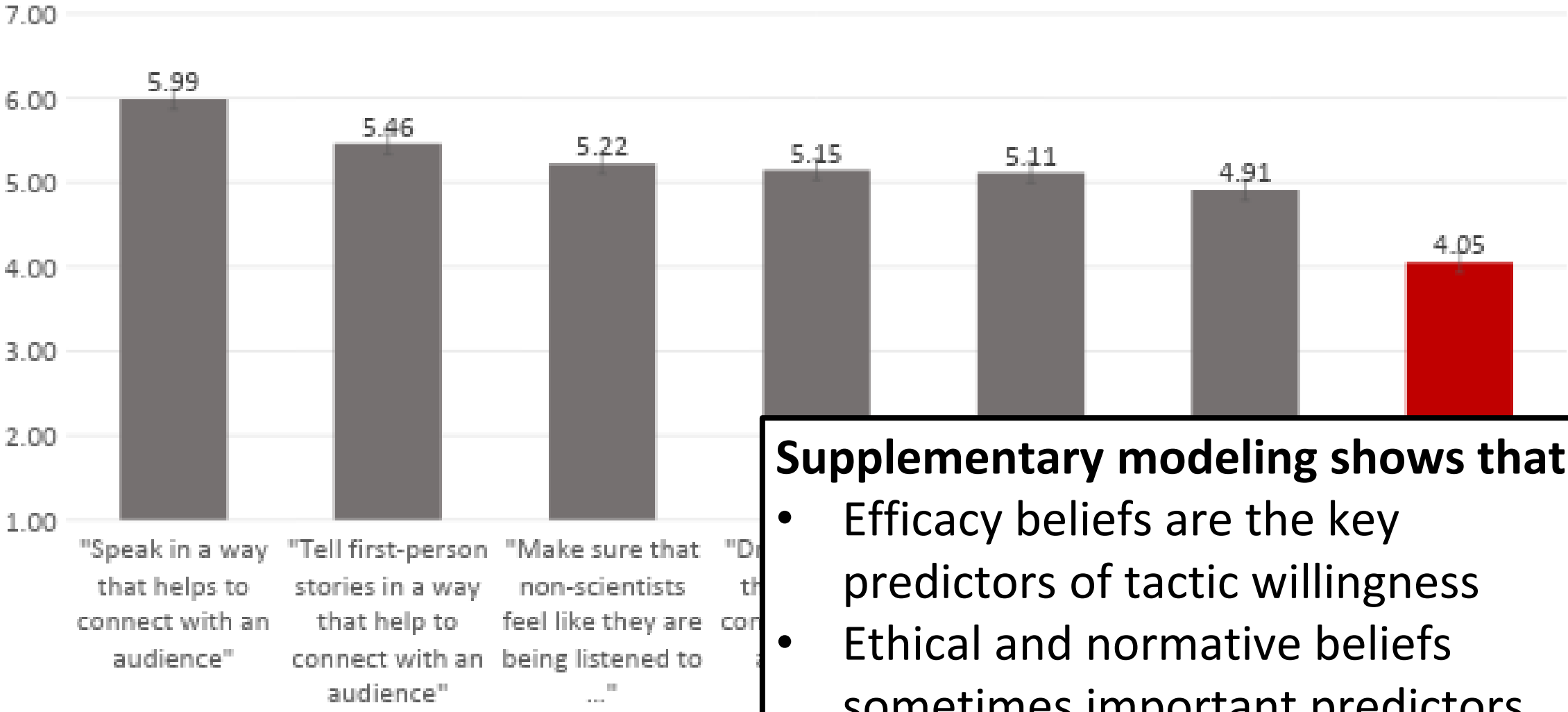


Carleton UNIVERSITY

Department of Advertising + Public Relations
MICHIGAN STATE UNIVERSITY

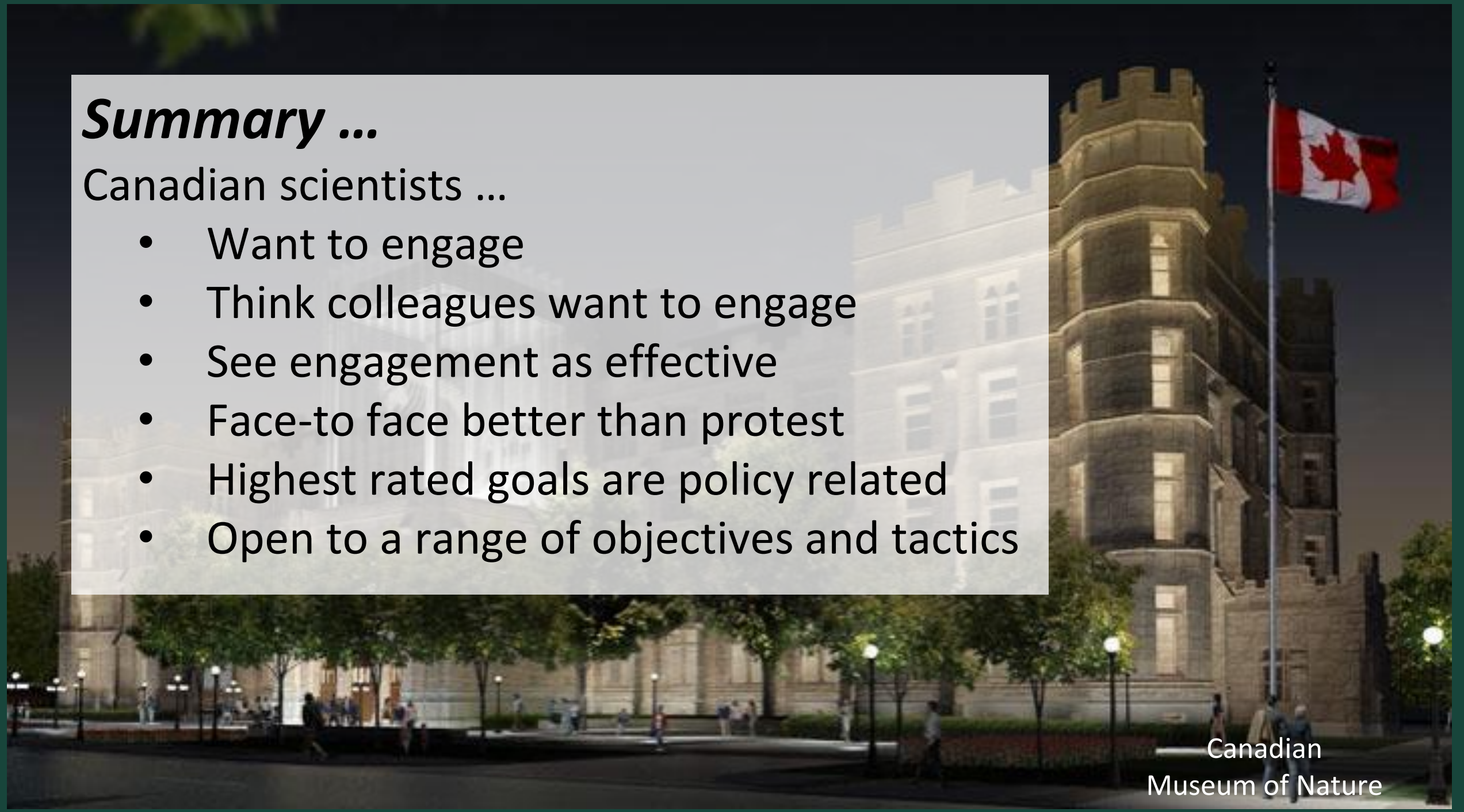
Strongly disagree (1) – Strongly agree (7)

