

# Symposium

## Public Perceptions of and Engagement with Climate Change

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### Introduction

Climate change is arguably the greatest environmental threat the world is facing. The Fourth Assessment Report of the IPCC has shown that warming of the climate system is unequivocal, as evidenced by increases in global temperatures, widespread melting of snow and ice, and rising sea levels. Urgent mitigating action is needed to prevent further changes that may lead to catastrophic impacts, while adaptation to impacts which are now unavoidable is also required.

The UK is the only country to have introduced a legally binding framework to tackle climate change. The 2008 Climate Change Act requires that UK greenhouse gas emissions are reduced by at least 80% by 2050, compared to 1990 levels. Considering that more than a third of all CO<sub>2</sub> emissions in the UK are generated in the domestic sector, it is clear that the general public needs to make drastic changes in their current lifestyle in order to play their part in reaching these targets, while also adapting their lifestyles to impacts from climate change. At the same time, they will be required to accept new low-carbon energy facilities in order to decarbonise the energy they are using.

In this symposium we will explore public perceptions of and responses to climate change in the UK and elsewhere. Various aspects of climate change perceptions and response will be discussed, including patterns and differences in beliefs and risk perception within and across nations; and the roles of personality, direct experience and second-hand information in driving perceptions and responses. The symposium will cover the topics of *climate scepticism*, *optimism* and *pessimism* regarding future environmental change, and the role of *first-hand experience* in engagement with climate change, as well as *information framing* effects on behaviour

change. A main aim of the symposium is to discuss what the findings mean for psychological theory and for climate change communication and engagement. Contributions from speakers are as follows:

**Presentation 1:** NP introduces the topic by giving an overview of current public perceptions of climate change. He will present data from a major nationally representative survey conducted in 2010.

**Presentation 2:** WP uses the trend, attribution, and impact scepticism framework to examine how widespread climate scepticism is in Britain; which publics hold climate sceptical views; and how strongly these views are being held.

**Presentation 3:** LW presents experimental findings on how climate sceptic and non-sceptic publics evaluate uncertain information about climate change. She will further discuss evidence that climate scepticism might be a protective response to prevent having to change one's lifestyle.

**Presentation 4:** SP will discuss how optimistic and pessimistic outlooks may help or hinder public engagement with global environmental change; and what the implications are for the use of fear appeals in communicating climate change

**Presentation 5:** AS explores the hypothesis that a lack of first-hand experience of the impacts of climate change is a barrier to taking action by linking perceptions of climate change and the willingness to save energy to flooding.

**Presentation 6:** AC gives an account of climate change communication in a developing country. This presentation compares climate change responses in the geographical South (where impacts are already being felt) to those in developed countries, such as the UK.

## **Presentation 1: Public Perceptions of Climate Change and Energy Futures: A National British Survey**

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Climate change is an increasingly salient and pressing issue worldwide. Governments are recognising this with the UK aiming to reduce greenhouse gas emissions by 80% by 2050 and the US also recently outlining plans for ambitious reductions by 2050. Radical changes in both technology and individual behaviour as a whole are required in order to meet these targets, in particular with respect to the types and form of energy we accept and use. We will present new data from a major nationally representative household survey (n= 1,822) conducted in the UK in early 2010 examining public perceptions of climate change and key related energy issues. Current attitudes towards climate change and climate risks will be explored alongside, and in relation to, attitudes towards key potential energy developments in the UK designed to reduce carbon emissions, in particular nuclear power and various renewable electricity schemes including wind farms. The survey also develops a novel measure of beliefs about energy security. Results will be discussed in relation to historical data, key global and national events and recent policy developments.

## **Presentation 2: Public Scepticism about Anthropogenic Climate Change**

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In this paper we have carried out a comprehensive investigation of public scepticism about anthropogenic climate change in Britain using a trend, attribution, and impact scepticism framework; referring to doubts over whether the world's climate is really changing, it is caused by human activity, or the severity of the impacts, respectively. The study used a nationally representative survey (n=1,822) to explore how widespread trend, attribution and impact sceptical views are among the British public, to what extent the different aspects of climate scepticism are interlinked, and in what way they are associated with related attitude constructs, such as uncertainty and ambivalence. It further provided a socio-demographic and 'ideological' profile of individuals who express climate sceptical views.

