This is an Accepted Manuscript of an article published by Springer in *Climatic Change*; published online 22 Nov 2019. Available online: https://doi.org/10.1007/s10584-019-02609-0

Exposure to the IPCC special report on 1.5°C global warming is linked to perceived threat and increased concern about climate change

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Abstract

This article investigates the influence of exposure to the IPCC special report on 1.5°C global warming on climate change attitudes. Among a nationally representative sample of the Norwegian public, we found that exposure to the report is associated with greater perceived threat from climate change and increased climate change concern. However, this association was modestly moderated by political orientation. Exposure to the report had a weaker association with perceived threat and climate change concern among politically right-leaning individuals, compared with their left-leaning counterparts, and there was no association between exposure to the report and climate change concern among individuals who self-identified as being on the far-right end of the political spectrum. We conclude that, despite the commonly observed tendency for biased assimilation of climate change information and polarisation of opinion among the public, scientific communication regarding climate risks may still have a viable role to play in promoting climate change engagement and action.

Keywords: Climate Change, Risk Communication, Concern, Norway

1. Introduction

1.1. The IPCC special report on 1.5°C global warming

In October 2018, the Intergovernmental Panel on Climate Change (IPCC) published a special report on global warming of 1.5°C above pre-industrial temperatures (henceforth termed the IPCC special report). The report indicates that global average temperatures have increased by about 1°C since the pre-industrial era and that anthropogenic warming is adding around 0.2°C to global average temperatures every decade (IPCC 2018). The report also projects that global average warming is likely to reach 1.5°C between 2030 and 2052 at the current rate of anthropogenic greenhouse gas (GHG) emissions. Limiting global warming to no more than 2°C was the official target of global policymaking for many years before 2015 (Carbon Brief 2018). However, the IPCC special report highlights stark differences between 1.5°C, compared with 2°C global warming; the latter portending a greater likelihood of severe consequences for society and the natural environment. To keep global warming within a 1.5°C threshold, net global emissions need to be reduced by about 45% from 2010 levels by 2030 and brought down to net zero by 2050. An unprecedented scale of rapid and far-reaching transitions across the global economy will be required to reach these targets (IPCC 2018). This article examines how exposure to the information contained in the IPCC special report relates to public attitudes regarding climate change in Norway.

1.2. Immediate political and media responses to the IPCC special report

Political reactions to the IPCC special report across the world were mixed. European leaders responded to the report by reaffirming their commitment to the Paris Agreement and highlighting the progress made with legislations aimed at reducing GHG emissions (European Council 2018). In contrast, United States President Donald Trump expressed a measure of scepticism about the report by stating that he intended to 'look at' the authors of the report and not only its contents (Milman 2018). Australian Prime Minister Scott Morrison explicitly dismissed the report in a widely publicised radio interview in which he stated that Australia is not obligated to abide by the Paris Agreement or UN recommendations on climate change (Stefanini 2018). Australian Environment Minister Melissa Price also criticised the IPCC special report for recommending a radical curtailment of coal-based energy production by 2050. She argued that it would be irresponsible for the Australian government to make such a commitment as clean coal technology is being developed and her government's focus is on lowering the price of electricity (Doran 2018). In December 2018, the US government along with Russia, Saudi Arabia and Kuwait blocked other nations involved in the UNFCCC from welcoming the IPCC special report at the UN climate change conference (COP24) held at Katowice, Poland (McGrath 2018a). According to the US State Department, the United States was willing to acknowledge but not endorse the IPCC special report (Chemnick 2018).

Some commentators suggest that the IPCC special report lost out to Brexit, President Trump and the US mid-term elections in the competition for media attention (e.g., Thomas 2018). In the United Kingdom, only two national newspapers featured the IPCC special report on their front pages within twenty-four hours of its release[1] (Kalaugher 2018). Subsequently, the Daily Mail published a summary of the IPCC special report under a headline identifying reduced meat consumption and personal car use as *the* unprecedented changes required to avoid catastrophic climate change (Weston and Pettit 2018). The newspaper also published a column criticising the report and beckoning on the UK government not to "jettison good sense" or accept the recommendations made by IPCC scientists (Glover 2018). Coverage of the report by other outlets, specifically the British Broadcasting Corporation (BBC) and The Guardian, highlighted a twelve-year window of opportunity to limit global warming to 1.5°C through radical emissions reduction and provided information on what individuals can do to address climate change (McGrath 2018b; Taylor and Vaughan 2018).

