Routledge
Taylor & Francis Group

International Journal of Social Research Methodology

ISSN: (Print) (Online) Journal homepage: https://www.tandfonline.com/loi/tsrm20

What role can 'public switching' play in researching public perceptions of controversial issues?

Lynda Dunlop, Elizabeth A.C. Rushton, Sarah Clayton, Jane Essex, Joshua Stubbs & Maria Turkenburg-van Diepen

To cite this article: Lynda Dunlop, Elizabeth A.C. Rushton, Sarah Clayton, Jane Essex, Joshua Stubbs & Maria Turkenburg-van Diepen (30 Jan 2024): What role can 'public switching' play in researching public perceptions of controversial issues?, International Journal of Social Research Methodology, DOI: 10.1080/13645579.2024.2303033

To link to this article: https://doi.org/10.1080/13645579.2024.2303033

Published online: 30 Jan 2024.

INTERNATIONAL JOURNAL OF SOCIAL RESEARCH METHODOLOGY
https://doi.org/10.1080/13645579.2024.2303033

What role can 'public switching' play in researching public perceptions of controversial issues?

Lynda Dunlop[a], Elizabeth A.C. Rushton[b], Sarah Clayton[a], Jane Essex[c], Joshua Stubbs[a] and Maria Turkenburg-van Diepen[a]

[a]Department of Education, University of York, York, UK; [b]Education Division, University of Stirling, Stirling, UK; [c]Strathclyde Institute of Education, University of Strathclyde, Glasgow, UK

ABSTRACT

This short article reflects on 'public switching' as a methodology for research on public perspectives on potential responses to the climate crisis. There have been recent calls for early public engagement with potentially controversial science and technology. Such 'upstream' engagement is often conducted by those close to the science, presenting challenges associated with informing without advocating and deferral to scientists on non-scientific matters. The method we propose – public switching – involves engaging a public (here, young people) with emerging technologies through social science priming, independent research and the creation of questions which are presented to scientists and policymakers working in the field. We argue that this approach provides a mechanism for the public to connect with science and policy and to be heard, with question creation depolarising and deepening discussion. We reflect on methods of public switching, question creation and analysis, and discuss the limits and limitations of this approach.

ARTICLE HISTORY
Received 25 April 2023
Accepted 30 December 2023

KEYWORDS
Questions; sensitivity; polarisation; climate change; qualitative

Introduction

Research into public perspectives on emerging science and technology is used to help governments, scientists, businesses and others to make informed decisions. However, there are no direct ways to access true beliefs of members of the public, and perceptions measured at one point in time may not necessarily represent views at other times and under different conditions (Dowler et al., 2006). In the context of research on climate change generally, and climate interventions specifically, participants' perspectives are commonly surveyed, with positions associated with various demographic characteristics (Carlisle et al., 2020; Mahajan et al., 2019). Whilst this allows the perspectives of many people to be sought, position-taking is problematic for new technologies for four main reasons. First, public awareness tends to be low (Scheer & Renn, 2014). Secondly, attitudes are unstable (Braun et al., 2018; Pidgeon et al., 2008). Third, framing matters, with analogies to nature being associated with more positive perceptions (Corner & Pidgeon, 2015). Finally, context matters, with more positive attitudes towards climate interventions found where they are not compared with different mitigation strategies (Scheer & Renn, 2014).

There is growing interest in the use of deliberative methods to reach decisions on issues involving value judgements as diverse as inequalities (Burchardt, 2014) and meeting net zero targets (Cox et al., 2022), as well as on climate interventions (Pidgeon et al., 2013). Deliberative approaches

CONTACT Lynda Dunlop lynda.dunlop@york.ac.uk University of York Science Education Group, Heslington, York YO10 5DD, UK

are based on an understanding of democracy as a process of formation and transformation of preferences through communication between informed equals holding contrasting perspectives on an issue (Burchardt, 2014). However, there is a challenge associated with public engagement with climate interventions in terms of (i) how to deliberate climate interventions without 'implying a commitment to its reality as a policy option' (Bellamy & Lezaun, 2017, p. 402), and (ii) how to avoid deferral to scientific authority – even on non-scientific questions – during deliberative approaches (Corner & Pidgeon, 2015). It is common for scientists (or those close to science) to be involved in deliberative processes on the theme of climate interventions, but this can stifle or limit discussion if research participants feel uncomfortable challenging different perspectives, particularly when expressed by individuals perceived as more knowledgeable. Asking participants to take a position can also be problematic as they might feel pressure to defend their stated positions in subsequent discussions, which may lead to entrenchment and polarisation.

