

# Going Beyond Research: Climate Change Engagement by Scientists

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# Sixth Assessment Report

## Synthesis Report

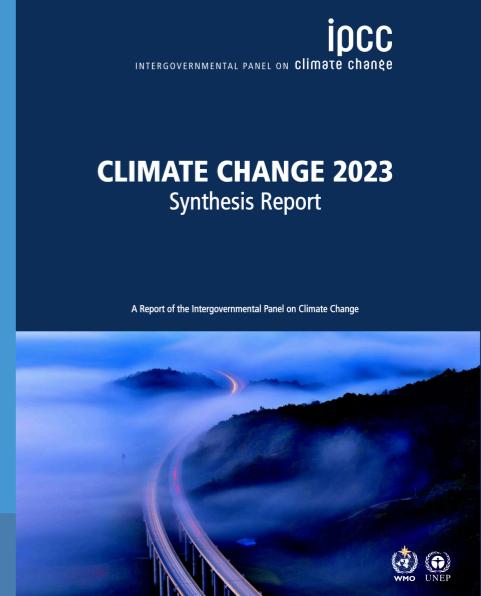
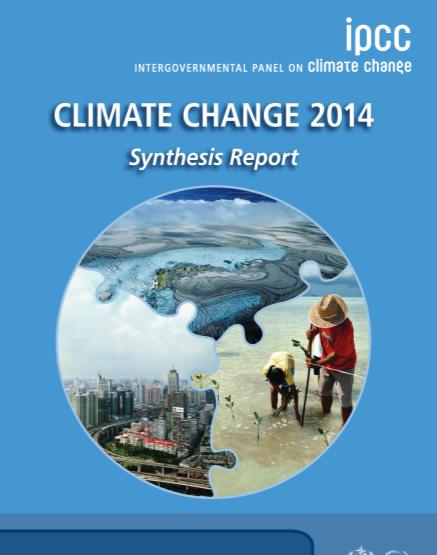
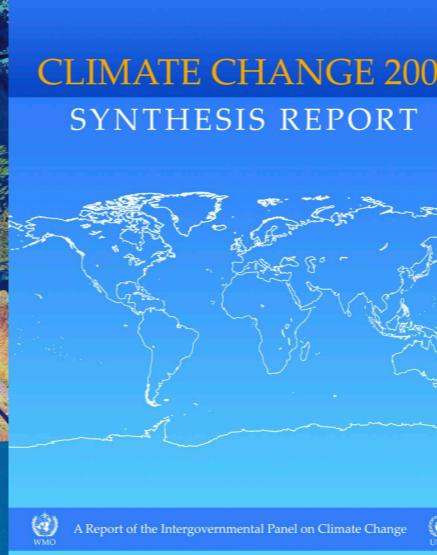
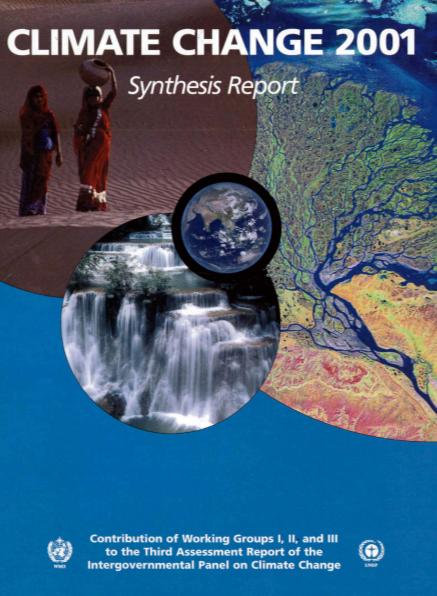
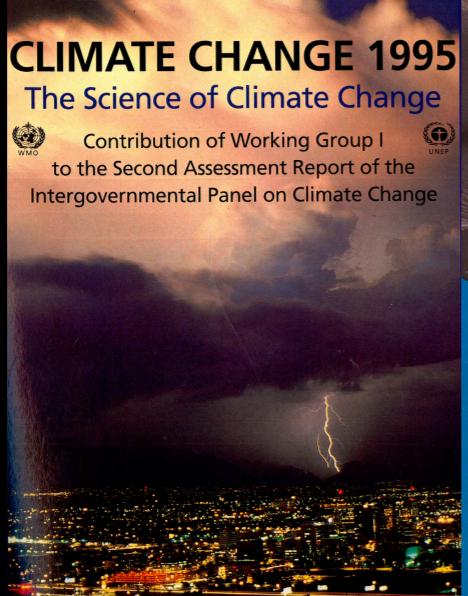
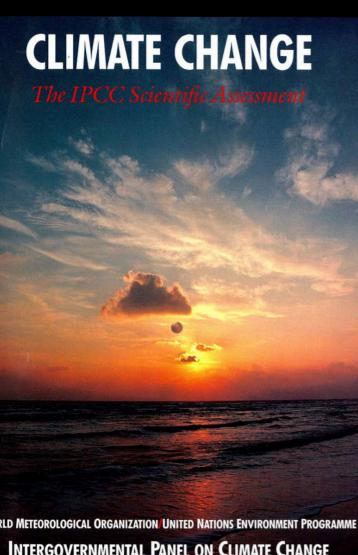
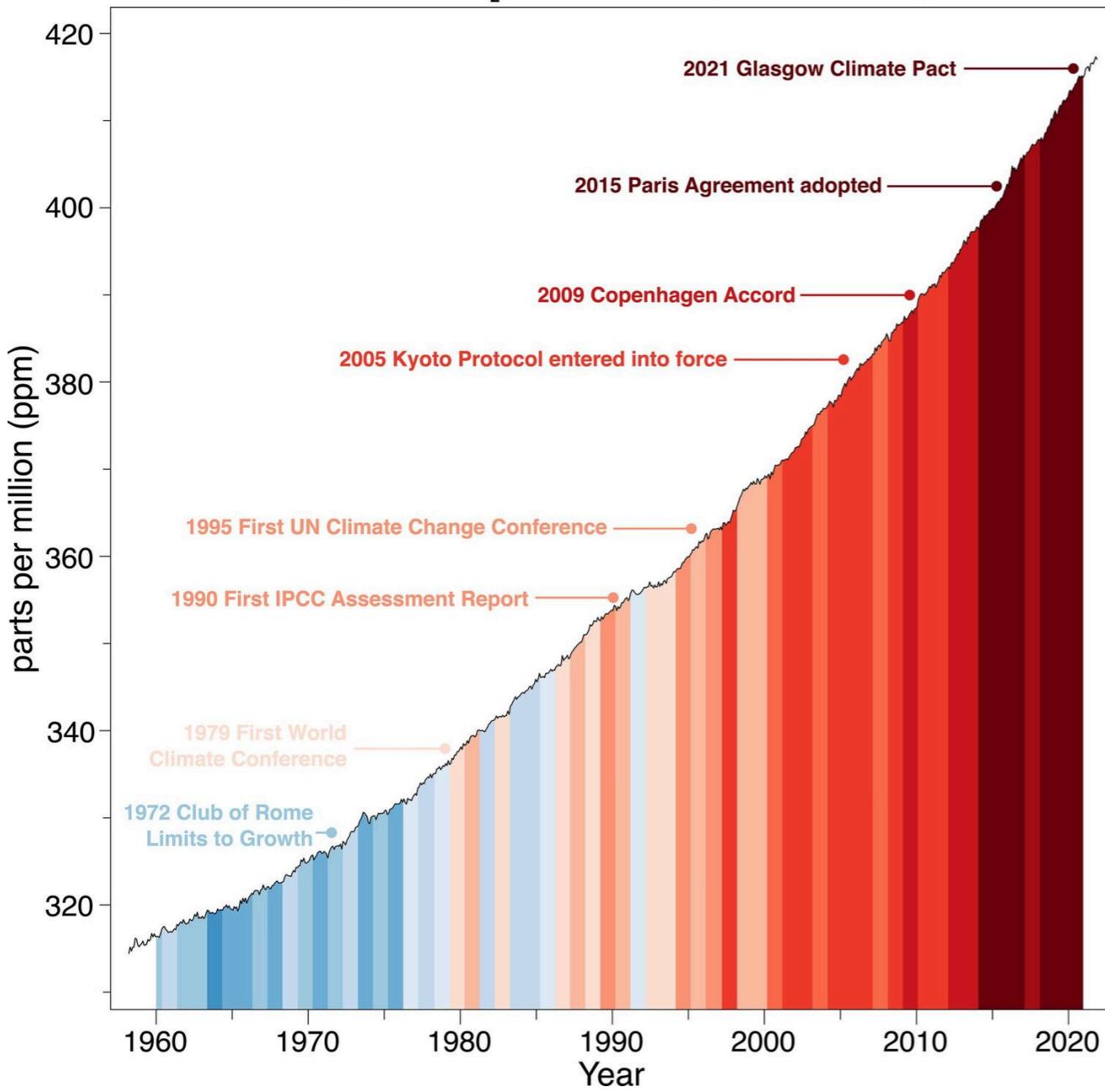
20 March 2023