Willingness to use engagement tactics …



Supplementary modeling shows that …

- Efficacy beliefs are the key predictors of tactic willingness
- Ethical and normative beliefs sometimes important predictors
- Demographics don't really matter



Summary …

Canadian scientists …

- Want to engage
- Think colleagues want to engage
- See engagement as effective
- Face-to face better than protest
- Highest rated goals are policy related
- Open to a range of objectives and tactics

COMMUNICATION

SCIENTISTS' VIEWS

CULTURE

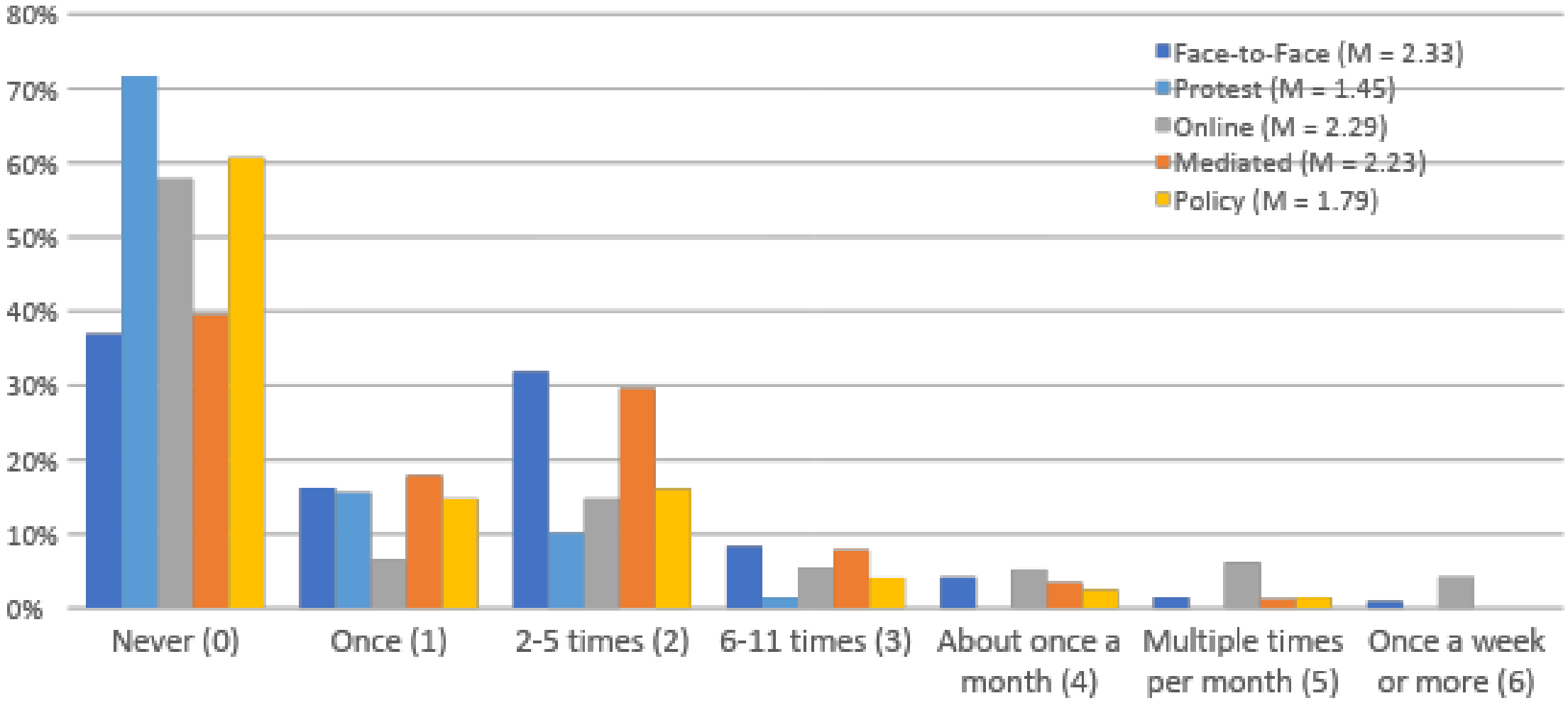
TRAINERS' METHODS

SARAH EVERTS

COMMUNICATION CULTURE
SCIENTISTS' VIEWS & TRAINERS' METHODS

PRACTICAL ISSUES AND ETHICAL PITFALS WHEN THE PUBLIC, THE MEDIA AND POLICY-MAKERS…

Past engagement …



Carleton UNIVERSITY

Department of Advertising + Public Relations
MICHIGAN STATE UNIVERSITY

N = ~1,142

COMMUNICATION CULTURE

SCIENTISTS' VIEWS & TRAINERS' METHODS

I WANT TO DO MORE SCIENCE COMMUNICATION

MEDIA TRAINING

COMMUNICATION CULTURE
SCIENTISTS' VIEWS & TRAINERS' METHODS

SCIENCE COMMUNICATION

ANSWER THE QUESTION…
AS CLEARLY AS POSSIBLE

≠

MEDIA TRAINING

ANSWER THE QUESTION…
YOU WISH YOU WERE ASKED
INSTEAD OF THE QUESTION ASKED

DIFFERENT GOALS

COMMUNICATIN G SCIENCE

COMMUNICATING
THE MISSION OF THE ORGANIZATION
&
MAINTAINING
THE REPUTATION OF THE ORGANIZATION

Asking Questions

PART TWO: QUESTIONABLE QUESTIONS

COMMUNICATION CULTURE
SCIENTISTS' VIEWS & TRAINERS' METHODS

SWEEPING GENERALIZATI ON

HUMANS ARE NOT VERY GOOD AT ASKING QUESTIONS

Some reasons include:

