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**Exploring the Connections Between the Arts and Mental Health in the Face of
Climate Change**

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A Thesis Submitted in Partial Fulfillment
of the Requirements for the Degree of
Master of Public Health
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Department of Environmental Health Sciences
Yale School of Public Health

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Abstract

Objective: This study aims to explore how engagement with art may shape emotions related to the climate crisis and expand the conception of art as a mechanism of public health practice.

Background: Climate change impacts human health not only physically but also psychologically, manifesting in symptoms of climate emotions (e.g., ecological grief, eco-anxiety, eco-paralysis) that arise as a result of changes to the earth and our relationship to the natural world. These symptoms are among the pressing mental health effects of climate change.

Methods: A qualitative approach utilizing the Rapid Assessment Process (RAP) was employed to conduct semi-structured interviews (N=10) with artists who create art of climate change subject matter.

Results: (1) Creating climate art elicits a sense of agency in climate artists. (2) Creating art specific to communicating environmental crises is not particularly healing to climate emotions; creating art is healing regardless of subject matter. (3) Community climate art is the most effective mechanism to address climate emotions. (4) Creating art about nature, especially when physically in nature and with community, fosters pro-environmental identities and momentum towards sustainability.

Conclusion: The findings suggest that integrating arts into public health practice may enhance community resilience and individual well-being, advocating for future efforts to incorporate art as a strategy for climate communication and mental health intervention.

Key Terms

- Climate change art: art inspired by climate change that attempts to accessibly communicate climate science, raise awareness of the climate crisis, or promote the audience's engagement in climate action.
- Climate emotions: the emotional impact of environmental degradation referring to consistently felt mental health states and syndromes as opposed to strong feelings (Cianconi et al., 2023).
- Ecological Grief: the grief felt in relation to experienced or anticipated ecological losses, including the loss of species, ecosystems and meaningful landscapes due to acute or chronic environmental change (Cunsolo & Ellis, 2018).
- Eco-anxiety: the emotional response of worry, fear, and distress stemming from ecological degradation and concern of the current and future impacts of the climate crisis (Boluda-Verdú et al., 2022).
- Eco-paralysis: a state of apathy as a result of eco-anxiety, which inhibits the ability to take real action. It occurs in response to the enormous scale of climatic and ecological challenges but renders individuals unable to do something meaningful to combat it, resulting in what appears to be complacency and disengagement (Cianconi et al., 2023).

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INTRODUCTION

Rationale

Climate change affects human health and wellbeing in multiple dimensions. The World Health Organization defines health as a “state of complete physical, mental and social well-being and not merely the absence of disease or infirmity”. The physical consequences are well documented, including a rise in infectious disease, mortality rates, respiratory, neurological, and cardiovascular conditions, adverse birth outcomes, nutritional deficiencies, allergies, injuries, and more (Rocque et al., 2021). There is increasing evidence substantiating the adverse mental health impacts of climate change, the most common being psychological distress, post-traumatic stress disorder (PTSD), anxiety, depression, suicidal ideation, aggression, and substance abuse (Berry et al., 2010; Hayes et al., 2018; Rocque et al., 2021). The pathology of each adverse mental health experience is dynamic and may respond to various facets of the climate crisis. Generally, acute disasters are known to inflict trauma and, depending on the severity of the event, result in PTSD, depression, and anxiety, etc. (Clayton, 2021; Fritze et al., 2008). These conditions may be exacerbated by the economic and social consequences that result from extreme weather events, namely job loss, forced displacement, food insecurity, etc (Clayton, 2021). Additionally, long-term, consistent changes to the climate such as heat, drought, and poor air quality have been linked to an increase in psychiatric hospitalizations, aggressive behavior, violence, and suicide (Clayton, 2021; Padhy et al., 2015; Trombley et al., 2017). At a finer scale, the ramifications of climate disasters and climate change in general may take the form of loss of community networks, a wounded sense of connection to land, environmental despair, loss of environmental knowledge, loss of cultural or personal identity, climate burnout, and more (Cianconi et al., 2023). There is an emerging body of literature delineating various psychological

symptoms (i.e., climate emotions) that arise as a result of such changes to the earth and our relationship to the natural world. As these symptoms are among the pressing mental health effects of climate change, there is a critical need for additional research to better understand climate emotions and mechanisms of intervention.

Purpose

The objective of this investigation is to gain insight into how engagement with art impacts emotions related to the climate crisis. Our findings aim to contribute to the expanding conception of art as a mechanism of public health practice.

LITERATURE REVIEW

The following review recounts some of the key research on the arts and climate change intersection. Specifically, the utility of art in climate change communication, the emotional dimensions of climate change and health, as well as several existing arts-based health interventions.

Art as Climate Change Communication

The central challenges to climate change communication that we have identified from the literature are as follows: public risk perceptions are more influenced by imagery, experiential, and affective factors than scientific data, leading to misconceptions or dissonance with the threat of the issue; perception of climate change as a problem that affects distant places and people instead of oneself, and cultural worldviews that predispose risk perceptions and policy responses unfavorable to collective action (Leiserowitz, 2006). It has been theorized that climate change

communication through the arts may address the abstract nature of climate change, overcome the perception of distance that stifles action, and tear down cultural environmental relations that sever the connection between the human and nonhuman (Hawkins & Kanngieser, 2017). Bentz (2020) documented that engaging students with art to critically reflect on matters of climate change and sustainability resulted in an increased awareness and critical thinking about climate change, a sense of empowerment to drive change, and a desire to influence others. Sommer & Klöckner (2021) investigated the psychological effects of activist art related to climate change on its audience and found that art which portrays sublime nature and environmental solutions resulted in greater cognitive activation than art depicting playful utopia, dark dystopia, or earth mythology. High cognitive activation entails increased personal reflection and awareness of one's role in climate change. Jacobson et al. (2016) evaluated the use of the arts in engaging graduate students with climate change and science communication. Their results show that knowledge of climate change improved significantly and producing art encouraged peer learning, as well as normalized previously seemingly controversial views about climate change among participants. Bentz (2020) posits that the coupled processes of teaching climate change in art, with art, and learning through art provides students with a different content of information (e.g., ways to influence change), utilizes the experiential potential of the process, and offers a unique approach to learning that increases student depth of engagement with climate change. Additionally, Roosen et al. (2018) describes the use of novel metaphors and narratives in arts-based climate communications and its ability to personalize the matter and establish a group sense of support, effects that climate communication generally lacks.