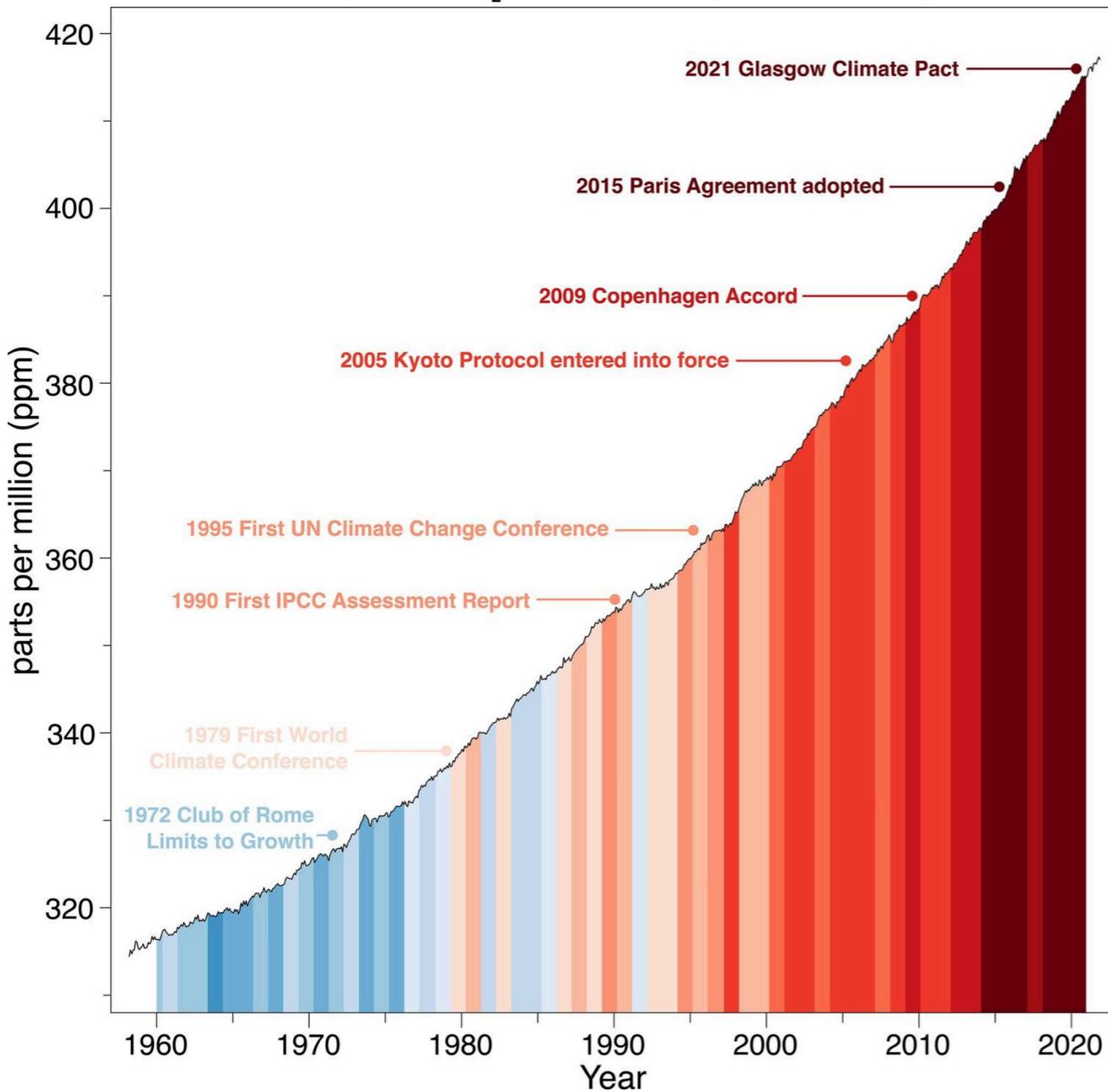
“There is a rapidly closing window of opportunity to secure a liveable and sustainable future for all.”



## Trends in Atmospheric CO<sub>2</sub> vs Global Temperature Change

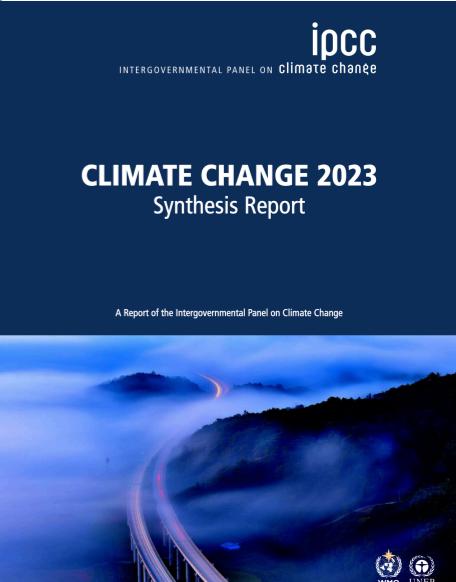
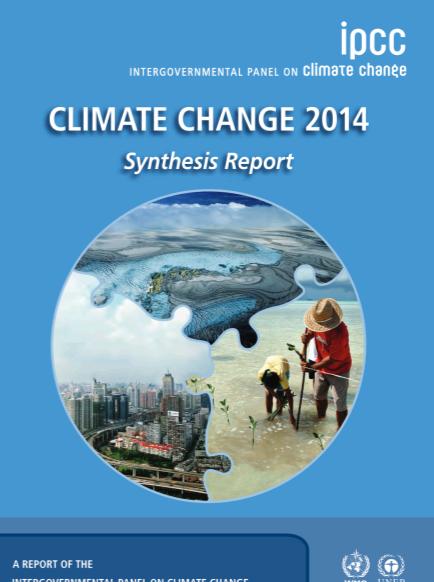
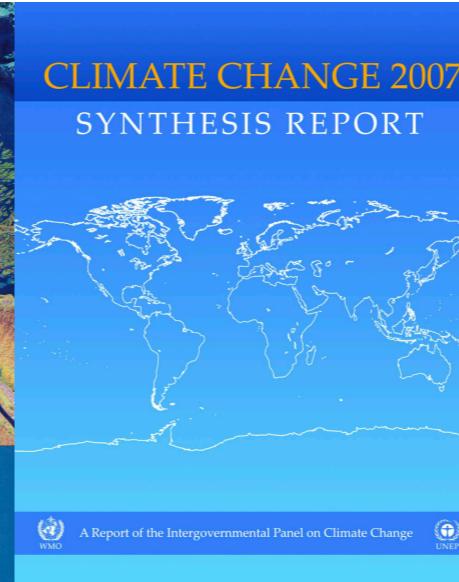
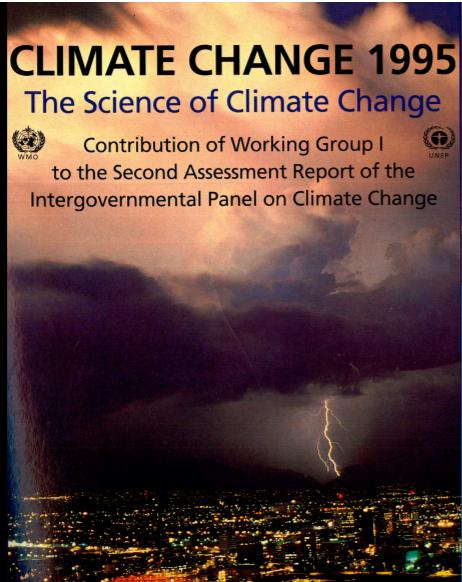
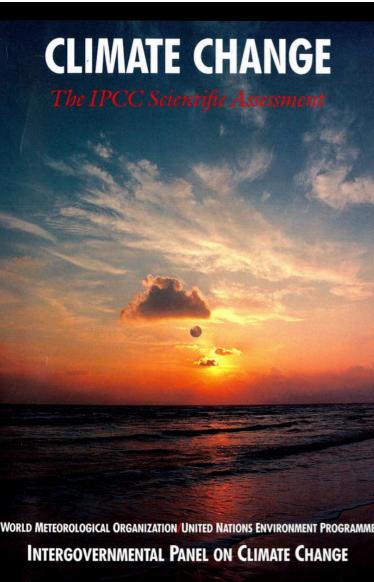