In response to these challenges, we hypothesised that a method of involving scientists 'downstream' of public engagement so that the traditional role of audience or public was switched, could address some of these challenges with public engagement on emerging climate intervention proposals. Question creation (i.e. where dialogue produces questions, rather than positions) was identified as a way in which space could be created for diverse opinions to be held, for disagreement to be encouraged and explored in a productive way that avoided entrenchment and polarisation. In this article, we discuss the contribution that public switching through question creation can make to qualitative research on complex and emerging matters.

Methodology

The democratisation of research has the potential to identify priorities that benefit all of society now and into the future. Edwards and Brannelly (2017) have identified inclusive, co-production, and feminist ethics of care as approaches to democratising research. These approaches alter who produces and benefits from knowledge. The public switching method described here (where scientists and policy-makers are invited to engage with a public – here, young people's – questions on proposed technologies) draws on these approaches through the involvement of diverse young people and attention to power relationships and responsibilities in the research process.

Question creation was integral to the public switching method. Typically, questions are used to guide the direction of research and prompt responses from participants. Methods of co-production have created a space for participants to be involved in creating and shaping research questions (Bell & Pahl, 2018) but questions are less frequently encountered as the product of dialogue. A question can be defined in terms of function as 'an information-seeking act' (Watson, 2021, p. 285), or, in the context of the arts, 'an intrusion into a process . . . a temporal suspension of what is also acknowledged as an ongoing event' (Bay-Cheng, 2017, p. 41). This recognises the context of question creation and highlights the potential of questionsnot just to request information but to have an effect in the world. Here, questions were produced as a result of independent research, analysis and reflective peer dialogue by young people participating in a project to rethink public dialogue. The questions created were then put to professionals (scientists and policymakers) working in the field concerned.

Procedure

First, ethical approval was granted by the relevant institutional ethics committee, and voluntary informed consent obtained from participants. It was made explicit to participants at the outset that none of the research team was involved in research on climate interventions in order to help reduce power distance and open space for honest dialogue.

Second, a series of 4 online workshops (each lasting 90 min) were held. A total of 63 young people (aged 16–25) were supported to learn about proposed climate interventions

together and share their learning with each other through small and whole group discussion. Throughout the workshops, participants were encouraged to ask questions, clarify their thinking and change their mind when they encountered convincing new evidence or ideas. This encouraged participation in dialogue an prevented participants from feeling like they had to defend reductive positions on complex issues. Constructive disagreement was encouraged and reasons for it probed to enhance understanding. Workshops were designed and implemented in three parts: orientation, questioning and imagining.

The orientation phase involved the research team sharing findings of social research in climate interventions with participants. For example, pointing out that the ways in which climate interventions are framed and contextualised can be used as persuasive devices, and encouraging participants to consider existing responses to climate change such as greenhouse gas reduction and socio-political responses. Participants were given time in small groups to conduct research online and find out about different proposals for climate intervention. As a result of their research, they were asked to identify questions that would help them take a position. Finally, in the imagining phase, participants were asked, 'If you could draw a picture to represent your conversations today, what would you draw?'

Participants' questions were analysed by the research team in terms of their content, with questions on similar themes grouped together. Questions and ideas for illustration derived from the imagining phase of the workshop were presented to a professional artist who illustrated the questions in the form of cards. Following a round of feedback from participants, these were printed and published.

In the final phase of public switching, a subset of 12 young people volunteered to facilitate online dialogue (lasting 90 min) with a group of 22 scientists and policy-makers with expertise in climate intervention proposals. The youth participants used question cards to stimulate this dialogue.

