

The role of the arts at the intersection of climate change and public Health: findings from an international survey

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ABSTRACT

Background: Climate change poses significant and escalating threats to public health globally, affecting physical and mental health through direct impacts such as extreme weather events and indirect pathways including food insecurity and displacement. Despite growing recognition of culture and the arts as potential resources for health promotion and climate action, the specific role of the arts in addressing climate-related health impacts remains under-explored and suboptimally integrated into public health and environmental policy frameworks.

Objective: To investigate the role of the arts in addressing the health impacts of climate change from the perspective of experts working at the intersections of arts, health, and climate action.

Methods: A cross-sectional survey study using snowball sampling recruited participants with self-identified expertise at the intersections of arts, health, and climate change. The survey instrument collected qualitative data on perceived roles of arts-based interventions in this domain and barriers to their implementation. Responses were analyzed using thematic analysis to identify key themes and patterns.

Results: Seventy-nine participants (N = 79) from diverse geographic regions globally completed the survey. Analysis revealed four meaningful roles that the arts can play in addressing climate-related health impacts: (1) bringing people together to build community and solidarity; (2) raising awareness and communicating complex information; (3) solving problems collectively; and (4) providing space for emotional processing and healing. Four primary barriers to expanding arts-based work were identified: (1) funding limitations; (2) other resource constraints; (3) collaboration challenges; and (4) lack of recognition and legitimacy.

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Conclusions: The arts offer multiple pathways for addressing the health impacts of climate change, though structural barriers limit their implementation and scale. Findings have implications for policymakers, climate scientists, artists, and healthcare professionals seeking to integrate arts-based approaches into climate-health interventions and adaptation strategies.

Background and literature

The climate crisis is both an ecological and a human health crisis, impacting lives globally, and threatening vulnerable populations. Without mitigation and adaptation efforts, we can expect substantial increases in preventable illnesses, deaths, and widening health inequalities in the coming decades (World Health Organization [WHO], 2023).

Climate-sensitive health risks encompass vulnerability factors and exposure pathways. Vulnerability is influenced by demographic, geographic, biological, socio-political, and socioeconomic factors (WHO, 2023). Exposure pathways include extreme weather events, heat stress, air and water quality issues, food security and safety concerns, and changes in vector distribution and ecology (WHO, 2023). These factors can lead to various negative health outcomes, including injuries and mortality from extreme weather, heat-related illnesses, respiratory problems, water-borne diseases, zoonoses, vector-borne diseases, malnutrition, foodborne illnesses, communicable diseases, and mental health issues (Lancet Infectious Diseases, 2023; WHO, 2023). Climate change is increasingly acknowledged as a significant threat to global health, affecting various social and environmental determinants (Rocque et al., 2021) in addition to mental health, known as "climate anxiety," "eco-distress," "eco-grief," or "eco-doom" (Lowe & Leiserowitz, 2024). Climate change affects individual health and health systems and facilities, influencing factors such as leadership, workforce, information systems, medical products, service delivery, and financing (WHO, 2023).

Creative solutions are imperative for complex, multifactorial health challenges, such as those resulting from climate change. The arts have been used as a resource in public health, with demonstrated value in health promotion, illness prevention, and the treatment and management of disease (Fancourt & Finn, 2019). However, in the context of climate change, the arts have been underexamined as a public health resource.

Literature points to the value of the arts in communicating, adapting to, and mitigating the health impacts of climate change. Artistic approaches are especially effective in conveying science-based climate information where conventional methods fall short (Roosen et al., 2017). By making climate change feel less abstract and more personally relevant, the arts can foster deeper emotional and cognitive engagement (Roosen et al., 2017; Woodley et al., 2022). For example, Hawkins and Kanngieser (2017) showcase how visuals and sound can render climate realities more tangible. Climate scientists have also recognized the benefits of using music, dance, and theatre to foster supportive learning environments, encourage perspective-taking, and translate complex scientific concepts into accessible, compelling forms (Curtis et al., 2012; Woodley et al., 2022).

The arts can also be used to help communities, ecosystems, and economies adapt and cope with the changes that are already occurring or are likely to occur (Minkoff, 2024). Bojner Horwitz et al. (2022) argue that engaging in music and dance stimulates emotions that support the development of deep care for others and divergent thinking, which is important for building community and fostering a sustainable society. Riechers et al. (2019) found that art workshops and active group reflections that brought participants in contact with nature fostered collective knowledge generation and mutual empathy, inspiring agency over disengagement and giving individual tools to understand their experiences. Research by Baumann et al. (2021) credited community arts initiatives with offering relief following acute environmental disasters by promoting community connections, fostering a sense of hope, creating physical and emotional safe spaces, and reducing stress through arts participation. Creative arts therapies, which employ embodiment, symbolism, and concretization (de Witte et al., 2021), have been used to address eco-anxiety, facilitate the expression of climate-related grief and loss, and promote a sense of reconnection with nature (Bleuer et al., 2025; McLaughlin & Seabrook, 2025; Van Lith, 2024).

Amongst children and youth, Bentz (2020) suggests that using art to engage visually and experientially in climate change education at school can support reflection, visualization, meaning-making, and the generation of personal agency. This idea is echoed in Jacobson et al. (2016), where an integrated climate science and art learning exercise led to students reporting an improved understanding of climate change and awareness of their own behavior. Bentz and O'Brien (2019) present a framework for how experiential approaches to climate art projects can offer space for reflection and empowerment about our individual and collective roles in larger sustainability transformations. A systematic review by Moula et al. (2022), encompassing data from 602 participants, found that arts-in-nature activities engaged children inclusively, and fostered nature connectivity, environmental awareness, and pro-environmental behaviors while potentially reducing eco-anxiety.