Across the Atlantic, the New York Post published an article about the IPCC special report under a headline proclaiming that the world would be doomed in 12 years (Eustachewich 2018). This article was co-opted by US media company Fox News and filed in the 'doomsday' section of its website. The New York Times also focused on the projected negative consequences of 1.5°C global warming and outlined the political challenges associated with instrumenting the GHG emissions reduction

[1]This may have been partly due to the timing of the report launch (2am UK time): see https://twitter.com/LeoHickman/status/1049169116546961409

targets advocated in the IPCC special report (Davenport 2018). Compared with the UK and US, mainstream media coverage of the IPCC report in Norway was generally non-antagonistic. The Norwegian Broadcasting Corporation (NRK), Norway's most popular news source, published a summary of the IPCC special report which outlined the projected consequences of global temperature rise, highlighted the need for rapid transitions across society and the economy, and emphasized the inadequacy of current efforts to limit global warming to 1.5°C (Rommetveit 2018). Similar discussions of the IPCC report also appeared in prominent Norwegian broadsheets (Mathismoen 2018; Tollersrud 2018) and tabloids (Fjellberg 2018; Rognstrand 2018).

1.3. Public response

The release of the IPCC special report coincided with a wave of extreme weather events occurring around the world and a surge in international climate activism. In a round-up of readers' reflections on climate change published by The Guardian in December 2018, one reader stated that reading the IPCC report, and learning of the twelve-year timeline to reduce carbon emissions and limit global warming to 1.5°C, awakened them to the need to demand increased government action on climate change (The Guardian 2018). The Daily Finland, an English-language online newspaper, also surveyed public opinion on climate change and the IPCC special report in Rovaniemi, the capital of Finland's northerly Lapland region, in November 2018. They reported that most respondents in their opinion poll were aware of the key contents of the IPCC special report and cited comments from respondents expressing concern about the report's projections for the future (Asiyanbi 2018). Besides these efforts by media organisations, there has yet to be a scholarly assessment of public responses to the IPCC special report. Therefore, the current article presents a first attempt at systematically assessing the effect of the IPCC special report on public attitudes regarding climate change using survey data from a nationally representative sample of the Norwegian public. We focused specifically on climate change threat perception and concern. Our research was framed by psychological considerations regarding the role of information exposure in climate change perceptions and intervening biases in psychological processing of climate change-related information.

There is a degree of polarization in climate change concern among the Norwegian public aligning with endorsement of individualist versus egalitarian values (Aasen 2017). Some studies suggest that the prevalence of climate change scepticism in Norway is comparable with countries such as the US and Australia which have world-leading proportions of climate change sceptics (Tranter and Booth 2015). Consequently, assessing the impact of the IPCC special report among the Norwegian population has considerable potential to generate internationally generalisable insights with practical implications for promoting public engagement with climate change.

2. Conceptual framework: information exposure and biased assimilation

2.1. Linking exposure to information with threat perception and concern

Knowledge of environmental problems is a crucial precondition for the development of attitudes and competence leading to pro-environmental action (Jensen 2002). Such knowledge may be gained directly from personal observations, such as witnessing dead fish floating across the surface of a polluted lake, or via social transmission, such as media reports and public education programmes. Socially transmitted knowledge is arguably more important where direct evidence of an environmental problem is ambiguous or not readily available, as with climate change. Crucially, knowledge alone is insufficient to trigger ameliorative actions; environmental problems must also be perceived as risky or threatening and must arouse a degree of concern in order for people to take precautionary measures (Weber 2006).

