

Between scientific 'facts' and 'debates'

How perceived scientific consensus predicts beliefs about anthropogenic climate change in four EU countries

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EPCC Project

IPSOS Mori survey June 2016
France (N = 1,010), Germany (N = 1,001)
Norway (N = 1,004), UK (N = 1,033)



European Perceptions of Climate Change (EPCC)

Socio-political profiles to inform a cross-national survey in France, Germany, Norway and the UK

June 2016



European Perceptions of Climate Change (EPCC)

Topline findings of a survey conducted in four European countries in 2016

March 2017



University of Stuttgart
Germany



University of Stuttgart
Germany



(Perceived) scientific consensus as gateway belief

Actual consensus judged close to 99% - 'Debate' constructed by media...

RESEARCH ARTICLE

The Scientific Consensus on Climate Change as a Gateway Belief: Experimental Evidence

Sander L. van der Linden^{1*}, Anthony A. Leiserowitz², Geoffrey D. Feinberg², Edward W. Maibach³

nature
climate change

ARTICLES

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The pivotal role of perceived scientific consensus in acceptance of science

Stephan Lewandowsky*, Gilles E. Gignac and Samuel Vaughan

Although most experts agree that CO₂ emissions are causing anthropogenic global warming (AGW), public concern has been declining. One reason for this decline is the 'manufacture of doubt' by political and vested interests, which often challenge the existence of the scientific consensus. The role of perceived consensus in shaping public opinion is therefore of considerable interest: in particular, it is unknown whether consensus determines people's beliefs causally. It is also unclear whether perception of consensus can override people's 'worldviews', which are known to foster rejection of AGW. Study 1 shows that acceptance of several scientific propositions—from HIV/AIDS to AGW—is captured by a common factor that is correlated with another factor that captures perceived scientific consensus. Study 2 reveals a causal role of perceived consensus by showing that acceptance of AGW increases when consensus is highlighted. Consensus information also neutralizes the effect of worldview.

'Increasing public perceptions of the scientific consensus is significantly and causally associated with increase in belief that climate change is happening, human-caused and a worrisome threat. In turn, changes in these key beliefs predict increased support for public action'

Perceiving scientific consensus

- **perceived scientific consensus (PSC)** about CC is associated with **stronger** CC beliefs and support for policies (McCright, Dunlap and Xiao, 2013)
- The **interpretation** of PSC about CC also seems to vary in function of how science is understood (Rabinovich & Morton, 2012) :
 - Fact/truth-producing activity , *a single truth revealed* → traditional model
 - Debate between potentially different points of view → kuhnian model

Perceived consensus in UK, France, Germany & Norway

1. How consensual about the existence of CC the scientific community is **perceived** to be?
2. How do people adapt their perceived scientific consensus to their beliefs about ACC (sceptical or not)?
3. Does the adopted model of science moderates (conditions) the interpretation participants make of the scientific consensus