The arts can also promote mitigation by establishing social prerequisites for collective change, inspiring reduced carbon-emitting behaviors, and potentially reducing the reliance on energy-demanding health systems (Bojner Horwitz et al., 2022; Culture, Health, and Wellbeing Alliance, n.d.). Burke et al. (2018) found that artwork that leverages individuals' knowledge of, and attachment to, their local environment is most impactful for developing pro-environmental values. Similarly, key informant interviews conducted by Curtis (2009) revealed that the arts connect audiences to their land, affirming its value and inspiring a will to protect it. The emotional activation and personal meaning derived from observation of climate change artworks, particularly those depicting inspiring environmental solutions, was associated with climate policy support (Klöckner & Sommer, 2021; Sommer & Klöckner, 2021). Bird et al. (2023) addresses the crux of arts-based climate change mitigation and adaptation through the exploration of social action art therapy, illustrating how the arts can simultaneously be used as a tool for expanding political imagination and engagement to influence climate policy, while also offering the therapeutic effects of creative expression and community building.

Finally, a study of creative health practitioners in the United Kingdom working at the intersections of climate and health, analyzed responses using thematic analysis (19 surveys and eight interviews) (Thomson et al., 2025). The study identified five key themes,

collaboration and partnerships, community health and wellbeing, connection to nature, funding, and mental health, that characterize effective community programs addressing planetary and human health. Practices that foster strong relationships with nature, support mental health by addressing eco-anxiety, and leverage cross-sector partnerships to influence wider systems were highlighted in this work. The research described the need for inclusive approaches, sustainable funding, and practitioner wellbeing to ensure the impact and longevity of arts-based health interventions targeting climate-related inequalities.

Taken together, the literature reports the growing recognition of the arts as tools for climate communication, emotional engagement, and the promotion of pro-environmental behaviors. Artistic practices have empowered both individuals and communities to visualize, process, and respond to the complex health impacts of climate change, ranging from eco-anxiety to environmental displacement, in addition to fostering resilience, promoting collective meaning-making, and promoting a sense of agency. Despite this growing evidence, with the exception of Thomson et al. (2025), few studies have examined how those working directly at the intersection of arts, health, and climate change conceptualize and enact this role in practice. Addressing this gap, the present study explores the perspectives of self-identified content and/or practice experts whose work bridges these three domains, with the aim of identifying current practices, perceived impacts, and barriers and enablers to integrating the arts into climate-related health interventions.

The primary research question was: How do experts defined as those who work at the intersection of arts, health, and climate change understand the contribution of the arts to addressing the public health impacts of climate change? The sub questions were:

SRQ1: What practices do experts report at the intersection of arts, health, and climate change?

SRQ2: How do experts perceive the arts as mitigating the effects of climate change on health?

SRQ3: How do experts perceive the arts as communicating and raising awareness about the health impacts of climate change?

SRQ4: How do experts perceive the arts as promoting adaptive behaviors and interventions related to the health impacts of climate change?

SRQ5: What barriers do experts perceive to work at the intersection of arts, health, and climate change?

Methods

Design

This qualitative study consisted of an online survey with seven open-ended questions. Survey data were analyzed using an inductive thematic analysis with a content analysis to analyze themes both quantitatively and qualitatively (Krippendorff, 2018)

Participants

Participants were recruited using purposive and snowball sampling. We identified an initial list of 114 potential survey participants based on available evidence of their written or creative practice at the intersections of three domains: 1) the arts; 2) health and/or wellbeing; and 3) climate change. The research team compiled contact information with the intention of diverse representation in each domain across geographical regions. By including participants from multiple regions, the study aimed to identify both universal and context-specific strategies, inform (in conjunction with additional research streams) international policy and practice, and support cross-cultural learning. This approach offers broader insights than localized studies and helps ensure that recommendations are relevant and adaptable across varied settings. Recruitment was initiated through direct email invitations in which participants were provided with a link to a survey that contained a consent form. The team then used snowball sampling to enable researchers to expand the pool of respondents by encouraging participants to share the survey with others in their network.

Procedure

Ethical approval was obtained for this study (IRB-FY2024-9081). Informed consent was obtained at the beginning of the survey, with additional GDPR consent for participants in the EU and UK. The survey was hosted using Qualtrics, a GDPR-compliant survey platform, with the “Anonymize Responses” setting preventing the collection of IP addresses. Survey questions were designed by four researchers with multiple rounds of feedback from the other members of this research group, (supplementary materials A). Participation was entirely voluntary, all open-ended questions were optional, and respondents had the option to exit the survey at any time. Data collection occurred between 8 July 2024 through 17 July 2024.

Analysis

To ensure confidentiality, data was de-identified by the core research team before aggregated results were shared for analysis.

Once the survey was closed, the team engaged in a data cleaning process that involved four steps: 1) downloading raw survey data; 2) removing blank survey submissions; 3) coding participant identification preferences; and 4) removing duplicate entries. This process reduced the initial dataset ($n=106$) to 79 participants. Inductive thematic analysis was used to identify meaningful insights, themes, and subthemes and also included a content analysis to identify the prevalence of identified themes. Two research assistants guided by a researcher with expertise in this methodology (S.M) achieved inter-rater reliability (80%) in coding responses and refined the codebook through consensus.

Limitations

A limitation to this study design was that not all participants answered all questions in the survey. To ensure a systematic approach while inductively coding the large dataset, we indicated data saturation at 50% cutoff, meaning that the reported themes and sub-themes were shared by at least half of our participants. This approach provided a transparent, objective criterion for distinguishing widely held views it also provided guidance for distinguishing major from minor themes, helping to manage data volume and focus the analysis. This method aligns with the study's aim to identify consensus among international experts, while still acknowledging less common insights. We also analyzed and presented themes falling below this threshold to capture the spectrum of insights and nuances, and grouped these under "other" in [Tables 2 and 3](#). Additional limitations of the research findings are reported below.

Results

Respondents

Seventy-nine (79) participants were ultimately included in the data set, representing diverse geographic regions including Argentina ($n = 1$), Australia ($n = 3$), Brazil ($n = 1$), Canada ($n = 1$), EU ($n = 7$), Ghana ($n = 2$), India ($n = 2$), New Zealand ($n = 1$), Nigeria ($n = 1$), South Africa ($n = 1$), UAE ($n = 1$), UK ($n = 12$), and US ($n = 17$). Additional regions ($n = 29$) may have been represented but not identified due to participant privacy choices.

Practices

Respondents conclusively agreed that **the arts do play a role (100%)** in addressing the health impacts of climate change. 50 participants reported how they were engaged with work at this intersection. Their responses were categorized (no thematic analysis) are represented in [Table 1](#).

