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Youth Climate Activism: Educational Experiences, Stories About Becoming Activists and Framings of Climate Change

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Youth Climate Activism: Educational Experiences, Stories About Becoming Activists and
Framings of Climate Change

By

SALLY NEAS
DISSERTATION

Submitted in partial satisfaction of the requirements for the degree of

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in the

OFFICE OF GRADUATE STUDIES

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DAVIS

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Abstract

In the last few years, young people around the globe have increasingly been engaging with climate change via collective, political activism. In this dissertation research, I explore youth climate activism in the San Francisco Bay Area of California. To do this, I spent seven months as a participant-observer with the Sunrise Movement, a national youth climate activism group. During this time, I conducted twenty oral history interviews with racially, economically and gender diverse youth within this group and gathered archival materials. I then analyzed these data sources to answer questions about the experiences and understandings of these young climate activists. In the first chapter of this dissertation, I explore the young people's experiences of formalized climate education, questioning the extent to which it has been "a critical agent" (United Nations, n.d.) in their activism. From this analysis, I provide recommendations on climate pedagogy. In the second chapter, I explore the narrative the young people have about becoming climate activism. This illuminates the pathways and factors shaping climate activism among young people. In the third chapter, I examine how this group is defining and understanding the issue of climate change and put this in conversation with previous ways of defining it. The fourth chapter shares about a community-engaged element of this research, which is a website that showcases parts of the oral histories and provides tools for educators around climate change.

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Dedication

For my daughter, June Alexandria Neas-Bryerbass. You have been with me, both in utero and Earthside, for every bit of this research—from the fieldwork and qualifying exam to this final draft. This work is dedicated to you and your generation, that you may have a future that is not only livable but beautiful.

Acknowledgements

Thank you to my husband, Max. I know you didn't sign up for this, but you were here for all of it anyways. Without your steady support and belief in me, I don't know that this would have happened, or at least not as well as it did. And thank you to my mothers-in-law, Janet and Ellen. Thank you for the constant cheerleading and for the hundreds of hours of childcare. And thank you to all three of you for believing I was a top candidate and convincing me of it also.

Thank you to all the young people who were willing to share their stories with me. It has changed me in ways I don't even fully know yet. And a deep bow of gratitude to all the young people around the world with the incredible courage to turn towards this crisis.

And thank you to my committee members, Claire, Clare and Mark, for reading countless drafts, providing feedback and pushing my thinking. You have greatly improved my work, for which I am deeply grateful.

Introduction

Six years ago, I quit my ten-year career in youth development and enrolled in graduate school.
Much of my career had focused on the intersection of youth and the environment. Through
afterschool farming programs, wilderness trips with Bay Area girls or field trip-based
environmental education, this decade of my life was suffused with experiences of engaging with
youth in a non-human context. Like so many of my colleagues, my motivations for doing so
were rife with narratives about "connecting youth with nature" so that "they will care" and "help
the environment". The elephant in the room—both in my motivation for my career and in the
collective work of environmental education—was always climate change.

As the climate crisis became more palpable, this elephant grew larger and more uncomfortable. It
became more urgent, in my own life and in my teaching. I felt overwhelmed and unsure of what
to do about it, not to mention how to talk to young people about it. As this discomfort grew, a
new one emerged: there was a deafening silence on climate change in education. When educators
did address climate change, it was of their own volition; I found little substantial curriculum on
the subject. And most attempts seemed woefully inadequate. The bulk of climate education
focused on describing the greenhouse gas effect and the globalized impacts of climate change.
Yet, if solutions were mentioned at all, they were individual actions, usually peppered in during
the last fifteen minutes of class. The underlying narrative was that played out refrain from the
environmental movement: the planet it screwed but don't despair! Ride your bike, recycle, small
actions add up. Given the scale and scope of the problem, it was hard to sell even myself on this
story.

These questions eventually led me to graduate school, where I first transformed them into my master's work. For this, I developed a curriculum that blended science and storytelling through project-based learning to help young people make sense out of climate change (Neas, 2019). I piloted the curriculum at two sites with over fifty youth. This experience was transformative; as these high school students made and shared their own stories about climate change, I watched them writing themselves into a larger narrative about climate change. I learned a lot by working alongside these young people—perhaps most central was the importance of youth voice when it comes to climate education. But more than anything, this experience catalyzed even more questions for me.

There was a moment from my last day at one of the sites that has always stuck with me. I was leading a wrap up of the course and we were talking about climate action. A few students, throughout the course and now, had tacitly hinted at their discomfort with climate action, expressing that they didn't understand how to take action on such a big problem. This comes in spite of that fact that much of the curriculum was devoted to discussing various emissions reductions strategies. Finally, in this wrap up session, one girl said it directly, "I learned so much about climate change, but I still don't know what to do about it. Like, I am doing all the things I should be, like not showering as much and not eating meat. And I still don't really know what to be doing. Like, I wish you could just give us a sheet that tells us what to do."

I really had no valuable response to this student. The reality is that there is no sheet. Even though environmental narratives have tried to simplify climate action (Jamison, 2010), boiling it down to a few small steps that one could fit on a sheet, the question of what to do about climate change

is incredibly complex. It relates to things like why climate change is happening, a complex and debated issue (Pepermans & Maeseele, 2016; Zehr, 2015). This makes the question of how to teach about climate change, or to what end, even more complex. No wonder my students were overwhelmed and confused.

This question—not only of how to teach about climate change but why and for what purpose—led me to several more years of graduate school. In this time, I have not yet come up with a definitive answer, but I did figure out a novel way of asking this question.

My approach has much to do with timing. It was the fall of 2018 when I was implementing my master's thesis. That autumn was a pivotal moment in climate history, as it was the first youth-led school strikes for climate. Youth around the world walked out of schools, demanding climate action. While this was not the singular origin of the youth climate movement, the school walkout movement leant new visibility and momentum to the nascent youth climate movement. Here was something new and different, something that seemed hopeful.