Method

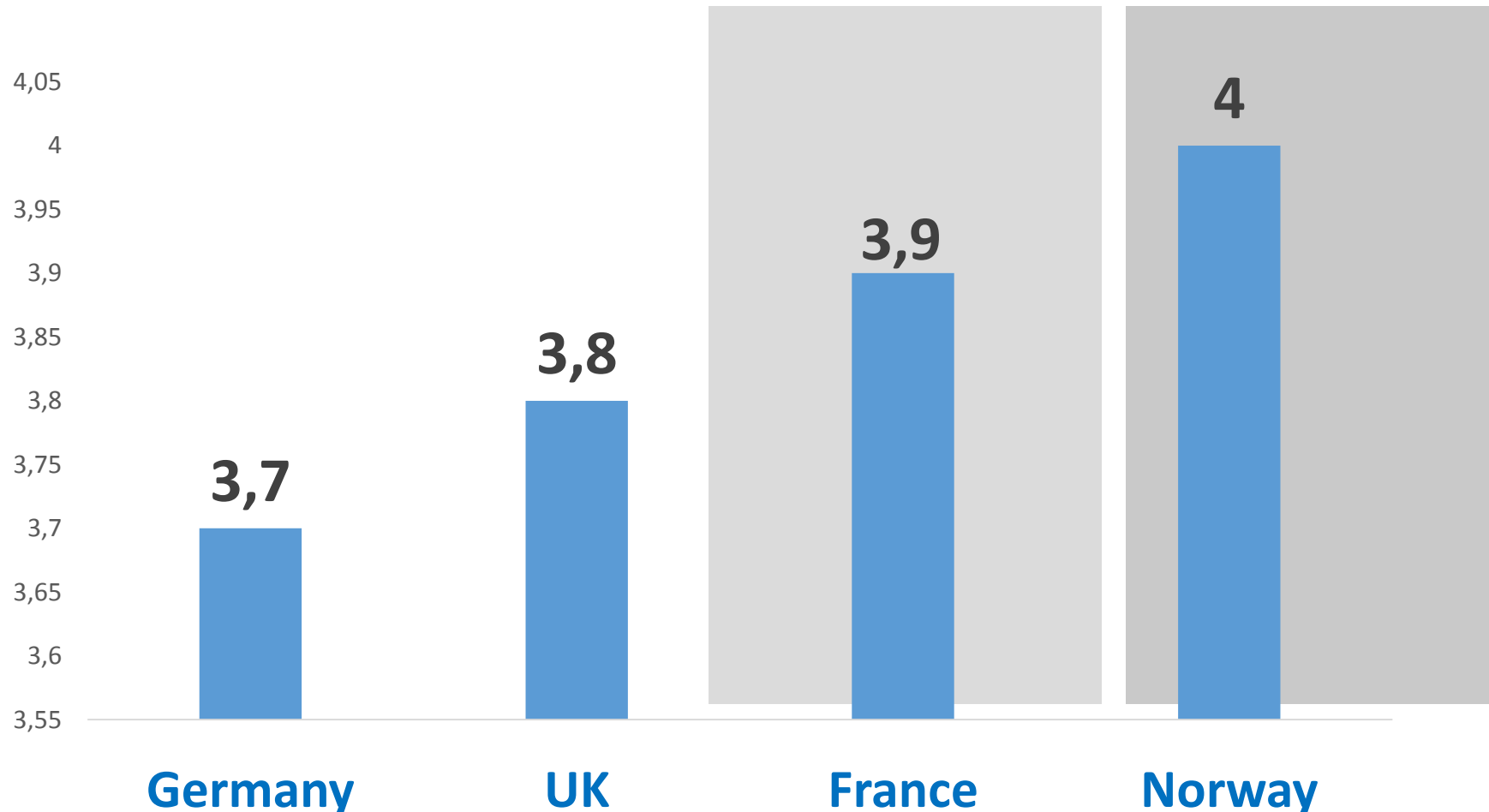
- IPSOS Mori survey in UK (N = 1,033), France (N = 1,010), Germany (N = 1,001) and Norway (N = 1,004)
- June 2016
- *Attribution scepticism*
 - Which of the following causes of CC best describes your opinion
 - (1 = CC is entirely natural; 5 = CC is completely anthropogenic)
- *Trend scepticism*
 - As far as you know, do you think the world's climate is changing or not?
 - (Yes/No)
- *Perceived scientific consensus*
 - What proportion of scientists agree that climate change is happening and that humans are largely causing it?
 - 1 = a small minority agrees (20% or less); 5 = the vast majority agrees (80% or more)
- *Model of science*
 - There may be more than one correct answer to most scientific questions (Rabinovich and Morton, 2012)
 - 1 = Strongly agree to 5 = Strongly disagree

How strong a consensus among scientists on ACC is perceived?