Contributions of the arts to addressing the health impacts of climate change

Respondents provided four overlapping ways in which they see the arts contributing to health related climate action. These findings are presented below with supporting themes and exemplary quotes.

Ways in which the arts address the health impacts of climate change

Bringing people Together. Respondents indicated that the primary way in which the arts address the health impacts of climate change is by **bringing people together (96%)**. The convening power of the arts was especially relevant within communities where respondents emphasized the importance of **interconnectivity (57%)**. One participant noted the desire to increase this role:

The arts can play an even bigger role in mobilizing communities to come together in times of crisis and natural disasters to reduce the impacts of climate change on mental health. Engaging in the arts at the community level can create an alternate support system for people isolated during

Table 1. Participant-reported engagement at the intersection of arts, health and climate change.

Practice Area	Description	Exemplary Quote
Creative Arts Therapies and Participatory Arts Initiatives	<ul style="list-style-type: none"> - Multidisciplinary arts projects, e.g., plays, festivals, albums about climate grief or hope. - Engagement through workshops, peer learning, and co-created events. - Creative arts therapies such as art, drama, and music therapy, often inspired by nature or climate themes. 	"I work as an art psychotherapist... I offer group art therapy, individual art therapy, and community art workshops for various audiences to promote well-being, or death education through art..."
Educational Approaches	<ul style="list-style-type: none"> - Designing curricula that integrate arts, health, and climate. - Workshops and incubators build capacity for artists, educators, and community leaders. - Environmental education programs. 	"I work in performance-based environmental education to design interactive workshops that seek to familiarize participants with the lifeworlds of other animals and plants."
Community Leadership	<ul style="list-style-type: none"> - Art-driven activism. - Facilitation of sustainability networks and arts organizations to drive community action. 	"I have worked with more than 20 teams over the past decade on projects using arts-based learning to spark innovation at the intersection of sustainability, healthcare and community impact."
Research and Cross-Sector Collaboration	<ul style="list-style-type: none"> - Transdisciplinary research combines arts-based inquiry with scientific research to make climate and health topics accessible. - Collaborative models involve partnerships across arts, science, healthcare, and activism to influence policy and advance understanding. 	"Our research is focused on the role of arts in addressing uncertainty and indeterminacy in particular in relation to artists' projects with trees..."
Storytelling and Multimedia	<ul style="list-style-type: none"> - Storytelling reframes climate and health matters as personal. Podcasts, comics, short films, and digital platforms communicate to audiences. 	"I am curious about how and what the process of making stories from our experiences with the environment can contribute to better connections among people and understanding of shared existential concerns..."
Culturally Responsive Practices	<ul style="list-style-type: none"> - Incorporating culturally sensitive, arts-in-nature practices and uplifting Indigenous knowledge, traditions, projects and programming. - Amplifying marginalized voices and underrepresented groups in climate-health discussions. 	"...Our work invites people to imagine in the language of lived experience and to bring their entire selves to the equation, demonstrating culture's necessity in any larger movement to sustain vibrant places."

natural disasters. An example of this might be story clothes woven together by women in a community in the form of "kantha," which can span a few months to sometimes years in the making.

The arts can promote safe and inclusive spaces for **sharing (55%)** stories, culture, and lived experiences – ultimately aiding in **building resilience, promoting healing, and the overall well-being (72%)** of the community. This is exemplified by one participant's narrative:

The arts are a key component of healthy societies. They create opportunities for belonging, expression, and interconnectedness. They can also create intergenerational connection and healing among those experiencing the first and worst affects of the climate crisis. The arts can reduce social isolation (ie literally bringing people together around shared stories and expressions) and create prefigurative conditions for new political realities (ie narrative change and world building).

Table 2. Prevalence of identified ways in which the arts play a role in addressing the health impacts of climate change.

	n	Total %
1. The arts do or should play a role	67	100.0
1.1 They bring people together	64	95.5
1.1.1 Formation of or emphasis on interconnectedness and/or community	38	56.7
1.1.2 Promoting healing, resilience, and/or wellbeing	48	71.6
1.1.2.1 Specific mention of mental health and/or anxiety	26	38.8
1.1.3 Promoting inclusion and/or belonging	31	46.3
1.1.4 Promoting involvement, participation, and/or engagement	58	86.6
1.1.4.1 Of communities	27	40.3
1.1.4.2 Of the general public	39	58.2
1.1.4.3 Of vulnerable populations	11	16.4
1.1.4.4 Of wider and/or different audiences	22	32.8
1.1.4.5 Through events, activities, and/or campaigns	28	41.8
1.1.5 For sharing	37	55.2
1.1.5.1 Of culture	12	17.9
1.1.5.2 Of lived experience	15	22.4
1.1.5.3 Of storytelling and/or narratives	26	38.8
1.1.6 For collaboration and/or interdisciplinary approaches	49	73.1
1.1.6.1 Involving communities	26	38.8
1.1.6.2 Involving health professionals	13	19.4
1.1.6.3 Involving artists	30	44.8
1.1.6.4 Involving policymakers	6	9.0
1.1.6.5 Involving different academic fields	18	26.9
1.1.6.6 Involving scientists	10	14.9
1.2 They draw attention to issues and/or raise awareness	54	80.6
1.3 They can be used for problem-solving, finding solutions, action, and/or making change	53	79.1
1.4 They provide space for	55	82.1
1.4.1 Inspiration and/or hope	22	32.8
1.4.2 Imagining, envisioning, and/or creativity	31	46.3
1.4.3 Listening and/or dialogue	18	26.9
1.4.4 Beauty and/or expression	16	23.9
1.4.5 Thinking and/or reflection	23	34.3
1.4.6 Feelings, emotions, and/or empathy	41	61.2
1.5 They educate by	53	79.1
1.5.1 Combating misinformation	4	6.0
1.5.2 Demystifying complex subjects	22	32.8
1.5.3 Communicating and/or connecting to people	43	64.2
1.6 Discussion of the importance of the arts in these issues	53	79.1
1.6.1 The arts are currently minimal or nonexistent at this intersection	20	29.9
1.6.2 The arts should be doing more in these areas	44	65.7
1.6.3 Their role is essential and/or urgent	36	53.7
2. Specific examples	23	34.3
2.1 Existing program	13	19.4
2.2 Existing movement	8	11.9
2.3 Existing art	7	10.4
2.4 Pop culture example	6	9.0
3. Types of art mentioned	40	59.7
3.1 Visual art	23	34.3
3.2 Performance art	21	31.3
3.3 Music or literature/poetry	26	38.8
3.4 Film, TV, Media	19	28.4
4. Other	47	70.1
4.1 See previous response	12	17.9
4.2 They do not or should not play a role	10	14.9
4.3 Unsure	26	38.8
4.4 Misc/no code	15	22.4

Note: From responses to questions 2–8. N = 67.