1. WE DON'T WANT TO LOOK DUMB

So we ask something else and hope the person we are speaking accidentally delivers the information we desire

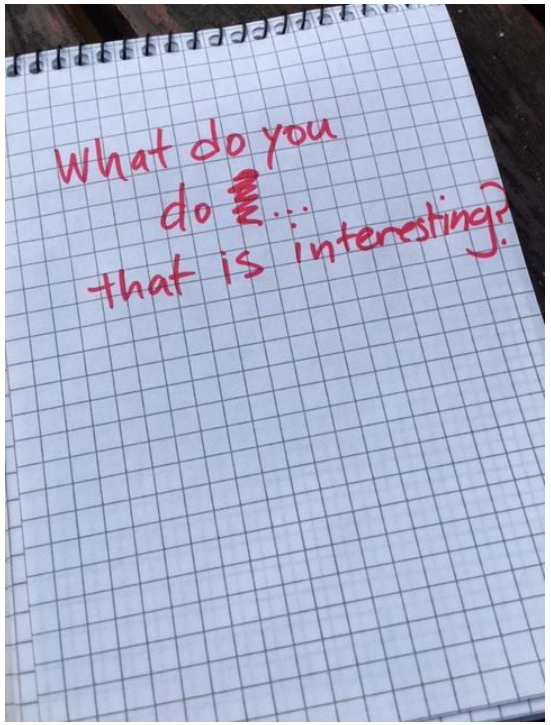
2. WE DON'T WANT TO BE RUDE

COMMUNICATION CULTURE

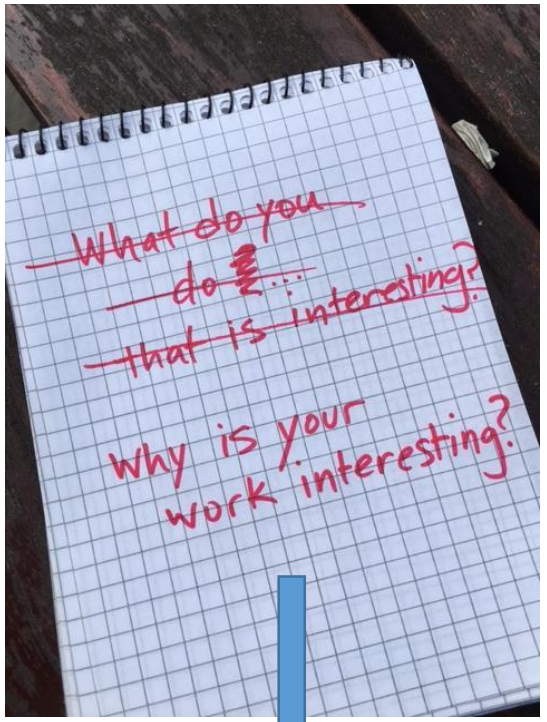
SCIENTISTS' VIEWS & TRAINERS' METHODS

WHEN SOMEBODY ASKS…

…WHAT THEY MEAN IS…



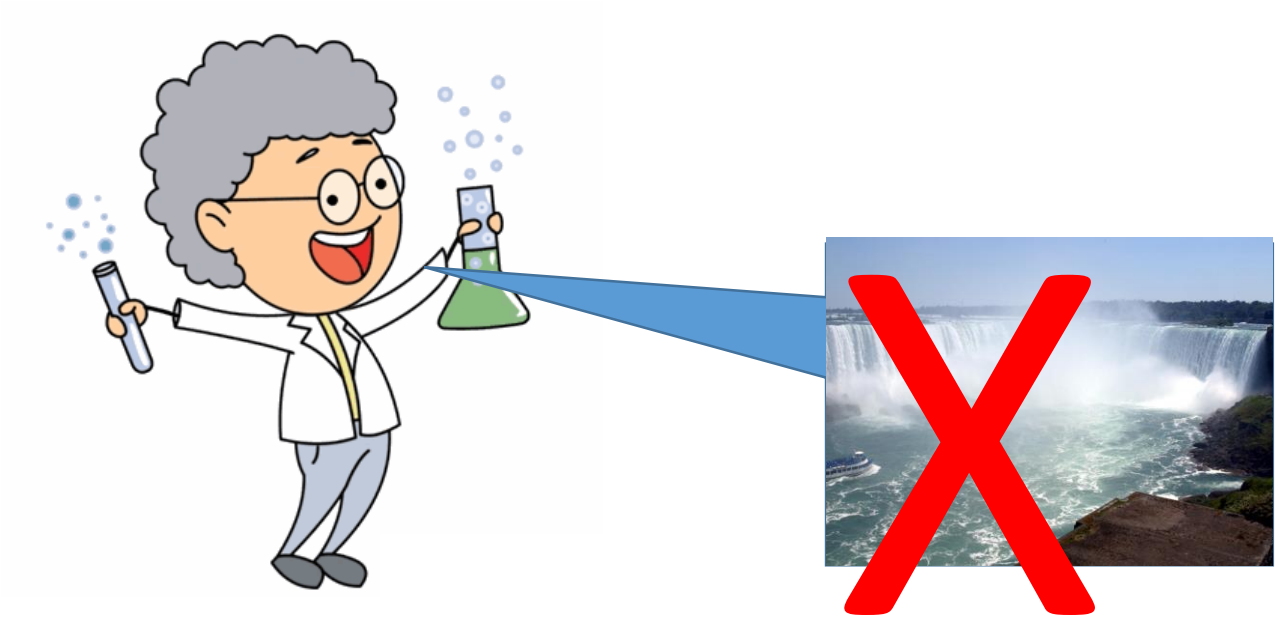
…OR MORE ACCURATELY…



IN BARDACH POLICY SPEAK: WHAT PROBLEM ARE YOU SOLVING?