## Trends in Atmospheric CO<sub>2</sub> vs Global Temperature Change



# Broken Record

Temperatures hit new highs, yet world fails to cut emissions (again)







Comment | Published: 29 August 2022

## Civil disobedience by scientists helps press for urgent climate action

Stuart Capstick , Aaron Thierry, Emily Cox, Oscar Berglund, Steve Westlake & Julia K. Steinberger

*Nature Climate Change* 12, 773–774 (2022) | [Cite this article](#)

11k Accesses | 24 Citations | 1608 Altmetric | [Metrics](#)

## Point of View: The biospheric emergency calls for scientists to change tactics



Fernando Racimo , Elia Valentini, Gaston Rijo De León, Teresa L Santos, Anna Norberg, Lane M Atmore, Myranda Murray, Sanja M Hakala, Frederik Appel Olsen, Charlie J Gardner, Julia B Halder « [see less](#)

POINT OF VIEW

## Rethinking academia in a time of climate crisis

ANNE E URAI\* AND CLARE KELLY\*

## Scientists must act on our own warnings to humanity

Charlie J. Gardner & Claire F. R. Wordley

*Nature Ecology & Evolution* 3, 1271–1272 (2019) | [Cite this article](#)

32k Accesses | 37 Citations | 1543 Altmetric | [Metrics](#)

From Publications to Public Actions: The Role of Universities in Facilitating Academic Advocacy and Activism in the Climate and Ecological Emergency

Charlie J. Gardner<sup>1\*</sup>, Aaron Thierry<sup>2</sup>, William Rowlandson<sup>3</sup>, Julia K. Steinberger<sup>4</sup>

## Less Talk, More Walk: Why Climate Change Demands Activism in the Academy

Jessica F. Green

[Author and Article Information](#)

*Daedalus* (2020) 149 (4): 151–162.

A better knowledge is possible:  
Transforming environmental science for  
justice and pluralism ★

Esther Turnhout

SCIENCE POLICY

## Pathways for diversifying and enhancing science advocacy

Fernando Tormos-Aponte<sup>1,2\*</sup>, Phil Brown<sup>3</sup>, Shannon Dosemagen<sup>4</sup>, Dana R. Fisher<sup>5</sup>, Scott Frickel<sup>6</sup>, Norah MacKendrick<sup>7</sup>, David S. Meyer<sup>8</sup>, John N. Parker<sup>9</sup>

## A role for provocative protest

The Lancet Planetary Health

Open Access • Published: November, 2022 • DOI: [https://doi.org/10.1016/S2542-5196\(22\)00287-X](https://doi.org/10.1016/S2542-5196(22)00287-X)

# de Volkskrant

**Opinie: Een geslaagde energietransitie begint met minder in plaats van meer**

**nrc** >

Een optimistisch klimaatverhaal kunnen we goed gebruiken, maar het moet wel kloppen

Onze leiders doen veel te weinig voor het klimaat. Daarom zijn wij nu zelf aan zet

**Het Parool**

Opinie: 'Er is geen koolstofbudget meer voor rijke landen, stop met koolstofgraaien'

**nature**

**Scientists skip COP28 to demand climate action at home**

**The  
Guardian**

More than 1,000 climate scientists urge public to become activists



# Research questions

1.

What beliefs do scientists have about climate change and their role?

2.

To what extent do they engage in climate action?

3.

What barriers exist for them to engage in climate action?



Available access

Research article

First published online July 12, 2018

# Previous work

## Understanding Scientists' Willingness to Engage

John C. Besley , Anthony Dudo, Shupei Yuan, and Frank Lawrence

### Views of health professionals on climate change and health: a multinational survey study

John Kotcher, PhD • Edward Maibach, PhD • Jeni Miller, PhD • Eryn Campbell, MS • Lujain Alqodmani, MD •

Marina Maiero • et al. [Show all authors](#)

Open Access • Published: April 07, 2021 • DOI: [https://doi.org/10.1016/S2542-5196\(21\)00053-X](https://doi.org/10.1016/S2542-5196(21)00053-X) •

Majority of German citizens, US citizens and climate scientists support policy advocacy by climate researchers and expect greater political engagement

Viktoria Cologna<sup>1</sup> , Reto Knutti<sup>2</sup>, Naomi Oreskes<sup>3</sup> and Michael Siegrist<sup>1</sup>

Published 21 January 2021 • © 2021 The Author(s). Published by IOP Publishing Ltd

[Environmental Research Letters, Volume 16, Number 2](#)

### Use of aviation by climate change researchers: Structural influences, personal attitudes, and information provision

Lorraine Whitmarsh<sup>a,d,e,\*</sup>, Stuart Capstick<sup>b,d,e</sup>, Isabelle Moore<sup>b</sup>  
Corinne Le Quéré<sup>c,d</sup>

NEWS FEATURE | 01 November 2021

**Top climate scientists are sceptical that nations will rein in global warming**

# Sampling



250,000 emails sent

# Survey

Climate  
Change  
Beliefs  
(3)

Theory of  
Change  
(9)

Role of  
Scientists  
(4)

Credibility  
(2)