Table 3. Prevalence of identified barriers to involving the arts in addressing the health impacts of climate change.

	n	Total %
1. Support is lacking and/or needed	51	87.9
1.1 In the form of funding	6	10.3
1.1.1 For artists	16	27.6
1.1.2 For education	6	10.3
1.1.3 For programs and/or projects	15	25.9
1.1.4 For training	3	5.2
1.2 In the form of other resources	14	24.1
1.2.1 Such as space	4	6.9
1.2.2 Such as technology	2	3.4
1.2.3 Such as art materials	2	3.4
1.3 To form partnerships, collaborations, and/or interdisciplinary work	31	53.4
1.4 To promote the arts/artists to work at this intersection	14	24.1
1.5 To do more research in this intersection	5	8.6
2. Arts are not presently (but should be)	40	69.0
2.1 Recognized, appreciated, or valued in this area	24	41.4
2.2 Considered interconnected to the work in this intersection	17	29.3
2.3 Respected or considered to be legitimate by scientists and policymakers	20	34.5
2.4 Included from the start of a project or initiative (not added later)	8	13.8
2.5 Accessible to vulnerable populations	8	13.8
2.6 Used to empower people to create, not just consume, art	4	6.9
3. Other barriers include	39	67.2
3.1 Status quo	19	32.8
3.2 Profit/capitalism	4	6.9
3.3 Politics	7	12.1
3.4 Other events in the world distracting from this issue	4	6.9
3.5 Climate change misinformation	5	8.6
3.6 The complex nature of climate change	2	3.4
3.7 Emotions such as apathy, overwhelm, burnout, hopelessness, etc.	5	8.6
3.8 Arts are seldom a top priority at this intersection	10	17.2
3.9 There is a lack of work currently being done at this intersection	4	6.9
3.10 Not all artists care about this intersection	2	3.4
3.11 Many may not understand how these areas intersect	12	20.7
3.12 The impact of this work is difficult to quantify	2	3.4
4. Other	6	10.3
4.1 Unsure	4	6.9
4.2 Misc/no code	2	3.4

Note: From responses to questions 9–10. N = 58.

Education and awareness. Respondents indicated that the arts are used to **educate (79%)** about the health impact of climate change in ways that **connect people to each other (64%)** and to the world around them. This helps **draw attention to and raise awareness (81%)** of climate-related health concerns, a fundamental step in beginning to moderate their effects. This participant states the importance of the arts in climate education and awareness:

The arts uniquely challenge people to make creative personal choices, a strength that directly leads to agency as an active citizen, advocating with a more sophisticated voice for their health needs in our increasingly climate impacted lives. Additionally, the arts work to communicate to society about the impact and real dangers of climate change in visceral ways that reach people in ways that direct information does not.

Collective problem-Solving. Respondents also frequently noted the role of the arts in **promoting involvement, engagement, and participation (87%)** in climate-related

initiatives. For example, one participant mentioned how different artistic activities can help provide multiple points of entry to encourage community engagement:

It is our experience that if people cannot see themselves reflected in the process and product of the work being done then they have no need to become participants in that work. Thus, the best way to create access is to involve people in all aspects of the work: planning, design and execution. In our projects, this is accomplished by creating multiple entry points for people who would like to participate in our efforts. Such entry points include but are not limited to planning meetings with community stakeholders, open rehearsals, live music, food, site-responsive performance, public dances, story circles, visual art installations, digital storytelling, salons and public policy meetings. Participation in public life combats hopelessness and leads to positive health outcomes.

This can be seen both through reaching the **general public (58%)** and in **fostering collaboration and interdisciplinary approaches (73%)**. One participant notes the failings in creativity when we are siloed into discipline-based thinking:

We live in a discipline-based world but the problems we face don't respect those borders. The greatest challenges are failures of the human imagination (in daily life, education, work, many domains) and the failures tend to occur at the fault lines that separate the tectonic plates of our discipline bound world - especially in academia.

Numerous participants indicated that the arts can be used for **problem-solving and action in this area (79%)**. Several participants also explained that they envisioned these dynamic shifts in making change in the form of the arts **promoting specific behavior changes and using programs (52%)** to further this work towards sustainable solutions. Here, one participant notes how the creative aspects of the arts can help us to rethink our approaches:

There are two basic ways. Most traditionally, art can help communicate and engage the public with topics, such as climate change, in ways that are personal and culturally significant. Much more challenging to implement but still potentially powerful is the notion that art can help us rethink how we approach problems - what some might refer to as the elastic mind. The ability to resolve complex situations through creative thinking and drawing on a variety of tools.

Providing space. Participants expressed that the arts are unique in **providing space (82%)** for **feelings, emotions, and empathy (61%)** – all of which are often discounted when compared to science and policy. These major themes underscore the value of the arts when discussing climate change and public health. One participant states the importance of this theme using a well-known quote:

Maya Angelou said “people will forget what you said, they'll forget what you did, but they'll never forget how you made them feel” The arts are uniquely situated to speak to the heart and engage an audience in empathy. Scientific knowledge is only so effective and is not changing minds. The arts can incorporate that knowledge but move it to the heart.

Barriers and enablers

Respondents identified barriers (Table 3) that undermine the potential of the arts within health-related climate action, as well as enablers that would support practice.