COMMUNICATION CULTURE

SCIENTISTS' VIEWS & TRAINERS' METHODS

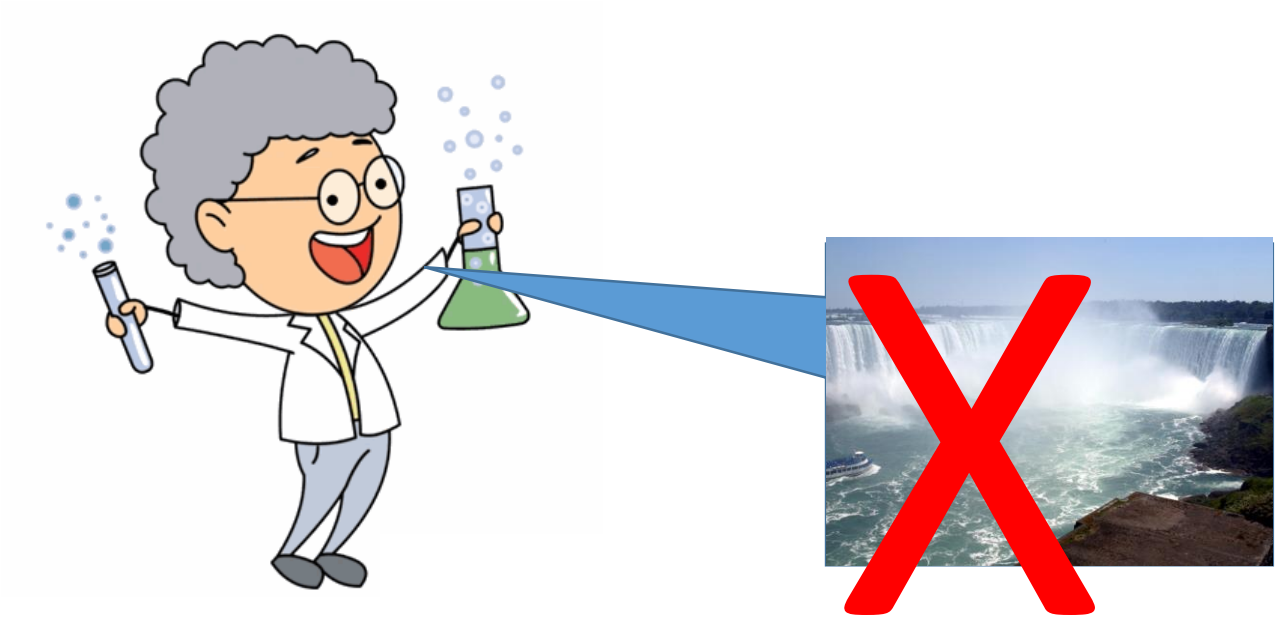


JUST SAY NO TO NIAGARA FALLS

Too often when we get asked a question, especially on a topic we're passionate about, our answer comes out as a flood of information.

COMMUNICATION CULTURE

SCIENTISTS' VIEWS & TRAINERS' METHODS



JUST SAY NO TO
NIAGARA FALLS

WHEN SOMEONE ASKS THE FIRST QUESTION

STOP

REPHRASE THE QUESTION BACK TO THEM TO MAKE SURE YOU KNOW WHAT THEY ARE ASKING

COMMUNICATION CULTURE

SCIENTISTS' VIEWS & TRAINERS' METHODS

WHOA THERE…!

WHAT ABOUT THE BELOVED ELEVATOR PITCH?

Asking Questions

PART THREE: THE AUDIENCE

COMMUNICATION CULTURE
SCIENTISTS' VIEWS & TRAINERS' METHODS

WHO IS YOUR AUDIENCE?

Subject experts

Scientists from another field

Non-scientists

Journalists

Policy-makers

Politicians

Children

COMMUNICATION CULTURE
SCIENTISTS' VIEWS & TRAINERS' METHODS

WHO IS YOUR AUDIENCE?	WHAT DO YOU WANT TO TELL THEM
Subject experts	We agree/disagree on X & Y. Read my papers.
Scientists from another field	Your field could answer X. Shall we collaborate?
Non-scientists	Science knows X & Y. Facts not snake oil.
Journalists	Report on my work. I'm a fair, reliable source.
Policy-makers	Consider my research when you make policies.
Politicians	More funding for my problem-solving research.
Children	Science is fun, yippee!

ONE ELEVATOR PITCH IS NOT GOING TO SUFFICE

COMMUNICATION CULTURE

SCIENTISTS' VIEWS & TRAINERS' METHODS

FOR THE RECORD

I DON'T WANT TO ERADICATE THE ELEVATOR PITCH

BUT

USE IN MODERATION

DON'T LOSE SIGHT OF YOUR AUDIENCE

COMMUNICATION CULTURE
SCIENTISTS' VIEWS & TRAINERS' METHODS

YOUR AUDIENCE AND THEIR NEEDS: A SHORT CASE STUDY ON TIME

- 2-5 YEARS Time to acquire & analyze data for a paper (bad luck)
- 2-5 MONTHS Time to acquire & analyze data for a paper (good luck)
- 2-5 WEEKS Time it takes to write a scientific paper
- 2-5 DAYS Time take by a science journalist working for a monthly or weekly magazine/podcast/show to put together a story about your paper
- 2-5 HOURS Time taken by a science journalist working in daily news (newspaper, radio, TV) to put together a story about your paper
- 20-50 MINS Time taken by a science journalist to interview you about your paper
- 20-50 SECS Time take by an editor to decide whether they will produce a report on that article

COMMUNICATION CULTURE
SCIENTISTS' VIEWS & TRAINERS' METHODS

SO IF YOU WANT A JOURNALIST TO

Ask You Questions

CALL OR EMAIL THEM BACK…
IMMEDIATELY
…and if you must wait for PR approval,
do some prodding from within

In Summary

1. LET'S NOT CONFLATE SCIENCE COMMUNICATION & MEDIA TRAINING

1. MAKE SURE YOU REALLY KNOW WHAT IS BEING ASKED >> RISKY Qs

1. THINK ABOUT YOUR AUDIENCE >> ELEVATOR PITCHES IN MODERATION

Thanks!

saraheverts@carleton.ca

Carleton UNIVERSITY

…starting January 2019

COMMUNICATION CULTURE (SHOCK)

Why scientists need to communicate their research and engage with the public and policy makers

