

Going Beyond Research: Climate Change Engagement of Scientists

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APA Division 34 Virtual Conference

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Sixth Assessment Report

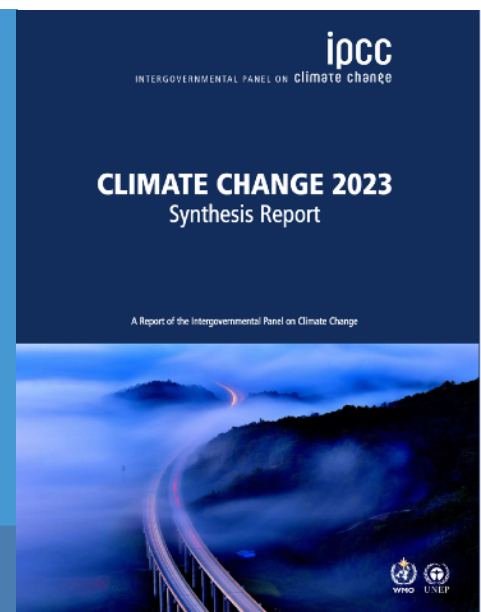
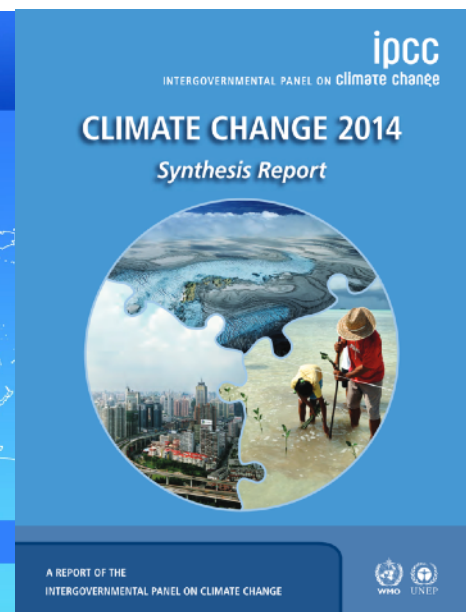
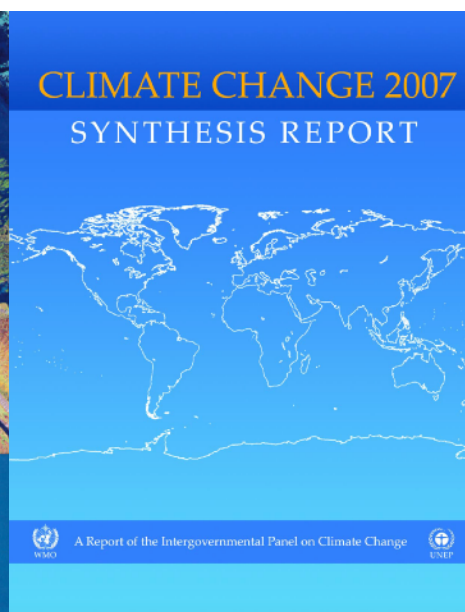
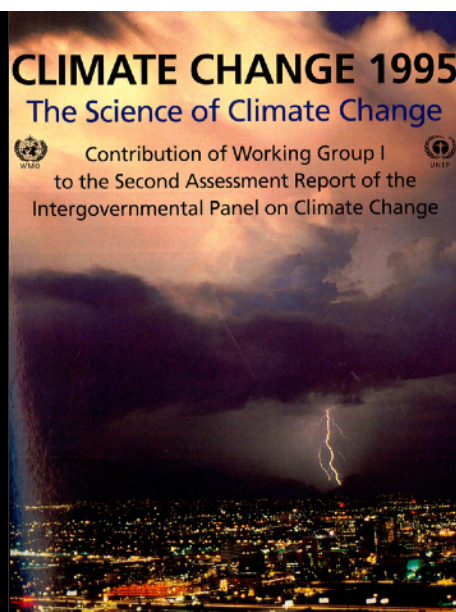
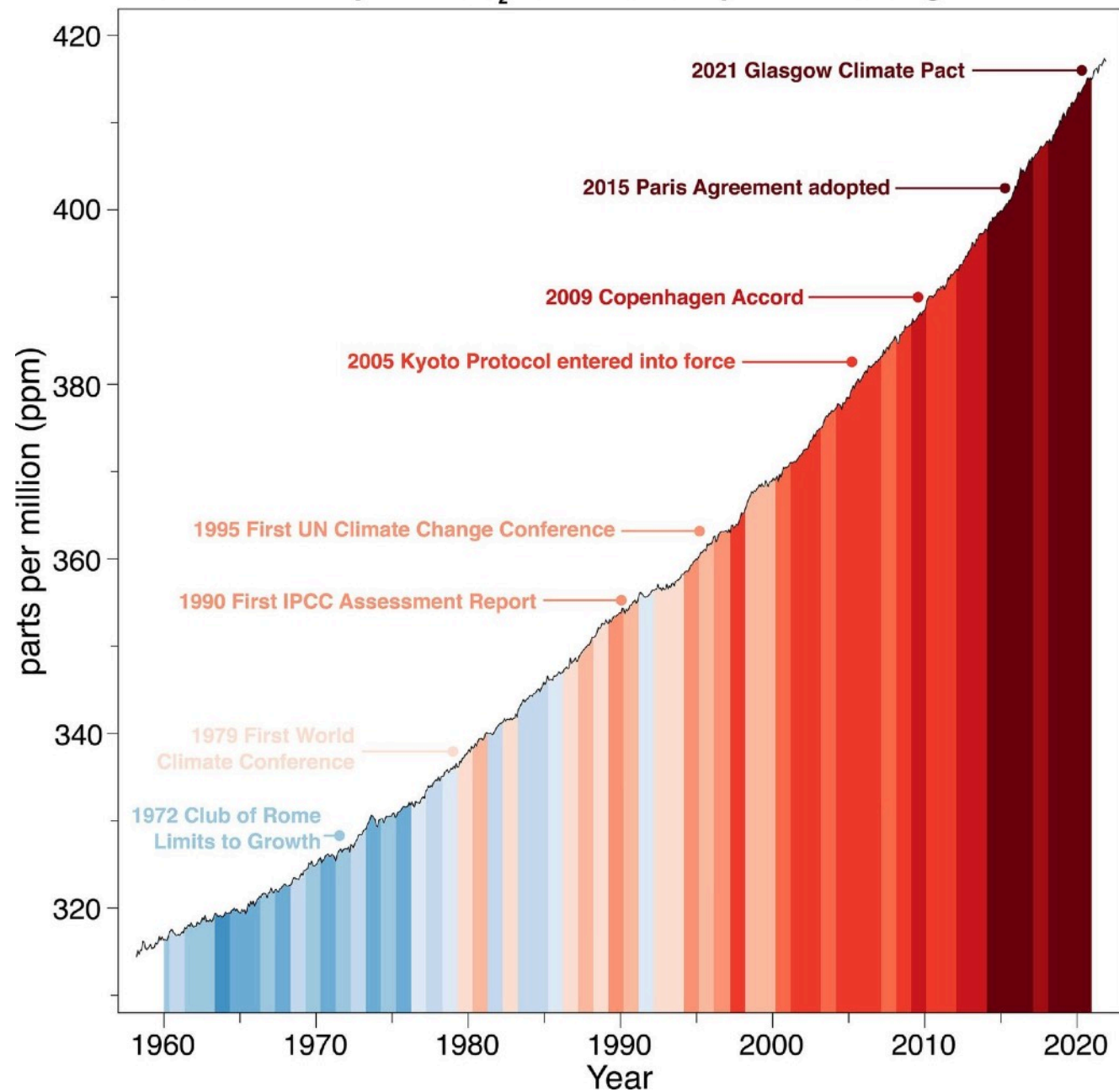
Synthesis Report