The presence of youth-led activism allowed me, as a researcher and educator, a vital opportunity. Nearly all research on climate education and engagement has been shaped and conducted by adults, without the participation of young people (Bowman, 2019). While there is value in this, why not just ask young people what they find to be engaging and compelling? Here was a group of youth who were clearly engaged and compelled. These young people had made a critical turn from inaction to collective, political action, and they had done this of their own accord. By relying on the experiences of these young people, I could work alongside them to inform climate

pedagogy that met their political goals. Furthermore, it seemed to me that youth climate activists were defining and acting on climate change in ways completely unique from how it was being presented through formal education (Monroe, Plate, Oxarart, Bowers, & Chaves, 2017). By knowing those framings, I could translate those ways of understanding and relating to climate change into educational spaces.

And thus, my dissertation. I conducted ethnographic research with the San Francisco Bay Area hub of the Sunrise Movement, a youth climate activist organization. I worked with these young activists as a participant observer from Dec. 2019 until August 2020. While their organizing was initially interrupted by the COVID-19 pandemic, Sunrise quickly moved all of their organizing online. The bulk of my research comes from a series of oral histories I conducted with twenty racially and gender diverse organizers within the group.

In the first paper, I evaluate the claims that climate education is currently serving as a "critical agent in addressing climate change" (United Nations, n.d.). The underlying premise of this paper is that climate activism is increasingly a key means through which young people are defining climate action of their own accord. Thus, if education is to be a "critical agent", it should be supporting their activism. I examine the extent to which this is true by evaluating the experiences of formal climate education among young people in Sunrise. As in alignment with most of the literature (Monroe et al., 2017; Wibeck, 2014), young people received a science-driven education that emphasized a one-way flow of information and "objective" truths about climate change. Their education neglected the social or political causes of climate change nor did it examine climate justice. The impact was immobilizing—youth experienced action paralysis, which lead

to despair and anxiety. I discuss the implications of this further and provide recommendations for moving climate education forward if it is really to be a "critical agent" for change.

In the second paper, I consider the pathways youth took into activism via the narratives they have about becoming activists. As Taft (2017) points out, such narratives are critical in illuminating the structural factors that shape activism. These narratives reveal that the pathways differed among youth of color and White youth. On the whole, White youth followed pathways that have been previously defined in the literature on environmental action (Clayton, 2003; Clayton, 2013). For youth of color, commonly held assumptions about who was and was not an environmentalist were barriers to be overcome. For both groups of youth, their experiences of becoming climate activists were deeply intertwined with ecoanxiety (Ojala, Cunsolo, Ogunbode, & Middleton, 2021). Becoming an activist also involved developing critical consciousness, a distinctly political way of taking environmental action that has not been reflected in the previous literature.

For the third paper, I will look more broadly at the ways young people are defining and acting on climate change. I used the oral histories as well as participant observation and archival collection from Sunrise to examine how youth within this movement are framing the issue of climate change. My research reveals that it is a much more political and justice-oriented framing than past iterations of the environmental or climate movement. In fact, it seems that much of Sunrise's framing of climate change is borne out of the failures of past climate movements and the exclusionary politics of the environmental movement as a whole. This potentially reflects a bigger shift in environmentalism as a whole.

The final output of my dissertation is a public-facing element. It is a website I built that shares

the oral histories publicly. For this, I partnered with the oral history participants as well as the

Wick Poetry Center out of Kent State University in Ohio. The website is geared towards teachers

as well as activists (and is already being used by members of Sunrise around storytelling). In the

videos, viewers learn who an activist is, why they're fighting for climate justice and what their

vision of change is. Then, they can make their own story by clicking on the "respond" button.

From there, they will see a transcript of everything the activist said. They select words from the

transcript to build their own story about climate change, making new meaning out of the

activists' stories.

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Chapter 1: Formal Climate Education Experiences of Young Climate Activists

Abstract

Young people are increasingly engaging with climate change via activism and social movement participation. There has been a recent focus on education as a "critical agent in addressing the climate crisis" (United Nations, n.d.). Much of these efforts are aimed at young people via formalized climate change education. But to what extent is climate education actually supporting the climate action efforts youth are already making via activism? This research article examines this question through oral history interviews with young climate activists to understand their experiences of climate education and how those impacted them. These narratives reveal that most young activists learned about climate change through formal, school-based science learning. The pedagogies used in formal education framed climate change as an abstract, scientific issue, removed from daily life. However, this framing failed to address the political and justice-related aspects of climate change, as well as strategies for addressing it. The impact was that youth were immobilized and experienced panic and dread about climate change. The implications of this are discussed, including recommendations for climate pedagogies that support activism.

Introduction

> *"The scientific evidence is unequivocal: climate change is a threat to human well-being and the health of the planet. Any further delay in concerted global action will miss a brief and rapidly closing window to secure a livable future."*

These are the final lines of the 2022 report from the Intergovernmental Panel on Climate Change (IPCC). These are bold lines coming from the world's leading authority on climate science. The IPCC is making an irrefutable call for bold global climate action; they warn that the failure to do so poses the possibility of an unlivable future. To achieve such global action, the IPCC highlights the importance of civil society. Among other strategies, they name social movements as key in pressuring governments to take the necessary action (IPCC, 2022).

The recent rise in youth climate activism around the globe exemplifies the role social movements can play in climate action. The youth climate movement is a global movement made up of young people demanding swift and aggressive climate action (Holmberg & Alvinius, 2020; Pickard, Bowman & Arya, 2020). This movement emerged in the context of decades of governmental inaction and the failure of adults to adequately protect the future of young people. Early research on this movement demonstrates that it has been successful in making climate change a top priority (Han & Ahn, 2020), something mainstream environmental movements have failed to do for decades.

A key question in the literature on youth activism is the role adults play. While adults often impede youth activism by limiting their agency (Checkoway, 1996; Earl et al., 2017), they can also play supportive roles. In particular, adult-led education can help youth engage with activism (Ginwright & Cammorata, 2007; Gordon, 2009; Kirshner, 2007). The question of what role adult-led education plays is particularly potent for climate change, given the recent focus on education by leading climate organizations. The United Nations (UN) declared education "a critical agent in addressing the issue of climate change" (United Nations, n.d.). This strategy also

appears both in the 2022 IPCC report and the UN Framework Convention on Climate Change (UNFCCC).