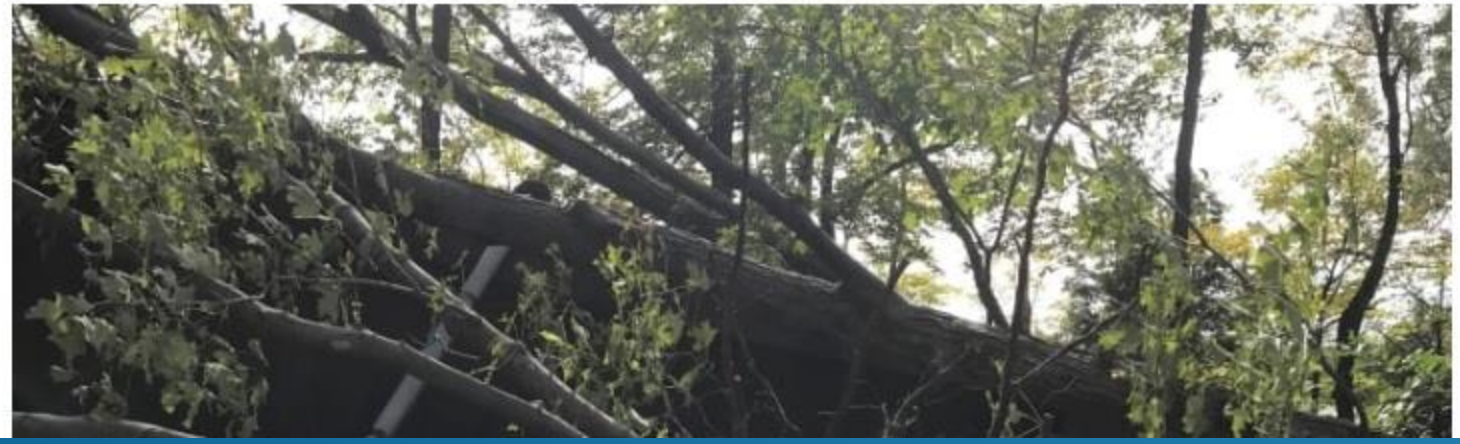
Jim Handman, Exec Director, SMCC

SCIENCE MEDIA CENTRE OF CANADA | CENTRE CANADIEN SCIENCE ET MÉDIAS

Drunken trees and browning forests: Why a Canadian government scientist is sounding the alarm

'We see these compelling images of trees dying over large areas and it's fairly frightening'

CBC Radio · October 26



Barry J. Cooke
Natural Resources Canada, Canada · Canadian Forest Service

Why don’t more scientists communicate their research?

Why don’t more scientists communicate their research?

- They don’t think it’s necessary

So why bother?

- The public is entitled to access the science they fund
- You have a moral obligation to share and explain your research
- Taxpayers gain an understanding of your work and might be more inclined to support funding it
- If you don't speak, someone else will
- You have an opportunity to inform public debate and discourse
- The public actually is interested in your work

Why don’t more scientists communicate their research?

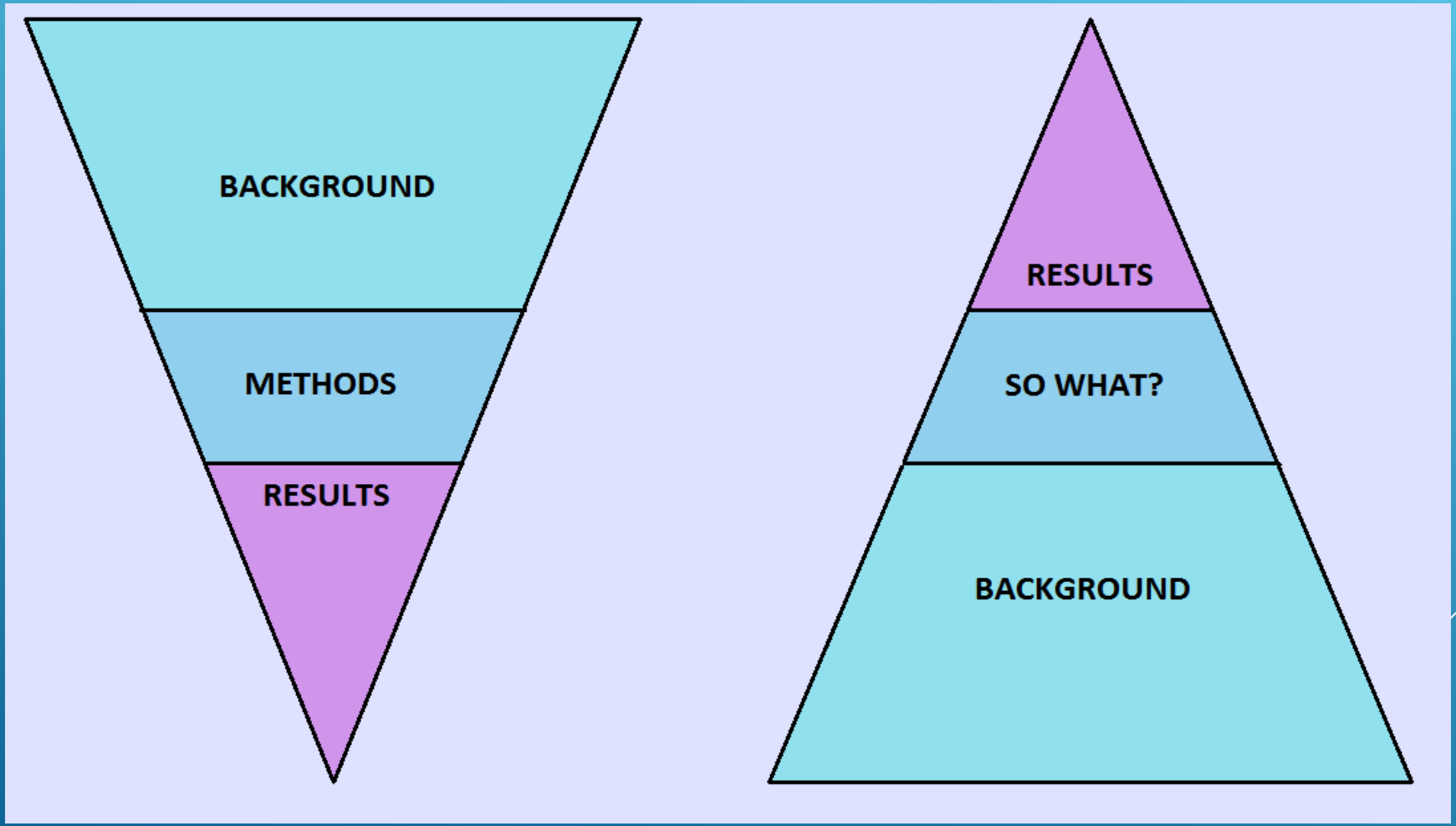
- They don’t think it’s necessary
- They don’t know how