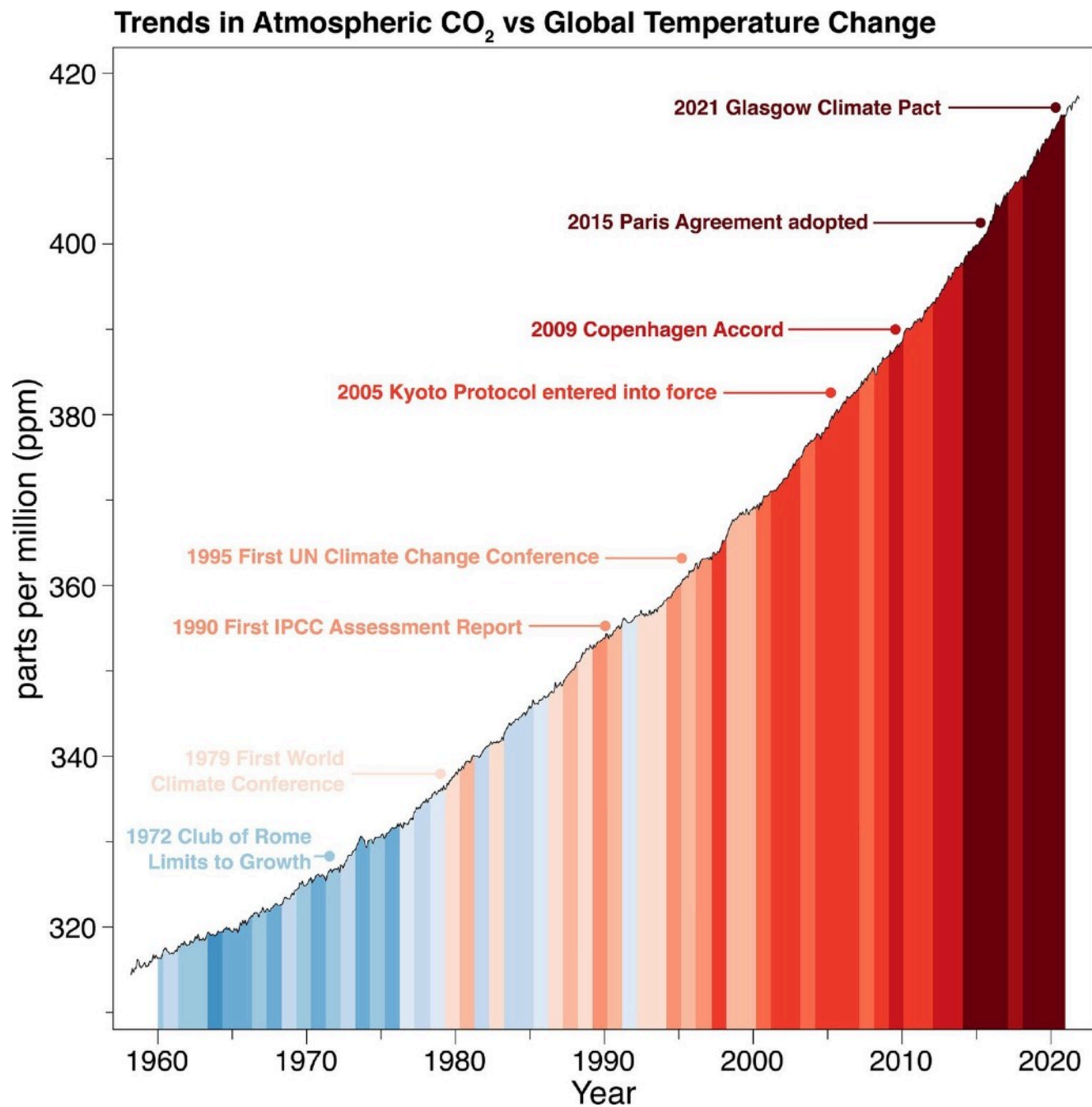
20 March 2023

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



Trends in Atmospheric CO₂ vs Global Temperature Change

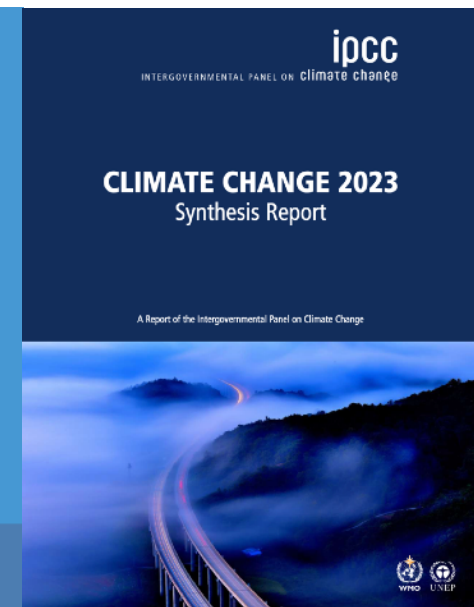
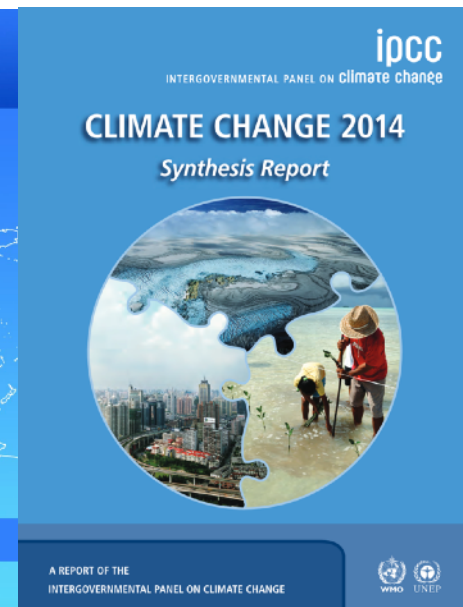
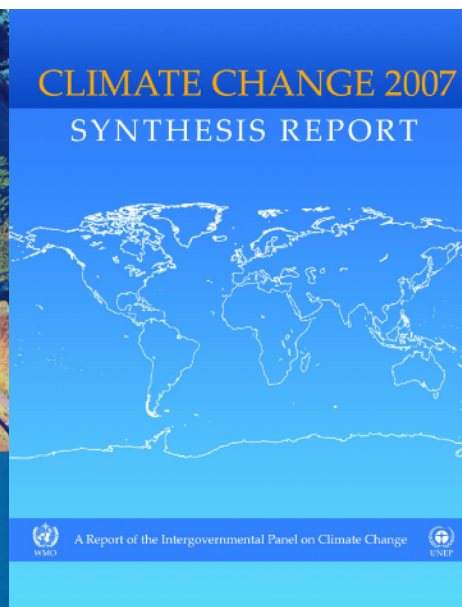
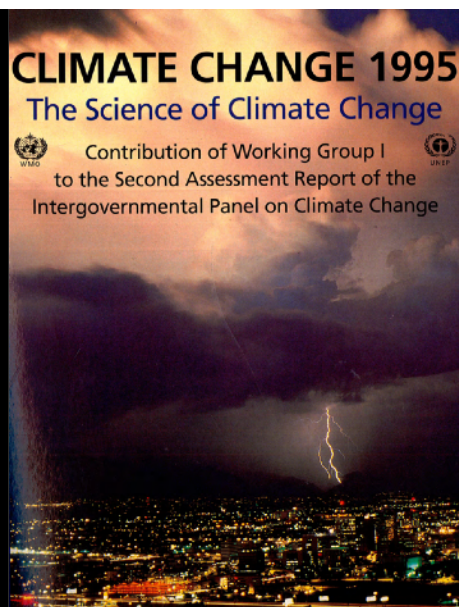




UN 
environment
programme

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*](#)

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.



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](#)

Perspective | Published: 20 September 2024

Scientist engagement and the knowledge–action gap

[Léonard Dupont](#) , [Staffan Jacob](#) & [Hervé Philippe](#)

[Nature Ecology & Evolution](#) (2024) | [Cite this article](#)

13 Accesses | [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](#)^{1*}  [Aaron Thierry](#)²  [William Rowlandson](#)³  [Julia K. Steinberger](#)⁴

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^{1,2*}, Phil Brown³, Shannon Dosemagen⁴, Dana R. Fisher⁵, Scott Frickel⁶, Norah MacKendrick⁷, David S. Meyer⁸, John N. Parker⁹

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



Climate change engagement of scientists

Received: 19 December 2023