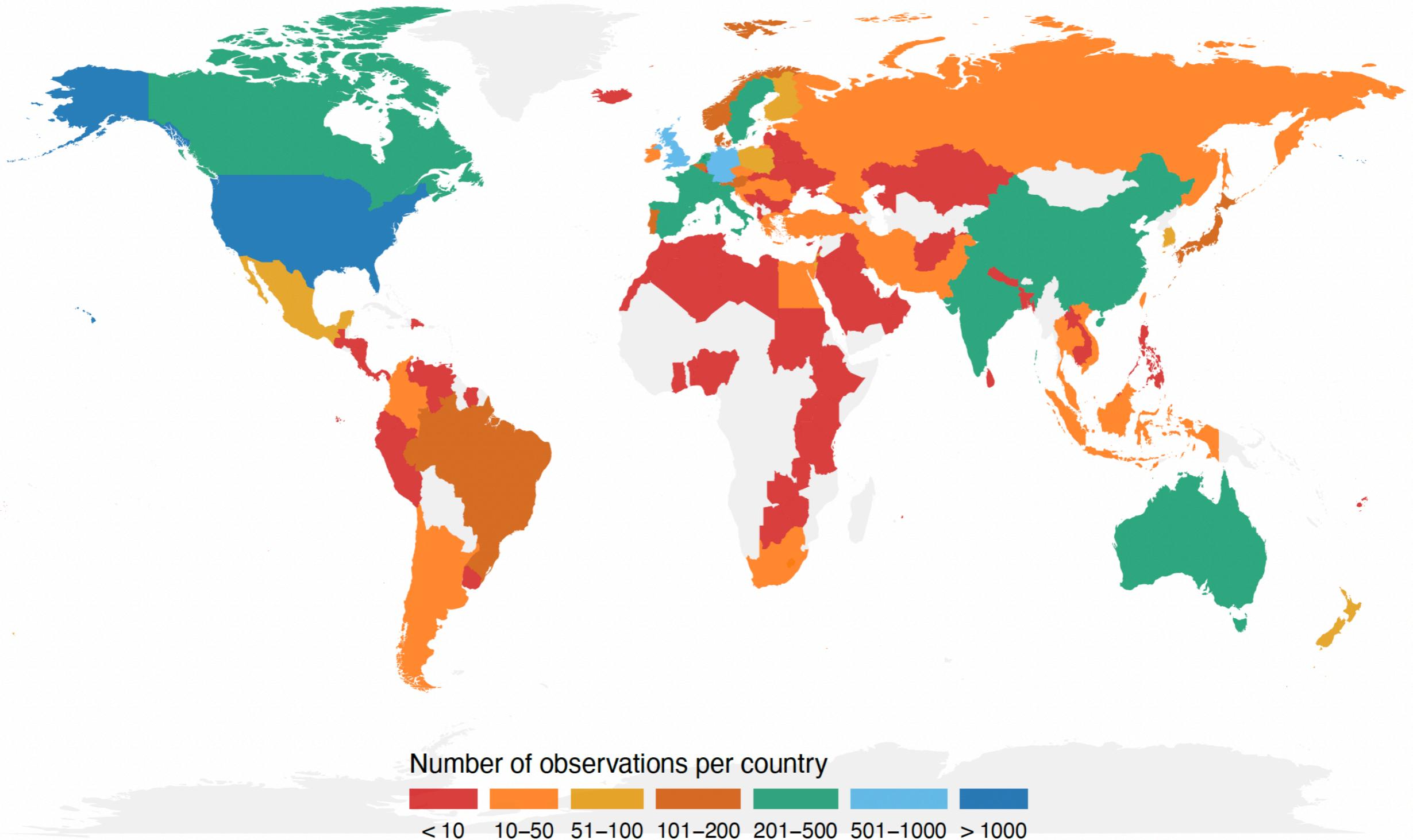
Individual &  
Collective  
Behaviour  
(15)

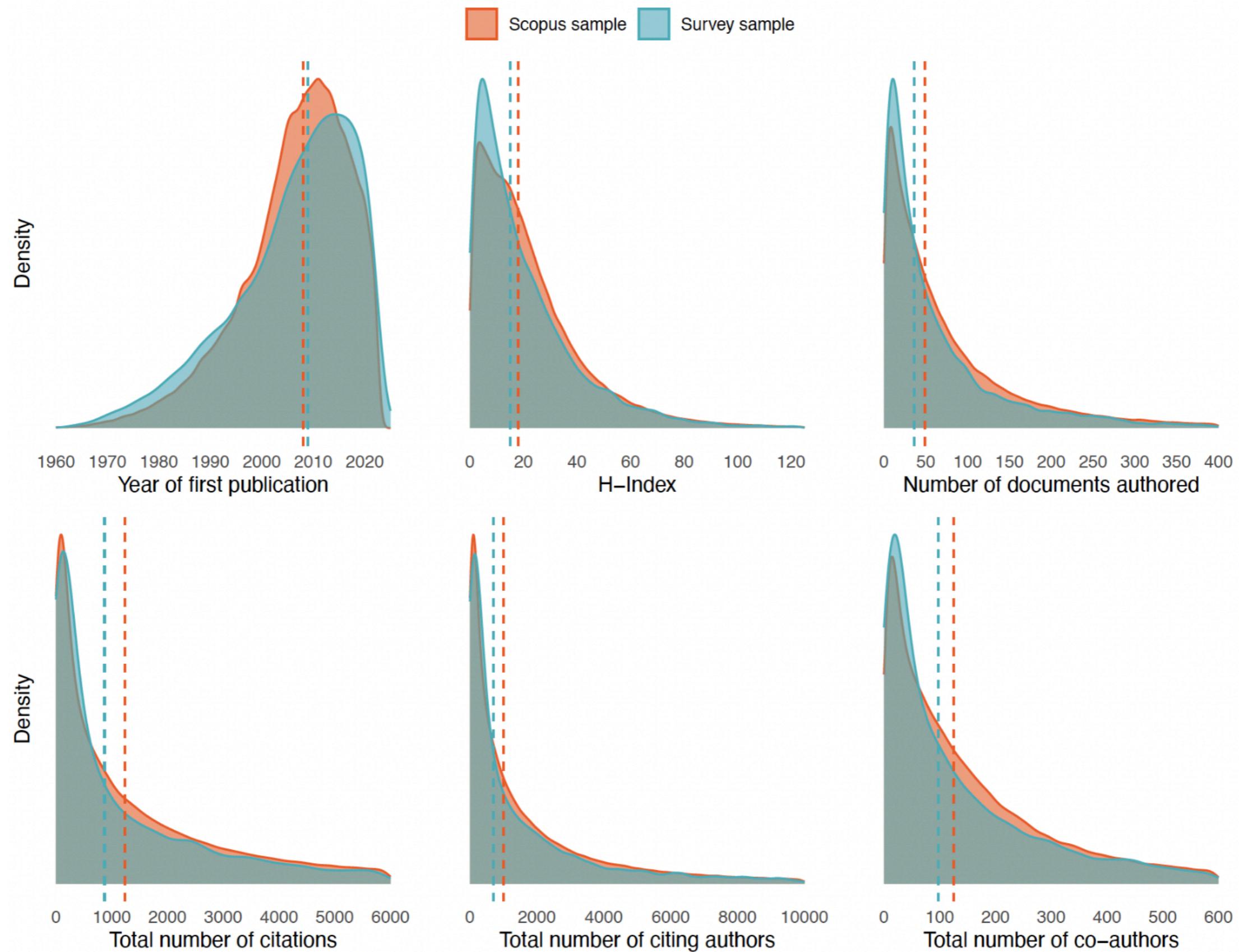
Barriers to  
Action  
(7)

Demo  
graphics

$N = 9,220$

115 countries, virtually all disciplines





**Extended Data Figure 2. Distribution of Scopus and our sample on key variables.** The dashed lines indicate the median of the respective distributions.

# **Beliefs & Actions**

# Beliefs about climate change & solutions

Overall, how worried are you about climate change?



