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The value of public science events: insights from three years of communicating climate change research

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Abstract

Public science events are valued primarily as sites of individual learning. We explored the individual and collective value of university-based science events discussing climate change and motivations to attend. While events were most commonly valued as opportunities for learning, their social context created collective value associated with the physical gathering of like-minded people. Participants despairing at inaction on climate change were given agency through learning, participation, interpersonal discussions and normalising new behaviours. Post-event interpersonal discussions increase the reach of events beyond "the choir". These discussions increase the diversity of messengers, creating opportunities for new framings and understandings of climate change.

Introduction   Limiting global temperature increase to 1.5°C above pre-industrial levels is necessary to allow humanity to adapt to the negative impacts of climate change [Intergovernmental Panel on Climate Change, 2018]. According to the Intergovernmental Panel on Climate Change, this will require transformative systemic change. In response, climate change research has increased exponentially in volume and is explored through an increasing range of disciplines [Haunschild, Bornmann & Marx, 2016]. There is an associated push to communicate this climate research to wider audiences to foster engagement and action [Moser & Dilling, 2011]. It is also suggested that engagement and action on climate change across society requires multiple communication modes and social processes [Whitmarsh, O'Neill & Lorenzoni, 2013]. One mode that has received relatively little attention is direct communication by researchers to audiences at public events.

The research discussed here focusses on over 70 public science events run by a university-based climate change institute over three years. This high level of public

engagement provides an important opportunity to better understand the value of climate change communication via public events and contribute to event design. This is particularly timely given the move to online modes of communications as a result of COVID-19.

> "I was staggered at the number of people who wanted to go to that event. You had to kind of get the tickets and then they're rare as hen's teeth and all the rest of it"
> [university sector]

The limited available information about the outcomes of public science events focuses on individual change, particularly learning of participants (including academics), and changing of attitudes [Lehr et al., 2007; Rose, Korzekwa, Brossard, Scheufele & Heisler, 2017]. However, the above participant quote suggests a degree of interest and enthusiasm beyond what might be expected from a mid-week evening public lecture. We drew on literature focused on social change, informal learning, social psychology science and climate change communication as well as communication practitioner experience to develop a theoretical framework describing the potential value of the events. We address three questions related to that framework: 1) who participates and what motivates event participation; 2) what changes in individuals result from participation; and 3) what is the social significance of university science events. Social significance may relate to creating collective value through events by building community and enabling collective meaning-making through creating shared identities.

The paper is structured to first define public science events and how they are conceptualized. We then review the literature about the motivations for attendance and impact of events before describing the specific university events under consideration. The discussion is structured around the research questions and provides recommendations for event design.

Public science events

"Public science events" are where research is shared and discussed with publics outside academia and encompass science festivals, science cafés, dialogue events, and facility-based events at museums or universities [Durant et al., 2016]. The value of events compared to other modes of science communication lies in the presentation and discussion of research in a time-bound social setting [Fogg-Rogers, Wiehe, Comerford, Fooshee & Durant, 2019]. Events can create a "third space" or neutral ground outside the home and work [Oldenburg & Brissett, 1982] where academics and publics engage in dialogue. However, research institutions tend to have narrower educational and dialogic and/or promotional and persuasive motivations for communicating science [Weingart & Joubert, 2019].