Methodological reflections on public switching

There are a number of risks associated with researching climate interventions, which were addressed by public switching.

First, there is a risk of making technological climate interventions 'more real' (Bellamy & Lezaun, 2017) by discussing these approaches with non-expert audiences. Concurrently, there is a need to prepare for the governance of emerging technologies. We mitigated this by considering climate interventions against the context of nature-based and socio-political responses to climate change and sharing the findings of a recent review, which concludes that even if climate intervention proposals were actively pursued at scale, it is very unlikely they would implementable before 2050 (Lawrence et al., 2018). We minimised the risk of implicit or explicit advocacy by engaging scientists and policy-makers 'downstream' of youth. Public switching creates opportunities for constructive action through engagement with scientists and policy-makers working in the field.

Second, dialogue on climate change can be polarising and divisive (Lucas, 2018). During the online dialogues, disagreements were frequently encountered (including where participants found themselves disagreeing with a perspective they had held earlier). During disagreements, we asked participants to identify what they would need to know in order to decide, and to express this in the form of a question. This opened up new paths for discussion and/or research and created opportunities for mutual understanding.

Question creation encouraged participants to discuss complex and controversial issues without reducing thoughts and feelings to a simple position in favour of or against climate interventions. Whilst positions were evident in the focus and expression of some questions (e.g. 'At what point will they involve society in open dialogue and in decision-making processes to discuss the technologies IN RELATION TO HUMAN FACTORS?'), the question format – as an information-seeking intervention in the world – allowed those assumptions to be challenged by other youth participants, and by scientists and policy-makers.

Questions enabled participants to identify gaps in knowledge and data that could be useful to better understand climate interventions and to enhance communication between scientists and the public. As one scientist who participated in the discussion based on youth questions reported:

> I've been really happy and impressed by the appreciation of the complexity of the issue. It's not that there is a silver bullet and that's right across the room; everybody really gets that these are difficult decisions and there are trade-offs to make in actions we choose to take, there are risks. But as long as we're having these conversations we can help to get to the decision.

Others noted that the use of questions indicates an openness to challenge and being challenged. People with very different perspectives and priorities were able to disagree constructively. For example, in one exchange on the question of 'what are the possible effects of climate interventions on future generations?', one participating scientist said that question ought to be 'what are the consequences of *inaction* on future generations?', talking about how climate change exacerbates hurricanes and disease transmission in locations in the global south today. This approach improves the depth of understanding of the issue, contextualises climate interventions in the broader international, policy and human landscape, and opens up new lines of enquiry around how best to meet the urgent need for equitable responses to climate change.

Limitations

When creating questions about scientific and technological proposals, it takes time to develop baseline understanding and to identify relevant policy contexts including, e.g. the London Convention and the United Nations Framework Convention on Climate Change. This makes demands on participants' time. Although we were unable to provide financial compensation, we reciprocated in terms of crediting young people for their work and creating opportunities for capacity building (e.g. in facilitating dialogue and writing for policy) and for contribution to public dialogue.

Secondly, the strength of question creation – allowing space for nuance, expression of uncertainty, and recognition of complexity – means that it can be challenging to summarise public perceptions. Typical quantitative approaches indicate percentages supporting or opposing different approaches to climate intervention (Mahajan et al., 2019; Sugiyama et al., 2020), often correlated with psychological or political traits, beliefs, and identities (Raimi, 2021). Qualitative approaches create knowledge about different types of public perception and the criteria important in decision making (Bellamy et al., 2017), as well as identifying reasons why people hold the view they do. However, given the aforementioned challenges around deferral to scientists on non-scientific matters, the way in which framing and the stimulus can affect responses, and the instability of attitudes towards climate interventions, we argue that question creation presents a non-reductive approach to understanding public perceptions and identifies future directions for science and social science research and policy engagement. This is required at the early stages of scientific research and development in order to ensure that societal priorities are reflected in research programmes. Any complex and polarising topic will raise unique epistemological, practical and ethical challenges that researchers will need to consider before using this approach.