Fundamental changes to society, politics, and economics required



Significant changes to personal behavior and lifestyle required



Environmental activist groups can drive positive change



Advances in technology will largely solve climate change



Strongly Disagree

Disagree

44%

Neither agree / disagree

Agree

Strongly agree

# Responsibility & role of scientists and academics

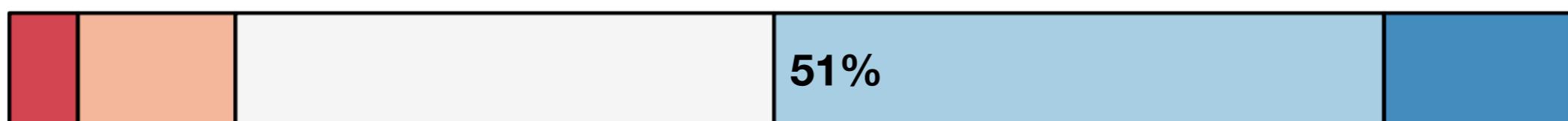
Scientific or academic institutions are responsible



Feel responsible as a scientist or academic



Scientists and academics should engage more in advocacy



Scientists and academics should engage more in legal protest



Engaging in advocacy would diminish scientists' credibility



Strongly Disagree

Disagree

Neither agree / disagree

Agree

Strongly agree

## Advocacy & activism behaviors

Talking about climate change with others



Engaging in climate change advocacy



Donating to a relevant organization



Participating in legal climate change-related protests



Participating in nonviolent civil disobedience actions



Not willing to

Willing to