Public events focused on climate change research have similar aims except for a particular focus on achieving behaviour change [e.g. Stofer et al., 2019; van der Linden, 2014]. Attempting to change the behaviour and attitudes of event participants has been critiqued as deterministic with "appropriate" attitudes and behaviours determined by researchers [Brulle, 2010]. In contrast, events can be imagined as sites of dialogue and engagement or second and third-order processes whereby alternative forms of agency can be constructed and a range of voices can articulate potential responses [Carvalho, van Wessel & Maeseele, 2017; Moser & Dilling, 2011].
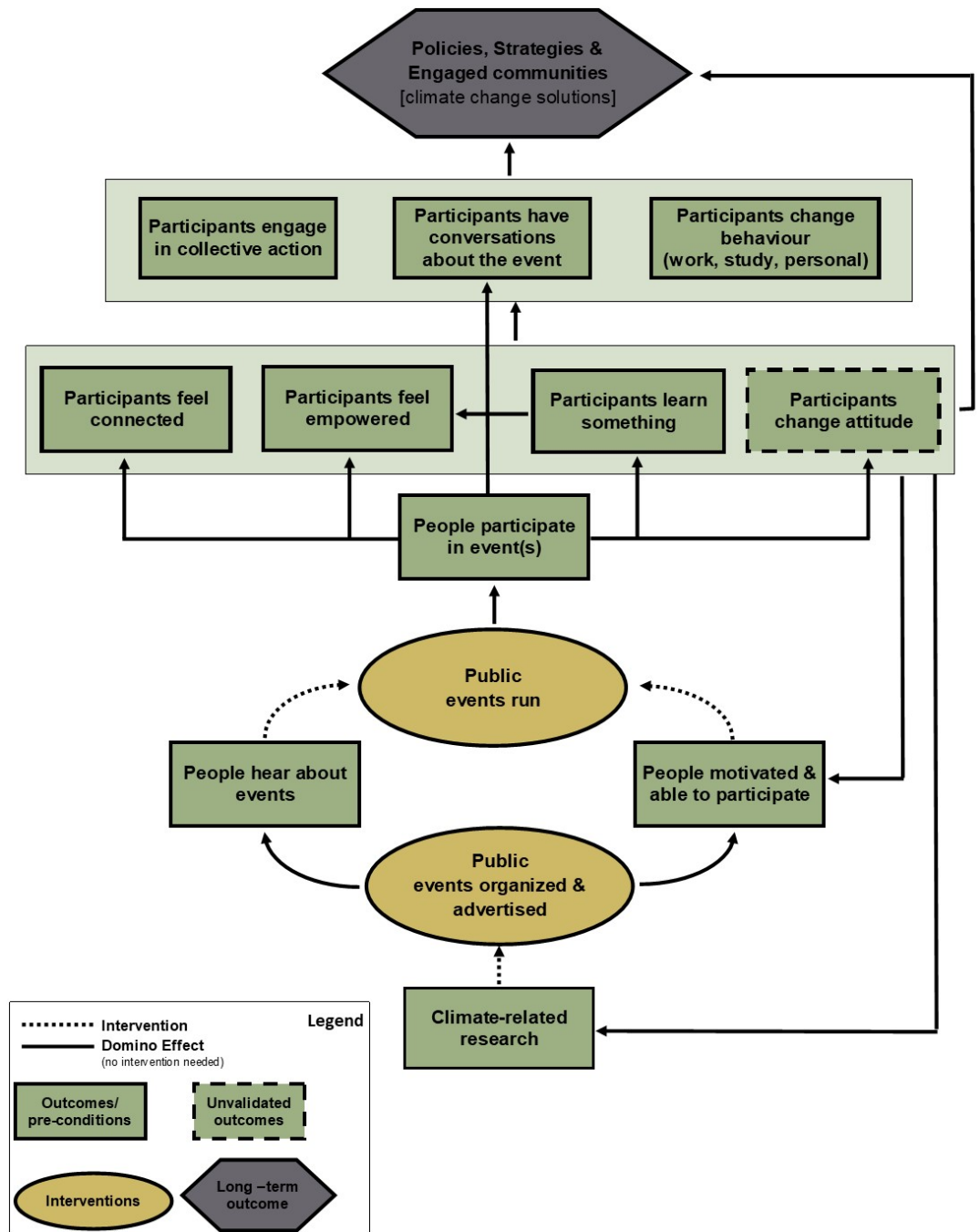
Figure 1. Theoretical framework for how public science events contribute to engaged communities and climate change solutions.

Theoretical framework

Public science events were one of multiple activities the Institute conducted under its mandate to contribute to climate change solutions. Our theoretical framework (Figure 1) is a simplified representation of how events could contribute to the Institute's overall goals and was the foundation of our survey design. This section summarises the literature that informed the framework. While this simple linear model has limited capacity to capture contextual drivers and feedback loops, it enables us to elucidate some assumptions and possible mechanisms for change as foci for deeper consideration.