Conclusions

In this paper, we have described 'public switching', which uses question creation as a method to investigate complex and polarising issues. Public switching reduces the power distance between experts and the public and, through question creation opens space for the agonistic dialogue needed to demonstrate that democracy is alive (Mouffe, 2000). We have explored the opportunity that public switching presents in the context of researching emerging climate intervention technologies and reflected on the practical, procedural and ethical challenges that must be considered. When

researching situations where there is a high degree of tentativeness, or where positions might be fluid, public switching is a constructive approach which avoids polarisation and allows the public to intervene by requesting information. This enables scientists, policy-makers and members of the public alike to take ownership of uncertainty, articulate concerns, describe tensions and to identify pathways to resolving disagreement and setting priorities for future research and policy. Question creation is inclusive and accessible and can be used to sustain dialogue with different stakeholders in a range of contexts. These characteristics suggest a role for public switching and question creation in democratising research.

Acknowledgments

We are grateful for funding from the UKRI and RSA under the Rethinking Public Dialogue programme. We wouldlike to thank colleagues in the University of York Qualitative Research Group for constructive comments on this work, and research participants for their time and thoughtful reflections on the research process.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Notes on contributors

Lynda Dunlop is an interdisciplinary social scientist. She is a senior lecturer and Director of Education for Environmental Sustainability at York. Her research interests include science and environmental education, environmental activism and youth participation in environmental decision making. https://orcid.org/0000-0002-0936-8149

Elizabeth A.C. Rushton is Professor of Education and Head of the Education Division, University of Stirling. Her research interests include geography and science education, education for environmental sustainability, and teacher education. https://orcid.org/0000-0002-6981-8797

Sarah Clayton is currently a PhD candidate at the University of York, looking at key concepts for understanding climate change in secondary science supported by BERA's 2022 doctoral fellowship. She trained as a secondary science teacher and completed a master's in education at the University of Manchester.

Jane Essex is a Reader in education, with a specialism in inclusion in STEM. Her professional and research interests are inclusive science education, and the preparation of teachers to deliver an inclusive STEM curriculum. Jane has an interest in the mechanisms by which some groups are excluded from science. https://orcid.org/0000-0002-9938-8134

Joshua Stubbs is a Knowledge Transfer Partnership Associate at the University of York and the PSHE Association. He is leading a project on mental health and emotional wellbeing in the primary PSHE education curriculum. He holds bachelor's, master's and doctor's degrees in Education from the Universities of Oxford and York.

Maria Turkenburg-van Diepen holds a DPhil in chemistry, a PGCE in science and a PhD in education with a focus on how teachers appreciate how science works. She is interested in education for environmental sustainability, and young people's attitudes to STEM (Science, Technology, Engineering and Mathematics). https://orcid.org/0000-0002-2841-3339

ORCID

Lynda Dunlop http://orcid.org/0000-0002-0936-8149
Elizabeth A.C. Rushton http://orcid.org/0000-0002-6981-8797
Jane Essex http://orcid.org/0000-0002-9938-8134
Joshua Stubbs http://orcid.org/0000-0002-0703-2342
Maria Turkenburg-van Diepen http://orcid.org/0000-0002-2841-3339

References

Bay-Cheng, S. (2017). What is a question? *ASAP/Journal*, *2*(1), 40–42. https://doi.org/10.1353/asa.2017.0009

Bellamy, R., & Lezaun, J. (2017). Crafting a public for geoengineering. *Public Understanding of Science*, *26*(4), 402–417. https://doi.org/10.1177/0963662515600965

Bellamy, R., Lezaun, J., & Palmer, J. (2017). Public perceptions of geoengineering research governance: An experimental deliberative approach. *Global Environmental Change*, *45*, 194–202. https://doi.org/10.1016/j.gloenvcha.2017.06.004

Bell, D. M., & Pahl, K. (2018). Co-production: Towards a utopian approach. *International Journal of Social Research Methodology*, *21*(1), 105–117. https://doi.org/10.1080/13645579.2017.1348581

Braun, C., Rehdanz, K., & Schmidt, U. (2018). Exploring public perception of environmental technology over time. *Journal of Environmental Planning and Management*, *61*(1), 143–160. https://doi.org/10.1080/09640568.2017.1291414