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Fabian Dablander ^{1,2,13} , **Maïen S. M. Sachisthal** ^{3,13}, **Viktoria Cologna** ^{4,5},
Noel Strahm ⁶, **Anna Bosshard** ³, **Nana-Maria Grüning** ⁷,
Alison J. K. Green ⁸, **Cameron Brick** ^{3,9}, **Adam R. Aron**¹⁰ &
Jonas M. B. Haslbeck ^{11,12,13}

Climate change is one of the biggest threats to humanity. Scientists are well positioned to help address it beyond conducting academic research, yet little is known about their wider engagement with the topic. We investigate scientists' engagement with climate change using quantitative and qualitative analyses of a large-scale survey ($N = 9,220$) across 115 countries, all fields and all career stages. Many scientists already engage in individual lifestyle changes, but fewer engage in advocacy or activism. On the basis of our quantitative and qualitative results, we propose a two-step model of engagement to better understand why. Scientists must first overcome intellectual and practical barriers to be willing to engage, and then overcome additional barriers to actually engage. On the basis of this model, we provide concrete recommendations for increasing scientists' engagement with climate change.

Research questions

1.

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

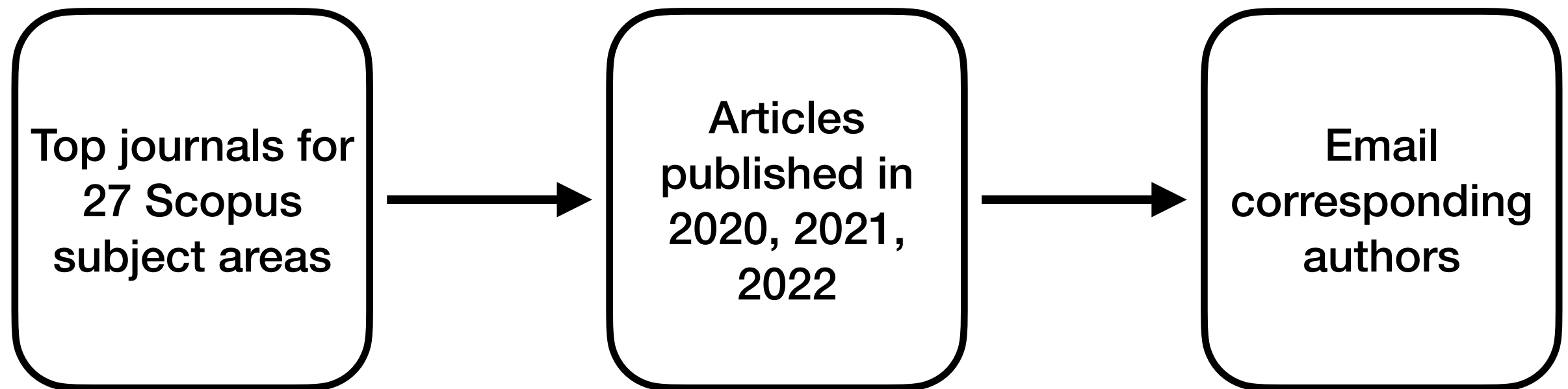
2.