The IPCC special report was purposively compiled to update public understanding of the risks associated with global warming and unabated GHG emissions. We therefore sought to examine the extent to which exposure to the report results in heightened risk perception and concern. Exposure to information has previously been shown to positively influence knowledge of environmental problems (Damerell et al. 2013). Further, climate change knowledge has been linked to risk perception and concern (Sundblad et al. 2007; Milfont 2012; van der Linden 2014), which in turn predict climate change-related behaviour, intentions and policy support (O'Connor et al. 1999; Stevenson and Peterson 2016; Mayer et al. 2017). Exposure to climate change information via the media, in particular, has been linked to awareness and concern (Sampei and Aoyagi-Usui 2009; Arlt et al. 2011). However, only the frequency of information exposure and the type of information source, rather than the specific content or topic of information received, have previously been addressed. We anticipated that exposure to the IPCC special report will be associated with a heightened sense of perceived threat and concern regarding climate change.

2.2. Biased assimilation – accounting for psychological moderators in climate information processing

Exposure to information does not uniformly translate into attitude or behaviour change across society. People's values, preferences and political loyalties often bias information processing to fit pre-existing beliefs and attitudes (Kahan et al. 2007). A common expression of this tendency is *biased assimilation* of information, which refers to situations whereby individuals assimilate new information in a way that conforms with their existing attitudinal position (Lord et al. 1979; Corner et al. 2012). People also often actively seek out information that fits with their pre-existing beliefs or predispositions, leading to *attitude polarisation* among groups with divergent beliefs (Stroud 2010).

Corner et al. (2012) revealed biased assimilation of climate change information in an experimental study of climate-sceptics and non-sceptics. When people were presented with two editorials positing

opposing arguments about climate change, sceptics rated the sceptical editorial as more convincing and more reliable than the pro-climate editorial. The reverse trend was observed with non-sceptics. However, there was no significant change in levels of climate change scepticism across either experimental group following the manipulation, which suggests that attitudes did not polarise across the groups. Hamilton (2012) provides further evidence of biased assimilation of climate change information in a study of US public perceptions of Arctic sea ice. The focal issue was whether people believed that the area of late-summer Arctic sea ice has declined, increased, or declined and then recovered to what it was 30 years before. The study showed that political affiliation and climate change belief significantly predicted perceptions of Arctic sea ice. Specifically, Republicans and climate change sceptics were more likely to report inaccurate perceptions of the issue. This result was interpreted as reflecting ideological motivation and beliefs operating as filters in individuals' assimilation of belief-relevant knowledge. Hamilton (2012) suggests that, due to biased assimilation, general beliefs about climate change can influence public acceptance of specific information such as scientific reports.

There is a robust body of evidence regarding the political polarisation of public opinion on climate change in the US (McCright and Dunlap 2011; Marquart-Pyatt et al. 2014; McCright et al. 2014), and to a lesser extent, in Europe (Poortinga et al. 2011; McCright et al. 2016; Krange et al. 2019). Across the board, conservatives and individuals with a right-leaning political orientation tend to exhibit greater levels of climate change scepticism and lower levels of concern, risk perception and willingness to act pro-environmentally, compared with their liberal or left-leaning counterparts. Based on the available evidence for biased assimilation of climate change information, it is conceivable that political orientation may also moderate public reactions to the IPCC special report. Specifically, we anticipated that exposure to the report may be less likely to translate to heightened threat perception and concern regarding climate change among right-leaning individuals compared with left-leaning individuals.

3. Method

We examined cross-sectional associations between exposure to the IPCC special report and perceived threat from climate change, as well as the extent to which exposure to the report predicts longitudinal change in climate change concern, using data from the Norwegian Citizen Panel (NCP). The NCP is a platform for internet-based surveys of public opinion on social and political issues in Norway. Participants (aged 18 years and above) are randomly recruited from a population register maintained by the Norwegian Tax Administration and the surveys are conducted in Norwegian. The panel was fielded for the first time in November 2013 and has since been fielded in triannual waves. This study uses one item from Wave 11 (March to April 2018) and four items from Wave 14 (January to February 2019) of the NCP. Participants in Wave 14 were incentivised with a lottery for a travel gift card worth 25,000 NOK (US$2,950).