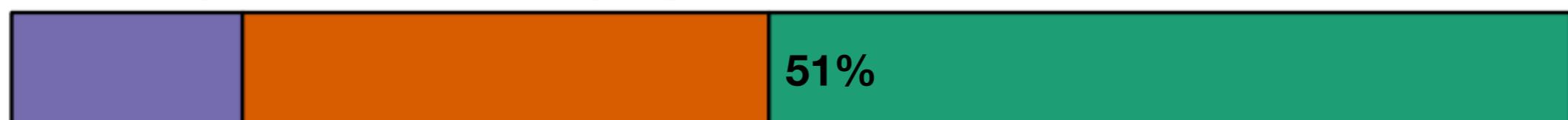
Already do

# Lifestyle behaviors

## Reducing car usage



## Reducing the amount of flying



## Increasing energy efficiency at home



## Following a mostly vegetarian or vegan diet



## Having fewer or no children



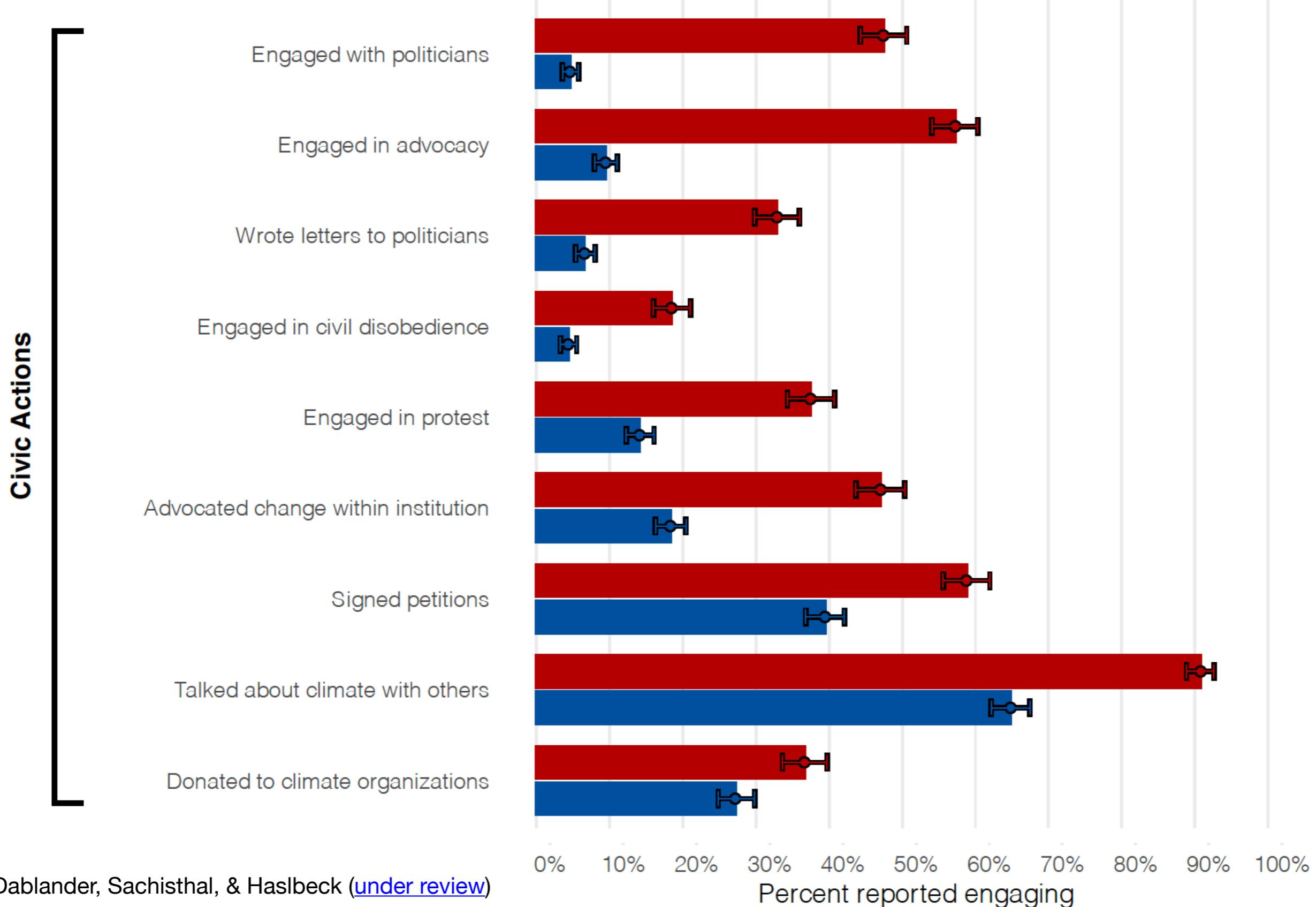
Not willing to

Willing to

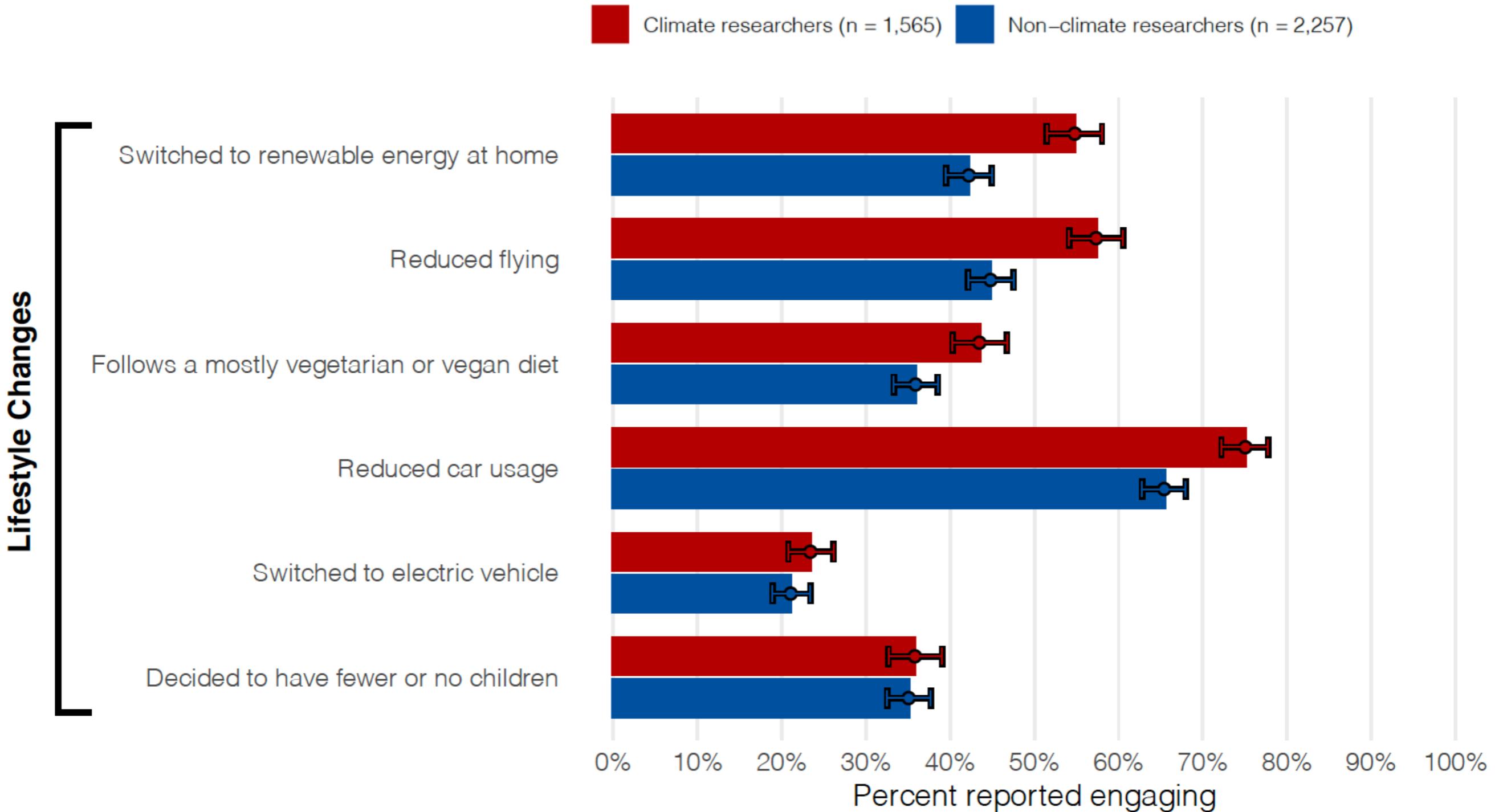
Already do

## Climate actions by climate and non-climate researchers

Climate researchers (n = 1,565) Non-climate researchers (n = 2,257)



## Climate actions by climate and non-climate researchers



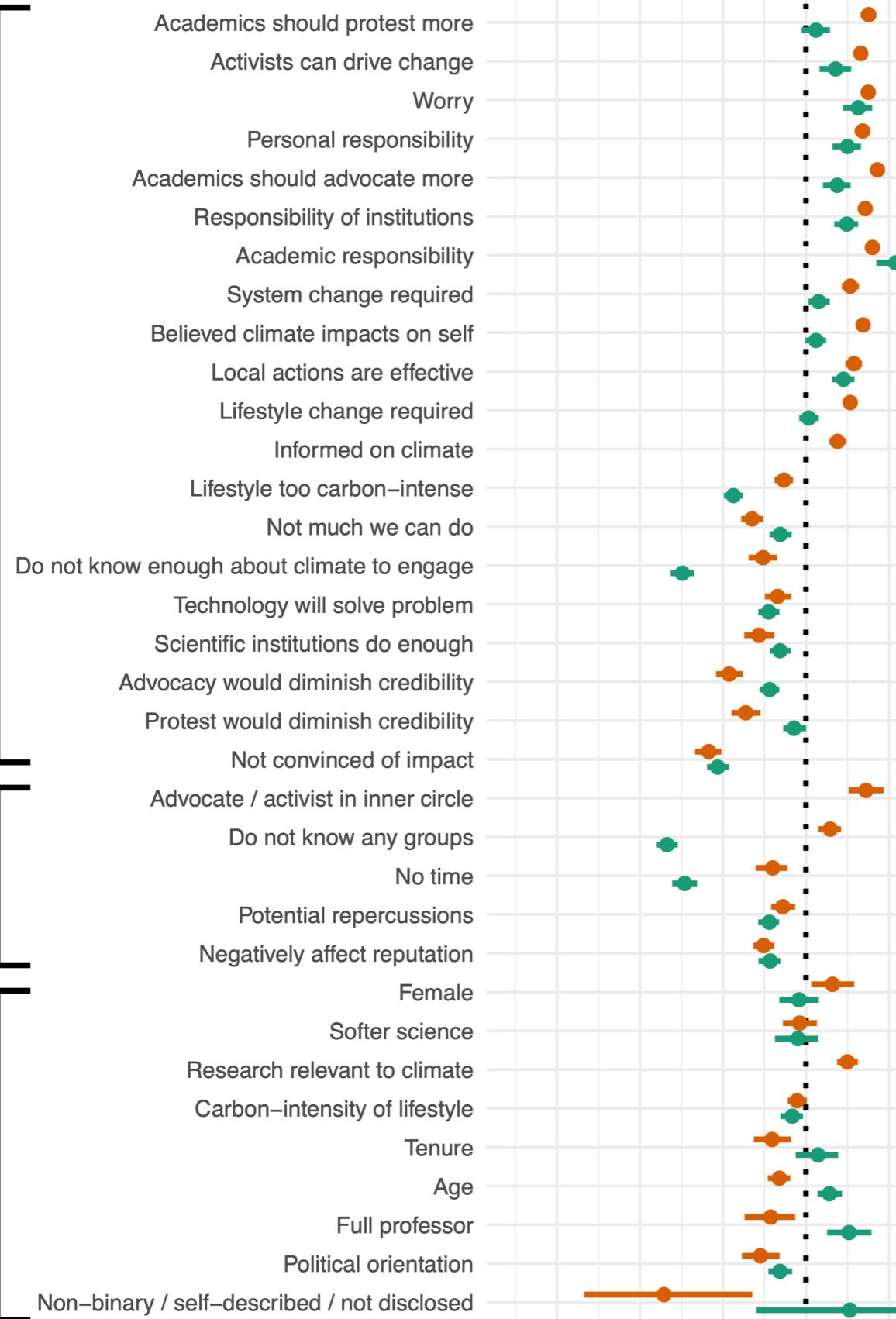
# **Understanding Barriers**

● Already do vs willing to   ● Willing to vs not willing to

### Advocacy

### Protest

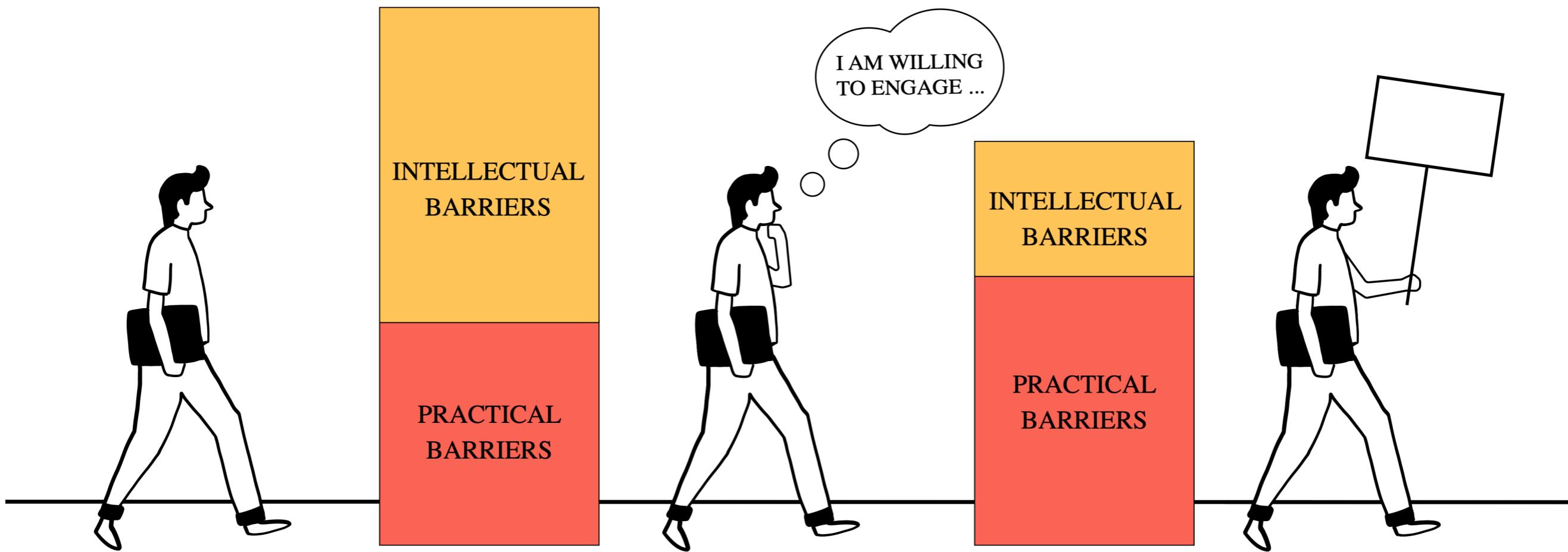
Intellectual



Practical

Background

Percentage change



### Intellectual Barriers

- Low levels of worry (A & P)
- Lack of knowledge (A & P)
- Lack of efficacy beliefs (A & P)
- Perceived responsibility (A & P)
- Not the role of scientists (A & P)
- Do not identify with activists (P)
- Disagree with activist ideology & strategy (A & P)