Motivators

Studies of audiences at science festivals and museums indicate there are educative and dialogic motivators for attendance. For example, learning for the sake of learning, or motivations related to hobbies, professional interests, and career development [Falk & Dierking, 2016; Fogg-Rogers, Bay, Burgess & Purdy, 2015]. The social context of events also factors into motivations including the opportunity to interact both with scientists and other attendees [Durant et al., 2016; Fogg-Rogers et al., 2015; Jensen & Buckley, 2014]. Our survey design explored both these individual and social motivators as well as feelings of despair at climate inaction (Table 1, Figure 1). This latter was based on anecdotal evidence that event participants despaired at political inaction.

Individual change

Communication broadly is a process able to engender change in individuals commonly grouped under knowledge, attitudes or behaviour [Neresini & Pellegrini, 2014]. Events can be understood as "sites of symmetrical individual learning through social processes" [Lehr et al., 2007, p. 1476]. Acquiring knowledge can be linked to empowerment, for example, health festival participants felt new knowledge enabled them to interact more confidently with health professionals [Fogg-Rogers et al., 2015]. Climate change communication has focused on individual behaviour change often evidenced by self-reported intentions such as discussion of event topics [Besley, Kramer, Yao & Toumey, 2008] and pro-climate behaviours [Stofer et al., 2019]. Public science events may also affect individuals' willingness to engage in interpersonal discussions about climate change by increasing their perceived response efficacy (the degree to which they feel action will occur as a result), and/or feeling better equipped to discuss the topic [Geiger, Swim & Fraser, 2017]. The survey focused on the three broad individual outcomes of communication including behaviour in personal and professional life as well as a question on empowerment which may be related to increased knowledge (Table 1).

Collective change

Public science events can allow publics to articulate their own interests, formulate appropriate solutions, problematise and negotiate knowledge [Brulle, 2010; Lehr et al., 2007]. Conversations during events may also help participants feel more connected with like-minded people. This may be of particular value in Australia where people overestimate the prevalence of climate 'deniers' [Leviston, Walker & Morwinski, 2013] which can in turn reduce efficacy beliefs and potentially inhibit collective action [Bouman & Steg, 2019]. Participating in events with like-minded people may also help build a shared identity which can mobilise participants and increase the probability of social action [Selvanathan & Jetten, 2020]. We attempted to indirectly capture these complex processes by identifying potential event outcomes linked to their social nature i.e. survey questions on feeling connected and empowered (Table 1).

Table 1. Survey questions addressing individual and social motivations for event participation and outcomes from participation.

	Survey questions
Motivations	
	How important were each of the following in motivating you to participate in Institute event(s)? [very to unimportant]
Individual	− Opportunity to learn about climate change & solutions − Opportunity to ask presenters questions − I thought the event would assist with my study − I thought the event would be beneficial for my work − Feeling despair about inaction on climate change
Social	− Opportunity to share my ideas/voicing my opinion − Being invited by someone I know/going with someone else − Opportunity to be among like-minded people − Opportunity to hear diverse viewpoints
Outcomes	
Individual	*To what level do you agree/disagree with the following statements regarding your attendance at Institute events?* − I changed my opinion about climate change[1] − I learned something new − I applied/intend to apply what I learned in my workplace/studies − I changed/intend to change my behaviour (e.g. *consumer choices*, joined a group taking climate action) − I was prompted to have conversations about climate change *Which best describes how you felt after participating in Institute events?* − Much less to much more empowered to take action about climate change
Social	*To what level do you agree/disagree with the following statements regarding your attendance at Institute events?* − I was prompted to have conversations about climate change *Which best describes your feeling of connection to others after participating in Institute events?* − Much more to much less connected to others *Which best describes how you felt after participating in Institute events?* − Much less to much more empowered to take action about climate change *To what level do you agree/disagree with the following statements regarding your attendance?* − I changed/intend to change my behavior (e.g. consumer choices, joined a group taking climate action)

[1] Opinions of respondents were elicited by 2 questions [based on Leviston, Greenhill & Walker, 2015]:
What best describes your thoughts about climate change?
Which best describes what your opinion about climate change is based on?