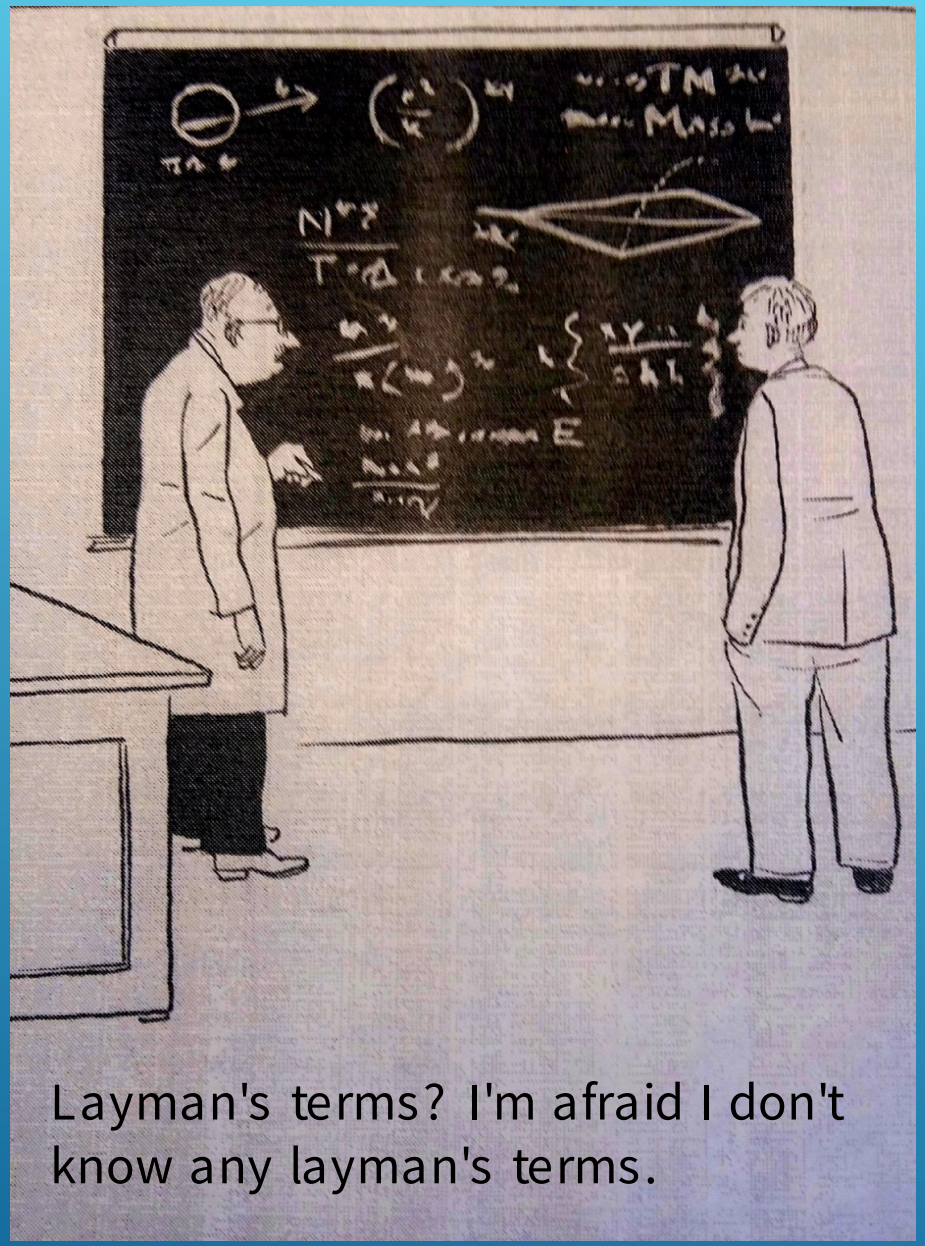
Why don’t more scientists communicate their research?

- They don’t think it’s necessary
- They don’t know how
- They lack communication training

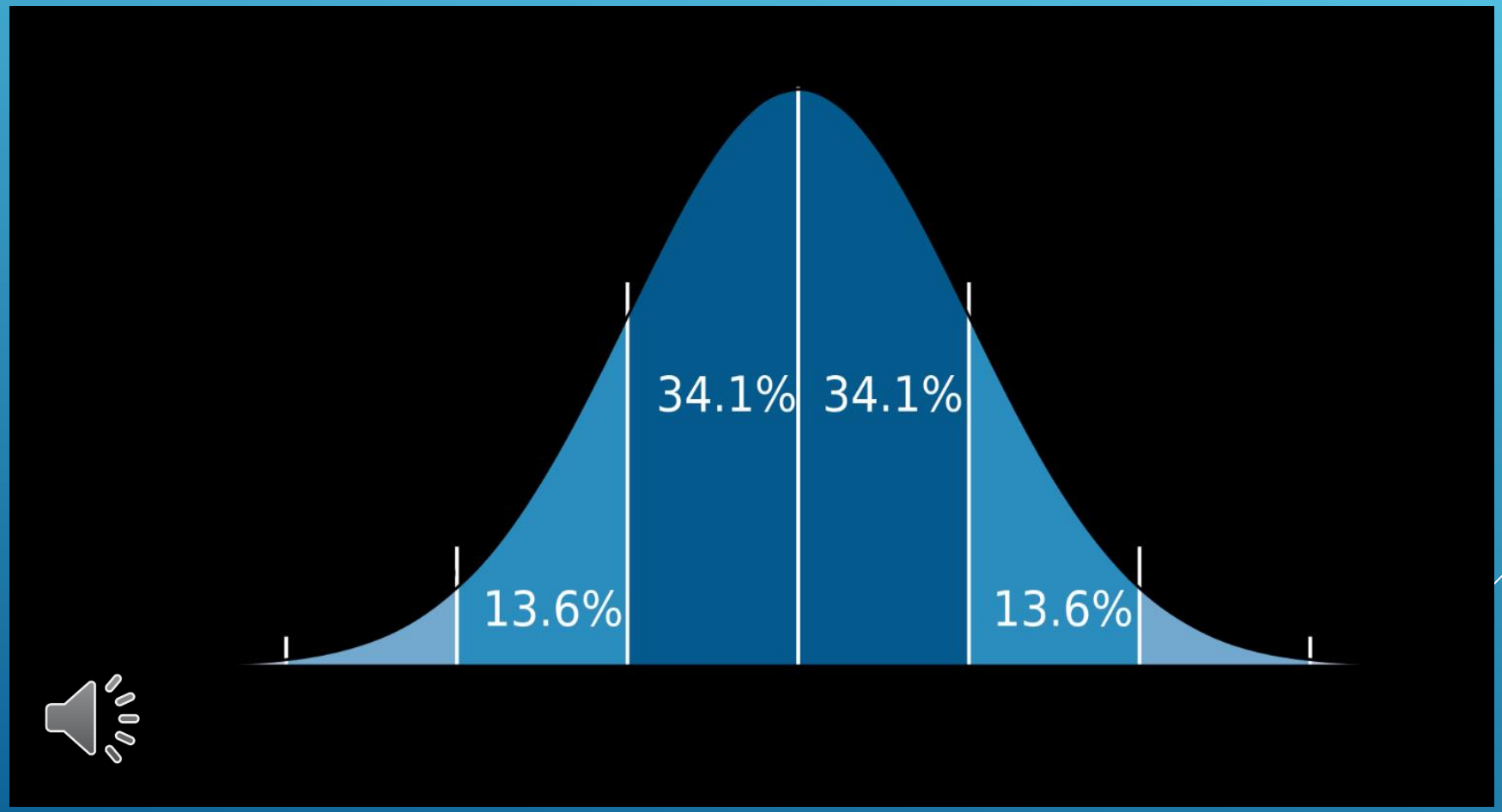
SCIENTISTS

JOURNALISTS




Layman's terms? I'm afraid I don't know any layman's terms.