The underlying premise in regarding climate education as a "critical agent" in addressing the climate crisis is that, if people understand the issue, they will take action on it. However, in reality, the connections between climate knowledge and action are tenuous (Bak, 2001; Lorenzoni, Nicholson-Cole, Whitmarsh, 2007; Schultz, 2002; Wibeck, 2014; Wolf & Moser, 2011).

Given the recent rise in both youth-led climate activism and adult-led climate education, this poses an important question: what are the connections between formal climate education and youth climate activism? Are current climate pedagogies supporting youth activism? This research addresses these questions through oral history interviews with young climate activist. These interviews explore the young people's experiences of climate education and how it impacted them, including their activism. In my analysis, I emphasize the narrative that was constructed around climate change via formal education, and how young people responded to this narrative. This sheds light on the role that formal education plays in young people's climate activism, illuminating the extent to which it actually is a "critical agent" in fostering substantive action. This research also provides insight into pedagogies that support climate activism.

Literature Review

Climate education and engagement

Research shows that the vast majority of climate education is taught in science classes, where learning is assessed through increased knowledge of the issue (Monroe et al., 2017). Pedagogies

that coincide with this strategy typically involve a one-way flow of information from expert to layperson (Wolf & Moser, 2011; Wibeck, 2014). The focus on knowledge acquisition, often termed climate literacy (United States Global Change Research Program, 2009; Dupigny-Giroux & Cole, 2018), is based on the notion that if people better understand climate change, they will act on it. This paradigm is known as the information-deficit model (Wibeck, 2014). However, multiple studies have shown that information alone has little to no impact on inspiring action (Bak, 2001; Wibeck, 2014; Wolf & Moser, 2011).

Additionally, most educational efforts focus on teaching about the greenhouse gas effect and globalized phenomenon like melting polar ice caps (Bofferding, 2015). As a result, youth have a limited understanding of the drivers of, and solutions to, climate change (Bofferding & Kloser, 2015; Shepardson, Niyogi, Choi, & Charusombat, 2009). Thus, in the case that youth are motivated to act, their education will not necessarily give them tools to do so. When curricula does address climate action, it most commonly is focused on individual behavior change (Monroe, Plate, Oxarart, Bowers, & Chaves, 2017). Jensen (2002, 2004) posits that these traditional approaches to environmental education, which mostly on the problem.

When it comes to engaging people with climate change, what matters more than knowledge is the meaning people make out of it (Wolf & Moser, 2011). Meaning-making around climate change has to do with the stories individuals construct with the knowledge they have, even if that knowledge is not particularly deep (Corner et al., 2014; Neas & Napawan, submitted; Paschen & Ison, 2014; Wolf & Moser, 2011). To engage with climate change, people need to constructing

narratives that render the issue personally meaningful (Wolf & Moser, 2011). Such narratives are much more important for sustaining long-term engagement.

Critical approaches to climate action and education

Much of the literature on engagement tends to focus on fostering concern, policy support or individual behavior change (Nielsen et al., 2021; Ockwell, Whitmarsh, & O'Neill, 2009). However, these strategies have proven ineffective for addressing climate change. There is evidence for this in the fact that concern and policy support have hit all-time highs (Leiserowitz et al., 2021), but so too have carbon emissions (World Meteorological Society, 2021). Their ineffectiveness lies in that fact that they do not address the political or economic dimensions of climate change. The fossil fuel industry has been key in disrupting major climate legislation domestically and internationally via their economic and political influence (Brulle, 2014; McCright & Dunlap, 2003). Addressing climate change thus means addressing these forces. Neither concern, policy support or individual action do so. And in fact, the politically neutral narratives about behavior change obfuscate and protect, instead of uncover and change, the political forces shaping climate change (Pepermans & Maeseele, 2016; Zehr, 2015). Thus, as researchers and educators consider the outcomes of climate education, they should consider education that leads to collective, political action via activism and social movement participation.

When it comes to youth activism, research shows that adult-led education does play a role. In particular, education can play an important role in helping young people develop a more critical praxis (Ginwright & Cammorata, 2007). The support of adults in coming into activism can be

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particularly important to youth of color, who often lack resources and face additional barriers (Earl et al., 2017; Ginwright, 2010). However, there has been little work examining what more critical or political approaches to climate education could look like.

In terms of content, Jenson (2002, 2004) proposes a framework of what a critical political environmental education could look like. Jensen separates traditional environmental knowledge, which only focuses on the problem, from actionable environmental knowledge. Actionable environmental knowledge involves four domains: 1. Knowledge about the effects of the problem (knowledge about the existence and spread of the problem); 2. Knowledge about the root causes of the problem (knowledge about the sociological, cultural and economics forces shaping the issue); 3. Knowledge about strategies for change (sociological, political and psychological knowledge about how the make cultural change); and 4. Knowledge about alternatives and visions (images and visions of how the world could be different).

In terms of modalities, educator Paulo Freire has been fundamental in articulating pedagogies that support empowerment for marginalized populations. He writes that most education operates in a "banking model", wherein the educator is the fountain of knowledge, meant to "fill up" and deposit that knowledge in the mind of the students (Freire, 1970/2018). In this model, knowledge doesn't necessarily have to have any meaning to the student, and the student is in a passive, receiving role. Instead, Friere proposes the "problem-posing" model of education as a form of liberating and empowering education. In this model, learners "develop their power to perceive critically the way they exist in the world" and come to see the world "not as a static reality but, as a reality in process, in transformation." (Freire, 1970/2018, p. 83)

Narrative, education, and climate activism

Freire (1970/2018) proposes that education is essentially a function of narrative; this narrative emerges both through the content that is delivered from the teacher to the student, as well as *how* that content is delivered. In other words, both the way a teacher teaches a subject, as well as what they teach regarding that subject, becomes the reality for their students. Given that formalized climate education is a primary way through which young people learn about climate change, the narratives shaped through education thus are key in how they understand and act on the issue.

Narrative has added importance when it comes to climate engagement and action. There is a great deal of work documenting how narrative or culturally held stories about climate change shape the extent to which public audiences relate to and engage with it (Corner, Roberts, & Pellisier, 2014; Napawan et al., 2017; Paschen & Ison, 2014; Pascoe, Dressler, & Minnegal, 2019; Wolf & Moser, 2011). The narrative one holds about climate change dictates whether the issue is personally salient and elicits a response, as well as structures what that response is (Corner et al., 2014; Paschen & Ison, 2014; Pascoe et al., 2019; Wolf & Moser, 2011).