The study found that climate scepticism is currently not widespread in Britain. Although uncertainty and scepticism about the potential impacts of climate change were fairly common, both trend and attribution scepticism were far less prevalent. It further showed that the different types of scepticism are strongly interrelated. Although this may suggest that the general public does not clearly distinguish between the different aspects of the climate debate, there is a clear gradation in prevalence along the Rahmstorf typology. Climate scepticism appeared particularly common among older individuals from lower socio-economic backgrounds who are politically conservative and hold traditional values; while less common among younger individuals from higher socio-economic backgrounds who hold self-transcendence and environmental values. The finding that climate scepticism is rooted in people's core values and worldviews may imply coherent and encompassing sceptical outlook on climate change. However, the results that attitudinal certainty is mainly concentrated in non-sceptical groups suggest that climate sceptical views are not held very firmly.

### **Presentation 3: Responding to Climate Change Information: Biased Assimilation and Identity Protection**

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Scepticism in public attitudes towards climate change is seen as a significant barrier to public engagement. We conducted two experiments to investigate (a) how climate scepticism determines evaluation of uncertain climate change information, and (b) whether scepticism is rooted in processes of identity protection. In experiment 1, we measured participants' scepticism about climate change before and after reading two newspaper editorials that made opposing claims about the reality and seriousness of climate change (designed to generate uncertainty). We found that people who were less sceptical about climate change evaluated the convincingness and reliability of the editorials in a markedly different way to people who were more sceptical about climate change, demonstrating biased assimilation of the information. Biased assimilation, a process through which people with opposing beliefs assimilate evidence in a way that is biased towards their existing attitudes, may lead to *attitude polarisation*. In both groups, scepticism towards climate change increased significantly after reading the editorials, but we observed no evidence of *attitude polarisation* – that is, the beliefs of these two groups did not diverge. The results are the first application of the well-established assimilation and polarisation paradigm to beliefs about climate change, with important implications for anticipating how uncertainty – in the form of conflicting information – may impact on public engagement with climate change.

In experiment 2, we investigated the possibility that climate change scepticism might be an identity protective response to threatening implications for individuals' current lifestyles (i.e., reducing their carbon footprint). We investigated this by providing

participants with information about a hypothetical risk (methane pollution of drinking water supplies) to explore the origin of risk scepticism. We examined whether scepticism about the hypothetical risk was influenced by prior attitudes and behaviour (specifically, in relation to meat-eating). Consistent with identity protection theory, we expected that participants who were given risk information that indicated behavioural change was necessary would be more sceptical about the risk if the behaviour in question was important to them (i.e., those who enjoyed eating meat). As expected, we found a significant interaction between meat-eating and condition: those who reported enjoying eating meat (compared to those with less positive attitudes to eating meat) were significantly more sceptical about the hypothesised risk and perceived the article to be less reliable and less convincing – but only in the 'behaviour change' condition (i.e., when the risk information stated that meat consumption must be dramatically reduced in order to mitigate the risk). We also examined whether the environmental risk information had any impact on climate change scepticism; there was no evidence of such scepticism transference, although scepticism about the hypothetical risk and climate scepticism were significantly, positively correlated. These results have important implications for understanding climate change scepticism and communicating climate change risk.

### **Presentation 4: Optimism, Pessimism, and Engagement with Global Environmental Change**

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'It'll be alright' or 'we're all doomed' – How do perceptions of future environmental change relate to feelings, environmental attitudes and intentions?

People have been shown to be optimistic for a range of personal future outcomes (e.g., health, relationships etc.), and some authors have suggested that this optimism has a

motivating function to help individuals achieve their goals. Optimism has also previously been observed in the environmental domain, at least insofar as people think environmental problems will affect them less than they will affect others. However, given the predominantly negative media coverage for climate change and other environmental issues, it would not be surprising if there was a general feeling of pessimism for future environmental change. Moreover, environmental problems seem to be characterised by a perceived lack of personal control, and control is strongly associated with both optimism and behaviour change.