Institute events

The Institute hosted 78 face-to-face events between 2017 and 2020, of which 65 were public (Table 2). The topics included the causes, impacts and responses to climate change, drawing on latest research and perspectives from the sciences, humanities, and the arts. The topics and promotion of events targeted those who could influence public policy. All events were on the university campus except for two Art events. Events mostly involved researchers giving public lectures or having panel discussions in an auditorium style environment with time allocated for question-and-answer sessions with audience members. These types of public events are typical of science engagement activities in Australia [Metcalfe, 2019]

Table 2. A breakdown of the type of events run by the Institute their average attendance and number of survey respondents who attended at least one.

Type of event	Public/invitation only	Number held	Average attendance	# Survey respondents who attended
Public lecture/seminar	Public	42	210	527
Climate café	Public	11	50	112
Art event	Public	4	*	*
Film screening	Public	3	178	107
Symposium	Public	3	100	*
Book launch	Public	2	136	105
Roundtable	Invitation only	10	29	67
Workshop	Invitation only	2	18	*
Seminar	Invitation only	1	*	*
Total		**78**		

* Data not recorded.

making our findings relevant to a broad range of science communication practitioners.

The lecture or seminar-style events averaged over 200 participants (Table 2). Climate cafés were run with a format adapted from the Café Scientifique [Dallas, 2006] and averaged 50 participants (Table 2). Participants were seated at tables and most time was spent on group discussions of the topic. Climate cafés and some of the lecture-style events also had catering which provided informal spaces for audience members to interact. Thirteen invitation-only events were also run, generally in a roundtable format involving university academics, visiting experts and policy-makers. Attendance figures for events are based on head counts.

Method

We address the research questions through survey and interview data collected as part of an evaluation of the overall impact of the Institute. The focus in this paper are results directly pertaining to public events, that is: all the online survey data and interview text pertaining specifically to the Institute's events.

Survey

A web-based survey was conducted from March 10–27, 2020, before public events in Australia were impacted by COVID-19. The survey was delivered via the Surveymonkey platform to the email addresses of approximately 6000 event registrants. Questions were not compulsory and generally multiple choice. A total of 583 online survey responses were received. Respondents had mostly attended 2–5 events (48%) while 8% selected zero events. A quarter of zero event respondents later selected particular formats of events they had attended e.g. climate café. Others responded to questions about event participation, so all responses were included in analyses. Reponses reflected the gender balance of the jurisdiction with 47.0% females; 51.7% males; 2.7% non-binary/third gender, prefer not to say, prefer to self-describe. The mean age of 54.41 (SD = 16.49) was higher

than the jurisdictional average with approximately double the proportion of people fifty years and over [Australian Bureau of Statistics, 2016]. Participants were highly educated with 93.3% having a bachelor level of education or higher compared with 37.2% of jurisdictional residents [Australian Bureau of Statistics, 2016].

Motivation to attend events was recorded on a 5-point scale from '1 – Unimportant' to '5 – Very important'. A 'Not applicable' option was also included. The outcomes from participating in events were also measured with Likert-type statements including a neutral option. In addition, questions about empowerment — measured on a scale from '1 – much less empowered to take action on climate change to '5 – much more empowered to take action' — and another on sense of connection were included (Table 1). This format allowed respondents to determine a positive or negative framing of outcomes.

Interviews

Sixteen semi-structured interviews were conducted by the lead author between May and July 2020. Within the university we targeted post-graduate students and academics with both high and low levels of engagement with the Institute. Outside the university we targeted short course participants, speakers at events and roundtable participants. The final cohort consisted of 7 from the public sector, 7 from the university sector and two from the private sector. Nine women and 7 men were interviewed online in interviews 20–55 minutes in duration. All except one interview was recorded and transcribed using the Otter ai software package and then edited manually. Detailed written notes were transcribed for the other interview.

None of the questions in the interview guide specifically asked about public events but 14 interviewees referenced their experiences at events in their responses. For example, 13/16 referenced events in response to the question "Can you describe your interactions and experiences with the Institute?" All text relating to events was coded under a single node by the lead author using QSR International's NVivo 12 Software. While we cannot form conclusions about common themes arising from the interviews, they do provide context and richness to the quantitative survey responses. Quotes are used in this way with interviewees' sector role (public, university, or private) indicated in parentheses after each quote.