Narrative also has particular importance in social movement mobilization. In order to participate in a social movement, the narrative that an individual has about an issue needs to align with the narrative of that social movement, or come close enough that the social movement can effectively bridge the two narratives (Benford & Snow, 2000; Snow, Rochford, Worden, & Benford, 1986). Furthermore, narratives are also a central part of collective identity formation in

social movements (Taft, 2017). Thus, the way individuals understand the issue of climate change is fundamental to whether or not they engage in collective mobilization around the issue.

Research Context

This research took place in the San Francisco Bay Area with the Sunrise Movement. The Sunrise Movement is a national coalition of youth taking collective grassroots action to advocate for aggressive climate action. They use disruptive tactics like unsanctioned protest, civil disobedience and non-violent direct action to demand governmental action on climate change. They also emphasize coalition building through communication strategies and trainings. The Sunrise Movement is a well-suited case study for this research because they are taking political collective action on climate change. This approach reflects the type of action critical social scientists argue is necessary for addressing climate change (Pepermans & Maeseele, 2016; Zehr, 2015; Brulle, 2000).

Research participants are between the ages of 19 and 28-years-old. While some may consider this constituency to be "young adults", the term youth is socially constructed with no universal age range (Gordon, 2009; Fisher, 2016). These participants have all self-identified as youth via their participation in a youth-focused social movement. This age range was selected because they have completed their formalized K-12 education, and thus can reflect on that experience. Buttigieg and Pace (2013) took a similar approach in their work on environmental education, where they examined life trajectories of young people engaged in climate action to provide pedagogical recommendations.

Data Collection and Analysis

Oral History Interviews

I conducted open-ended, semi-structured oral history interviews with climate activists from the San Francisco Bay Area of California. Oral history is centered around the concept of 'shared authority', positing that the participant and researcher share in the knowledge production process (Frisch, 1990). The co-construction of knowledge is particularly important for ascribing meaning and examining the impacts of that narrative (Patel, 2005). Oral history also emphasizes the experience and perspective of interviewees and allows for a more collaborative research process (Leavy, 2011). Because they usually focus on a particular event or subject, oral histories tend to center on questions about social issues as experienced by an individual (Shopes, 2002) and are ideal in studying the connections between micro- and macro-level processes (Leavy, 2011). This allows participants to co-construction the narrative regarding their experiences and impacts of formal climate education.

Participants were selected based on purposeful and snowball sampling (Bernard, 2011; Cumming, Guffey & Norwood, 2008; Creswell & Poth, 2018). I started with purposeful sampling by reaching out to key informants who held leadership positions within the organization. From there, I used snowball sampling, asking each participant to suggest a list of other participants who could serve as key informants.   Throughout the selection process, I prioritized people who are well-established within the group to ensure that participants were

adequately engaged with climate activism. I also prioritized individuals with varying racial,

gender and class backgrounds. Because of the COVID-19 pandemic, all interviews were

conducted remotely over Zoom.

Sample

I gathered a total of twenty oral history interviews with racially diverse young climate activists.

Of these, nine youth identified as white; seven as Asian American; two as Latinx; and two as

Black. Thirteen of the participants identified as cis-gendered females, five as cis-gendered males,

and two as non-binary. Twelve of the youth identified as LGBTQ+ and eight identified as

straight. Ages ranged from 19-28 years old.

Data Processing, Analysis and Synthesis

All interviews were recorded and transcribed using transcription software, and then manually

corrected. I then coded them using Dedoose Data analysis software. The procedure involved

iterations of listening to and correcting transcriptions, writing memos, coding, synthesizing and

integrating insights. This analytical strategy reflects the nature of qualitative research as an

interpretive process of constructing meaning (Creswell & Poth, 2018; Creswell & Creswell,

2018). Coding was first done inductively to identify key themes and patterns within the research.

This inductive coding was integrated throughout the data collection process in order to continue

refining observation and interview technique. Inductive coding also included writing process

memos (Saldaña, 2016). Process memos help researchers capture and synthesize results

throughout the process of coding (Ibid). From this inductive coding, I created a code tree. Then, once data collection was finished and all materials were inductively coded, I deductively coded all interviews using the established code tree. Throughout the synthesis process, I identified and assessed broad-picture themes that emerged from the data, which aided in synthesizing the research questions and findings.

Analysis and Interpretation of Data

The section below indicates key themes identified through the oral history interviews. Findings are organized around two larger themes—the formal education youth received about climate change and the impacts of that education. In this first section, findings indicate that youth learned about climate change largely through science instruction, which framed climate change as an "objective", abstract phenomenon happening in the distant future. Instruction focused heavily on the problems of climate change, with little attention to what can be done about the issue. And finally, climate change was presented devoid of political, social and justice-related issues. I have italicized the quotes from youth to foreground their voice and separate it from my analysis.

"Objective" and abstract science

Within formal instruction, nearly all youth recall learning about climate change only in natural science classes; of the twenty youth interviewed, only three learned about climate change through social science subjects. In these instances, this occurred while in college and once they had already learned about climate change through the natural sciences.

This is in alignment with the review of climate education conducted by Monroe et al. (2017), which found that most efforts focus on science learning, with the goal of increasing scientific knowledge about climate change. This strategy is rooted in the information-deficit model, which regards "basic science education as the remedy for public distrust and lack of interest in climate change." (Wibeck, 2014, p. 391). This model typically focuses on a one-way transfer of information from expert to lay person. Among youth interviewed, the informational-deficit model was the primary paradigm for climate education. Alexandra describes:

"And at school, I remember us learning about the greenhouse gas effect. But it was still pretty, just like there is CO2 and it gets trapped and there wasn't any kind of like 'none of us should be taking airplanes'. It really wasn't radical at all. It was pretty abstract. It was pretty much like 'this is a thing. And it's kind of been happening for a long time. It's just happening faster now. And like, if things get really bad, we'll be like Venus, but that's probably not gonna happen.' [...] I didn't learn much about climate change. I think that the curriculum was low."