1= low 5= high

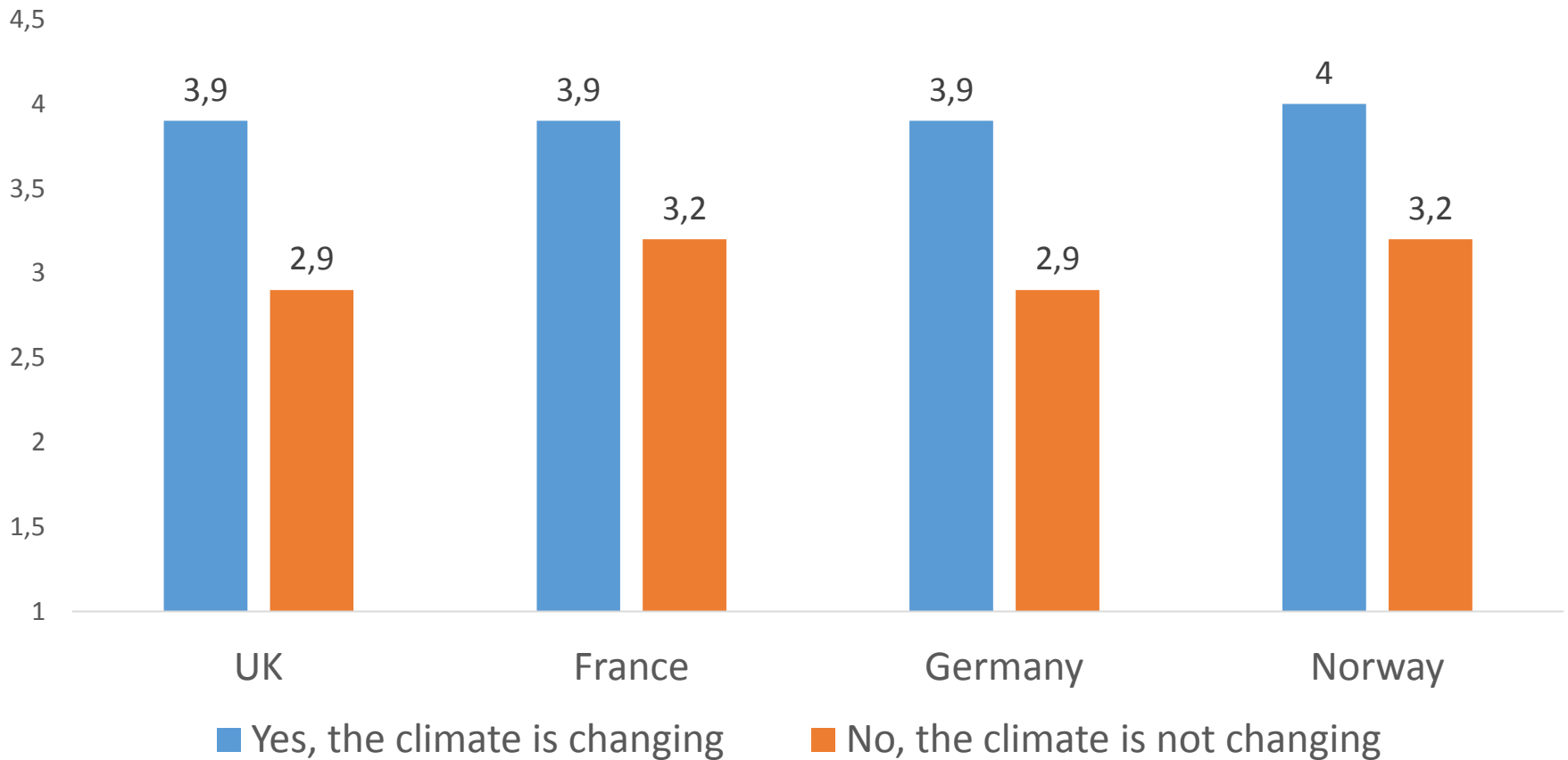
National averages *[too low!]*