Results

The results are structured to correspond with the theoretical framework, from motivations to attend events to their outcomes.

Motivations to attend events

The most important motivators to attend the events were an 'opportunity to learn about climate change and solutions', the 'opportunity to hear diverse viewpoints', and 'feeling despair about inaction on climate change' (Table 3). The interviews indicated the motivation to learn at these events could be linked to the university being considered a credible source of information: "*I think it helps legitimize arguments, scientific arguments we try and put forward on climate change*" [public

Table 3. Motivations to attend events as measured by mean ratings of importance (from very important = 5 to unimportant = 1). Responses of "not applicable" have been removed.

Motivation	M (SD)
Opportunity to learn about climate change and solutions (LEARN)	4.60 (0.69)
Opportunity to hear diverse viewpoints (DIVERSE)	3.99 (1.02)
Feeling despair about inaction on climate change (DESPAIR)	3.54 (1.37)
I thought the event would be beneficial for my work (WORK)	3.42 (1.39)
Opportunity to be among like-minded people (LIKE-MINDED)	3.36 (1.29)
Opportunity to ask presenter(s) questions (ASK)	3.17 (1.18)
I thought the event would assist with my study (STUDY)	2.79 (1.49)
Opportunity to share my ideas/voice my opinion (VOICE)	2.59 (1.27)
Being invited by someone I know/going with someone else (INVITED)	2.30 (1.31)

sector]. Others had a personal or professional interest in climate change: "*I find climate change as a theoretical policy issue, just endlessly fascinating because it affects every single thing that we do in every place in society*" [public sector]. Events also provided professional networking opportunities "*I had personal interests in terms of wanting to know how to be a good activist. And then very strongly professional interests since I was trying to get a job in the environment sector*" [private sector].

Outcomes of events: participants learn something

Learning something new was the most commonly perceived outcome of event participation with over 90% of respondents agreeing (Table 4). Interviews suggested that learning came from hearing perspectives from both academics and other experts such as policy-makers: "[the Institute] *is gathering different experts from the university and different stakeholders from the government so we have more well-rounded discussions. Through those views I know much more than what I can learn from the literature*" [university sector]. Participants also valued events for providing synthesised and up-to-date information in a dynamic domain: "*The public events you've been doing are great to tell us what the latest developments are*" [university sector].

Table 4. Outcomes of attending events as measured by mean level of agreement with five statements (from strongly agree = 5 to strongly disagree = 1).

Outcomes of attending events	M (SD)
I learned something new (LEARN-NEW)	4.40 (0.67)
I was prompted to have conversations about climate change (CONVERSATION)	3.99 (0.78)
I applied/intend to apply what I learned in my workplace/studies (APPLY)	3.78 (0.91)
I changed/intend to change my behaviour (e.g. consumer choices, join a group taking climate action) (BEHAVIOUR)	3.70 (0.91)
Empowered to take action on climate change (much more: 5 to much less: 1) (EMPOWER)	3.67 (0.72)
Feeling of connection after participating (much more: 5 to much less: 1) (CONNECTION)	3.52 (0.72)
I changed my opinions about climate change (OPINION)	2.66 (0.95)

Outcomes of events: participants change opinion

Changing one's opinion about climate change was the only outcome measured without on average agreement (Table 4). This is likely because the overwhelming majority of event participants (96.7%) thought that climate change is happening. Event participants belief in climate change also appears to be higher than the national average. National surveys in the mid 2010's using the same survey question showed only 45.9% belief (Table 5) while by mid-2020 acceptance had increased to 61% [Stanley, personal communication, October 30, 2020]. Other contemporaneous data in the form of national polling, paints a consistent picture with 61% of respondents thinking "Global warming is a serious and pressing problem. We should begin taking steps now even if this involves significant costs" [Kassam, 2019]. Temporal changes in attitude to climate change in Australia have been linked to political polarisation, natural disasters associated with climate change and age [Kousser & Tranter, 2018; Kassam, 2019]. Event participants also more commonly based their opinion about climate change on scientific research (84.4%) versus 31.5% in the national survey [Leviston, Greenhill & Walker, 2015]. The interviews reinforced these findings "...*a lot of the people that go to these seminars already think climate change is a big issue and just want to learn more about it, like myself*" [public sector].