Climate Change and Emotions

Existing literature which addresses the emotional experiences of climate change makes use of the term ‘climate emotions’, including the psychological phenomena of various mental states (i.e., relatively constant mental conditions that surpass emotions referring to thoughts and behaviors). As such, this study assumes the experience of climate emotions to be a proxy for adverse mental health outcomes. Psychoterratic illness (psycho = of the mind, terratic = earth-related) refers to a kind of mental illness related to the earth that occurs in response to the severing of a healthy relationship between oneself and their home/territory (Albrecht et al., 2007). Forcibly displaced and dispossessed indigenous peoples have historically suffered from this pathology. A similar place-based distress can also exist in people who are still in their home but experience a ‘homesickness’ due to the physical desolation of their environment. This newly identified form of psychoterratic illness is known as solastalgia, the pain caused by the inability to derive solace, comfort, and support due to a negative perception of the state of the environment. There exists a range of related emotional phenomena and conditions that arise in response to climate change. Cunsolo & Ellis (2018) documented nuances of ecological grief informed by research on the lived experiences of indigenous and farmer populations, revealing that loss of ability to travel and engage in health-sustaining activities, disruption to their sense of place and connection to land, and exposure to harsh, atypical weather conditions, triggered grief responses. Boluda-Verdú et al. (2022) conducted a literature review on eco-anxiety and health associations and found eco-anxiety to be associated with symptoms of anxiety, stress, insomnia, and that it may play a role in one’s development of clinical levels of depressive symptoms. It remains unclear from this study whether pro-environmental behaviors help buffer the impact of these symptoms.

Fritze et al. (2008) outlines the importance of understanding the psychological and implications of climate change to inform action and protect communities.

Arts-based interventions

Moula et al. (2022) is a systematic review of arts-based intervention data which establishes the relationship between nature and the arts to be one of cyclical benefits and interconnectedness. This review posits that engaging with creativity promotes time spent outdoors, subsequently increasing connection with nature. The interventions' activities and processes focused on identity and introspection allow the participants to perceive themselves as one with the environment, have increased pro-environmental behaviors, and experience reduced eco-anxiety. Such environmentalist attitudes then promote wider behavioral changes towards environmental sustainability, which leads back to spending more time outdoors, the origin of the cycle of nature connectedness. One scoping review of eco-anxiety-specific interventions emphasizes the importance of providing space for emotional expression before individuals are pushed into action (Baudon & Jachens, 2021). While it is conventional in the literature to understand action as a remedy to anxiety, some reports note that if the immense loss and threats to personal identity associated with climate change are not acknowledged and given proper time and space to be processed, sustained action will not persist (Randall, 2009). This idea supports the importance of the proposed function of arts-based interventions to help individuals process their feelings regarding climate change. Bojner Horwitz et al. (2022) suggests that certain arts practices stimulate emotions that facilitate the development of qualities necessary to foster inner drive to behave sustainably. Bird et al. (2023) finds that social action art therapy may target the intersection of social, physical, and emotional features of the climate crisis and enhance political

imagination and engagement. This study emphasizes the power of arts-based research seeking to address the silencing of marginalized voices by functioning as an alternative method of political engagement. Baumann et al. (2021) explores the effects of community art in the aftermath of the 2015 Nepal earthquake and found that creation and observation of art offered relief in the coping process, enhanced communication and messages of hope, and functioned as a tool for promoting conversations and connections within the affected community.

Gap in literature

An examination of the existing literature on topics related to arts communications, mental health effects of climate change, and evaluation of arts-based interventions reveals a lack of research explicitly exploring the connections between art engagement and the emotional burden of climate change. Building on Boluda-Verdú et al. (2022) which examined the health implications of eco-anxiety, this study aims to specifically understand the ways in which the pro-environmental behavior of creating climate art may modulate the mental health effects of participants' climate change perceptions. Additionally, informed by the cycle of nature connectedness outlined by (Moula et al., 2022), this study aims to gain a more detailed account of the relationship between the arts and nature connectedness, specifically, the direction in which this cycle functions. In other words, whether art connects individuals with nature, or if nature inspires the creation of art. Understanding this nuance will reveal whether the point of intervention should lie in the promotion of artmaking, as well as if that art should be climate change focused.

METHODOLOGY

This qualitative study utilized the methodological approach known as the Rapid Assessment Process (RAP), as it was determined to be the most efficient technique to initiate our exploration of the understudied relationship between climate emotions and the arts, while preserving depth and data quality. Beebe (2001) has delineated the conditions in which the RAP methodology is most appropriate. Such conditions applicable to this project include a topic that has insufficient existing knowledge to understand variables of interest, a research question that begs to understand “how”, and a timeframe of completion that is less than one year. This methodology is deductive in nature and begins with pre-defined domains of inquiry informed by tangential literature and the specific aims of this hypothesis. However, the conversational prompts and interactions with participants remain neutral, allowing for unanticipated themes to emerge and the preservation of nuance. RAP methods provide the necessary foundation of insight into our topic to build on in future research where in-depth coding may be appropriate.

METHODS

Data Collection

This study gathered information from semi-structured interviews (N=10) in which all participants were prompted with questions that related to four domains of interest: (1) motivations to create, (2) climate emotions and art, (3) community, and (4) nature and spirituality. The final interview guide (Appendix A) was finalized through an iterative process of adjustments made based on the insights gathered from each interview. The initial domains and most central questions remained the same across all 10 interviews. Adjustments included rewording questions for improved clarity and rearranging the order and domain in which the

questions fall. Most adjustments were incorporated after interview 2. The interview questions were designed to minimize assumptions about the participants' perspective on climate change or art practices.

The interviews ranged in duration from 40 minutes to 1 hour and were conducted either in-person or on Zoom. In-person interviews were recorded using the Voice Memo app on iPhone and Zoom interviews were recorded using the recording feature on the video call platform. All interviews were conducted and transcribed by the Principal Investigator of this study.

Participants

Participants were recruited through cold-emailing and found through public and institutional climate change art exhibits, recommendations from peers, and identification of public-facing online art portfolios. Inclusion criteria consisted of individuals who identify as artists and have some form of published climate change art, either self-published online or through exhibitions, where climate change art is defined as art inspired by climate change that attempts to accessibly communicate climate science, raise awareness of the climate crisis, or promote the audience's engagement in climate action. Participants were considered climate artists if they have identified at least one of their published works to be about climate change.