$F(3,3897) = 16.0^{***}$



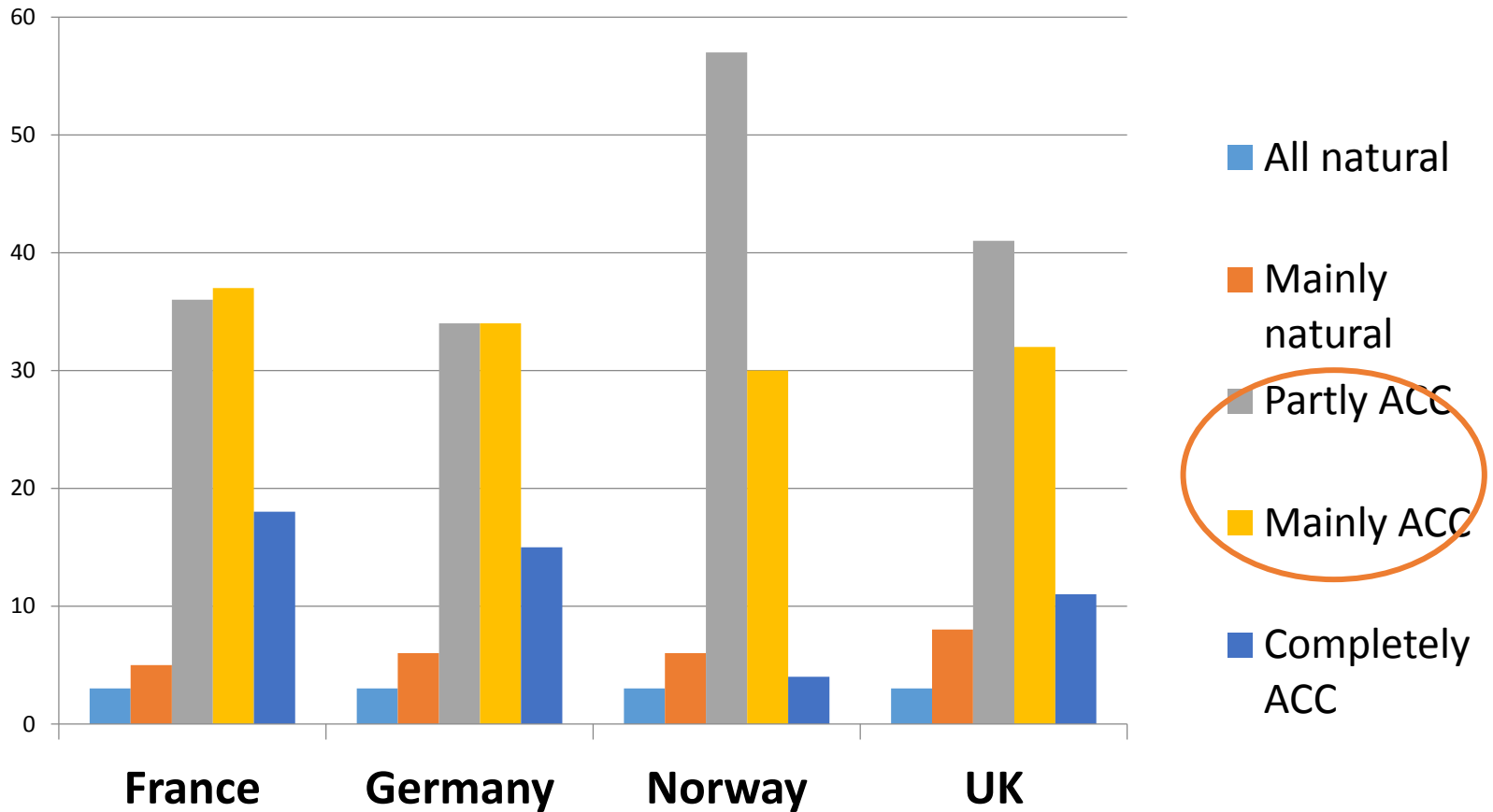
Consensus judged as somewhere between 50-80%