Items measuring exposure to the IPCC special report, perceived threat and concern about climate change were presented to a randomly selected sample of 2,236 respondents in NCP Wave 14 (Table 1). A segment of this sample that had previously responded to an identical climate change concern measure in Wave 11 (N = 518) was used for a longitudinal analysis of change in concern. A demographic profile of the full and longitudinal samples is available as supplementary data (Table S1). The association between exposure to the IPCC special report, perceived threat and change in climate change concern were assessed with t-tests and weighted least squares regression. Weights from Wave 14 accounting for demographic sampling biases (age, education, gender and geography) in the data were used. We also assessed interactions between political orientation and exposure to the IPCC special report in predicting perceived threat and change in concern.

Respondents' age, gender and education were included as covariates in the analyses. According to the European Severe Weather Database (Dotzek et al. 2009), 123 severe weather events were recorded across Norway between March 2018 and February 2019 – the time period between Wave 11 and Wave 14 of the NCP. These included avalanches (58%), heavy precipitation and flooding (31%), and severe windstorms and tornadoes (11%). Objective exposure and vulnerability to these natural hazards are associated with climate change risk perception and concern (Lujala et al. 2014; Konisky et al. 2016). Therefore, we controlled for residence in a county recording one or more incidences of an avalanche, extreme precipitation or severe wind between March 2018 and February 2019 to ensure that any observed links between climate change attitudes and exposure to the IPCC report are independent of the role of objective exposure to extreme weather or natural hazards.

4. Results

4.1. Exposure to the IPCC special report on 1.5C global warming

The majority of respondents in the study indicated that they had heard of the IPCC special report (78.9%). The most common source of exposure to the report was newspapers and television (74.5%), distantly followed by social media (17.7%) and scientific publications (6.3%). Only a very small minority of respondents indicated that they had read parts of the report (5.1%), the summary for policymakers (3.1%) or the full report (0.2%).

4.2. Cross-sectional analysis – threat perception

Perceived threat from climate change was significantly greater among individuals who had heard of the IPCC special report (M = 3.66, SD = 0.92) compared with those who had not (M = 3.31, SD = 0.90; $t(2220)$ = 7.19, p <.001, d = 0.38). This difference is robust to controls for age, gender, education and residence in a county affected by avalanches, extreme precipitation or severe wind (Table 2). Political orientation was negatively associated with perceived threat from climate change; meaning that perceived threat of climate change declined with an increasing shift to the right end of the political spectrum. There was also a significant interaction between political orientation and

exposure to the IPCC special report in predicting perceived threat from climate change. Pick-a-point analysis at the 10th, 25th, 50th, 75th and 90th percentiles of political orientation scores revealed that the association between exposure to the IPCC special report and perceived threat is stronger among individuals on the left end of the political spectrum and weaker among those on the right (Figure 1).

4.3. Longitudinal analysis – change in concern

Wave 11 of the NCP was conducted six months before the release of the IPCC special report and Wave 14 was conducted approximately four months after the report was released. Among our longitudinal sample, we observed a general significant change in climate change concern over this period. Respondents reported significantly greater levels of climate change concern on average in Wave 14 (M = 3.45, SD = 1.07) compared with Wave 11 (M = 3.05, SD = 0.95; $t(517) = 12.62$, $p<.001$). However, the magnitude of change in climate change concern between the two waves was larger among respondents who had been exposed to or heard about the IPCC special report (M_{diff} = 0.43, SD = .70, N = 418) compared with those who had not heard about the report (M_{diff} = 0.26, SD = .76, N = 100; $t(516) = 2.14$, p = .033, d = 0.23). This difference is robust to controls for age, gender, education, self-reported climate change concern[2] in Wave 11 and residence in a county affected by avalanches, extreme precipitation or severe wind (Table 2). Self-reported climate change concern in Wave 11 was inversely associated with the magnitude of observed change in concern between Wave 11 and Wave 14; suggesting that individuals with greater levels of concern in Wave 11 experienced less change in concern over this time period. Similarly, residence in a county affected by extreme precipitation between Wave 11 and Wave 14 of the NCP was inversely associated with the magnitude of change in concern within the time period.