The current barriers and the enablers that would advance the potential of the arts to address the health impacts of climate change

Despite the impactful work being done, numerous barriers prevent the artistic community from meaningfully contributing to the intersection of climate change and public health. Unsurprisingly, the most common response from participants is that **additional support is needed (88%)**. Respondents identified four kinds of support needed: funding, other resources, collaboration, and recognition.

Funding. Respondents identified the need for funding support for artists, as well as for programming and projects at the intersection of health and climate change. One participant explains how lack of evaluative tools often limits funding support:

... there are no easy ways for artists, who typically don't have the skills, time, or funding, to evaluate the impact of the work in the long term – something that every funder requires. Projects that are deemed impactful are those that address short-term, measurable issues, such as educating a community about disaster preparedness or flood risks. They tend to be projects about behavior change. On the other hand, projects that address less easily definable and measurable issues, such as eco-anxiety and climate grief, and that are about building health in the long term, are often not supported at all.

Other resources. In addition to funding, many participants also mentioned the need for other resources – such as space, technology, or materials. This participant notes how infrastructure is presently lacking, keeping the arts in a status quo-like state that is separate from things like climate and health:

First is to stop relegating the arts to only extracurricular activities and hobbies, and see its value for what is. Provide infrastructure, and resources. Implement structures that would inculcate arts into STEM for instance.

Collaboration. In addition to materials, participants noted a need for support in **helping to form partnerships and better collaborate around such interdisciplinary work (53%)**, as well as **other barriers (67%)** such as breaking free from the status quo and promoting understanding of how arts, climate, and health intersect. Here, one participant notes how interdisciplinary collaborations can help to promote sustainable action:

I think there should be further collaboration between cultural organizers, artists, activists, and policymakers. I think we need to use our imagination further to better understand how to make further change.

Recognition. Participants overwhelmingly indicated that at the intersection of health and climate change **the arts are not presently, but should be (69%) recognized, appreciated, or valued**; they noted how many do not perceive the arts as necessary to this work.

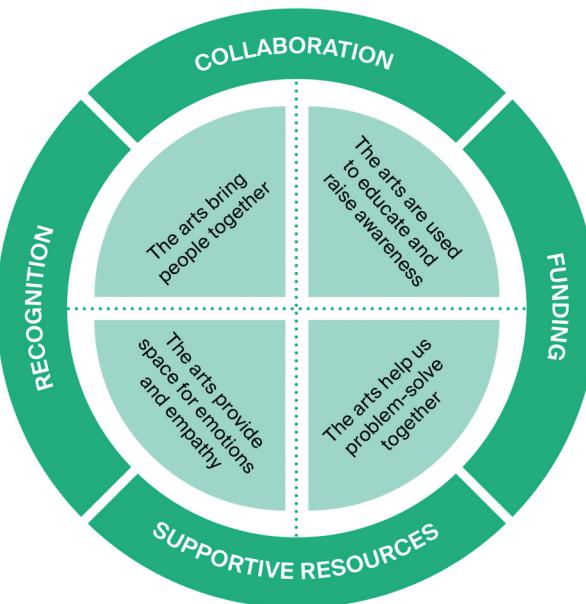


Figure 1. Expert perspectives on how the arts may address the health impacts of climate change and what is needed to increase impact.

Additionally, there is a great desire from artists to be respected and considered legitimate partners by scientists and policymakers. This participant notes their frustration in this realm:

At the moment the arts do not play a lot of roles in implementation especially in terms of these areas seeing that the wider education community has termed it STEM where humanities and the arts at large has been relegated to the background due to their perceived lack of importance.

In summary, the findings may be represented as four distinct contributions that practitioners working at the intersections of arts, health, and climate change perceive as well as enablers to ongoing practice (Figure 1).

Discussion

Our findings reflect perspectives on the role of the arts in addressing the health impacts of climate change from people who self- and peer-identified as having expertise in this space. An analysis of the practices they described ranged from community based to clinical practices. =. Our findings build on Thomson et al. (2025) by affirming key themes such as collaboration, community wellbeing, connection to nature, funding, and mental health, while expanding the scope to include key barriers and enablers to practice working at this intersection.

With regard to contributions that the arts can make in this space; participant responses emphasized the strong convening power of the arts, as well as their ability to engage people in creative, emotional, and interdisciplinary processes that can catalyze the shift from climate awareness to climate action. One of the most consistent responses was that the arts can bring people together around topics such as the health impacts of climate

change. The convening power of the arts has been documented in related literature on the role of the arts in public health communication (Sonic & Pesata, 2015). This theme was especially important for community-building and strengthening, such as in the case of Baumann et al.'s (2021) research on how local arts initiatives can promote community connections, hope, physical and emotional safe spaces, and reduced stress after environmental disasters. Some real-world examples of the arts bringing people together at the intersection of climate change and public health include organizations such as *Refuge* and *Purpose*. In Australia, *Refuge* (n.d.) brings together "local residents, artists, scientists, elders and experts from the world of emergency services" in order to collaborate on preparedness measures for climate change-related disasters. Everyone has a unique role to play, and in coming together they enhance the resilience of the community as a whole. In the United Kingdom, *Purpose's* LIVE + BREATHE (n.d.) collaborate with community partners across Southwark and Lambeth areas in order to engage the people of South London with the issue of air pollution a major environmental justice issue in these areas. They do so through mediums such as music, poetry, films, and more. These examples illustrate successes in how the arts initiatives can constitute and catalyze collaborative opportunities that enhance community resilience.

Our findings indicated that the arts promote education and awareness surrounding climate change and public health. This finding reinforces ample literature that the arts can help individuals to learn, improve understanding, and meaningfully engage with complex scientific concepts (Curtis et al., 2012; Jacobson et al., 2016, Roosen et al., 2018; Woodley et al., 2022). Some examples include the Wellcome Collection in the United Kingdom and Repro Freedom Arts in the United States. The Wellcome Collection (n.d.) is a free health-based museum and library that includes artworks, films, and more surrounding topics such as freshwater and climate refugees. Repro Freedom Arts (n.d.) is a theater company that performs plays that educate through storytelling to "explore the intricate intersection of reproductive freedom and environmental justice." These organizations are but a few that utilize arts-based education to engage with the public at the intersection of climate change and health.