To what extent do they engage in climate action?

3.

What barriers exist for them to engage in climate action?

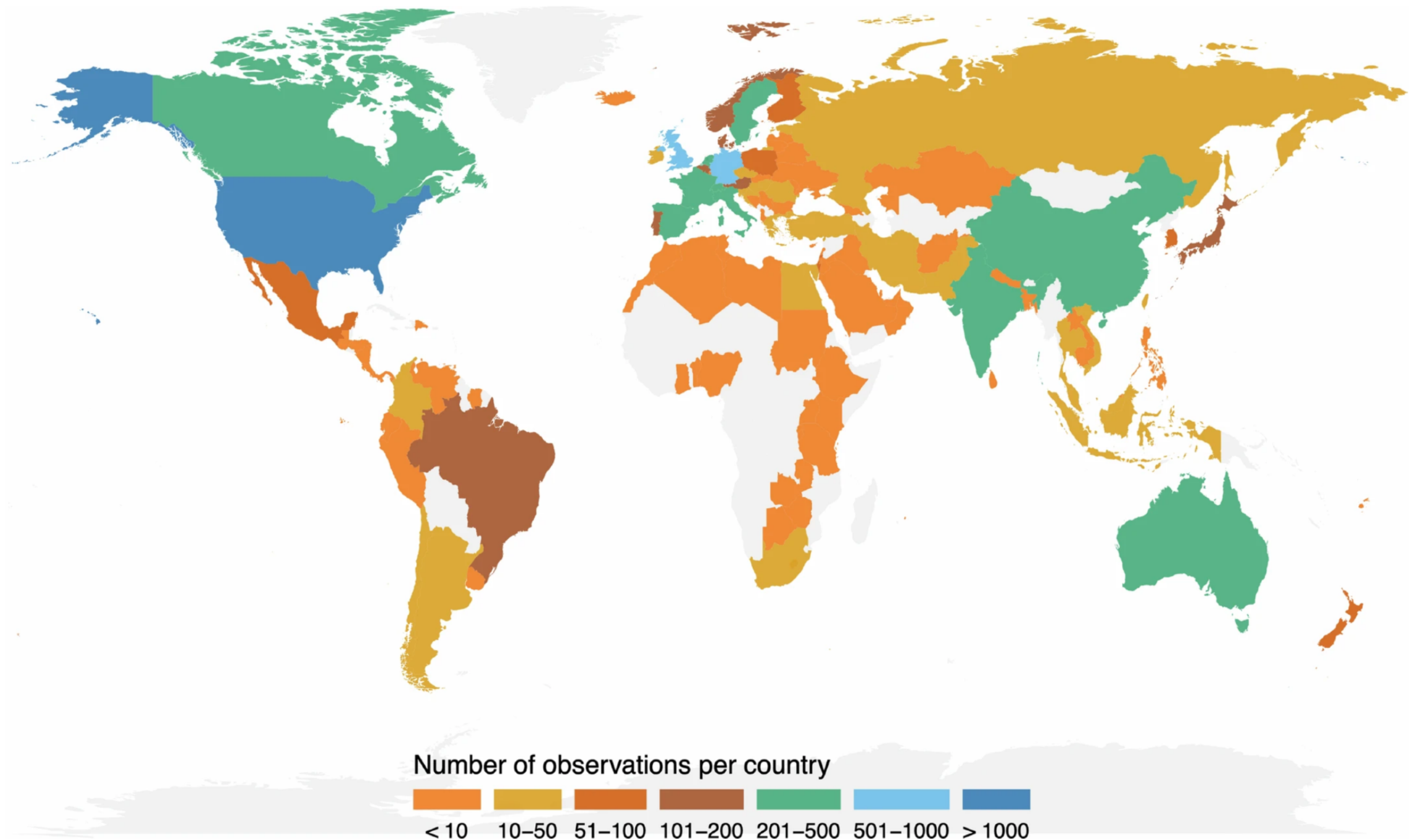
Sampling



250,000 emails sent

$N = 9,220$

115 countries, virtually all disciplines



Beliefs & Actions

a Beliefs about climate change and solutions

Overall, how worried are you about climate change?



Fundamental changes to society, politics and economics required



Substantial changes to personal behaviour and lifestyle required



Environmental activist groups can drive positive change



Advances in technology will largely solve climate change



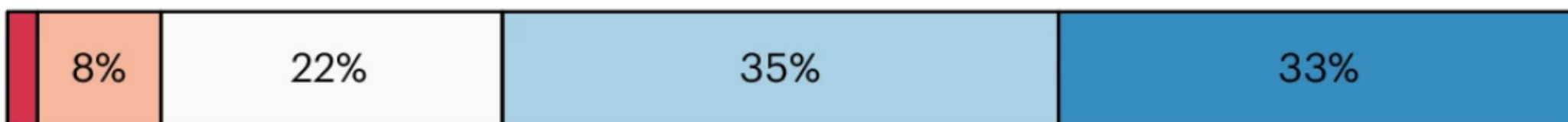
Strongly disagree Disagree Neither agree/disagree Agree Strongly agree

b Responsibility and role of scientists and academics

Scientific or academic institutions are responsible



Feel responsible as a scientist or academic



Not at all

Very little

A moderate amount

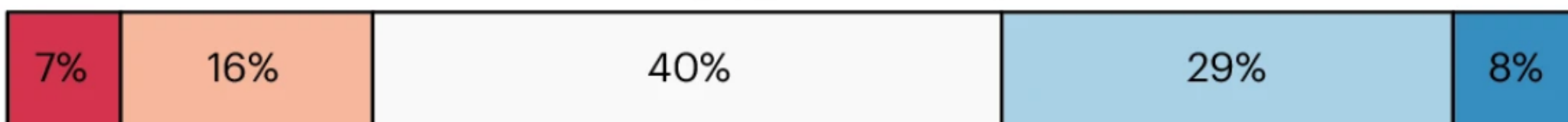
Quite a bit

A great deal

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

d Advocacy and activism behaviours

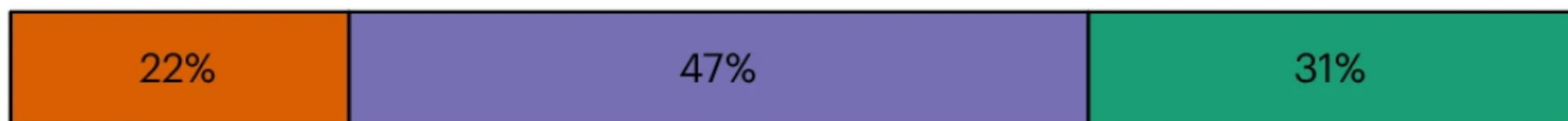
Talking about climate change with others