There was a significant interaction between exposure to the report and political orientation in predicting change in climate change concern between the two waves. Pick-a-point analysis at the 10th, 25th, 50th, 75th and 90th percentiles of political orientation scores showed that the relationship between exposure to the report and change in climate change concern was stronger among individuals at the left end of the political spectrum and weaker for those at the right end of the spectrum (see Figure 2). There was no significant association between exposure to the report and change in climate change concern among individuals in the 90th percentile of political orientation scores; in other words, those who self-identified as being on the far right end of the political spectrum (B = .11, SE = .12, p = .341, 95%CI [-.12, .34])[3].

[2] Self-reported levels of climate change concern in Wave 11 for respondents exposed to the IPCC special report (M = 3.10, SD = 0.94) and those who had not encountered the report (M = 2.87, SD = 0.98) were not significantly different ($t_{(518)}$ = -1.96, p = .051). This supports the internal validity of our longitudinal analysis.

[3] A detailed report of the conditional effects of exposure to the IPCC special report on perceived threat and concern at the different percentiles of political orientation scores is available as supplementary data (Table S2).

5. Discussion

The aim of this study was to investigate if and how the IPCC special report on 1.5°C global warming has affected public attitudes regarding climate change. We examined the association of exposure to the report with perceived threat and longitudinal change in climate change concern among a nationally representative sample of the Norwegian population. Our findings indicate that self-reported exposure to the report is linked to greater perceived threat and increased climate change concern. However, individuals' political orientation appears to play a moderating role in the relationship between exposure to the report and climate change attitudes. Exposure to the report had a weaker link with perceived threat and change in climate change concern among people who self-identified as being on the right-ward end of the political spectrum.

5.1. Implications

Research in the US indicates that public opinion is markedly decoupled from scientific knowledge (Sterman and Sweeney 2007) and deeply polarised along ideological and political lines (McCright and Dunlap 2011). Further, ideological, political and partisan biases have been shown to moderate the effects of education and scientific literacy on climate change beliefs (Kahan et al. 2012; Hamilton et al. 2015; Drummond and Fischhoff 2017); with polarisation in US public opinion on climate change deepening as people acquire more information (Guber 2013). A degree of political and ideological divide in public opinion on climate change has similarly been observed in Europe (Whitmarsh 2011; McCright et al. 2016). However, climate-sceptic beliefs may be held less strongly in Europe, as a UK study showed that climate change attitude certainty is strongest among non-sceptical groups (Poortinga et al. 2011).

Against this background, our findings suggest that scientific communication regarding the risks associated with global warming and unabated GHG emissions may still have a viable role in promoting public engagement with climate change, irrespective of personal political or ideological biases. Here, we find that exposure to the IPCC special report is associated with greater perceived threat from climate change across the board, and increased climate change concern among all but self-identified politically far-right individuals. The main implication of our findings is that political biases in climate change information processing are not necessarily an unassailable barrier to impactful climate change risk communication efforts.

Given that the majority of respondents in this study encountered the IPCC special report through newspaper and television coverage, it is important to consider elements particular to the media use landscape in Norway that might have a role in precipitating the observed outcome of exposure to the IPCC special report. Importantly, there is little social and political polarisation in media use patterns in Norway (Newman et al. 2018a). In contrast, research indicates that people in the US tend to select news outlets based on their cultural worldviews and that this combines with biased information

processing to further entrench the polarisation of US public opinion regarding climate change (Newman et al. 2018b). While Norway has witnessed an increase in partisan news sources in recent years, trust in the mainstream media is high and the public broadcaster, NRK, remains the most popular source of television, radio and print news in the country (Newman et al. 2018a). With relatively low partisan news selectivity in Norway, political orientation and the associated individual-level biases in information processing alone plausibly constitute a weak influence on public responses to scientific information regarding climate risks. Subsequent assessments of exposure to the IPCC special report in other countries are necessary to determine the extent to which the current findings generalise beyond Norway.