Here, the emphasis is on acquiring information about the greenhouse gas effect, as well as globalized doomsdays scenarios of a planet as hot as Venus. For Alexandra, climate change is portrayed as an unbounded, inevitable force, devoid of place or time. When framed in this way, she perceives climate change as "abstract", saying "this is a thing." There is no sense to whom, or where, this is happening, nor is there a sense of agency, or the belief that it is even possible to stop climate change.

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Another student, Dee, described:

"*When it came to climate change, it was in a really objective way that was like,*
'here's the percent of carbon that cement being mixed puts out into the atmosphere'
and breaking it down like by sector and talking about agriculture and stuff like that. I
don't really remember learning about it before that. [...] I didn't feel connected to it
at all. I felt like, 'oh that is bad.' "

Again, the emphasis was on acquiring knowledge about climate change, in this case regarding the various sectors that are contributing to climate change. Dee describes this as "objective"—again, there is no sense that this has any personal meaning or relevance to Dee's life. As a result, Dee cannot locate their stake in the issue and feels disconnected from it.

These descriptions reflect two key characteristics regarding the portrayal of climate change found across the interviews: the lack of localized knowledge about climate change and the lack of meaning-making opportunities. No youth reported formal instruction about climate change that addressed localized impacts, nor did they engage in any dialogic processes that supported meaning-making (Wolf & Moser, 2011). Thus, when youth did experience climate-fueled disasters, such as flooding or wildfires, they did not initially understand them as such. As a result, youth did not understand the way climate change was affecting their daily lives, even when these effects were profound. By focusing on "abstract" climate science, the informational-

deficit model failed to help youth build the personally relevant understandings of climate change that sustain long term engagement.

A problem for my future kids

Another theme identified is portraying climate change as a problem for the future. Despite the focus on "objective realities", climate education among youth interviewed failed to address one important reality: the impending timeline of climate impacts. Many youth said they understood climate change as something happening in the future, affecting future generations and not themselves. Sofia said:

> "*I know that it was like, scary, but like scary in like a future sense. Like, when I'm seventy the planet is going to be messed up and that's scary for my future kids or whatever. […] I feel like if I had known in high school or middle school that like they were talking timelines like 2020s, 2030s, 2040s, maybe I would have got involved in something much sooner, or tried to do something, right?"*

This sense that climate change was happening in a faraway future, on an unclear timeline, was quite common. As a result, many youth were then completely shocked when they later learned how quickly the climate crisis was unfolding. For several youth, this happened when the Intergovernmental Panel on Climate Change (IPCC) published the report *Global Warming of 1.5℃* (IPCC, 2018). The report clearly states that the world had twelve years to substantially lower carbon emissions or face the possibility of runaway climate change. While the 2018 IPCC

report was more prescient about the impending timeline of climate change, it wasn't wholly novel; scientists have been projecting these timelines for quite a while. In presenting a vague timeline, youth did not initially understand the urgency of climate change.

Lots of problems and no solutions

Another key theme in how climate change was portrayed was the lack of actions or solutions; as one youth put it, there were "*lots of problems and no solutions*". Alexandra also commented on this by saying, "*there wasn't any kind of like 'none of us should be taking airplanes'. It really wasn't radical at all.*" In fact, of the twenty interviewed only one discussed learning about solutions to climate change.

Jensen (2002, 2004) distinguishes between a traditional, versus action-oriented, approaches to environmental knowledge building. Traditional approaches only address knowledge about the effects of the problem. In the context of climate change, this is information about projected or existing impacts; it is essentially awareness raising about the problems associated with climate change. For nearly all youth, this domain was all they learned about; youth learned about the greenhouse gas effect and the globalized impacts of climate change. These traditional approaches lead to action-paralysis, since youth have no understanding of why this problem is happening nor what they can do about it (Jensen, 2002, 2004). This is contrasted to an action-oriented approach, which also integrates knowledge about the underlying root causes of the problem, knowledge about strategies for change and alternative visions.

Although many youth report learning about the sources of GHG emissions, or the mechanisms of the GHG effect, this does not constitute knowledge about the underlying root causes of the problem. Jensen (2002) describes this dimension as dealing with the " 'casual' dimensions of environmental problems" (p. 330). This deals with the sociological, cultural and economic forces that shape an environmental problem. Climate change is a complex social problem, with deep roots in political, economic and social systems (Zehr, 2015). While there is no agree upon singular driver of climate change, it is more complex than a simple accounting of sources of emissions, as Dee experienced.

Some youth did learn about approaches to addressing climate change, although they all dealt with individual behavior change or small incremental changes. Lee describes the following:

> *"The solutions seems so difficult and not only so difficult, but the return seemed so*
> *small. We learned about big wins in environmental law and I remember just being*
> *like 'okay, but all you did was protect a fish after 30 years of litigation.' So not big*
> *scale solutions that we talk about in Sunrise, just incrementalism to the tee."*

This focus on individual behavior change and incrementalism is a product of the mainstream environmental movement, which has gravitated towards more incremental and individualistic approaches to change, as opposed to more collective and political responses (Brulle, 2000; Jamison, 2010). However, given the depth of the social, political and economic roots of climate change, these approaches are insubstantial in addressing the magnitude of the climate crisis (Jamison, 2010; Pepermans & Maeseele, 2016). This truth was not lost on youth, who report

trying to respond to climate change through behavior change, yet still feeling immobilized. Lee

points this out by contrasting incrementalism to the "big scale changes" Sunrise is pushing for.

In addition to being inadequate to addressing the problem, these individual and incremental

approaches also do not align with Jensen's (2002, 2004) concept of action-oriented

environmental education. Action-oriented environmental education requires knowledge of

strategies for change. However, these strategies are aimed at structural and collective change that

address existing power relations. These structural forces are precisely what mainstream

environmentalism is trying to avoid. Thus, by presenting youth with "lots of problems and no

solutions", or solutions too small for the problem, climate education left youth unable to take any

substantive action on climate change, even if they wanted to.