Engaging in climate change advocacy



Donating to a relevant organization



Participating in legal climate change-related protests



Participating in non-violent civil disobedience actions



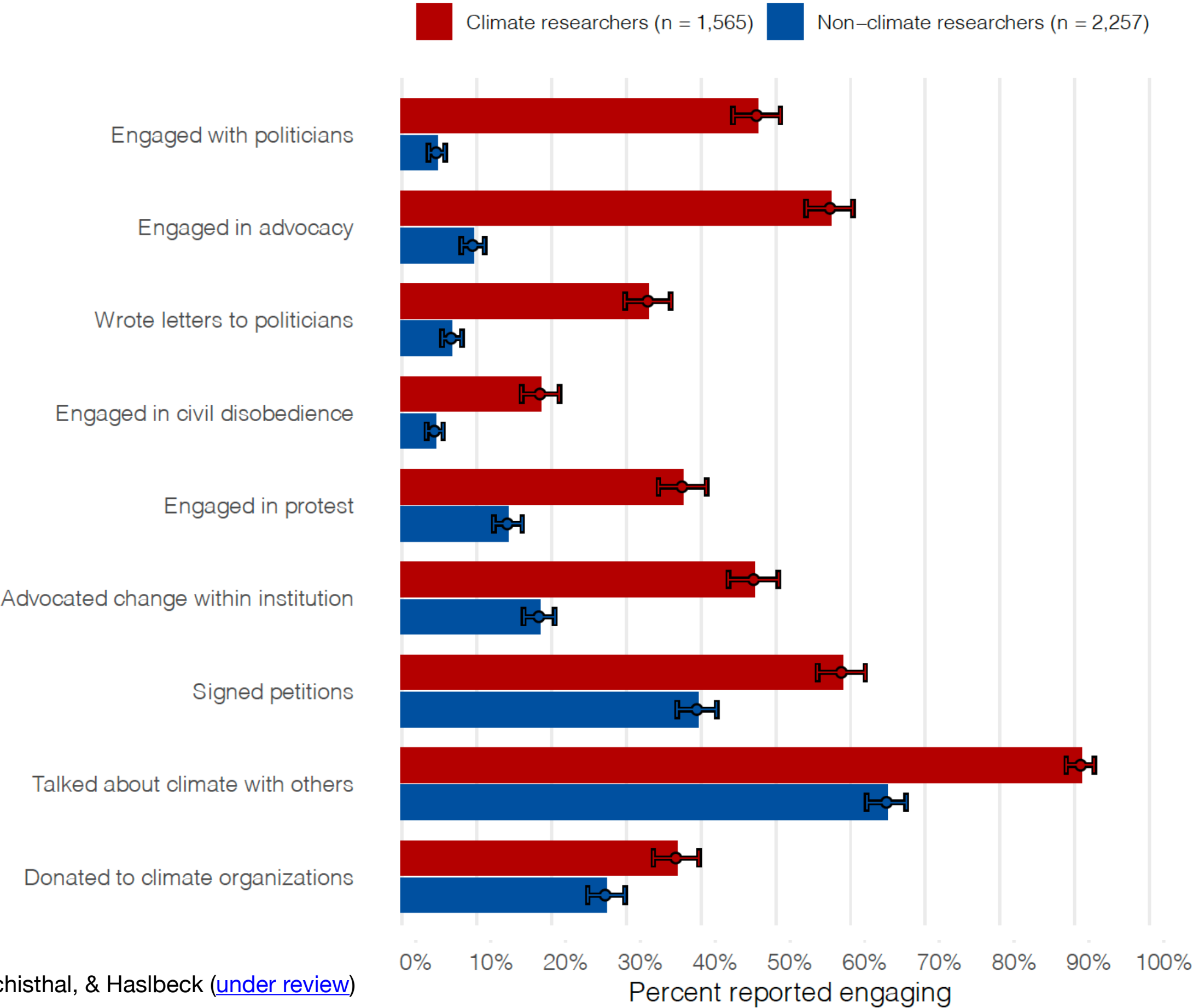
Not willing to

Willing to

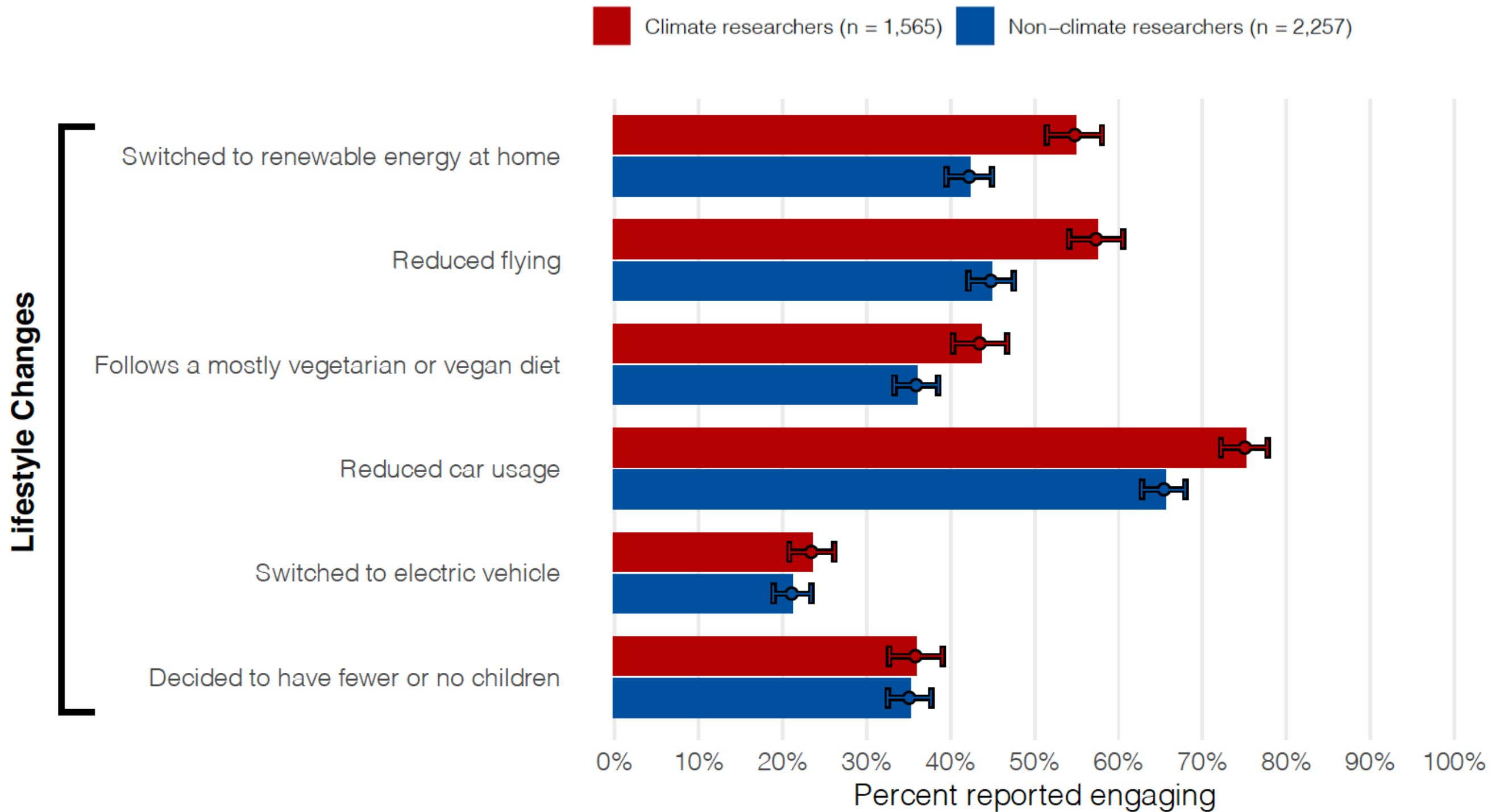
Already do

Climate actions by climate and non-climate researchers

Civic Actions



Climate actions by climate and non-climate researchers



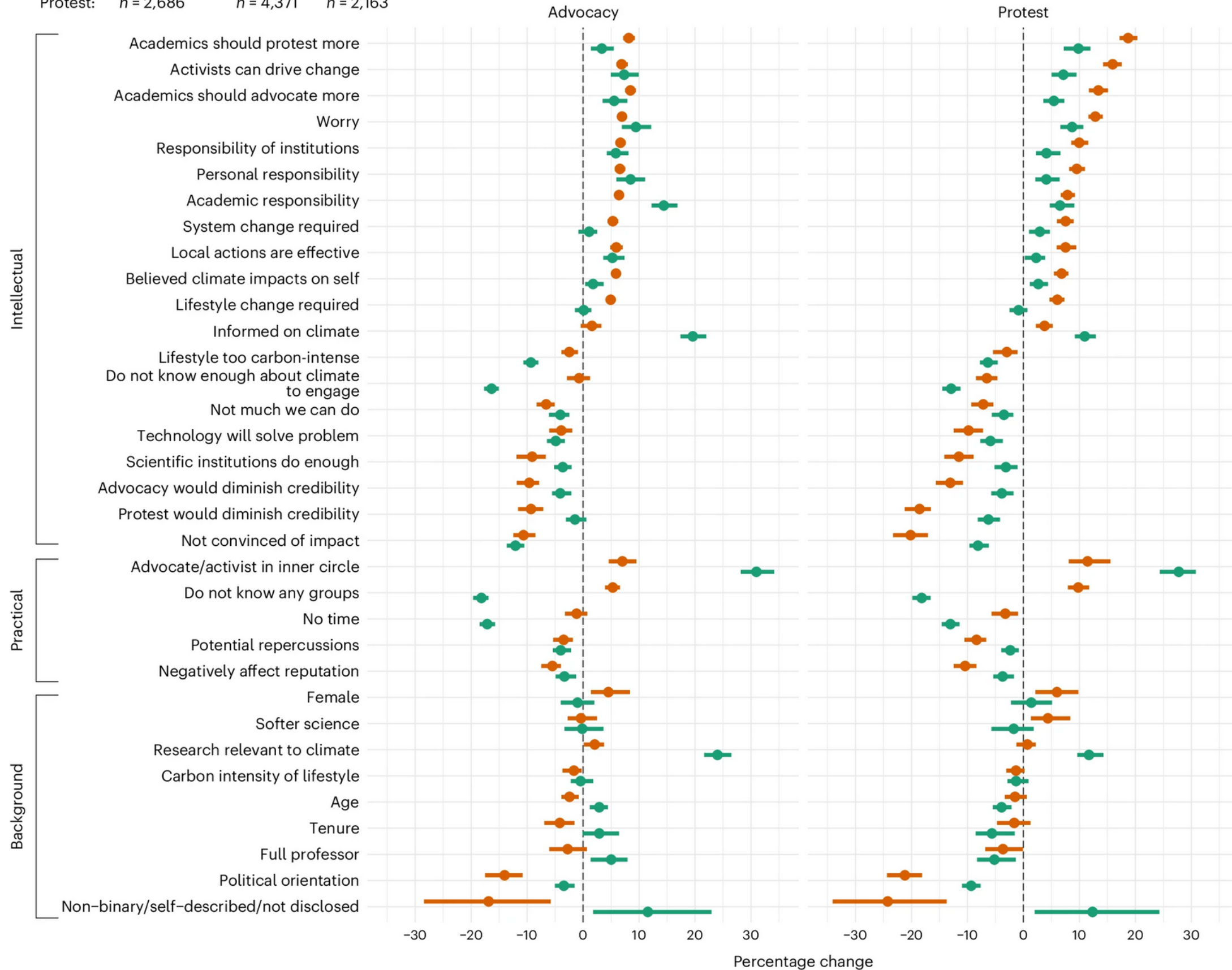
Understanding Barriers

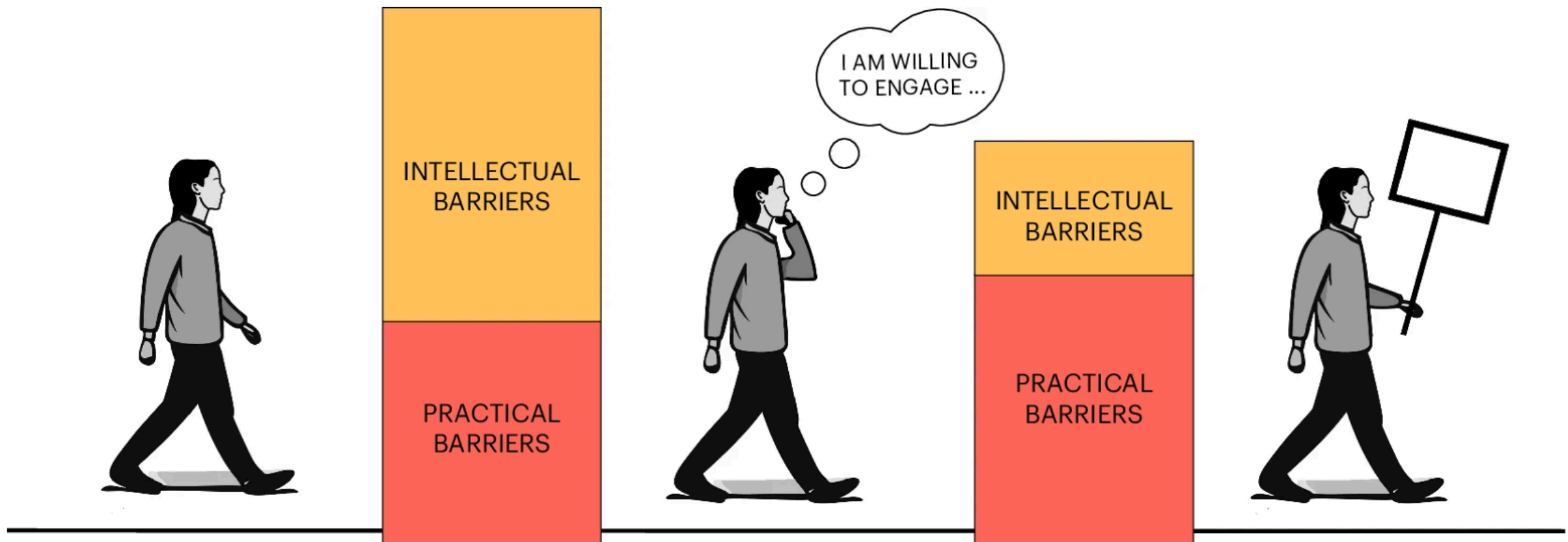
Sample sizes

| | Not willing to | Willing to | Already do |
|-----------------------|----------------|-------------|------------|
| Advocacy: $n = 1,184$ | $n = 5,329$ | $n = 2,707$ | |
| Protest: $n = 2,686$ | $n = 4,371$ | $n = 2,163$ | |

Already do vs willing to

Willing to vs not willing to





Intellectual barriers