Table 5. Comparison of opinions about climate change between participants at Institute events and a national survey.

Response options	Our event survey (%)	CSIRO 2010–2014 national survey (%)*
I don't think that climate change is happening	0.3	7.9
I have no idea whether climate change is happening or not	0	7.7
I think that climate change is happening, but it's just a natural fluctuation in Earth's temperatures	3.0	38.6
I think that climate change is happening and I think that humans are largely causing it	96.7	45.9

* Leviston, Greenhill and Walker [2015].

Outcomes of events: empowerment & connection

In relation to social value, participants on average self-reported feeling slightly more empowered to act and slightly more connected to others because of attending the events (Table 4). Feeling empowered or enabled through professional connections was also evident in the interviews: "*Knowledge sharing and networking would be the two outcomes I've got*" [private sector] and "*the combination of being able to provide a platform for sharing research results, but also to engage in public discussion is really valuable to me. I've made a lot of important connections through the networking those public outreach opportunities have enabled*" [university sector].

Outcomes of events: changed behaviour & conversations

The second most common self-reported outcome was that events prompted conversations about climate change (Table 4). There was also above average

agreement that survey respondents would apply what they learned and that they intended to change their behaviour because of attending events (Table 4). The interviews suggested conversations were with peers, friends and family: "*Canberra is small and people run into each other at the pub or, they have a friend and they have dinner together. It just helps create that community where these issues are well understood and discussed at a community level*" [public sector].

How are motivations related to outcomes?

We ran a series of simultaneous regressions to see which motivators of attendance uniquely predicted the outcomes of events. These analyses highlight cross-sectional associations between motivations and outcomes, and as such do not demonstrate causation. We omitted the outcome "changed opinion" due to the low agreement with this statement. Motivational factors explained a significant amount of the variance (19–35%) in outcomes (Tables 6 and 7). Motivations to learn, apply

Table 6. Standardised regression coefficients predicting the outcomes of learning something new, intentions to apply learnings in the workplace/studies, and prompting of conversations about climate change from participants' motivations for attending.

	Learn-new	*Apply*	*Conversation*
Opportunity to learn about climate change & solutions	**.28*****	**.16***	.13
Opportunity to ask presenter(s) questions	.05	.12	.10
I thought the event would assist with my study	.06	**.22****	.10
I thought the event would be beneficial for my work	.09	**.34*****	−.00
Feeling despair about inaction on climate change	.07	.04	**.25****
Opportunity to share my ideas/voice my opinion	−**.23****	−.14	−.11
Invited by someone I know/going with someone else	−.01	.06	.02
Opportunity to be among like-minded people	.15	.06	.07
Opportunity to hear diverse viewpoints	.12	−.04	.10
	$R^2 = .23$***	$R^2 = .35$***	$R^2 = .19$***

Nb. * $p < .05$; ** $p < .01$; *** $p < .001$.

Table 7. Standardised regression coefficients predicting the outcomes of changing behaviour, empowerment, and connection from participants' motivations for attending.

	Behaviour	*Empower*	*Connection*
Opportunity to learn about climate change & solutions	**.18***	**.42*****	**.27*****
Opportunity to ask presenter(s) questions	.03	.03	.06
I thought the event would assist with my study	.09	**.19***	.05
I thought the event would be beneficial for my work	.06	.03	.09
Feeling despair about inaction on climate change	**.22****	−.08	.02
Opportunity to share my ideas/voice my opinion	−.02	−.12	−.05
Invited by someone I know/going with someone else	.01	.07	.13
Opportunity to be among like-minded people	.06	**.16***	.11
Opportunity to hear diverse viewpoints	.03	.06	.02
	$R^2 = .19$***	$R^2 = .31$***	$R^2 = .20$***

Nb. * $p < .05$; ** $p < .01$; *** $p < .001$.

learning to one's studies, and to be around like-minded people all uniquely predicted increases in empowerment, while the motivation to learn was the only unique motivational predictor of feelings of connectedness. Interestingly, being motivated by despair was the only predictor of prompting conversations about climate change. Despair was also the strongest predictor of behaviour change, with motivation to learn also important. While most motivations such as learning were positively related to outcomes, a couple — notably voicing one's opinion — were *negatively* related to assessments of outcomes (Tables 6 and 7).