Proportion of “scientists agree that anthropogenic CC is happening” among **non sceptics** vs. **sceptics** $p < .001$ in all countries

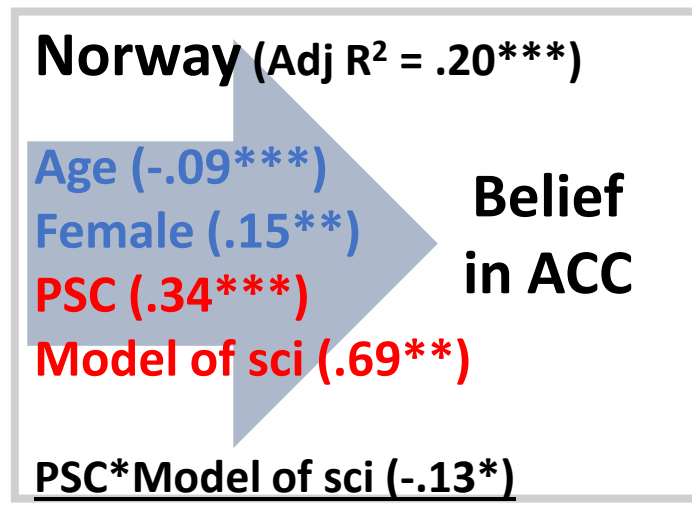
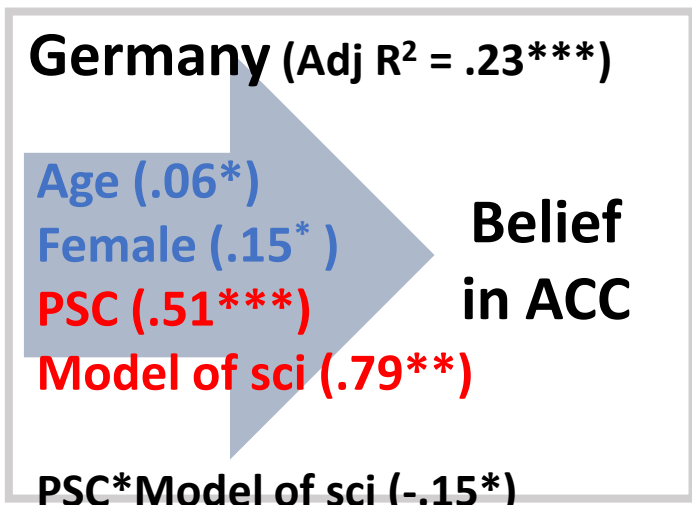
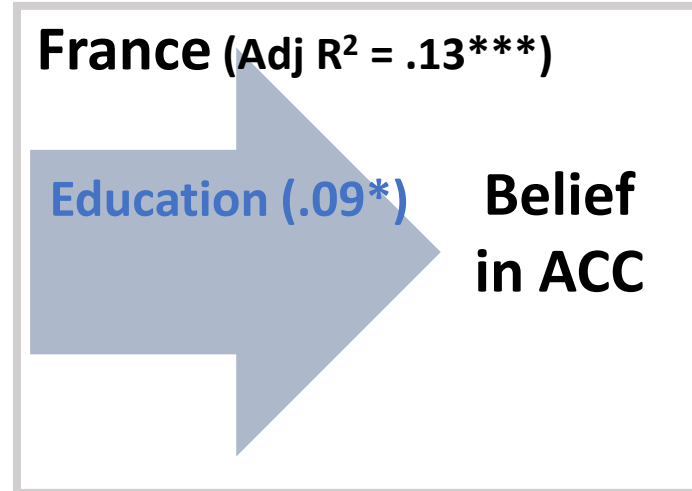
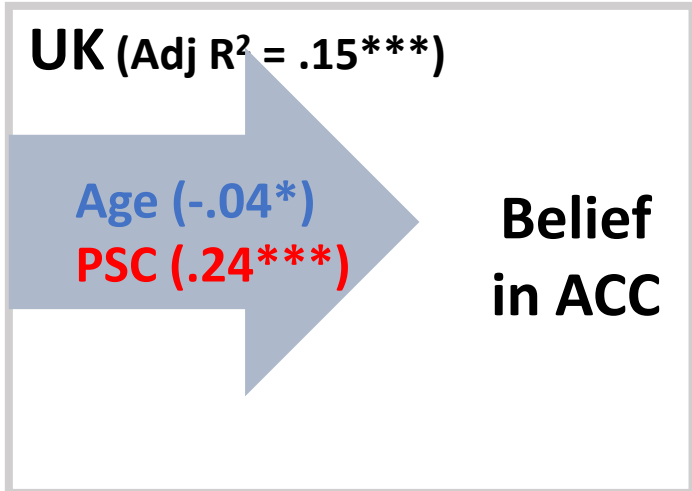