Nature for nature's sake (or, apolitical framings of climate change)

A final theme identified in the portrayal of climate change was that formal education tended to

frame climate change strictly as an environmental or scientific issue, disconnected from social or

political contexts. This fails to address the underlying root causes of the problem, which is

essential to actionable education (Jensen, 2002, 2004) and also leaves out important dimensions

of justice.

Malik, who was studying sustainability in college, comments on how his classes neglected racial

and political aspects of climate change:

"At that point in my life, race was in everything. There's not a single thing in the United States that I could separate from that layer of race in some way. But yeah, it wasn't in my classes and I don't know exactly why I didn't think about [how race connected to climate change]. I think it's dependent on the class. Cuz I think that I was much more willing to bring up those conversations when it was like, you know, a sustainable agriculture class. Like, I feel like none of my classes were explicitly like, this is the way that the fossil fuel industry has fucked up everything."

By the time he was in college, Malik saw how race undergirded American society, and as a Black student, felt that in his everyday life. Yet, he didn't connect race to climate change. He was perplexed as to why he didn't make this connection and seems to regard it as personal failing. However, as Brulle (2010) demonstrates, since the 1980s, the environmental movement has framed issues in an apolitical context, where they were separated from social issues such as race and politics. In not seeing the connections, Malik was likely responding to this pervasive framing. This is further supported by the fact that Malik says he was "more willing" to initiate conversations about racial or political aspects of the environment in certain classes. This suggests that he wasn't totally unaware of these connections, but rather responding to the dominant framing of environmental issues that made such conversations taboo (Brulle, 2010)

Malik says that there was no class that explicitly linked climate change to the activities of the fossil fuel industry. Leaving this topic out is the norm in climate education (Monroe,

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Plate, Oxarart, Bowers, & Chaves, 2017). This is problematic though, as there is

significant research connecting the proliferation of greenhouse gasses to the political

influence of the fossil fuel industry, which has used a suite of political tactics to influence

politicians who, in turn, have blocked climate legislation and led to national and

international inertia (Brulle, 2010; McCright & Dunlap, 2003). Such political dimensions

reflect the underlying root causes of climate change that Jensen (2002, 2004) contends

are essential to actionable education. Without this knowledge, Malik thus had no way of

moving from his concern about climate change into legitimate action.

Additionally, this apolitical framing is representative of mainstream environmental framings,

which separate social and environmental issues and leave out important issues of justice. One

youth of color, Aisha said: "*The first thing that was tied to my understanding of climate change*

when I was younger was like 'Ah, the polar bears,' before I learned about, like, environmental

racism, which was something I learned later on." Many youth referenced "the polar bears" or

"saving the whale" in regards to their primary understanding of climate change. Discourse

around "the polar bears" or "saving the whales" represents preservationist framings that value

romantic notions of pristine nature needing protection from humans (Taylor, 2000).

However, this framing isolated youth of color from identifying with the issue of climate change

on two accounts: First, many youth of color interviewed report not have access to nature as kids.

They thus did not purport a strong relationship to nature and nor did they espouse romantic ideas

about "saving" it. Furthermore, this framing is rooted in an historical movement that centers the

concerns and mobilizations of white, middle-class men and ignores environmental concerns from

other groups (Taylor, 1997, 2000, 2011). In the context of climate change, strictly environmental framings ignore the ways communities of color are *already* being harmed by the climate crisis and/or the fossil fuel industry, and instead centers a remote species that most youth have never encountered. This is reflected in how Aisha separated "the polar bears" from environmental racism.

As a population that will be heavily impacted, youth of color have a central stake in climate change. However, by relying separating environmental from social issues, mainstream climate education isolates youth of color from understanding the stake they have in climate change. Furthermore, instead of illuminating the underlying drivers of climate change, this framing obfuscates it. This politically neutral framing thus immobilizes youth from substantive climate action.

The impacts of climate education: "Oh, this is bad", to "Oh fuck, this is so bad"

The following section discusses how youth responded to their formal education on climate change. Upon learning about climate change through formalized channels, youth had a suite of negative emotions in response to it. These emotions spanned a range of intensity—some initially felt disconnected or indifferent to the issue, whereas others experienced extreme climate dread. This led to action paralysis (Jensen 2002, 2004).

For youth who felt disconnected or indifferent to climate change, this is likely due to the way climate change is framed in a globalized, abstract and scientific way. When presented as such, it

is divorced from everyday life, lacking cultural relevant narratives that render it personally meaningful (Wibeck, 2014). This is reflected in Dee's description of their formal climate education, where they learned about, "*here's the percent of carbon that cement being mixed puts out into the atmosphere' and breaking it down like by sector and talking about agriculture and stuff like that.*" They then describe their response to it saying, "*I didn't feel connected to it at all. I felt like, 'oh that is bad.'*" Alexandra has a similar experience, saying it was pretty abstract. Without understanding how climate change intersected with their daily basis, youth were not compelled or engaged with the issue.

For many youth, though, their response was more extreme. These responses span of range of emotions, including grief, despair and anxiety. Several youth describe this as an all-encompassing experience, where their dread about climate change pervaded all aspects of their life for a period of time. When learning about the extent and timeline of the crisis, one youth said: "*I was like, 'Holy fucking shit!' No one told me it was this bad. No one told me that this wasn't a thing that I don't really have to worry about. […] Why isn't anyone talking about this? I sort of freaked out and they went through a deep period of climate grief.*"

For some youth, this manifested as nihilism that derailed their daily life. After reading the IPCC report *Global Warming of 1.5 °C* (IPCC, 2018), which highlighted that the world had twelve years to drastically reduce carbon emissions or potentially face runaway climate change, Sofia said:

"So that threw me into like a kind of like, what is the point of anything that I'm doing? Like, literally anything? Like, why am I working in this stupid office job? And like why am I working on a career that's not gonna fucking matter when there's this like massive problem and why am I etc, etc, etc. And so basically just like threw me for a loop where I was like 'nothing I'm doing matters, there's like 12 years or some shit to get something done and I know the politicians are not going to do it so are these the best 12 years of my life? So, I lost basically almost all motivation at work and I'm usually very driven... I was just like in this weird place where nothing mattered. I was super depressed and for once there was not a hopeful future to look for [...]."