Pathways from despair to behaviour change

Finally, we explored the possible mediating roles of conversations, empowerment, and connectedness in the link between despair as a motivator and behaviour change as an outcome. Multiple mediation was performed in JASP 12.0 using the bootstrapping method with bias-corrected confidence intervals (Figure 2). The 95% confidence intervals of the indirect effects were obtained with 1,000 bootstrap samples. Mediation analysis supported the mediating role of Conversations ($b = .04$, CI $= .021$ to $.072$, $Z = 3.88$, $p < .001$) and Empowerment ($b = .03$, CI $.015$ to $.058$, $Z = 3.47$, $p < .001$) between Despair and Behaviour Change. The mediating role of Connection was not supported ($p = .193$). The direct effect of Despair on Behaviour Change remained significant ($b = .17$, $p < .001$), suggesting Conversations and Empowerment partially explain the link between Despair and Behaviour Change.
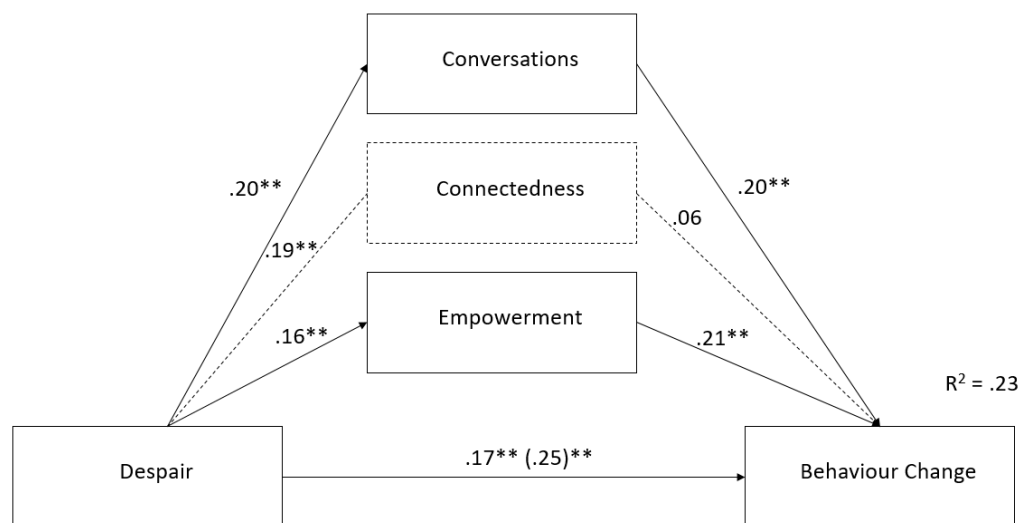

Figure 2. Indirect effect of Despair on Behaviour Change, through Conversations, Connectedness, and Empowerment. Figure in parenthesis indicates the total effect prior to the inclusion of the mediators.

Discussion

Participants at university science events valued science and had higher than average levels of education, similar to other public science events [e.g. Kennedy, Jensen & Verbeke, 2018]. The make-up of this cohort likely reflects targeting of policy-makers by organisers, the university location, and the social reproduction of narrow publics associated with these types of public engagement [Dawson, 2018]. As described for Science Cafés [Childers, Governor, Osmond & Britton, 2022] and

museums [Falk & Dierking, 2016], learning about climate change and what actions can be taken to address it was the predominant motivator to attend for these already highly educated people. This motivation to learn is also to be expected at events communicating science as part of the "genre expectation" [Horst, 2022]. Exploring climate change through creative formats off-campus may broaden participation to more culturally interested groups [Rosin et al., 2023].