Ten climate artists were recruited and interviewed; their ages ranged from twenty-two to seventy-seven years old. All of the artists engage with visual art media except for one performing artist. All participants have been or are currently based out of the Northeast US region. Artists were not recruited based on gender, sex, religion, ethnicity, race, political affiliation,

socioeconomic status, or any other demographic or identity than being an artist who works with climate change and environmental subject matter. This sample includes professional artists, dual career artists, as well as students who are either studying art or have studied art. This study does not aim to produce conclusions from the demographic characteristics of the participants, but rather to explore various aspects of art as it relates to well-being alongside a changing climate from a series of diverse perspectives.

	Primary art medium and type	Age	Gender	Context of art engagement
Participant 1	Acrylic paint, mural (visual art)	23	Female	Art minor, hobby
Participant 2	Paint, ink, mural (visual art)	77	Male	Professional artist
Participant 3	Paint (visual art)	65	Female	Professional artist
Participant 4	Oil paint, watercolor, printmaking (visual art)	43	Male	Professional artist
Participant 5	Watercolor, printmaking (visual art)	72	Female	Professional artist
Participant 6	Digital art (visual art)	22	Female	Art double major
Participant 7	Public theater (performing art)	26	Female	Professional artist
Participant 8	Ink, painting (visual art)	53	Female	Professional artist
Participant 9	Mixed media, painting, digital	41	Male	Professional artist

	art (visual art)			
Participant 10	Painting (visual art)	72	Female	Professional artist and scientist

Table 1: Table of Participants

Ethics

This study was approved by the Yale Institutional Review Board (IRB) and deemed exempt from full review, meaning it was determined to pose no more than minimal risk to participants and all procedures align with at least one of the exemption categories defined by federal regulations. Participation in this study was completely voluntary and no incentives were offered to encourage involvement. Participants gave their informed consent by either signing an IRB approved written consent form or verbally agreeing to a consent form script. The verbal consent option was offered to improve the accessibility of participation in response to the difficulty several participants experienced returning an electronic copy of the form prior to the interview. All participants were made aware of their freedom to opt out of the study at any point before, during, or after their interview to no consequence, as well as their freedom to request the destruction of their audio recording at any time. All participants’ identities remain anonymous. All interview recordings were manually transcribed, coded to remove all personal identifiers, and stored locally on a password-protected device.

Data Analysis

After manual transcription by the Principal Investigator, transcript data were analyzed without the use of software and according to the Rapid Assessment Process (RAP) methodology. Templated summaries were created for each interview, which took the form of a table

categorized by the four domains outlined in the interview guide (Appendix A). The additional category “Other” was utilized for substantial data themes that did not fit within a predetermined domain. Analysis began with an initial read of the transcript, followed by copy and pasting quotes that aligned with an associated domain into the ‘Quotes’ column and concisely summarizing the relevant quotes in the ‘Summary’ column. An example of the templated summary structure is as follows:

Prepared by: Marla Minkoff Interviewee code: Age:		
Domain	Summary	Quotes Aim for maximum of 3 sentences unless it provides additional context not provided in the summary
Motivations to create		
Climate Emotions and Art		
Community		
Nature and Spirituality		
Other		

Table 2: Example Templated Summary

In order to gain a comprehensive overview of the data, identify key themes, explore patterns across participants, and identify theoretical connections, a matrix of all ten interview summaries organized by domain was created. The summaries within this matrix were pulled directly from each templated summary and further summarized to allow for easy interpretation. Based on analysis of the comprehensive matrix, a draft of the observed themes was written. Sections of the matrix that corresponded with each theme were highlighted in a specific color designated to that

theme. This process revealed the prevalence of each theme across all interviews and produced the final list of five important themes.

FINDINGS

Five themes have emerged from this analysis: (1) engaging in public education through creating climate art improves sense of agency; (2) incorporation of hope and awe surpasses fear and realism in arts-based climate change communication; (3) creating art is healing at a baseline, irrespective of subject matter; (4) community art bridges the gap between climate change and the individual; (5) connection to nature is inherent, but strengthened through observation and creation.

Theme 1: Engaging in public education through creating climate art improves sense of agency

Negative emotions about the changing climate (e.g., eco-anxiety, eco-paralysis, ecological grief) were steadily present throughout all interviews. Some participants detailed more severe experiences with these emotions than others, contributing to self-identified adverse mental health states. However, there was a consistent pattern of improved agency present among responses when recounting the nature of audience interaction with their work, as well as their specific goals and aims of creation. Participants consistently reflected feelings of empowerment from producing tangible action in the form of education. Participant 4, says:

“As artists, being able to sort of use that language if you will, to talk about current issues is really powerful... I found recently I feel like it's a new superpower that I've obtained or something just in the last five years or so”.

Participant 5 describes an audience perceiving her artwork as engaging in a “dialogue in a way” just through looking at the piece, interpreting it through their own lens, and making sense of what they are observing. Participant 5 explains that non-verbally communicating with other people “feels like I'm doing something to assuage my anger”. She continues:

“I feel better [when making climate art] than when I'm not doing anything about it. You know, at least in a tiny way I'm doing something... It's an avenue to take that anger and try to make it into something worthwhile.”

Unlike the rest of the respondents who are visual artists, participant 7's art medium is public theater, engaging in environmental storytelling and climate change topics. She thinks of her art as both an enjoyable community experience where people “feel taken care of”, as well as a “strategy for public education”. Similar to participant 4 who compared art to language and participant 5 who described it as a dialogue, participant 7 says:

“Now, it's like, giving people language, rather than convincing people of these things that are happening in their daily lives. It's giving people a language of okay, like what do you want to do about it? Like, how do you protect yourself from basement apartment

flooding? Or maybe like, how do you call your representative? Or like, how do you create a disaster kit or something like that?”

Throughout the interview, participant 7 frequently mentioned her experiences of eco-paralysis as a result of climate change, which occurs in response to the enormous scale of climatic and ecological challenges and often prevents individuals from being about to take meaningful action, essentially reducing one’s perception of agency. When speaking on the way her art plays a role in these emotions, participant 7 explains:

“I think feeling like you're making discrete changes, I think feels like that is the best way that I combat that kind of paralysis, like if I'm doing a show and there's a talk back and someone's like, “Oh, I didn't know this”, “So now I learned this” or like, I'm able to pass out like a zine or pamphlet to somebody with tangible information. And I'm like, I know, I was directly able to talk to somebody who didn't know this and share that. I think that maybe helps the paralysis like I'm doing something.”