Burchardt, T. (2014). Deliberative research as a tool to make value judgements. *Qualitative Research*, *14*(3), 353–370. https://doi.org/10.1177/1468794112469624

Carlisle, D. P., Feetham, P. M., Wright, M. J., & Teagle, D. A. (2020). The public remain uninformed and wary of climate engineering. *Climatic Change*, *160*(2), 303–322. https://doi.org/10.1007/s10584-020-02706-5

Corner, A., & Pidgeon, N. (2015). Like artificial trees? The effect of framing by natural analogy on public perceptions of geoengineering. *Climatic Change*, *130*(3), 425–438. https://doi.org/10.1007/s10584-014-1148-6

Cox, E., Spence, E., & Pidgeon, N. (2022). Deliberating enhanced weathering: Public frames, iconic ecosystems and the governance of carbon removal at scale. *Public Understanding of Science*, *31*(8), 960–977. https://doi.org/10.1177/09636625221112190

Dowler, E., Green, J., Bauer, M., & Gasperoni, G. (2006). Assessing public perception: Issues and methods. *Health Hazard and Public Debate: Lessons for Risk Communication from BSE/CJD Saga Geneva: World Health Organization*, *40*, 60. http://eprints.lse.ac.uk/id/eprint/9511

Edwards, R., & Brannelly, T. (2017). Approaches to democratising qualitative research methods. *Qualitative Research*, *17*(3), 271–277. https://doi.org/10.1177/1468794117706869

Lawrence, M. G., Schäfer, S., Muri, H., Scott, V., Oschlies, A., Vaughan, N. E., & Scheffran, J. (2018). Evaluating climate geoengineering proposals in the context of the paris agreement temperature goals. *Nature Communications*, *9*(1), 3734. https://doi.org/10.1038/s41467-018-05938-3

Lucas, C. H. (2018). Concerning values: What underlies public polarisation about climate change? *Geographical Research*, *56*(3), 298–310. https://doi.org/10.1111/1745-5871.12284

Mahajan, A., Tingley, D., & Wagner, G. (2019). Fast, cheap, and imperfect? US public opinion about solar geoengineering. *Environmental Politics*, *28*(3), 523–543. https://doi.org/10.1080/09644016.2018.1479101

Mouffe, C. (2000). *Deliberative democracy or agonistic pluralism (Reihe Politikwissenschaft/Institut für Höhere Studien, Abt. Politikwissenschaft, 72)*. Institut für Höhere Studien (IHS). https://nbn-resolving.org/urn:nbn:de:0168-ssoar-246548

Pidgeon, N. F., Lorenzoni, I., & Poortinga, W. (2008). Climate change or nuclear power—N thanks! A quantitative study of public perceptions and risk framing in Britain. *Global Environmental Change*, *18*(1), 69–85. https://doi.org/10.1016/j.gloenvcha.2007.09.005

Pidgeon, N., Parkhill, K., Corner, A., & Vaughan, N. (2013). Deliberating stratospheric aerosols for climate geoengineering and the SPICE project. *Nature Climate Change*, *3*(5), 451–457. https://doi.org/10.1038/nclimate1807

Raimi, K. T. (2021). Public perceptions of geoengineering. *Current Opinion in Psychology*, *42*, 66–70. https://doi.org/10.1016/j.copsyc.2021.03.012

Scheer, D., & Renn, O. (2014). Public perception of geoengineering and its consequences for public debate. *Climatic Change*, *125*(3–4), 305–318. https://doi.org/10.1007/s10584-014-1177-1

Sugiyama, M., Asayama, S., & Kosugi, T. (2020). The north–south divide on public perceptions of stratospheric aerosol geoengineering?: A survey in six Asia-Pacific countries. *Environmental Communication*, *14*(5), 641–656. https://doi.org/10.1080/17524032.2019.1699137

Watson, L. (2021). What is a question. *Royal Institute of Philosophy Supplement*, *89*, 273–297. https://doi.org/10.1017/S1358246121000114