STANDARD DEVIATION OF THE MEAN



Why don’t more scientists communicate their research?

- They don’t think it’s necessary
- They don’t know how
- They lack communication training
- They fear negative feedback from peers and managers

SCIENTIFIC AMERICAN.

Observations

We Should Reward Scientists for Communicating to the Public

Universities need to rethink how they evaluate academics for promotion

By Esther Ngumbi on July 3, 2018

Why don’t more scientists communicate their research?

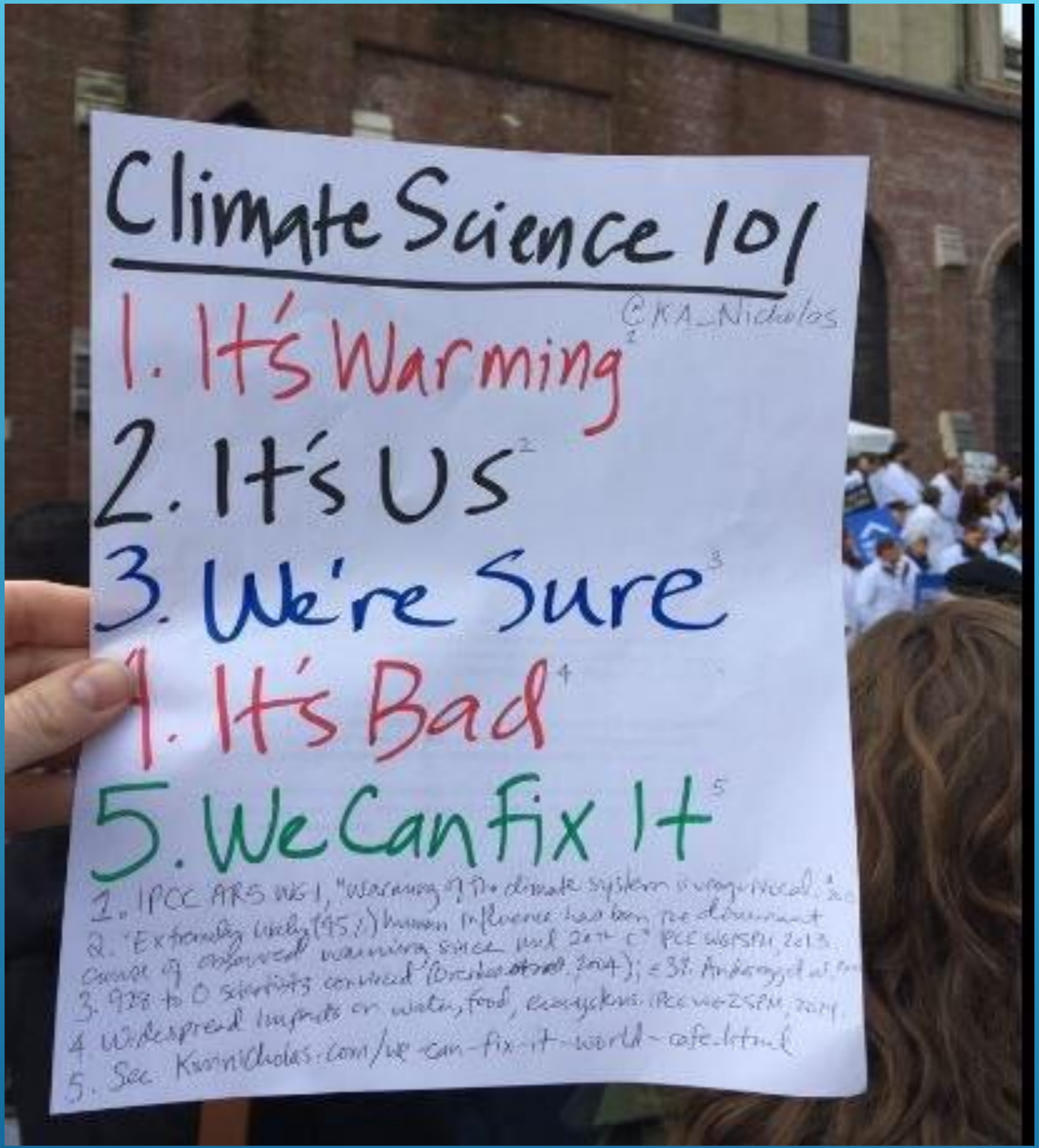
- They don’t think it’s necessary
- They don’t know how
- They lack communication training
- They fear negative feedback from peers and managers
- They don’t want to “dumb it down”

SCIENCE

The Myth of 'Dumbing Down'

If you write about your expertise from a place of contempt, maybe you're not so smart after all.

IAN BOGOST OCT 26, 2018


Climate Science 101
@KA_Nicholas
1. It's Warming
2. It's Us
3. We're Sure
4. It's Bad
5. We Can fix It

Josh Silberg @joshsilberg #SciComm Coordinator @HakaiInstitute |

Today in trying to translate scientific jargon...

"Findings of facial innervation of teleost cirri suggest a suspected gustatory function of teleost head appendages."