In most cases, this climate despair failed to lead to any positive engagement or action on the issue, and in some cases, it did the opposite. Dana said:

"I studied Environmental Policy and Planning in [college]. And I remember just being like, 'Fuck this, like the earth is so bad. Don't have kids.' Like, I just like disassociated and created so much apathy. Cuz that was like the way I dealt with it. [...] And I eventually I didn't graduate with a degree in that, because I kind of like gave up and felt apathetic and hopeless."

In the information-deficit paradigm, understanding and caring about the problem is supposed to motivate action. However, in Dana's case, it did the opposite—the issue was so overwhelming, and without knowledge about how to make change, she became avoidant. It wasn't until later,

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when she moved to San Francisco and connected with a political community, that she was able to re-engage with the issue.

Sofia and Dana's experiences of intense dread were all too common among the youth interviewed; upon learning about the scale and scope of the climate crisis, all youth described a period where climate dread pervaded their life. This dread seems to stem from deep feelings of powerlessness. As Sofia puts it, *"nothing I'm doing matters"*. Or as Dana put it, *"I kind of like gave up and felt apathetic and hopeless."*

These testimonies reflect a deep generational dread about climate change. While not necessarily the cause of it, the traditional climate pedagogies you experienced certainly exacerbated this problem. In particular, youth only learned about the effects of climate change, and not underlying root causes or what they could do about it. This led to action-paralysis (Jensen 2002, 2004). Without a way forward, they felt a deep powerlessness, causing further despair.

This pattern of powerless, action-paralysis and then dread is reflected in Lee testimony. After learning about climate change through her environmental studies major, she said:

> *"[I was] scared and angry and also really confused. […]. I didn't understand what do you even do after that? I felt kind of aimless. (…) I tried to combat it with conservation, water conservation and like sustainability. One of my first jobs on campus was working at the sustainability office and coming up with graphics about how students can save water. It really delayed my complete understanding of systems*

outside of individual consumption. My department didn't teach me about how climate

change is happening because of capitalism and a few small actors. We would learn

about greenhouse gas emissions, and then we would do a carbon footprint. It was so

terrible because that's the connection it was in my brain."

Like many youth, Lee was terrified upon learning about climate change. While she certainly had

an understanding of the problem, she lacked the other domains of environmental knowledge

necessary for action. Lee comments on this by saying that her *"department didn't teach me about*

how climate change is happening because of capitalism and a few small actors."

Without an understanding of the larger social forces underpinning climate change, she felt

"*aimless*" and "*didn't understand what do you even do after that?"*. She tried to combat her

feelings by getting involved with her sustainability office, where her efforts were focused on

individual behavior change. However, this clearly didn't allay her fears. For Lee, and other youth

interviewed, the problem wasn't that they weren't connected to action, but rather that they

weren't connected to *meaningful* action. Without the other domains of environmental knowledge

(Jensen 2002, 2004), Lee wasn't able to take substantive action on climate change and felt

powerless and despondent.

Malik describes a similar experience while in his master's program on sustainability. He says, *"I*

still was like, at the point of like, well, I can't do anything about [climate change]. So I'm just

going to sort my [recyclables], you know. So, my classes and my coursework was apolitical."

For Malik, his experience of powerlessness is directly related to the fact that his classes were

apolitical, leaving out the underlying causes of climate change or how to make substantive

change. Without this, he was caught in action-paralysis, with led to despair. The scientific,

apolitical framing of climate change thus leaves youth unable to take substantive action on

climate change.

For all of the youth interviewed, these experiences of panic, dread and nihilism pervaded their

lives until they became activists. In doing so, they transformed these experiences. A forthcoming

paper addresses the pathways these youth took into climate activism.

Discussion and Conclusions

The educational experiences of young activists interviewed here reflect traditional climate

pedagogies. Youth learned about climate change largely through science instruction, which

framed climate change as an "objective", abstract phenomenon happening in the distant future.

Instruction focused heavily on the problems of climate change, with little attention to what can

be done about the issue. And finally, climate change was presented devoid of political, social and

justice-related contexts. Literature on climate education show that these pedagogies are common

(Monroe et al., 2017).

The story told about climate change through education matters and matters deeply. This story

becomes the framework through which young people understand climate change and shapes if

and how young people respond to it (Corner et al., 2014; Napawan, Simpson, & Snyder, 2017;

Paschen & Ison, 2014; Pascoe et al., 2019; Wolf & Moser, 2011). The story told through formal

education provided no explanation as to why climate change was happening, or what could be done about it. And in response, young people were unsure of what to do about climate change and were paralyzed.

The findings suggest that traditional pedagogies for climate education are not supporting youth in engaging with climate activism. In no instance were the experiences of formalized climate education supportive for youth in becoming climate activists. In fact, the opposite was true— formal climate education immobilized them. In some instances, this was a feeling of disconnection or being removed from the subject. But in many instances, it was extreme feelings of dread, anxiety and nihilism that accompanied their experience of inaction.

This research adds to mounting evidence that, in the context of climate change, scientific understanding does not necessarily lead to action (Bak, 2001; Lorenzoni, Nicholson-Cole, Whitmarsh, 2007; Schultz, 2002; Wibeck, 2014; Wolf & Moser, 2011). This seems to be especially true for political action, which requires more critical perspectives than science alone can afford. Moreover, these findings demonstrates that, regarding climate change, information alone can do the opposite and lead to action paralysis. That was the case here—the "science only" education youth received left them feeling powerless and unable to take action. This provides empirical evidence for Jensen's (2002, 2004) notion of action paralysis in the context of climate change. The narratives here also further describe the experience of action paralysis. For youth interviewed, action paralysis was shaped by feeling powerless and was associated with extremely negative emotions.

Because of the deep panic, anxiety and dread associated with action paralysis, this research suggests that a "science only" approach is not ineffective in inspiring action, but also bad for youth well-being. There is mounting evidence that climate change is becoming a mental health issue (Cunsolo & Ellis, 2018; Ojala, Cunsolo, Ogunbode, & Middleton, 2021). This is certainly true for people who experience trauma related to climate disasters (Cunsolo & Ellis, 2018), but for the youth here, simply knowing about climate change impacted their wellbeing. This research suggests that traditional climate pedagogies may be contributing to this problem, and at the very least, are not helping.