Participant 2 also illustrated just how important feelings of agency are in the face of climate change. He is a professional public muralist and regards murals as “purposeful teaching tools”. He shares his historical struggles of grappling with social issues of immense personal significance. Associated depressive feelings led him to a period of substance abuse and addiction. Participant 2:

“I joined AA, and I don't do any of that anymore. I don't use drugs or alcohol to ameliorate my mental state. Because it inhibits and diminishes my ability to actually do relevant things, you know, and relevant things for me is the artwork that I do.”

Theme 2: Incorporation of hope and awe surpasses fear and realism in arts-based climate change communication

The necessity of conveying hope and positive feelings that connect an audience to nature was extremely prevalent among the interviews and central to the work that most of the participants produce. There were several accounts of responses that directly echo this sentiment:

“When it comes to art, it's important to have a very positive framing and a positive lens out of it being that that induces the most social action, and doesn't just get people thinking about it.” (Participant 1)

Participant 1 speaking further on climate change and art:

“I think it's overwhelming. I think it's depressing. I think that it is painful, and annoying, and frustrating. I don't think depicting all of that is going to be the thing that inspires people and makes people think, so I always try and be careful as far as like, I wouldn't be in this field if I didn't have a lot of hope that there is something to do...the hope is the driver.”

Participant 6 spoke about a piece she created consisting of sequential panels that illustrate different aspects of climate change, noting its “apocalyptic vibe”. The piece finishes with hopeful messaging, which was a conscious and intentional choice in order to make the piece more appealing. Participant 6 explains:

“But if I had been creating it for myself, there probably would not have been that element of hope in there...So I think my main motivation to add that hope element was because it was going to be perceived by other people.”

Respondents utilize a variety of techniques and avenues for incorporating positive twists to their otherwise heavy climate art, whether that be through humor, elements of cuteness, or balancing beautiful colors and imagery with less positive compositions. Participant 5 on incorporating humor into her art:

“You're gonna disarm somebody more or make them more open to something if you can make them laugh compared to you know, telling them what to do, then they're just gonna shut down. If you can kind of in sneak around to see the absurdity in something, you've got a much better chance of a reflection from the viewer.”

Participant 8 accomplishes a similar task through blending appealing nature imagery with her messaging. She explains:

“I try to do it in a way that maybe spares that person, that depressing part, by making it a little playful. Like there's a piece I did with the robin in the nest. Do you know, it's like, Oh, mama bird, and then you look closer, and it's the nest is just made of trash, and she's feeding them a plastic butterfly. You know? So it's, it's a strong message, but it's delivered in kind of a sweet way...I want it to be palatable at least and not so horrifying that you just can't look.”

Connecting to the earth through beauty

When explaining a rather alarming piece depicting various climate disasters, participant 1 elaborates, “I wanted to make sure that it also highlighted the beauty of like what our nature looks like when we treat it correctly in the environment.” This piece is a colorful and vibrant depiction of her home’s native flora and fauna, alongside disaster. This choice was described to be important because, as many respondents mirror, “the more people feel connected, the more people actually want to change their actions” (participant 1) and the experience of awe for the earth is one way to establish such a connection.

Participant 2 also carries this idea of connecting the viewer to the environment through the beauty of nature represented in his public murals. He says:

“What I try and do is create beauty about the environment, on walls. Like last year, I painted a mural in a poor neighborhood in Syracuse, New York. And it was the tropical seas with a coral reef, the temperate seas with kelp beds and different animals associated with temperate seas, and then polar seas with different kinds of animals and marine

mammals and so on, that live in the polar regions of the sea. So, in a sense, I'm giving people a view of something that is disappearing, but I'm not telling them it's disappearing. I'm just showing them what we have to lose. They don't necessarily realize that because they're just there to buy groceries and they walk by this thing.”

He talks about his effort to create a local culture of familiarity and acceptance of various ideas related to climate change and make climate change relevant for people who do not normally engage with it. The modality of public murals has the unique capability of reaching people who do not seek it out. Physically planting this imagery in public spaces shapes the experience, reality, thoughts, and dialogue of those who encounter it with no additional barriers to access. Participant 2 also recently painted fifteen birds on the door of someone’s grandchildren’s door and clouds on the ceiling using luminescent paint, with the goal of “want[ing] kids to be aware of the beauty of the natural world.”

Respondents who aim to connect others to the beauty of nature through their art also appear to have an affirmed sense of hope within themselves. Participant 2 continues:

“If we put down all our weapons and realize that love is the guiding force of the universe, like gravity is a form of love. If we do that, then I have hope even if the whole thing goes out.”

Similarly, participant 4 approaches this strategy through not just emphasizing the beauty of nature, but revealing beauty where beauty exists, which may not be clear to see in the face of industrialization and our changing world. Participant 4 recounts:

“My mom lives in Washington state in a town called Anacortes, which is an island that's connected by bridge, and it's beautiful. It's the Pacific Northwest, but to get to her Island, you pass oil refineries to get there. It's like you have this gorgeous background with these huge, like cities, basically, of industry. And so I've done a lot of paintings of that same kind of juxtaposition. And in that town at first they're like, 'Why on earth are you painting this? We always try to ignore it, like, you know, you're just highlighting the thing that we hate so much.' And since then, people have told me that now when they drive by they see it and they see beauty in the way the smoke comes in the light hits it and stuff. So it's seeing me paint it in a beautiful way has given them an ability to see it through a new light. And so, if you think about climate anxiety, which comes from seeing always the onslaught of all the scary facts and stuff and statistics, art, in a way, can be the antidote to that even without avoiding the tough subjects.”

Participant 4 has used art to shift the local narrative on oil refineries, something that is out of the control of people who are forced to live among it. Gaining control over your perception of the world around you is one powerful way to remain mentally impervious to the harmful emotions associated with the scale of destruction resulting from climate change and related environmental crises. Notably, participant 4 accomplishes this without the intention of trivializing or ignoring the implications of oil refineries on the community, but rather offers tools to cope with it.

Theme 3: Creating art is healing at a baseline, irrespective of subject matter

While the initial hypothesis of this study postulated that the expression of one's climate emotions through art was the primary healing mechanism for such emotions, this theme suggests that the healing qualities of art may have less to do with the subject matter, and more to do with engaging in the process of creation.

Participant 1 says, "I think the process of making art for me is very satisfying and rewarding and also very peaceful...I'm creating it for myself, first and foremost."