### Practical Barriers

- Fear of losing credibility (A & P)
- “Unsuitable” personality (A & P)
- No advocate in inner circle (A & P)
- Lack of skills (A)
- Fear of repercussions (P)

### Intellectual Barriers

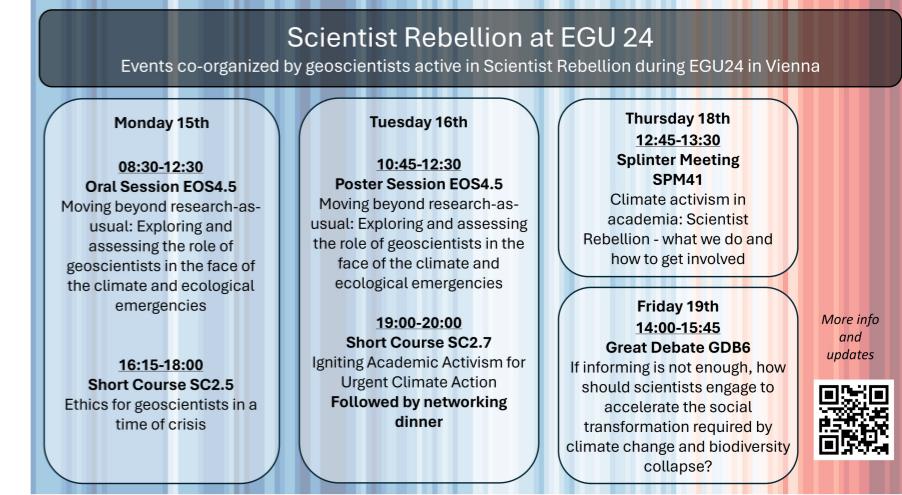
- Not the role of scientists (P)
- Lack of knowledge (A & P)
- Own carbon footprint (A & P)

### Practical Barriers

- Lack of skills (A)
- Fear of losing credibility (A & P)
- Not knowing any groups (A & P)
- Lack of time (A & P)
- Lack of opportunity (A & P)
- No advocate in inner circle (A & P)

# Overcoming barriers

- Intellectual
  - Facilitate interaction with those who are worried and engaged
  - Education (changes to curricula)
- Practical
  - Institutional reform (allocate more time to engage with society; reward / normalize climate action)
  - Skill sharing, training for advocacy
  - International groups can help setup local groups



## Rethinking academia in a time of climate crisis

ANNE E URAI\* AND CLARE KELLY\*

From Publications to Public Actions: The Role of Universities in Facilitating Academic Advocacy and Activism in the Climate and Ecological Emergency



Charlie J. Gardner<sup>1\*</sup>



Aaron Thierry<sup>2</sup>



William Rowlandson<sup>3</sup>



Julia K. Steinberger<sup>4</sup>

# Summary

- A large majority of scientists across disciplines are (very) worried and believe we need fundamental system change
- A majority believes that scientists and scientific institutions should engage more
- Many scientists already engage in some lifestyle and civic actions
- We identified a number of intellectual and practical barriers to engage in advocacy and protest
- See [fabiandablander.com](http://fabiandablander.com) for links to the slides, preprints, etc.