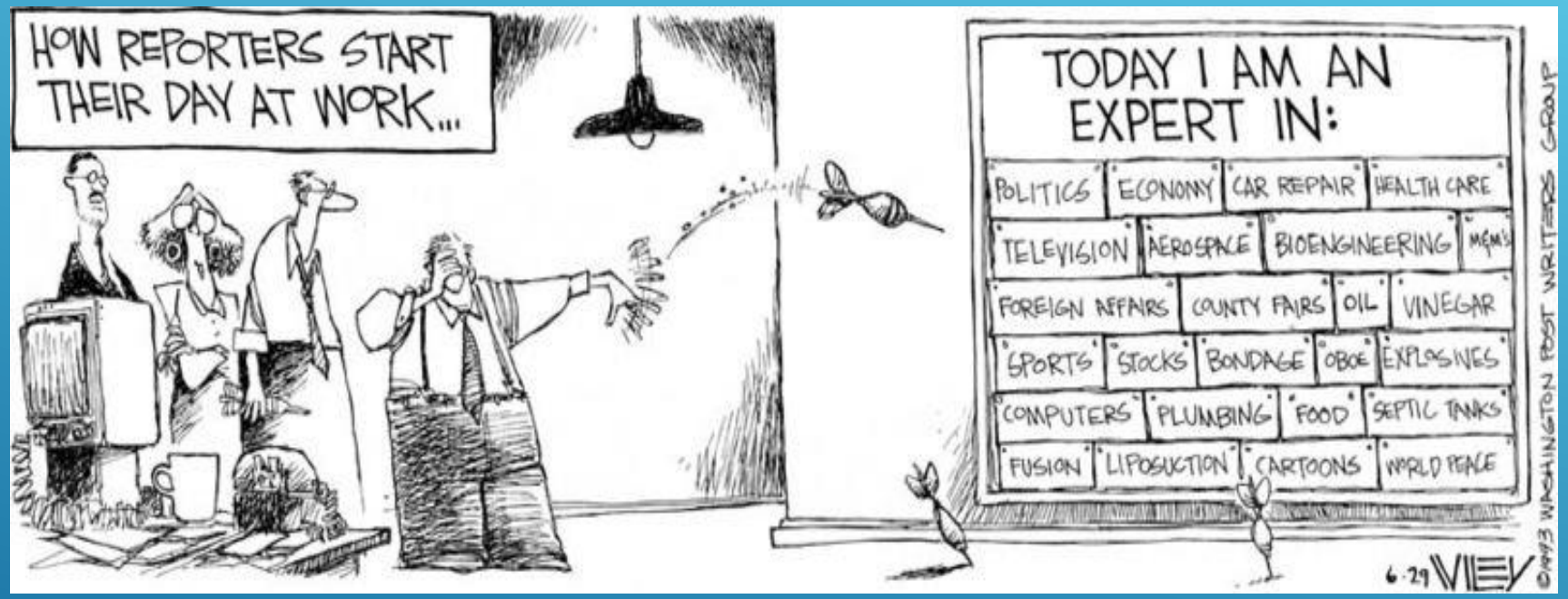
= Some bony fish taste with their head doohickies!

#SciComm

Simple ≠ Simplistic

Why don’t more scientists communicate their research?

- They don’t think it’s necessary
- They don’t know how
- They lack communication training
- They fear negative feedback from peers and managers
- They don’t want to “dumb it down”
- They think they’ll be misquoted


HOW REPORTERS START THEIR DAY AT WORK...
TODAY I AM AN EXPERT IN:
POLITICS
ECONOMY
CAR REPAIR
HEALTH CARE
TELEVISION
AEROSPACE
BIOENGINEERING
M&M'S
FOREIGN AFFAIRS
COUNTY FAIRS
OIL
VINEGAR
SPORTS
STOCKS
BONDAGE
OBOE
EXPLOSIVES
COMPUTERS
PLUMBING
FOOD
SEPTIC TANKS
FUSION
LIPOSUCTION
CARTOONS
WORLD PEACE
6-29
VIEY
©1993 WASHINGTON POST WRITERS GROUP

SCIENCE MEDIA CENTRE OF CANADA | CENTRE CANADIEN SCIENCE ET MÉDIAS

TIPS FOR CLEAR COMMUNICATIONS BY SCIENTISTS

QUESTIONS TO ASK WHEN A REPORTER PHONES

- Who am I speaking to?
- What is your article for – the media outlet and any specific program or section?
- What is the subject and are you focusing on any particular aspect?
- How much time do you need?
- Have you spoken with anyone else?
- What is your deadline?

BEFORE CALLING BACK

- Determine what kind of reporter you're dealing with and therefore what depth of information you are most likely to need.
- Double-check any factual information and have it handy.
- Decide the key point you want to get across.
- Think up striking analogies/metaphors for the research that relate to everyday life.

DURING THE INTERVIEW

- Remember you are talking to a reporter because you believe in helping to improve public understanding.
- While you are explaining things try to make sure the reporter is keeping up.
- Avoid jargon as much as possible and spell out any technical terms or words.
- Provide your contact information, including after hours, so the reporter can reach you for a last-minute fact-checking.
- Offer to send background articles and links for possible graphic illustrations.

QUESTIONS WHEN THE CALLER IS A BROADCAST PRODUCER

- Is this radio or TV?
- Live or recorded?
- Are you focusing on any particular aspect of the subject?
- Who is the interviewer?
- Are there other guests?
- How much time do you need? How long a story are you doing? Is it a "feature" or news story?
- Where do you want to film me – in a studio, my lab or other location?
- Will you want to film my lab in operation, while an experiment is taking place?
- Will you want to interview other members of my team (including the grad students)?
- Will you edit the interview or run it in its entirety?

AND BEAR IN MIND ...

- For a five-minute feature piece you can spend the whole day with the crew – and sometimes two days. Can you spare the time? Will the department head support you?
- Recognize this as a teaching opportunity for your grad students and get them involved. Having a few as part of the story can be good – not more than three or four.
- Do you have any research video or animation or stills that might illustrate your research? (but make sure you have the rights to any video i.e. who shot it...and who is in it.)
- Ask for a copy of the piece that aired as a courtesy for your time. Can you run it with credit on your website, or link to their website?

We like to say that we're here to help when science hits the headlines.

The Science Media Centre of Canada (SMCC) is a non-profit, charitable organization formed in 2009 to help Canadian journalists cover science, and to help Canadian scientists communicate their research effectively to the public, policy makers and the media. This includes everything from stories where science *is* the story – such as the confirmation of gravitational waves – to stories where science provides the crucial factual underpinning – such as extreme weather events.

The world of science encompasses the natural, social and biomedical sciences and also includes topics dealing with technology, engineering, the environment and some aspects of the humanities. These stories pervade today's world and form the basis for major issues we face as a society.

SCIENCE MEDIA CENTRE OF CANADA | CENTRE CANADIEN SCIENCE ET MÉDIAS

SCIENCE MEDIA CENTRE OF CANADA (SMCC)
PO Box 75317, Leslie St. PO
Toronto, ON. M4M 1B0
info@sciencemedia.ca

www.sciencemedia.ca
SCIENCE MEDIA CENTRE OF CANADA