5.2. Limitations and future directions

Our findings potentially align with other studies that have previously linked climate change knowledge with heightened risk perception, concern and policy support (Shi et al. 2015, 2016). However, the different facets of climate change knowledge (physical, causal, consequences and action-related) have varying degrees of association with climate change attitudes (Tobler et al. 2012). One limitation of this study is that it provides no indication of the type of knowledge our respondents gained from exposure to the IPCC special report. We speculate that the observed patterns in threat perception and climate change concern may be attributable to the themes that featured most prominently in media coverage of the report; that is, the severity of the projected consequences of unabated warming and the scale and urgency of required emissions reduction. A potential future research direction would be to determine the most salient themes in public awareness of the IPCC special report and the extent to which different themes resonate with people with regard to heightening threat perception and concern.

We established in preliminary analysis that the likelihood of being exposed to the IPCC special report was unbiased by pre-existing levels of climate change concern[4] among our longitudinal sample. There was no significant difference in climate change concern in NCP Wave 11 between respondents reporting exposure and those reporting no exposure to the IPCC special report in Wave 14. This supports the internal validity of our longitudinal analysis. However, the possibility that selection bias may have played a role in the observed cross-sectional association between perceived threat and exposure to the IPCC special report cannot be completely ruled out. For instance, individuals with strong pro-environmental values may be more attentive to, or more likely to encounter the IPCC report, and thus experience a reinforcement of their pre-existing sense of threat from climate change through exposure to the report. Such bias does not nullify the possibility that exposure to the report uniquely produced a heightened sense of threat from climate change. Nonetheless, an experimental

[4] The was no significant correlation between climate change concern in Wave 11 and self-reported exposure to the IPCC special report in Wave 14 among the longitudinal sample ($r = .03$, $p = .451$).

design with individuals randomly assigned to be exposed to the IPCC report would provide a stronger assessment of the causal relationship between exposure to the report and climate change attitudes.

The release of the IPCC special report coincided with the emergence of major international climate activist groups such as *Extinction Rebellion*, which has since conducted a number of high-profile global protests – most notably, a shutdown of key commercial areas in the UK capital over a period of two weeks in April 2019 (Mohdin et al. 2019). The report has also been repeatedly cited by prominent climate activist, Greta Thunberg (Simon 2019), mentioned in public statements by national branches of the 'Fridays for Future' movement (Fridays For Future Austria 2019; Fridays for Future Germany 2019), and referenced in anecdotal accounts of individuals' motivation for engaging with climate change (The Guardian 2018). While these observations provide a reason to speculate that the publication of the report may have contributed to the recent surge in climate activism and protest, there is little empirical evidence indicating a substantive link between the two phenomena. In subsequent research, it is necessary to determine if, and how, exposure to the IPCC special report contributes to individuals' motivation to engage in climate activism or enact private pro-environmental behaviours.

Our study is unique in observing a negative relationship between change in climate change concern and residence in an area affected by extreme precipitation. Previous studies on the topic have generally observed a positive or non-significant relationship between climate change concern and exposure to extreme precipitation (see Howe et al. 2019 for a review). A theorised pathway for the influence of extreme weather exposure on climate change perceptions is experiential learning whereby negative emotions triggered by extreme weather become intuitively associated with climate change. However, extreme weather does not always trigger negative emotions and the emotions triggered by specific extreme weather experiences may be muted by other intervening factors. For example, the intensity of heatwaves is expected to increase due to climate change but hot weather tends to elicit positive emotions among people living in temperate regions (Bruine de Bruin et al. 2016). Flooding experiences have universally negative emotional valence and purportedly predict climate change perceptions better than heatwave experience (Taylor et al. 2014). However, flooding exposure is less predictive of climate change mitigation intentions among people with greater ability to cope with the adverse impacts of flooding because these individuals have lower levels of negative emotion about their flooding experiences (Ogunbode et al. 2019).