Trend sceptics systematically **see less consensus**

Attribution: natural or human causes?



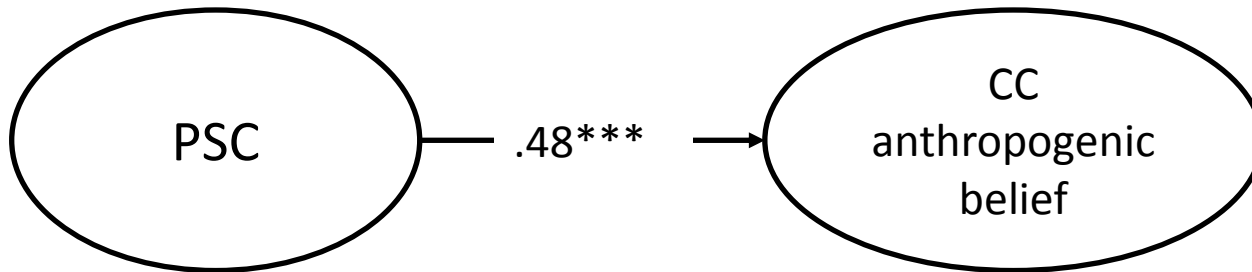
How is PSC interpreted? What is influencing belief in ACC?



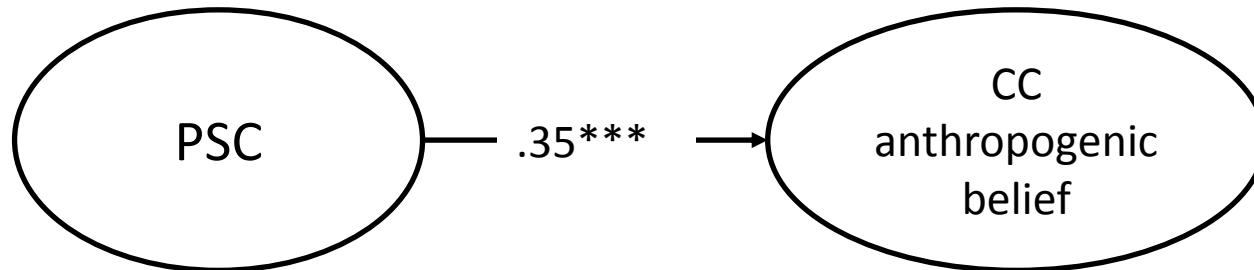
Demo-
graphics
findings
tend to
agree with
the
literature
e.g.
Poortinga et
al. 2011

How this perceived consensus is interpreted?