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

Practical barriers

- Fear of losing credibility (A and P)
- 'Unsuitable' personality (A and P)
- No advocate in inner circle (A and P)
- Lack of skills (A)
- Fear of repercussions (P)

Intellectual barriers

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

Practical barriers


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

Scientist Rebellion at EGU 24
Events co-organized by geoscientists active in Scientist Rebellion during EGU24 in Vienna

| | | |
|--|--|---|
| Monday 15th 08:30-12:30 Oral Session EOS4.5 Moving beyond research-as-usual: Exploring and assessing the role of geoscientists in the face of the climate and ecological emergencies | Tuesday 16th 10:45-12:30 Poster Session EOS4.5 Moving beyond research-as-usual: Exploring and assessing the role of geoscientists in the face of the climate and ecological emergencies 19:00-20:00 Short Course SC2.7 Igniting Academic Activism for Urgent Climate Action Followed by networking dinner | Thursday 18th 12:45-13:30 Splinter Meeting SPM41 Climate activism in academia: Scientist Rebellion - what we do and how to get involved Friday 19th 14:00-15:45 Great Debate GDB6 If informing is not enough, how should scientists engage to accelerate the social transformation required by climate change and biodiversity collapse? |
|--|--|---|

More info and updates: 

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

Summary

- A large majority of scientists across disciplines are (very) worried and believe we need fundamental system change
- A majority believes that scientists 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 fabindablander.com for links to the slides, paper, etc.

Thank you!