These examples are intended to illustrate nuances in the link between extreme weather exposure and climate change engagement. Unpacking the relationship we observed between extreme precipitation and change in climate change concern among our sample requires more elaborate measurement reflecting the extent to which individual respondents were directly affected by extreme precipitation, their emotional responses, and their subjective interpretation of precipitation patterns, particularly whether they perceive local precipitation to be linked with climate change. This level of measurement

detail was precluded by the fact that extreme weather exposure was not the focal variable in this study. Nonetheless, the pattern of relationship we observed between climate change concern and extreme precipitation calls for closer examination in future research.

6. Conclusion

Our study provides some preliminary evidence indicating that exposure to the IPCC special report on global warming of 1.5°C is associated with greater perceived threat from climate change and increased climate change concern. Although this association is significantly moderated by individuals' political orientation, our findings suggest that scientific communication regarding climate risks can significantly impact climate change attitudes across the broad spectrum of society. Further replications with representative samples from other countries are necessary to determine the extent to which these findings are internationally generalizable. Nonetheless, this study represents a first attempt to systematically assess how the release of scientific information regarding the risks associated with global warming and climate change by the IPCC relates to public attitudes and perceptions.

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Figures

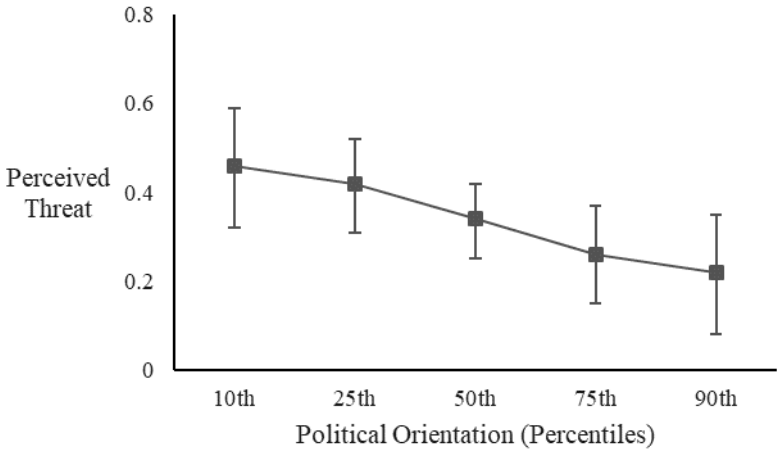

Figure 1. Conditional effects of exposure to the IPCC special report on perceived threat. The association between exposure to the report and perceived threat declines with a right-ward shift on the political spectrum.

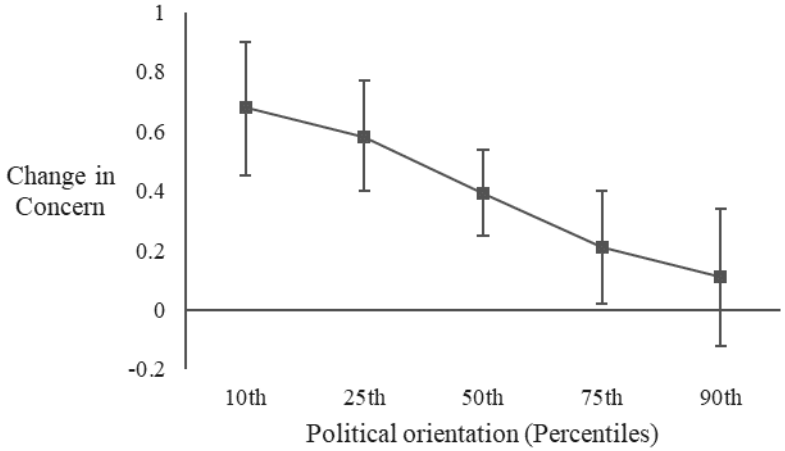

Figure 2. Conditional effects of exposure to the IPCC special report on change in climate change concern. The association between exposure to the report and change in climate change concern declines with a right-ward shift on the political spectrum.