**Thank you!**

# Joint work with



Maien Sachisthal



Nana-Maria Grüning



Viktoria Cologna



Noel Strahm



Alison Green



Cameron Brick



Adam Aron

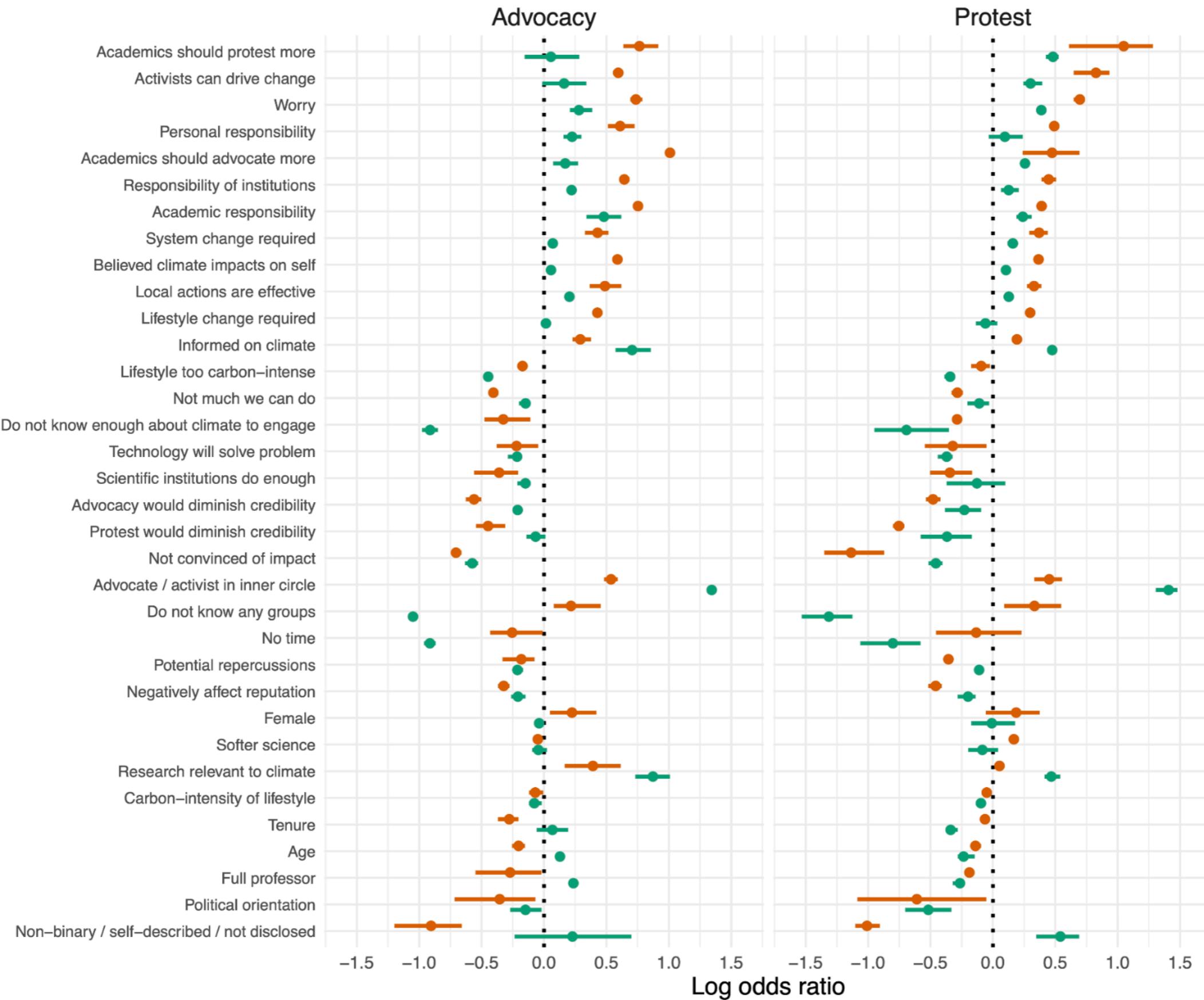


Jonas Haslbeck

# Appendix

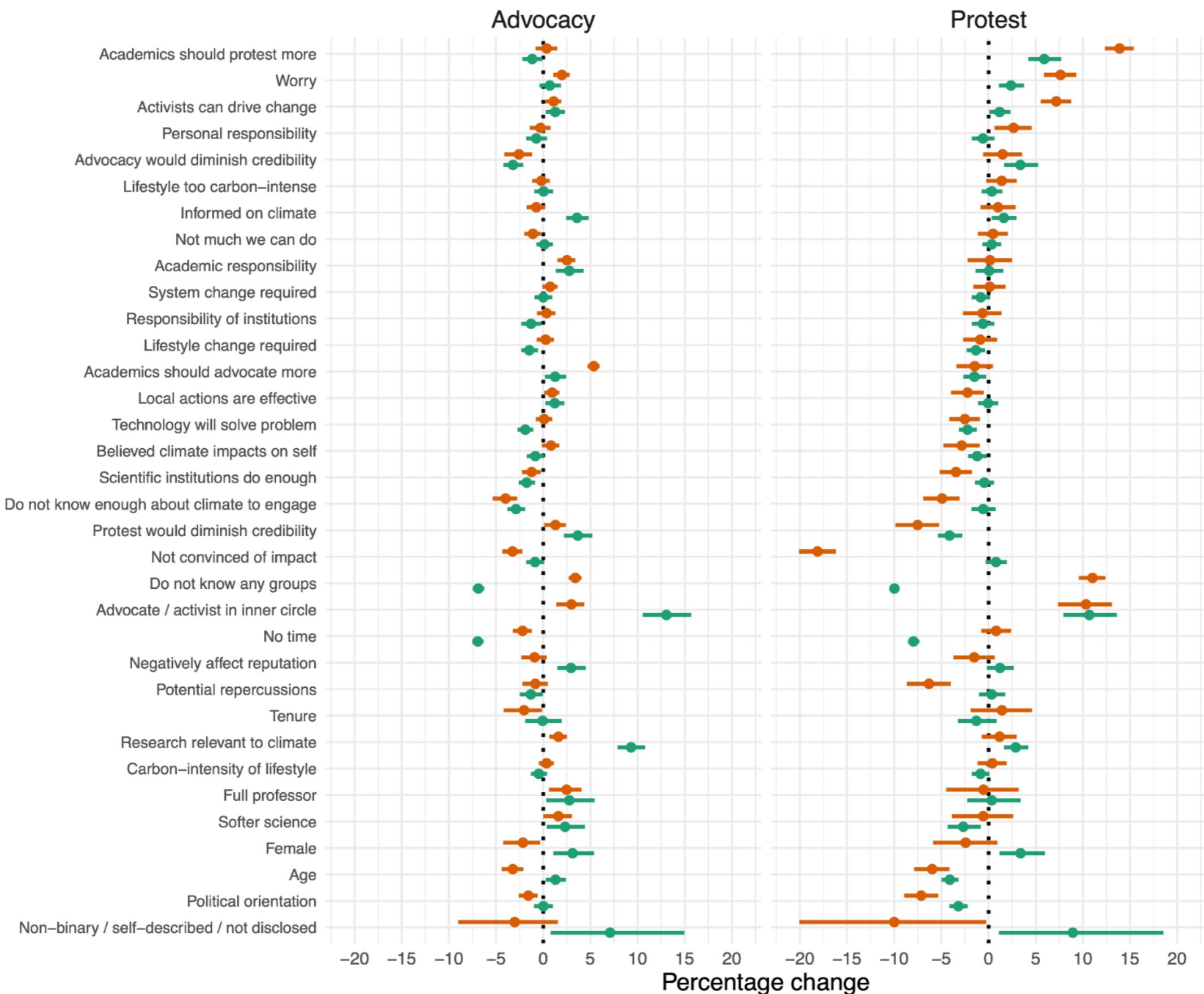
## Heterogeneity of effects across countries

● Already do vs willing to ● Willing to vs not willing to

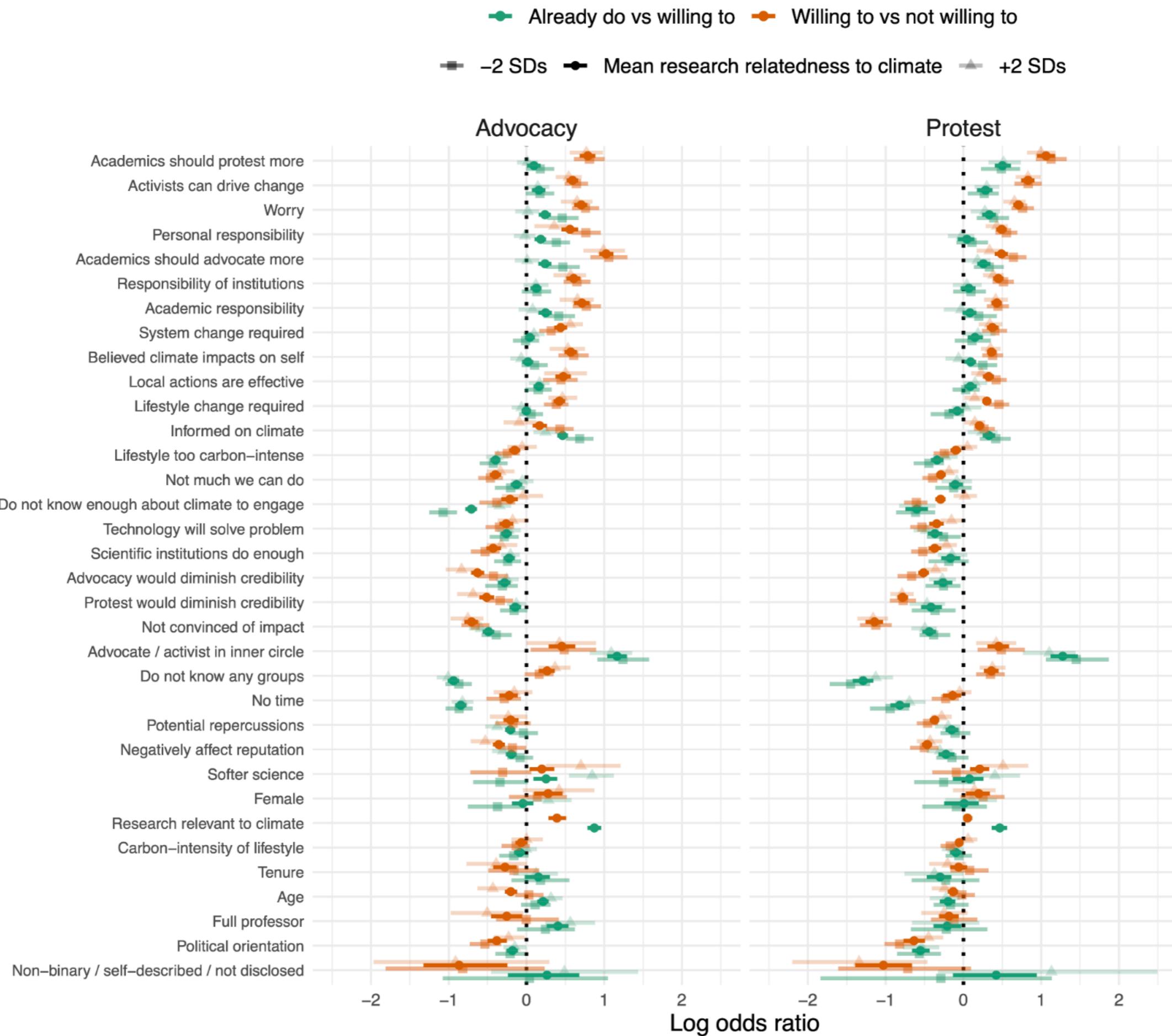


## Multiple logistic regression results

■ Already do vs willing to ■ Willing to vs not willing to



# Log odds ratios across research relatedness to climate change



## Civil disobedience results

Already do vs willing to      Willing to vs not willing to