While reflecting on his experience as an artist, participant 4 states:

"If I don't paint, my mental health suffers immediately...I probably would still get benefit out of it, even if I wasn't just doing climate change related work...it does always come down to just you have to make the art because you're passionate about making the art so it always circles back around to the process and and maybe there within that is the catharsis and the self help that you get out of creating it. So, if that's all there is then that's enough."

Participant 10 similarly expresses how the absence of creating art causes her to suffer sensations of "withdrawal". Participant 3 says, "Art calms you down a lot. And then you can accept it...The whole thing is meditative in itself. If I hadn't done any painting, Oh, I'd never be quiet. I'd have to shut my door and go to my room."

Participant 9 parallels this idea of artmaking as healing and meditative, explaining:

“But when we do art, it's a very, like, non confrontational way of addressing, like, the subconscious, deep rooted, probably trauma, things like that, right. So it's a very simple way to just like, put something on paper and not feel judged. And, this is just for me. Just like doodling, doing things...it kind of puts the mind in a very meditative state...This is about exploring your thoughts and your ideas, with color, with line, or illustration. And I think that doesn't matter what topic you address.”

Emotional impacts of climate art

There was a wide range of responses given when participants were prompted to explain how creating climate art affects their climate emotions.

Notably, participant 2 emphasizes that engaging in actions and creating art that aligns with his beliefs has had a *positive* effect on his mental health. He explains:

“My mental health is fortified by it actually– you might think it's kind of kooky or crazy or something to create 30 J. Robert Oppenheimer statues that blocks way into a nuclear sub base..., but it's actually a form of re-constituting my sanity. You know, it's actually sane to not want nuclear submarines. It's actually sane to not want war. It's actually sane, to drive less, to consume less, to love nature, to introduce children to the beauty of it, and so on and so forth. That's a really important thing. You know, that's how I maintain my

mental stability. I used to drink and use drugs and stuff like that just to kind of escape the awareness I had of what we were doing. But I don't anymore, I engage it.”

Other respondents experience varying levels of *separation* from climate change due to their art practice, revealing that deep engagement with large-scale, long-term issues like climate change may have the unanticipated result of *disengaging* the emotions of the creator. Participant 1 explains:

“Climate change is my life. It's what I've chosen to dedicate my life to. So I mean, to an extent, maybe I've become a little bit numb to it, but not numb enough where I don't want to do anything.”

This experience is different from eco-paralysis, as no participants were reported to stop contributing climate art and to action. Rather, some participants develop mental boundaries to the issue, perhaps as a protective mechanism against paralysis or other adverse mental health experiences. Participant 6 revealed, “I’m actually pretty detached from the subject matter when I create climate art...when I actually start executing it in detail, I just kind of detached my emotions, I guess.” She elaborated that she feels “desensitized” to the subject of climate change and that it is “exhausting to spend all [her] time thinking about it so full on”. As a result, her climate change art has transformed from expressing her anxiety to “expressing it through a mode of gratitude”.

On the opposite end of the spectrum of emotions, participant 8 reports feeling intense *negative* emotions associated with her environmental art, which explores topics including ecocide, plastic pollution, deforestation, and political corruption. Over time, being constantly confronted with environmental degradation through the research for her artworks has caused her to become more “bitter”. She notes:

“I haven't really done a lot of my environmental art lately. Because it does get me feeling a little dark and sad. It just feels– I can really get dark...It does set me into like a depression.”

Despite experiencing feelings of “depression” and “hopelessness”, participant 8 still passionately commits to personal environmentally conscious behaviors, such as minimizing use of single-use plastics, upcycling clothes, primarily buying and using natural or recyclable materials (e.g., glass, wood, metal), and eating a meat and dairy-free diet.

In contrast, depicting nature

A parallel pattern emerged alongside the (positive, disengaged, or negative) observed emotional impacts of depicting climate change and environmental issues; participants noted particularly happy and healing experiences associated with depicting nature as beautiful and unscathed. This was strongly exemplified by participant 8, who describes depicting nature as a “fun and relaxing” “escape”. She says:

“That's like, okay, you know what, here's a really pretty part of the world that I love. And I'm just going to, I'm going to capture it. Feel every little flower rubbing against my nose as it sways in the wind or whatever, just like hippie dippie all the way. It's very healing. It feels great. Yeah. And nothing bothers me in the world when I do something like that.”

In fact, participant 8 recounts deliberately creating art of nature as a healing practice to recover from creating art that communicates environmental crises. She says:

“So I would go back and forth. And I would, I would tackle some of the ugly business. And then to recover from all the icky research, once I completed that piece, I draw something really pretty in the woods, to feel better.”

Theme 4: Community art bridges the gap between climate change and the individual

Similar to theme 3, theme 4 also transcends our original idea behind the healing mechanism of climate art. Rather than the act of introspection associated with climate art connecting the artist to the issue, this theme reveals that developing a connection and perception of personal stakes in climate change is best accomplished through community relationships, sharing experiences, and collective vision.

On her experience contributing to community climate change murals, participant 1 describes being more “joyous” when seeing her community in action, and that “it's a reminder that people do care about the stuff”. She states that seeing others connected to the issue means “there actually can be climate action and that reinvigorates [her] hope.” One special feature of

community climate art that participant 1 notes is that through being a part of it, people are not just learning and caring about climate change, but are primarily learning about and caring for each other. Participant 1 elaborates:

“I definitely think that community efforts like that end up strengthening the ties and the bonds of the community in the first place...it's these community types of engagement that expose the need and the desire to like, do something for the people.”

Participant 1 continues to explain that participating in community climate art goes beyond educating the contributors, and that at its core, serves to build care and support among members:

“I think the beginning is discussion about why you're doing something about climate change, which is more about the education piece, but that's like 10%. The other 90% of doing is so much more about getting to know each other and I think expanding on just a support circle, even very informally. It's much more about like mental health, community, partnership, kinship, togetherness, which all I don't know, in turn, inadvertently improves everything else”

Participant 7, a public theater artist whose medium is inherently rooted in community, talked about the despair and anxiety she feels confronting the reality of “islands washed away” and “cultures that are being destroyed”, and how her art provides a space for her to process these feelings. She believes that this healing quality of community theater art extends to both the artists and the audience, “blurring the line” between them, as they all exist in the space together and are

prompted to process the subject matter alongside each other. Participant 7 gave an anecdote of a climate change public art piece on flood sensors that she organized a few summers ago. She recounts a moment dedicated to processing climate feelings among production members:

“I had people kind of start rehearsal and get into the process by writing– just like take 10 minutes and free write. It doesn't need to go anywhere. It's just kind of get your brain moving, write about like the first memory you have of a storm. What do you remember from the storm? What did you feel in that moment?”