Traditional model

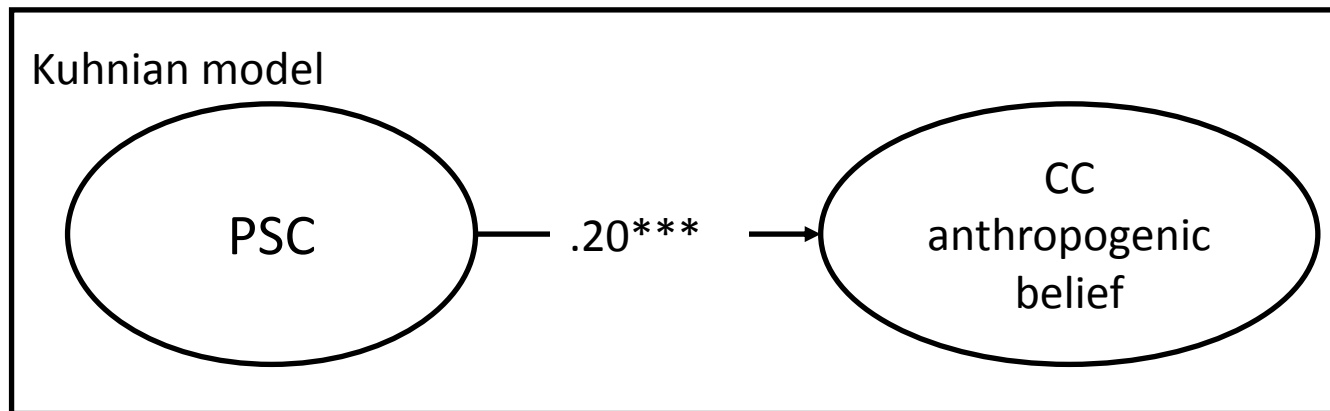
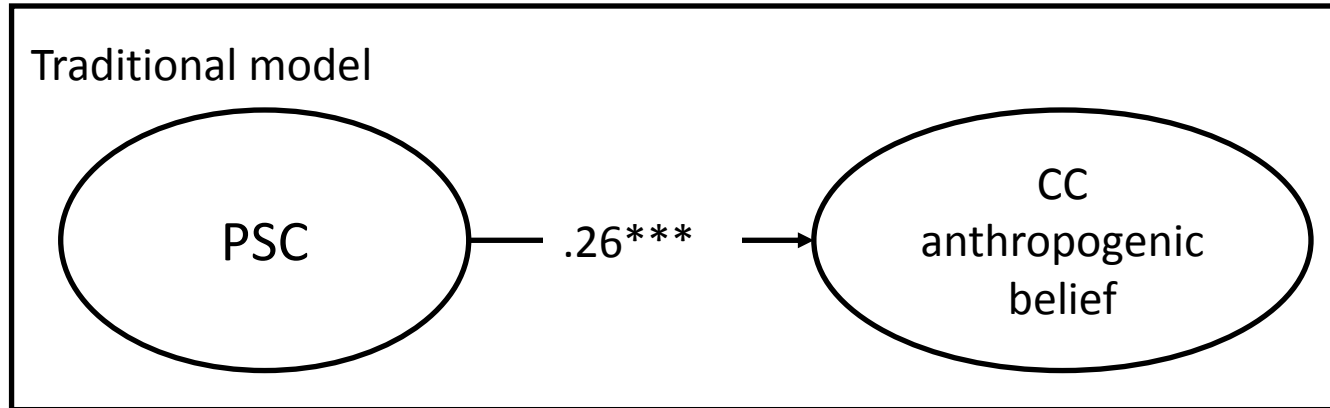


Kuhnian model



GERMANY

How this perceived consensus is interpreted?



NORWAY

DISCUSSION: “How perceived scientific consensus (PSC) predicts beliefs about anthropogenic climate change in four EU countries”

- Four different answers for 4 different countries
- Overall, perceived scientific consensus (PSC) is largely under estimated
 - Possibly related to the journalistic practices of “impartial” or “balanced” reporting (Boykoff)
- PSC lower among sceptics
 - PSC matches individuals’ views on climate change – cultural cognition theory (Kahan et al., 2012)
- Kuhnian science model relatively buffers the potential effect of contradictory information
 - **confirmation bias** In a context where people are exposed to less well established facts through social media (e.g. fake news!) → **importance for addressing climate change reinforcing resilient model**

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