

## PUBLIC OPINION

# Country comparisons

Climate change awareness, risk perception and policy support vary between and within countries. National-scale comparisons can help to explain this variability and be used to develop targeted interventions.

Debbie Hopkins

Although scientific understanding of the biophysical impacts of climate change has increased, along with degrees of certainty, there is still widespread variability in public awareness, understanding and risk perceptions within and between countries. The failure of global climate negotiations to achieve a robust international agreement is largely due to the divergence of the ambitions of different countries<sup>1</sup>. Certainty that climate change is occurring is strongly associated with support for policy action<sup>2</sup>. As such, raising levels of climate change understanding and risk perception could result in increased acceptance of climate policy across nations and aid progress towards a post-Kyoto agreement.

With over 20 years of research, the complex array of factors contributing to social perceptions of climate change have been relatively well articulated, drawing from a range of disciplinary perspectives. But the ability to conduct national comparisons has been limited by the lack of comparative datasets. As a result, the vast majority of empirical focus has been geographically centred on Europe and North America with little understanding of other geographical settings, including the Global South.

In *Nature Climate Change*, Tien Ming Lee and colleagues<sup>3</sup> provide the first global assessment — representing over 90% of the world's population — of factors that contribute to national climate change awareness and risk perceptions, and examine cross-national explanatory factors.

The variability of climate change perceptions relates to the complex interplay between personal experiences, social norms, emotion, imagery, trust, and values<sup>4–6</sup>. Awareness of climate change is mediated by factors including education attainment, worldviews, and 'myths of nature'<sup>7</sup>. These socio-cultural and contextual factors are often greater determinants of perceived risk and support for climate action than the biophysical hazards arising from climate change. For example, an individual's perception of the threat of climate change to their own well-being and that of their family



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will be influenced by their values, attitudes, social influences, and cultural identities<sup>8</sup> more than the probability or magnitude of climate risk.

Learning about climate change can occur formally through educational pathways, or informally through media reporting, personal experiences, and social interactions. Improving levels of climate change awareness is important as this can lead to increased adaptive capacity<sup>9,10</sup> as well as policy support. Nevertheless, misperception and misunderstandings, particularly relating to public belief of a lack of scientific agreement<sup>2</sup> may be more detrimental than not being aware of climate change.

Lee and colleagues used data from a cross-sectional survey, with a nationally representative sample from 119 countries. They tested a series of hypotheses arising from previous studies, including the relationship between human causation and perceived risk, and the role of educational attainment on climate change awareness. Their findings confirm an uneven distribution of climate change awareness and risk perception globally.

Awareness of climate change was higher in developed regions (for example, North

America and Europe), than in developing countries (such as Egypt, Bangladesh, Nigeria and India). As research has been primarily focused on the former so far, this finding underlines the need for a greater focus on climate change awareness in developing countries, particular where current adaptive capacity is low. Lee *et al.* also found that respondents in developing countries that were aware of climate change tended to perceive a greater threat of climate change to themselves and their families than those from developed countries.

In many Asian and African countries, the strongest predictor of climate change risk perception relates to understanding local temperature change, highlighting the importance of localized experience of climate change. Lee *et al.* state that increasing physical effects of climate change might result in increased awareness and perceptions of climate change as a serious threat. But the intensity of impacts in developing countries compared with developed countries might not invoke the immediate, significant, action required from those wealthy, high-emitting, industrialized nations.

The researchers found that geographic region is not a useful comparative indicator. For instance, Asian countries do not share predictors of climate change awareness and/or risk perception. Their study found unique sets of correlates for individual countries, emphasizing the need for country-specific educational and policy interventions<sup>6</sup>. In the same way that climate models are becoming increasingly localized, so too should social research on climate change awareness and responses.

The researchers highlight the pressing need for cross-cultural research. This would draw together disciplinary (for example, anthropology, psychology, sociology, geography), interdisciplinary (combining disciplines in a new way, thinking across boundaries), and trans-disciplinary (knowledge without disciplines, moving beyond disciplinary boundaries) perspectives to better understand the

wide-ranging cultural components that contribute to both how climate change is perceived, and what behavioural and policy responses are supported. Given the challenges in accounting for these features, the use of alternative methodological approaches may prove valuable. This calls for more localized, qualitative studies to complement both the advances made by Lee and colleagues, and the vast array of country-specific quantitative research.

With the Paris climate negotiations fast approaching, the insights provided Lee *et al.* present an opportunity to develop current understandings of national differences in awareness and perception of climate change risk. The research highlights the need for focused attention on the socio-cultural determinants of climate change perceptions, in order to increase support for action on climate change — action that is urgently required. □

Debbie Hopkins is at the Centre for Sustainability, University of Otago, PO Box 56, Dunedin 9054, New Zealand.

e-mail: [debbie.hopkins@otago.ac.nz](mailto:debbie.hopkins@otago.ac.nz)

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