Social motivators for event attendance are less well described, however our event participants valued social opportunities such as hearing diverse viewpoints and the opportunity to ask questions of experts. Despair at inaction on climate change also motivated collective action in the form of event attendance. While not explicitly defined in the survey, despair can be thought of as a lack of agency (ability to participate in solutions) and pathways for action [Snyder, Rand & Sigmon, 2002]. The social context of events can therefore be seen to fulfil audience needs that one-way modes of climate change communication such as written forms cannot.

With regards our second research question about changes in individuals, events most commonly increased the perceived knowledge of participants but did not substantially change their opinions about climate change. While learning is a complex phenomenon, the interviews suggest learning represented exposure to new information or increased understanding of climate related research. Learning motivations were associated with self-reported behaviour change, indicating the new knowledge provides participants with agency or pathways for action. Lack of knowledge is not generally what prevents climate action [Moser & Dilling, 2011], but may be a pre-condition for behavioural change [van der Linden, 2014]. In this sense, public science events at universities are building agency and empowerment for those who already think climate change is happening.

Event attendance also prompted interpersonal discussions, most likely among family members, colleagues, and friends [Besley et al., 2008; Childers et al., 2022]. This is a valuable outcome of events given the public may otherwise be unlikely to engage in conversations about climate change [Leiserowitz, Maibach, Roser-Renouf, Feinberg & Rosenthal, 2015]. These conversations increase the reach of events beyond those who attend and change the messenger from scientists to peers. Different messengers may alter the framing of climate change from a scientific to a social issue [Moser & Dilling, 2011] allowing people to situate knowledge in their everyday experience and make sense of the risks and options in their own lives [Munshi, Kurian, Cretney, Morrison & Kathlene, 2020]. These discussions are potentially more constitutive than the traditional models of engagement enacted at the university [Carvalho et al., 2017].

University science events arguably need to have social value (our third research question) as well as provide information. While outcomes related to the social context of events had lower on average agreement than learning, respondents did report feeling more empowered and connected because of attendance. Increased connection may result from being physically present with large groups of engaged people, and through conversations and networking during events as suggested in the interviews. The value of being physically present with others was also evidenced in the link between being with "like-minded people" and self-reported empowerment to act on climate change. Being among like-minded people is important in this context given the Australian community overestimate scepticism

about climate change [Leviston et al., 2013], and underestimate how much others care for the environment [Bouman & Steg, 2019]. Well-attended events provide evidence that other people care.

The only significant motivator predicting conversations was despair. Participation in events is a collective action (albeit not as dramatic as rallies or revolutions) and may likewise foster greater solidarity and well-being which can motivate continued engagement and resilience [Selvanathan & Jetten, 2020]. Being physically present with like-minded people may also help collectivise despair, taking the weight off individuals and tempering hope in productive ways [Nairn, 2019]. Our findings suggest despair, as a motivator, may influence subsequent behaviour change via greater empowerment and conversations. While our data are cross-sectional, this suggests event attendance may influence perceived social norms (what we think the people around us think and do) which are critically important in shaping our own beliefs and behaviours [Fielding & Louis, 2020]. Future research tracking people's beliefs about others before, during, and after event attendance would provide stronger evidence for this pathway.

Limitations

Our survey questions were skewed toward positive motivations and outcomes so we may have missed some negative motivations or outcomes. However, acquiescence bias (e.g. respondents consistently ticking "highly agree") was not evident. Care is needed in generalizing our findings too broadly given Canberra may be atypical of other Australian cities while motivators and outcomes may vary in different cultural and political contexts.

Recommendations

The university events described created value so we recommend maintaining and prioritizing the following aspects:

R1 Maintain face-to-face event formats as they create social value.

R2 Ensure speakers are credible, from different backgrounds (where possible) and synthesize latest research, policy and practice.

R3 Provide spaces for informal conversations such as breaks with catering.

R4 Design events that blend elements of research with creative disciplines to cater for more culturally interested groups.

To improve access and inclusion we recommend:

R5 Adopt a culture-centred framework [Munshi et al., 2020] whereby target groups contribute to event design.

R6 Have more off-campus events venues to cater for groups who may perceive the university space as unwelcoming or a poor fit with their identity [Dawson, 2018]. Partnering with student or community groups could diversify audiences and/or reduce costs of off-campus events.

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