Collective problem solving was the next major theme amongst participants. As seen in previous themes, the ability of the arts to bring both the general public and specific groups to the table can foster interdisciplinary collaboration and innovative approaches to climate and health action. Interdisciplinary approaches are crucial when facing such complex challenges, as they require multi-level solutions and actions from institutions, social groups, and fields of expertise across vertical as well as horizontal lines of governance (Ombler & Donovan, 2018). Including the arts in such interdisciplinary approaches was also frequently cited as a powerful tool for problem-solving. In the literature, art has been used to increase engagement with and support of climate policy – a systems level solution (Bird et al., 2023; Klöckner & Sommer, 2021; Sommer & Klöckner, 2021). At more local levels, Swale NYC in the United States, and community art initiatives like "Hawa Mein Baat" in Delhi, India use the arts in creative ways to enable environmental health initiatives. Swale (n.d.) is a free food forest that floats atop a barge; it produces food sustainably while connecting to creativity, the arts, and natural waterways in New York City, providing fresh produce for free to visitors. The "Hawa Mein Baat" community art initiative in Delhi, led by Mahila Housing

Trust and Help Delhi Breathe, uses public art exhibitions to raise awareness about air pollution's impact on women, showcasing their lived experiences through upcycled textile art, object collections, visual arts, and poetry (Bhura, 2024). The project highlights the voices of over 40 women, including home-based workers and waste pickers, using creative expression to communicate the often-invisible realities of polluted environments. These problem solving initiatives are creative and collaborative endeavors, using the arts as real mechanisms for change at multiple levels.

The last major theme of arts engagement at this intersection was the capacity to provide space engaging in feelings and emotions related to climate change, as well as increased empathy. This theme is key to other emergent themes, such as the arts supporting effective education and communication that goes beyond what traditional education can offer. This theme also meaningfully contributes to the direct health effects identified by respondents, which come from sharing stories, culture, and lived experiences in a way that promotes resilience, well-being, and healing. The literature supports these findings in the arts providing space for empathy, reflection, and empowerment (Bentz & O'Brien, 2019; Bojner Horwitz et al., 2022; Riechers et al., 2019). Some examples of artistic projects engaging with this theme include The Ethics Centre in Australia and the Glens Arts Centre in Ireland. Projects such as The Ethics Centre's "Tentacular" (Watfern & Vaughan, 2023) give space for stories of grief, anxiety, and distress in relation to climate change. The Glens Arts Centre (2023) "Waking the Land" was held as a series of wakes for ecosystems being disturbed by local mining operations. These artistic experiences allow participants to experience emotions from sorrow to hope to rage.

Last, while respondents were almost unanimous in their belief that the arts can play a powerful role in addressing the health impacts of climate change, the contrasting lack of support and recognition outside of their immediate circles were the primary barriers. Reported contributing factors included low awareness of what can still be considered a relatively niche space, as well as reticence and skepticism in fields like climate change and health that are traditionally science-dominated. Collaboration in this space between artists, healthcare professionals, scientists, and policymakers is the next step to inform inclusive best practices (Thomson et al., 2025).

While many arts-based interventions operate at the individual or community level, there is a need to distinguish these impacts from those achieved through policy and systemic change. Many critique individual-focused approaches for potentially shifting responsibility away from structural drivers of climate and health risks. Creative efforts that emphasize personal behavior change must be complemented by strategies that engage policymakers and address systemic barriers. Pathways from local action to policy change can be strengthened through advocacy, coalition-building, and the integration of arts into public health and climate mitigation and adaptation planning. Inclusive practice, collaborations, and sustainable funding are foundational to support creative-practitioner wellbeing and processes, in addition to outputs and impacts of creative natural and sustainable environment-based health interventions (Thomson et al., 2025). It's also worth noting that the arts can act as a gateway into the positive spillover effect, meaning that individuals who engage in one form of pro-environmental behavior are significantly more likely to engage in other types of pro-environmental behavior as well (Lacasse, 2016; Truelove et al., 2014). Engagement in the arts can catalyze individuals to do more difficult

actions in alignment with their values, such as advocacy, therefore contributing to greater systemic change.

Conclusion and implications

The arts can help bridge the gap between knowledge and action through creative communication, and by contributing to adaptation and mitigation efforts. Our study, based on experts perspectives, highlights the need to recognize the role of the arts in addressing the health impacts of climate change. The following practical implications may be helpful for policymakers, climate scientists, artists, and health professionals to consider.

Practical implications for policymakers

- Integrate the arts into public health-related climate strategies to strengthen impact through increased community engagement and well-being,
- Develop policies that encourage partnerships between artists, scientists, and health practitioners to enhance public awareness, mental health resilience, and climate adaptation strategies. Incentivize interdisciplinary projects where experts from diverse fields can co-develop solutions.
- Increase investment in collaborations bridging the arts, climate change, and public health. Prioritize funding partnerships and develop dedicated funding streams for arts-based interventions.
- Institutionalize support for arts-based climate and health initiatives. This can be achieved by integrating arts funding into climate adaptation and public health budgets, and by recognizing the arts as essential in policy planning
- Establish grant programs specifically funding arts-based climate action, ensuring artists have resources to create meaningful work that informs, engages, and mobilizes communities.
- Support research on arts-based climate action, particularly developing methodologies to evaluate the effectiveness of arts-based interventions in addressing climate and health challenges.

Practical implications for climate scientists

- Collaborate with artists to frame research, data, and findings in ways that create deeper and more emotionally engaging connections to the general public.
- Engage in interdisciplinary collaboration to leverage visual art, music, storytelling, and interactive media to communicate abstract climate concepts into tangible and accessible narratives.

Practical implications for artists

- Create works that translate complex scientific information into accessible, emotionally compelling narratives.
- Engage in participatory projects that provide space for communities to experience climate grief, eco-anxiety, and collective healing.

- Work with climate scientists, public health professionals, and policymakers to advocate for funding and resources to support interdisciplinary work.
- Collaborate with health researchers, organizations, and universities to study the emotional, cognitive, and behavioral effects of artistic interventions and refine approaches to collaboration.