Members were able to gain a deeper understanding of each other's experiences. Participant 7 continues:

And [my friend] shared this amazing story that we used and had [him] perform in the final play as like this wonderful pivotal moment of growing up in Miami and like getting rice and beans at the mutual aid community help. And like, the playground that they played on being destroyed and all of these sensory feelings and emotions and also like childlike perceptions of the storm. And I felt like I really understood more about this impact that Katrina had on Miami”

She explains:

“Hurricane Katrina wasn't something that I really felt growing up in New York– we didn't suffer Flooding or have like even a really bad tropical storm. So it's something that

I didn't know intimately...I felt like I learned a lot more. And I also felt like the story was really optimistic about communities helping in the face of the storm, which was great.”

In this example, understanding the intimate ways in which climate change shapes others' lives helps make different aspects of climate change personal to people, even if they do not experience that particular effect or event themselves. Simultaneously, sharing stories of community resilience, such as post-storm mutual aid, food, and resources, through art, fosters optimism and combats despair.

In addition to developing community networks and understanding each other's experiences, participants spoke about how community art makes people feel like they are an important part of something larger. Participant 9 collaborated with local high school students on a climate art project in which students were allowed to freely draw anything related to climate change together on a large sheet of paper. He saw themes that emerged from the drawings and assembled some of them together to create one cohesive piece. He recalls:

“And then when I presented it to them, they got super excited, because then they started to see how a collective group effort can start to manifest into, you know, something that's more curated, clear, that can be shared...These drawings were representative of the students there. They felt like they owned a part of it. And that they were contributing to this, like, I guess bigger cause right...I definitely saw them light up.”

Future plans for this school include a community mural project to communicate to school administrators and Board of Education members what the students would like to see at their school, such as gardens and places to sit to exist within nature. Participant 9 describes this mural project as a powerful way to collectively imagine a future that everyone wants, effectively express these ideas to people in charge, and ground it in reality by allowing it to physically exist on a surface for people to see. He explains:

“More or less like it is activism, right, and I still saw it through that lens, but in a very different way... it's more like, hey, we created this thing, this is the vision we want to see, this is what we need here. Right? ...Use art as a way to engage leadership. Almost like create the vision for them.”

Echoing several other responses from participants who create public murals, art made by the community to materialize collective ideas works to affirm agency, interpersonal relationships, community resilience, and optimism for the future.

Theme 5: Connection to nature is inherent, but strengthened through observation and creation

Previous literature supports the notion that being in nature and creating art leads to sensing nature as part of one's identity and an increasing awareness of issues concerning the environment (Moula et al., 2022; Stets & Biga, 2003). This study aims to understand how this theory relates to the experience of artists with extensive engagement with environmental and climate change subject matter. To refrain from priming participants to answer in a particular direction, they were

simply prompted to explain their relationship with nature, how much time they spend in it, and how they perceive their art to be related to this relationship, if at all.

The majority of respondents expressed a deep fondness and affinity for nature and the nonhuman world, seemingly stemming from early childhood experiences. Participant 8, who perceived creating art of nature as healing and restorative (theme 3), displays a strong adoration and compassion for even the smallest of creatures. She recalls growing up in Cleveland, Ohio and creating small ponds for water bugs out of a love for animals and insects. Participant 8 offers a recent story:

“R: You know, I had a pet stinker bug here for a little while. I: Really? R: Yeah. I: How did that go? R: It was great. I found it in my arugula. Cats were batting it around. I'm like, no!!! Little green stinker bug. I'm just– I'm like, well, it's too cold now. We'll hold on to him until spring you know, it's like February. And every day I'd give him a little food spritz of water and make sure it's clean in there and he'd crawl around in my hand. We had a little thing going on. [laughs] It was like eight months [laughs] He was my little buddy, he was. I still have him, he's in a little box like this. I might draw him some time.”

Participant 8's art created in nature, deep ties to small creatures and the environment, and pro-environmental identity and behaviors affirm the theories from the literature.

There appears to be a variety of ways among respondents in which art shapes this relationship with nature. Participant 2 shares the origin of his interest in creating environmental art of

beautiful marine life. He describes getting involved with a group called Save the Whales in Hawaii:

“They bought an old crab boat from Anchorage, Alaska. They were fixing it up in Honolulu Harbor and I came upon it. And I started helping and I started painting whales on the side of the boat. Then I started painting anti-whaling messages on the side of the boat...it became part of an ecological Navy if you will...that really piqued my interest in whales and dolphins and the oceans in general as an environment, you know, and so, and I still am engaged in it.”

This experience of painting whales in accordance with a cause sparked a lasting connection between participant 2 and marine mammals, which has led to a career of environmental art based on this connection. He recounts several rather transcendental or spiritual experiences with whales and dolphins throughout the interview. Spirituality may be key to the process of achieving nature connectedness (Adams & Beauchamp, 2019).

While visual art calls for the close observation of the nature that one wishes to depict, community-based public theater art has a different modality of encouraging connection to nature. Participant 7 says:

“I perform a lot in waterfront parks. I feel like I choose those kinds of places to perform in because they're really inspiring. And like, often really, like a lot of people go there. But also, these places are a good excuse to like, check out your neighborhood waterfront

coastal park. And so I think performing and creating climate art makes me literally be in nature more often...people forget that New York is an island, and there are all these beautiful coastal wetlands and shores and beach grasses that I really love.”

In many cases of community art activities, the art itself is the site of connection, whether that be to nature or other people.

Speaking more on the process of creating his collaborative climate art piece with high school students, participant 9 shared that he would give them prompts to draw together on a long piece of paper. One prompt was to draw emojis that the students feel are related to climate change, as emojis are an easy, low stakes, and familiar subject to the younger audience. This prompt also had the dual purpose of giving insight into how the students perceive climate change. He notes:

“We came up with a couple of interesting icons. And that led to like some themes that really started to emerge...And what I noticed was like, fundamentally what young people want is to reestablish a connection with nature, like a legit yearning to be like, I just want to hang out by a tree, I want to be outside on a bench. I just want a park to play at, like, very simple...they really liked to personify nature, right. So giving, like, more or less like inanimate objects, you know, human qualities, right...I thought was really interesting”

In this instance, art was a medium to express innate feelings of nature connection and to reproduce this connection through blending qualities of the human and nonhuman world together. The anthropomorphization of nature is a quality documented within Asia-Pacific

cultures, contrasting with western conventions of viewing nature as separate from humanity, and correlates to perceiving the welfare of humans and nature as linked (Nunn et al., 2016).