Table 1. Descriptive statistics and item wording for measures analysed in the study

Construct	*N*	% of valid responses
Exposure to IPCC special report on 1.5°C warming		
The UN Intergovernmental Panel on Climate Change (IPCC) is an international group of scientists who regularly publish reports to summarise scientific assessments on climate change. In October 2018, they published a special report on the impact of global warming exceeding 1.5 degrees. Have you heard of this report?		
No	470	21.2
Yes	1752	78.9
Where did you hear about this report? (multiple responses allowed)		
In newspapers or on TV	1656	74.5
On social media, such as Twitter or Facebook	393	17.7
In a scientific publication	140	6.3
Read parts of the report	114	5.1
Read the official summary for policymakers	68	3.1
Read the report in full	4	0.2
Perceived threat (1 = not a threat, 5 = very serious)*	*M*	*SD*
How serious of a threat is climate change to you personally?	3.09	1.08
How serious of a threat is climate change overall?	4.08	0.96
Concern (1 = not at all, 5 = extremely)		
How concerned are you about climate change?	3.50	1.07
Political orientation (0 = far left, 10 = far right)		
In politics, people often talk about the 'left wing' and the 'right wing'. Below is a scale where 0 represents those who are on the far left politically, while 10 represents those who are on the far right. Where would you place yourself on such a scale?	5.91	2.36

*A composite measure of perceived threat from climate change was derived by calculating the average perceived personal and overall threat ($\alpha = .77$).

Table 2. Multiple regression of perceived threat and change in climate change concern on exposure to the IPCC report

	Perceived Threat		Δ Concern	
	B(SE)	Sig.	B(SE)	Sig.
Exposure to IPCC report (Yes)	.34 (.04)	***	.39 (.08)	***
Political orientation	-.10 (.01)	***	.03 (.03)	
Pol. Orientation*IPCC exposure	-.04 (.02)	*	-.09 (.03)	**
Age (Birth cohort)	.12 (.01)	***	.05 (.02)	*
Gender (Female)	.23 (.04)	***	.20 (.07)	**
Education	.08 (.03)	***	-.01 (.04)	
Concern (Mar-Apr 2018)			-.22 (.04)	***
F	91.17	***	11.15	***
R^2	.21		.14	
N	2118		492	

Table S1. Demographic profile of total and longitudinal samples

	Total	Longitudinal
	N (%)	
Gender		
Male	1098 (49.1)	260 (50.2)
Female	1138 (50.9)	258 (49.8)
Total	2236 (100)	518 (100)
Age (Birth Cohort)		
1939 or earlier	74 (3.3)	17 (3.3)
1940-1949	363 (16.2)	86 (16.6)
1950-1959	543 (24.3)	131 (25.3)
1960-1969	473 (21.2)	102 (19.7)
1970-1979	362 (16.2)	81 (15.6)
1980-1989	243 (10.9)	61 (11.8)
1990 or later	178 (8.0)	40 (7.7)
Total	2236 (100)	518 (100)
Education (Highest Completed)		
No education/Elementary school	147 (6.6)	38 (7.3)
Upper secondary education	627 (28.0)	127 (24.5)
University/University College	1371 (61.3)	336 (64.9)
Total	2145 (95.9)	501 (96.7)

Table S2. Conditional effects of exposure to the IPCC special report on perceived threat and concern

Political orientation (Percentile)	B (SE)	Sig.	95%CI
		DV = Perceived Threat	
10th	.46 (.07)	<.001	.32, .59
25th	.42 (.06)	<.001	.31, .52
50th	.34 (.04)	<.001	.25, .42
75th	.26 (.06)	<.001	.15, .37
90th	.22 (.07)	.002	.08, .35
		DV = Change in Concern	
10th	.68 (.12)	<.001	.45, .90
25th	.58 (.10)	<.001	.40, .77
50th	.39 (.08)	<.001	.25, .54
75th	.21 (.10)	.034	.02, .40
90th	.11 (.12)	.341	-.12, .34