Practical implications for healthcare professionals

- Recognize artists and arts-based interventions as partners in addressing climate-related health concerns.
- Partner with creative practitioners to design programs leveraging artistic expression for therapeutic and educational purposes such as mental health support, disaster preparedness, and public engagement.
- Integrate arts-based approaches and creative arts therapies into mental health and public health initiatives that address health impacts of climate change.
- Collaborate with scholars and artists to implement and evaluate creative methodologies in therapeutic and community health settings.
- Lobby hospital boards and other funders to support arts-based activities and interventions in healthcare settings.

Limitations and directions for future research

This study has several limitations that warrant consideration. The snowball sampling method and self-selection of participants was intentionally biased towards including people working at the intersections of arts, health, and climate, and therefore predisposed to finding value in their efforts. The global reach of this survey was intended to capture a diverse range of perspectives and practices at the intersection of arts, health, and climate change. This approach offers insights that may be overlooked in localized studies. However, we acknowledge that the sample is weighted toward respondents from the US and UK. Combined with the 50% data saturation cutoff, this may have biased the findings and underrepresented viewpoints from less represented regions. Despite these limitations, the study offers initial insights into the role of arts in addressing the health impacts of climate change, which provides a basis for future research and programming.

Future research should seek to advance and examine empirical evidence for the impact of the arts in climate change efforts, especially those linked to public health strategies and health and wellness outcomes (both directly and indirectly). Researchers can also consider how the impact of arts-based programming can be optimally evaluated through, for example, mixed-methodological studies which capture qualitative, quantitative, and arts-based data, as well as participatory, community-based approaches, and longitudinal evaluations.

In conclusion, findings from this study describe the importance of recognizing and elevating the arts as a tool in climate and health initiatives. Integrating creative approaches into public health strategies helps to foster resilience and inspire action on climate and health issues. Increased investment in interdisciplinary collaborations, facilitating partnerships between artists, scientists, policymakers, and health

professionals, is recommended. Developing grant programs and resources to support arts-based climate action could further enhance these efforts. Future research should focus on evaluating the effectiveness of arts-based interventions in addressing climate-related health challenges, with the aim of informing policies and investment strategies that emphasize the benefits of arts in fostering climate resilience and promoting sustainable practices.

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Data availability statement

The deidentified data of this survey is available on Open Science Foundation.

References

Baumann, S. E., Merante, M. M., Sylvain-Holmgren, M.-A., & Burke, J. G. (2021). Exploring community art and its role in promoting health, social cohesion, and community resilience in the aftermath of the 2015 Nepal earthquake. *Health Promotion Practice*, 22(1_suppl), 111S–121S. <https://doi.org/10.1177/1524839921996083>

Bentz, J. (2020). Learning about climate change in, with and through art. *Climatic Change*, 162(3), 1595–1612. <https://doi.org/10.1007/s10584-020-02804-4>

Bentz, J., & O'Brien, K. (2019). Art for change: Transformative learning and youth empowerment in a changing climate. *Elementa: Science of the Anthropocene*, 7(52). <https://doi.org/10.1525/elementa.390>

Bhura, S. (2024, May 22). Tapestry with trash: Women living near Delhi landfill use art to fight air pollution. *Times of India*. <https://timesofindia.indiatimes.com/city/delhi/tapestry-with-trash-women-living-near-delhi-landfill-use-art-to-fight-air-pollution/articleshow/110338177.cms>

Bird, J., Bird, L., & Collard-Stokes, G. (2023). Social action art therapy and the enhancement of political imagination. *Journal of Applied Arts & Health*, 14(1), 47–61. https://doi.org/10.1386/jaah_00126_1

Bleuer, J., Gersie, A., & Sajnani, N. (2025). Building bridges towards an eco-drama therapy. *Drama Therapy Review*, 11(1), 3–9. https://doi.org/10.1386/dtr_00168_2

Bojner Horwitz, E., Korošec, K., & Theorell, T. (2022). Can dance and music make the transition to a sustainable society more feasible? *Behavioral Sciences*, 12(1), 11. <https://doi.org/10.3390-bs12010011>

Burke, M., Ockwell, D., & Whitmarsh, L. (2018). Participatory arts and affective engagement with climate change: The missing link in achieving climate compatible behaviour change? *Global Environmental Change*, 49, 95–105. <https://doi.org/10.1016/j.gloenvcha.2018.02.007>

Culture, Health & Wellbeing Alliance. (n.d.). Exploring links between creative health and planetary health. *Culture, Health & Wellbeing Alliance*. <https://www.culturehealthandwellbeing.org.uk/exploring-links-between-creative-health-and-planetary-health>

Curtis, D. J. (2009). Creating inspiration: The role of the arts in creating empathy for ecological restoration. *Ecological Management & Restoration*, 10(3), 174–184. <https://doi.org/10.1111/j.1442-8903.2009.00487.x>

Curtis, D. J., Reid, N., & Ballard, G. (2012). Communicating ecology through art: What scientists think. *Ecology and Society*, 17(2), 3–3. <https://doi.org/10.5751/ES-04670-170203>

de Witte, M., Orkibi, H., Zarate, R., Karkou, V., Sajnani, N., Malhotra, B., Ho, R. T. H., Kaimal, G., Baker, F. A., & Koch, S. C. (2021, July 15). From therapeutic factors to mechanisms of change in the creative arts therapies: A scoping review. *Frontiers in Psychology*, 12. <https://doi.org/10.3389/fpsyg.2021.678397>

Fancourt, D., & Finn, S. (2019). What is the evidence on the role of the arts in improving health and well-being? A scoping review. *Nordic Journal of Arts, Culture and Health*, 2(1), 77–83. <https://doi.org/10.18261/issn.2535-7913-2020-01-08>

The Glens Arts Centre. (2023). *Waking the land*. <https://waking.land/>

Hawkins, H., & Kanngieser, A. (2017). Artful climate change communication: Overcoming abstractions, insensibilities, and distances. *WIREs Climate Change*, 8(5), e472. <https://doi.org/10.1002/wcc.472>

Jacobson, S. K., Seavey, J. R., & Mueller, R. C. (2016). Integrated science and art education for creative climate change communication. *Ecology and Society*, 21(3). <https://www.jstor.org/stable/26269971>

Klöckner, C. A., & Sommer, L. K. (2021). Visual art inspired by climate change—an analysis of audience reactions to 37 artworks presented during 21st UN climate summit in Paris. *PLOS ONE*, 16(2), e0247331. <https://doi.org/10.1371/journal.pone.0247331>

Krippendorff, K. (2018). *Content analysis: An introduction to its methodology*. Sage publications.