Joint work with



Maien Sachisthal



Nana-Maria Grüning



Viktoria Cologna

Noel Strahm



Alison Green



Cameron Brick



Adam Aron



Jonas Haslbeck

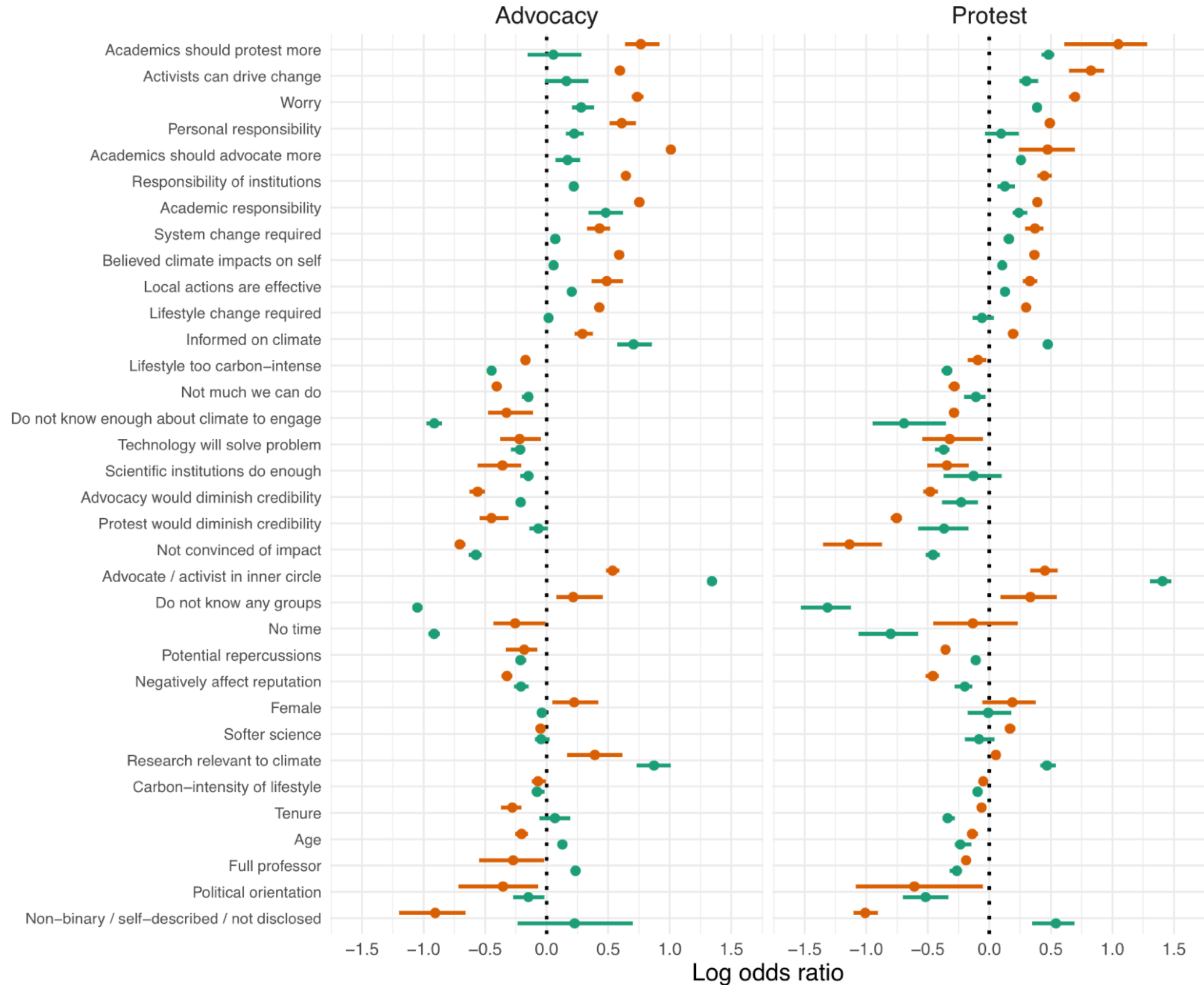
Appendix

Heterogeneity of effects across countries

Sample sizes

| | Not willing to | Willing to | Already do |
|----------------------------|------------------|------------------|------------|
| Advocacy: <i>n</i> = 1,184 | <i>n</i> = 5,329 | <i>n</i> = 2,707 | |
| Protest: <i>n</i> = 2,686 | <i>n</i> = 4,371 | <i>n</i> = 2,163 | |

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



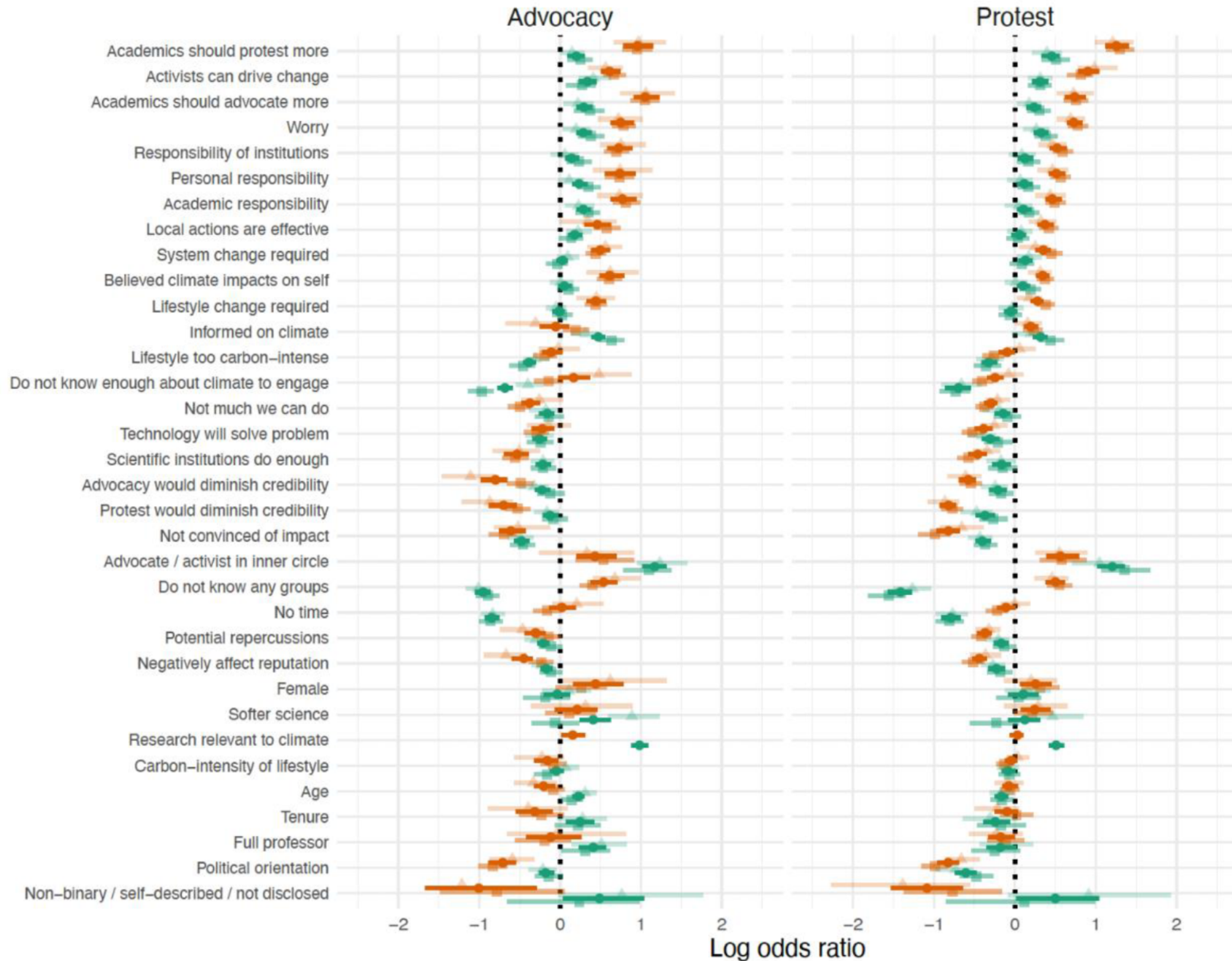
Log odds ratios across research relatedness to climate change

Sample sizes

| | Not willing to | Willing to | Already do |
|----------------------------|------------------|------------------|------------|
| Advocacy: <i>n</i> = 1,184 | <i>n</i> = 5,329 | <i>n</i> = 2,707 | |
| Protest: <i>n</i> = 2,686 | <i>n</i> = 4,371 | <i>n</i> = 2,163 | |

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

■ Not at all
 ■ A moderate amount
 ■ A great deal



Civil disobedience results

Sample sizes
 Not willing to $n = 4,189$
 Willing to $n = 4,131$
 Already do $n = 900$

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