Conceptual Model

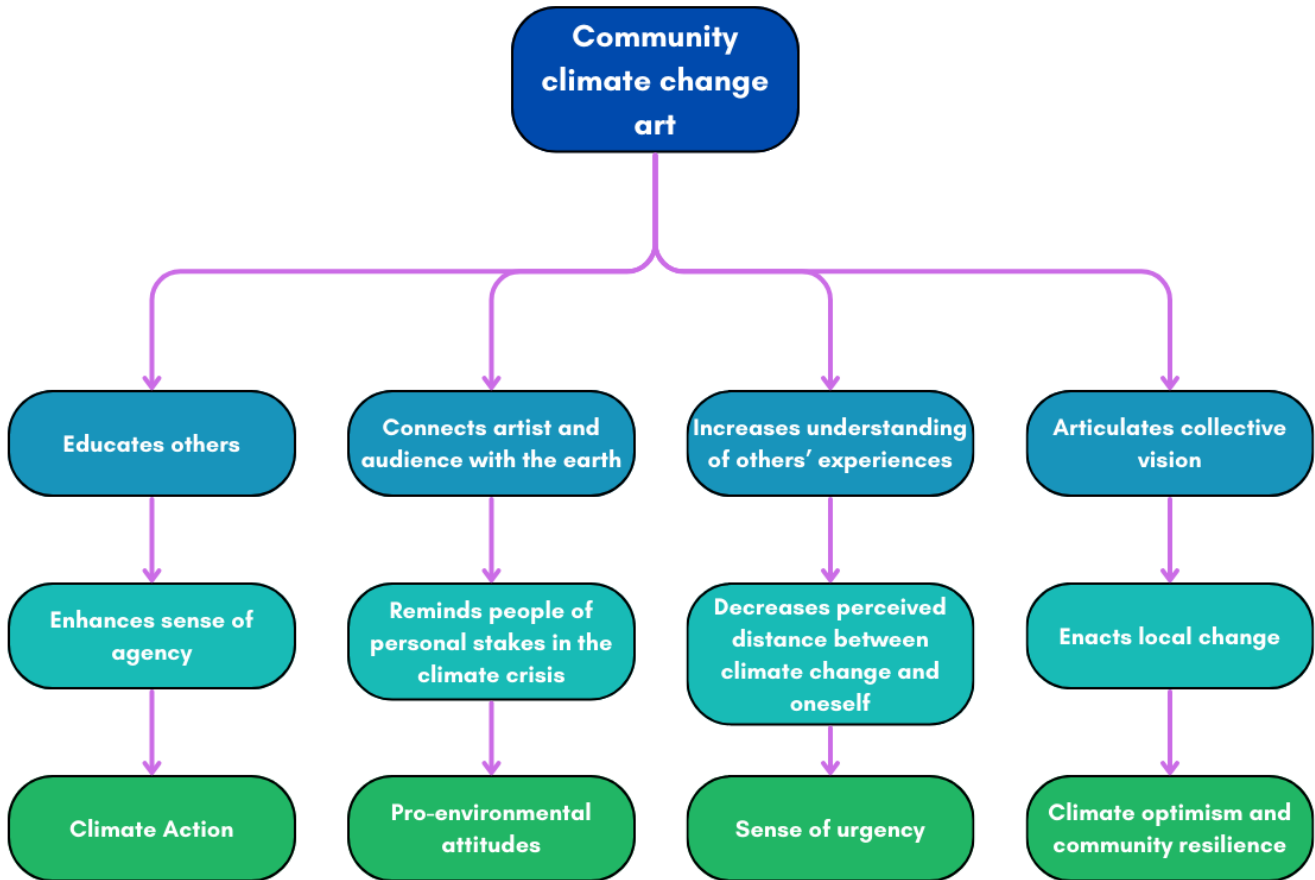


Figure 1: Implications of community climate change art

This conceptual model provides a visual representation of the proposed personal and social downstream effects of engagement with climate change art, specifically in community contexts, as informed by this study’s themes and findings.

Findings Summary

Through the RAP analysis of 10 semi-structured interviews with climate artists, this study has found that educating others through climate art as a form of climate action gives climate artists a sense of agency in the face of climate change. The perception that oneself is making tangible contributions to climate solutions works to combat the climate emotion of eco-paralysis. Within their arts-based climate change communications, climate artists tend to incorporate positive framing and themes of hope into their work because it is more effective at resonating with an audience than work that primarily portrays fear or tragedy. Several of the respondents accomplish this through shifting the narrative on climate change to simultaneously encourage action while seeing beauty in the world as it changes. Similarly, some respondents encourage action through reminding their audience of what humanity has to lose in the climate crisis by highlighting the beauty of the world and eliciting feelings of awe for nature. We have also found that not only was creating art specific to communicating environmental crises not found to be particularly healing to climate emotions for reasons other than gaining an improved sense of agency, but in some cases, this process actually increased emotional burden. In contrast, the process of artmaking was observed to be meditative and mental health promoting, regardless of its content. Art that specifically depicts nature appears to be especially protective of mental health and has emotionally healing qualities. Additionally, art created in and for the community has particular utility in the climate crisis, as it has shown to strengthen community bonds, help individuals understand and feel tied to other people's climate change experiences, and feel like an important part of something bigger than themselves. Such perspective combats the abstract and seemingly distant nature of climate change, motivating people into action and promoting dialogue. These implications point to community climate art as the most effective mechanism to

address climate emotions. Community art may also be an important tool to materialize a collective vision for a future that serves the people, and the act of physically grounding the image of an intangible vision in reality is a powerful mechanism of action. And lastly, creating art about nature, especially when physically in nature and with community, fosters pro-environmental identities, momentum towards sustainability, and aligns with natural human affinities.

DISCUSSION

While this study's findings demonstrate the importance of maintaining hopeful framing, as emphasis on environmental destruction threatens to perpetuate adverse climate emotions, we have found that simultaneous recognition and understanding of the issue is an essential component of effectively addressing mental health outcomes of climate change. In fact, an overemphasis on optimism may inadvertently silence issues of environmental justice and racism through overlooking the current plight of marginalized communities (Pihkala, 2018). We have found climate art to have the ability to shift audience perspective to see the everlasting beauty in our changing earth as a means of coping with the emotional consequences of such changes and maintaining resilience, rather than ignoring them altogether.