The present research investigated the relationship between future outlooks on environmental change, feelings and environmental attitudes and intentions, using both correlational and experimental methods. First, a new tool is presented that can measure the extent of optimism for future environmental change (OPSEC). The OPSEC measure was tested in different samples including students, university staff and general population samples, using lab-based, postal and online recruitment. It is shown that the OPSEC is different from a general optimism measure (LOT-R), and from general environmental attitudes (NEP-R), consideration of future consequences and a popular environmental values measure. Also, participants who reported feeling sceptical about climate change were more optimistic for future environmental change than those who did not report feeling sceptical.

Second, the role of optimistic vs. pessimistic outlooks was approached using an experimental rather than correlational methodology. Participants were presented with positive or negative future scenarios (written text in one study; a slideshow with audio in a second study). As intended, the positive scenario made people feel strongly hopeful, whereas the negative scenario made them feel worried and scared. More importantly, when they had been exposed to the positive scenario, participants also reported feeling more in control and less helpless than when they had been exposed to

the negative scenario. However, the effects on environmental intentions were inconsistent, possibly indicating that there are different pathways for improving environmental intentions. Finally, the second study also explored the role of promotion / prevention focus as a stable dispositional difference.

The findings from the correlational and experimental studies were somewhat divergent, and suggestions are made for integrating the two approaches. The findings are also discussed with regard to prior literature on the function of optimism, and on fear appeals. Limitations and future steps are discussed. The present research is a further step towards understanding people's conceptions of future environmental change, which has the potential to play an important role in mobilising action.

## **Presentation 5: Perceptions of Climate Change and Willingness to Save Energy Related to Flood Experiences**

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One of the reasons that people may not take action to mitigate climate change is that they lack firsthand experience of its potential consequences. From this perspective, individuals who have had experiences of phenomena which may be linked to climate change would be likely to perceive the issue differently and be more inclined to undertake sustainable behaviours. To date, the evidence available to test this hypothesis is limited, and in part contradictory. Here we outline national survey data (N=1,822) collected across the United Kingdom in 2010 after a series of high profile flooding events. Our data indicates that people who have experienced flooding have significantly different perceptions of climate change than

those who have not. We show that those reporting experiences of flooding perceive climate change as more concerning and less uncertain, and feel more positive that their actions will have an effect on climate change. Importantly, these perceptual differences also translate into a greater preparedness to take action. We suggest that relationships observed may have developed in people's understandings through an interaction between the series of major flooding events in the UK and the increasing salience accorded climate change in recent years. Highlighting links between local weather events and climate change is therefore likely to be a useful strategy for increasing concern and action on climate change.

## **Presentation 6: Communicating Climate Change in Uganda**

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Although the field of climate change communication is growing rapidly in Europe and North America, very little academic attention has been given to the challenge of communicating climate change in developing countries. Through a series of semi-structured interviews with climate change communicators in Uganda, the current research aimed to uncover the challenges and

opportunities of communicating climate change in a country that has already begun to feel the effects of a changing climate.

Unsurprisingly, the major focus of communication in Uganda is on adaptation rather than mitigation – but this has a variety of implications for the way that climate change is framed as both a technical and policy issue. Many communicators do not seek to distinguish climate change from other (more local) environmental problems, reasoning that the best defence Uganda has against climate change is a healthy and resilient natural environment.

The political dimension of climate change is notably absent in most climate change communication – very little emphasis is placed on the fact that climate change is the result of industrialisation in foreign countries, and this has a major impact on attributions of responsibility and causality. Finally, there is a direct and profound relationship between climate change and poverty in Uganda – development will be hugely disrupted by the adverse effects of climate change, yet environmental degradation is increasing as Ugandans seek to improve their standards of living. Communicating the risks of climate change (and strategies of adaptation and sustainable development) in a nation where a third of the population live below the absolute poverty line is a major challenge.