Lacasse, K. (2016). Don't be satisfied, identify! Strengthening positive spillover by connecting pro-environmental behaviors to an "environmentalist" label. *Journal of Environmental Psychology*, 48, 149–158. <https://doi.org/10.1016/j.jenvp.2016.09.006>

Lowe, S., & Leiserowitz, A. (2024). *Yale experts explain climate anxiety*. Yale Sustainability. <https://sustainability.yale.edu/explainers/yale-experts-explain-climate-anxiety>

McLaughlin, H., & Seabrook, D. (2025). The creative arts therapies and the climate crisis: Toward a framework for conscious engagement. *Arts in Psychotherapy*, 92, 102255. <https://doi.org/10.1016/j.aip.2025.102255>

Minkoff, M. J. (2024). *Exploring the connections between the arts and mental health in the face of climate change* [Master's thesis]. Yale University. <https://elischolar.library.yale.edu/cgi/viewcontent.cgi?article=2418&context=ysphtdl>

Moula, Z., Palmer, K., & Walshe, N. (2022). A systematic review of arts-based interventions delivered to children and young people in nature or outdoor spaces: Impact on nature connectedness, health and wellbeing. *Frontiers in Psychology*, 13, 858781. <https://doi.org/10.3389/fpsyg.2022.858781>

Omblor, J., & Donovan, S. (2018). Rejuvenating radical potential through transdisciplinarity: Art and public health. *Counterfutures*, 5. <https://doi.org/10.26686/cf.v5i0.6402>

Purpose. (n.d.). LIVE + BREATHE: Creating a community-led air pollution movement [Case study]. Retrieved November 10, 2025, from <https://www.purpose.com/case-study/live-and-breathe-clean-air-campaign-case-study/>

Refuge. (n.d.). Arts house. <https://www.artshouse.com.au/artist-opportunities/refuge/>

Repro Freedom Arts. (n.d.). Repro Eco. <https://reprofreedomarts.org/reproeco/>

Riechers, M., Henkel, W., Engbers, M., & Fischer, J. (2019). Stories of favourite places in public spaces: Emotional responses to landscape change. *Sustainability*, 11(14), 3851. <https://doi.org/10.3390/su11143851>

Rocque, R. J., Beaudoin, C., Ndjaboue, R., Cameron, L., Poirier-Bergeron, L., Poulin-Rheault, R. A., Fallon, C., Tricco, A. C., & Witteman, H. O. (2021). Health effects of climate change: An overview of systematic reviews. *BMJ Open*, 11(6), e046333. <https://doi.org/10.1136/bmjopen-2020-046333>

Roosen, L. J., Klöckner, C. A., & Swim, J. K. (2017). Visual art as a way to communicate climate change: A psychological perspective on climate change-related art. *World Art*, 8(1), 85–110. <https://doi.org/10.1080/21500894.2017.1375002>

Sommer, L. K., & Klöckner, C. A. (2021). Does activist art have the capacity to raise awareness in audiences?—A study on climate change art at the ArtCOP21 event in Paris. *Psychology of Aesthetics, Creativity, and the Arts*, 15(1), 60–75. <https://doi.org/10.1037/aca0000247>

Sonic, K., & Pesata, V. L. (2015). The arts and health messaging: Exploring the evidence and lessons from the 2014 Ebola outbreak. *BMJ Outcomes*. https://www.researchgate.net/publication/277312649_The_arts_and_health_messaging_Exploring_the_evidence_and_lessons_from_the_2014_Ebola_outbreak

SWALE NYC. (n.d.). Home. Retrieved November 10, 2025, from <https://www.swalenyc.org/>

Thomson, L. J. M., Critten, A., Hume, V. M., & Chatterjee, H. J. (2025). Common features of environmentally and socially engaged community programs addressing the intersecting challenges of planetary and human health: Mixed methods analysis of survey and interview evidence from creative health practitioners. *Frontiers in Public Health*, 13. <https://doi.org/10.3389/fpubh.2025.1449317>

Truelove, H. B., Carrico, A. R., Weber, E. U., Raimi, K. T., & Vandenbergh, M. P. (2014). Positive and negative spillover of pro-environmental behavior: An integrative review and theoretical framework. *Global Environmental Change: Human and Policy Dimensions*, 29, 127–138. <https://doi.org/10.1016/j.gloenvcha.2014.09.004>

The Lancet Infectious Diseases. (2023). Twin threats: Climate change and zoonoses. *The Lancet Infectious Diseases*, 23(1), 1. [https://doi.org/10.1016/S1473-3099\(22\)00817-9](https://doi.org/10.1016/S1473-3099(22)00817-9)

Van Lith, T. (2024). Introduction to the special issue: Art therapy and climate action. *Art Therapy*, 41 (3), 116–117. <https://doi.org/10.1080/07421656.2024.2394367>

Watfern, C., & Vaughan, P. (2023, October 30). *Care is a relationship: Exploring climate distress and what it means for place, self and community*. The Ethics Centre. <https://ethics.org.au/care-is-a-relationship/>

Wellcome Collection. (n.d.). <https://wellcomecollection.org/>

Woodley, E., Barr, S., Stott, P., Thomet, P., Flint, S., Lovell, F., O'Malley, E., Plews, D., Rapley, C., Robbins, C., Pearce, R., & Sandover, R. (2022). Climate stories: Enabling and sustaining arts interventions in climate science communication. *Geoscience Communication*, 5(4), 339–354. <https://doi.org/10.5194/gc-5-339-2022>

World Health Organization. (2023). Zero regrets: Scaling up action on climate change mitigation and adaptation for health in the who European region, Key messages from the Working Group on Health in Climate Change. <https://www.who.int/europe/publications/i/item/WHO-EURO-2023-3198-42956-69520>