Additionally, although we have found community art to be the most effective creative modality of addressing climate emotions, all artists benefit from the meditative nature of creation and the experience of awe for beauty and nature. Further exploration may investigate this study's implications on efforts to decolonize knowledge systems and reinvigorate a culture of care for the natural world, as well as what that means for public health and the ways in which community members care for one another.

Limitations

Several limitations should be acknowledged regarding the findings of this study. Typically, RAP methods require a team to engage in the iterative development of the interview guide, the establishment of domains of inquiry, and analysis of the findings. This project was conducted solely by its Principal Investigator and is subjected to such individual's intrinsic personal biases. Additionally, recruitment of participants may have been subjected to selection bias, as certain factors may have influenced the participants' involvement in the climate art exhibits from which they were found, as well as influence their desire and willingness to participate. Furthermore, this study has a sample size of 10 participants and did not stratify based on demographic characteristics. Therefore, these findings are simply an exploration of the research question and are not generalizable to a larger population or specific demographic.

Implications for Public Health Practice

The United Nations Framework Convention on Climate Change (UNFCCC) established the Warsaw International Mechanism (WIM) for Loss and Damage associated with Climate Change Impacts at COP19. This climate policy domain was initiated to address the loss and damage associated with climate change, including extreme events and slow onset events, with emphasis on particularly vulnerable countries and populations. This working plan outlines nine action areas, one of which includes efforts to enhance data and knowledge of the 'non-economic' losses associated with climate impacts. To do so, intangible losses that are difficult to assess by standard metrics, such as those relating to the experience of ecological grief, are of particular importance to examine. Future research and funding avenues should leverage this policy precedent to prioritize increasing our working body of knowledge on the psychological

dimensions of non-market loss. Substantiating the literature on the importance of addressing such outcomes works to systematically reframe land, ecosystems, and the nonhuman world as valued components to health and well-being. Another action area outlined by WIM is to enhance understanding of the capacity and coordination needed to build resilience against loss and damage, including recovery and rehabilitation. This study offers an exploration into the utility of arts-based mechanisms of fostering such resilience, and invites further investigation into how specific, contextually, and culturally competent arts-based interventions may be implemented into institutional operations and made accessible within our current systems.

Recommendations for future actions as informed by the findings of this study include:

- (1) Incorporate creativity into the structure and functions of institutions to reduce the barrier to engagement with the arts.** It is important to acknowledge the existing barriers to arts engagement, whether that be from acquiring the necessary materials, having dedicated time to create, or lacking the knowledge of how. Therefore, it is essential for such practices to be incorporated into the natural operations of the organizations in which people belong (i.e., schools, workplaces, etc.). As is, natural human tendencies of creation are framed as discrete hobbies and wellness activities that individuals have the personal responsibility to produce resources for. Structural creativity within institutions works to take the onus off the individual to engage in health-promoting activities. This may be accomplished through consciously designing projects and programs to be visual, expressive, collaborative, and executed in nature whenever possible.
- (2) Tailor arts-based interventions to align with the culture of the participating communities.** Effective participation in community art requires members to feel a sense

of belonging in the space, meaning cultural competence is key to the successful design of arts programming. One mechanism to accomplish this is by providing communities with resources to organize arts-based community actions by and for the people within the community.

(3) Integrate routine, reflective practices of identifying and acknowledging beauty in

educational settings. The practice of finding beauty where beauty exists in the face of a changing world, even if it requires some imagination, is a powerful tool to improve mental health outcomes. This may take the form of frequent classroom field trips outdoors, coupled with low stakes drawing prompts to capture observations that students feel bring them joy. Blending meditative and peaceful practices into school operations may encourage a larger cultural adoption of focused observation and wonder.

(4) Center arts and health initiatives across disciplines, institutions, and agencies.

Future actions must leverage climate policy spaces to source additional resources for the continued exploration of the intersection of climate change, health, and the arts.

CONCLUSION

Our findings advocate for a reimagined role of art in public health strategies, suggesting that integrating art into climate resilience efforts can significantly amplify their effectiveness. By meaningfully engaging individuals and communities, community climate art may help bridge the gap between scientific understanding and personal action, making the abstract threats of climate change comprehensible and actionable. We posit that promoting the ubiquity of arts-based practices may catalyze a broader cultural shift towards more sustainable attitudes and behaviors, fueled by a deepened connection to the natural world and to each other.

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APPENDIX A

Screening Questions (Pre-Interview) Purpose: Gather demographic information	
1.	Where are you located?
2.	What is your age?
3.	How would you describe the subject matter and media you work with?
Introduction Purpose: Build rapport	
4.	How did you get started in art and what inspires you?
5.	How long have you been working with climate change/environmental subject matter?
Motivations to Create Purpose: Determine the nature of the artist's work; goals of this practice; personal significance of their creation	
6.	Is there something specific that you aim to communicate in your work? <i>Probes: Do you have an audience in mind when you create? How do you feel when your piece is perceived by others?</i>
7.	Is there a connection between your climate change art and personal identity? <i>Probes: Are there specific motifs, landscapes, themes that you revisit in your work?</i>
8.	Do you create climate art for yourself, others, both, or neither?
Climate Emotions Purpose: Understand how climate change affects the participant's mental health; understand how art affects the participant's mental health?	
9.	When you think of climate change, what are some feelings that come to mind? <i>Probes: What makes you feel this way?</i>
10.	Can you tell me about a time when you experienced a negative emotion about the earth, climate change, or the environment?
11.	How does the process of creating climate art make you feel? <i>Probes: Are these feelings different when your art is not about climate change? How do you feel when your piece is finished?</i>
12.	What are some things you do to take care of your mental health?
Community Purpose: Explore the role of community in shaping perceptions of the climate crisis	
13.	Is your art a solo endeavor or do you ever collaborate with others?
14.	How is the experience of making art different when you work with others? <i>Probes: Do you experience different emotions?</i>
Nature and Spirituality Purpose: Reveal the role of art on the participant's relationship with nature and spirituality; how engagement with art as a result of this relationship may shape outlook on climate change	
15.	Do you spend a lot of time in nature? <i>Probes: Has this always been the case?</i>
16.	Would you consider yourself a spiritual person?
Outro Purpose: Close out the interview	
17.	Is there anything you would like to mend or add to your previous answers, or anything else you would like to share?
Thank participant profusely for taking the time to share their perspective. Emphasize that the research team is available for any follow-up questions or concerns. Offer information on how to access the result of their data.	