For the young activists interviewed here, traditional climate pedagogies used in formal education did not, in fact, serve as a "a critical agent" (United Nations, n.d.) in helping them find their way to climate action. In their content, these pedagogies overemphasized the importance of science learning, while neglecting the social, political and economic factors that have shaped climate change. Nor are they addressing issues of justice, or what can be done about climate change. This reflects a disconnect in how adults are framing climate change for young people via education, and how young people are framing it themselves. As activists, the young people interviewed know climate change to be deeply connected to their experiences and to justice, and are taking collective, political action to address it. But traditional climate pedagogies focus on scientific knowledge, removed from everyday life, and on individual or incremental solutions.

Furthermore, in their approaches, traditional climate pedagogies are using an acquisition of knowledge model that focuses on delivering content at the cost of making meaning out of that content. Without this, youth have little opportunity to grapple with the complex emotional and

moral dilemmas of climate change. These reflect top-down strategies that portray educators as the holders of knowledge and youth as empty vessels to be filled, much like Freire's (1970/2018) "banking concept" of education. Freire (1970/2018) writes widely about how the banking concept of education is oppressive to students and can "minimize or annul the student's creative power" (p. 74). The underlying assumption of these pedagogies is that youth are disengaged, and education needs to change that. This assumption pervades research on youth civic engagement and reflects adultist assumptions that youth are apolitical and uninformed (Gordon, 2009; Taft, 2017).

The narratives here show that, indeed, many young people are deeply engaged with climate change. In fact, it seems many young people are more engaged than most adults, as it was young people's organizing that brought together what is likely the largest climate protest in history. Further, youth activists have been successful in making climate change a legislative priority (Han & Ahn, 2020), something adult-led professionalized environmental organizations failed to do for decades. Young people are leading the way on climate action, and they are doing so in spite of, and not because of, the formalized education they received.

Given the ineffectiveness of traditional climate pedagogies, as well as the rapidly mounting climate crisis, I argue that educators and researcher alike need to radically re-imagine climate pedagogies. One key way to do this is to use Jensen's (2002, 2004) model of actionable environmental education. This would move beyond the science of climate change to also include the social, political and economic elements that have shaped the issue; political strategies to change these elements; and visions of what change and alternative systems could look like.

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Furthermore, it would be an education focused on meaning-making and empowerment, much like Freire's idea of "problem-posing education". The entry point would be young people's experiences and existing understandings of climate change and how they were making sense of the problem already. Such an education would also support young people in envisioning the world they want for themselves, and then building power alongside them to actualize this.

There is more research needed into what these pedagogies could look like, but the youth climate movement and the young people leading it provide the blueprint. These young people have all made the critical turn from panic and dread into collective, political action. Their stories of how they did this are central to imagining such action-oriented climate education.

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Chapter 2: "I was drowning but activism was a life raft": Narratives about becoming young climate activists

Abstract

An increasing number of young people are taking action on climate change via activism and social movement participation. There is a great deal of literature focusing on how people come to take climate action (Nielsen et al., 2021; Stern, 2000), although most of this deals with individual behavior change. There is less research examining how people become activists (Dono, Webb, & Richardson, 2010; Wallis & Loy, 2021). Taft (2017) argues that, in the context of youth activism, the stories young people have about becoming activists are particularly important for understanding larger dynamics that shape mobilization. This research examines the narratives young people have about becoming climate activists. Race was a key factor, as pathways into climate activism varied along racial lines. The narratives also revealed that many young activists experienced protracted periods of climate anxiety before becoming activists (Ojala, Cunsolo, Ogunbode, & Middleton, 2021). These experiences of climate anxiety were deeply intertwined with their experiences of becoming an activist, as activism transformed their climate anxiety. Becoming an activist was also marked by the development of critical consciousness (Christens, Winn, & Duke, 2016).

Introduction

In 2018, California experienced what was, at that time, its deadliest and most destructive fire season yet (CalFire, 2022). There were nearly 8,000 wildfires across the state, which burned

almost two million acres, destroying a quarter of a million structures and killing 100 people

(Ibid). The Camp Fire in November was particularly bad; it covered the state in a thick blanket of

smoke. For weeks, the California Bay Area, home to almost eight million people, had the worst

air quality in the world (Turketwitz & Richtel, 2018).

For young people living through this, it was a jarring time. Schools and businesses closed due to

inadequate ventilation and the skies took on an apocalyptic glow. For Allie, a young garden

instructor living in San Francisco, the smoke was unsettling. "I was pretty shook by the fire and

was like, Oh my god, this is what climate change feels like. And I'm not even really feeling the

worst of it. Like I'm protected in so many ways, from the ways that this is horrible. But feeling

really devastated by the smoke basically."

It was then, in the midst of this devastation, that Allie stumbled upon a social media post that

struck her. "I was scrolling through on Instagram and I saw something. It was about the Sunrise

Movement [a youth climate activist group] and I clicked through and was like on their website.

And I remember saying to [my partner] out loud, like, I think this could be the thing that makes a

change. And it felt like so powerful and so hopeful."

For Allie, this moment was pivotal. After the Instagram post, she committed herself to the group.

Since then, she has been deeply involved with climate activism.

Increasingly, young people around the world are participating in climate activism and

organizing. This movement has successfully organized what is likely the largest global climate

protests ever (Barclay and Resnick, 2019) and been successful in prioritizing climate action (Han & Ahn, 2020). There has been a precipitous uptick in the research published about youth climate activism since 2018 (Neas, Ward & Bowman, submitted). Thus far, this research has asked questions such as the composition of the youth climate movement (ex: de Moor et al., 2020; Fisher & Nasrin, 2021; Wahlström, Kocyba, de Vydt, & De Moor, 2019), how youth are understanding and acting on climate change (Holmberg & Alvinius, 2020; Pickard, Bowman, & Arya, 2020) and the personal and political outcomes of climate activism (Cattell, 2021; Deisenrieder, Kubisch, Keller, & Stötter, 2020; Elsen & Ord, 2021).

There is, however, currently no research examining the narratives young people having about becoming climate activists. Taft (2017) argues that, through examining the narratives youth have about becoming activists, researchers can "understand the processes by which individuals come to see themselves as activists and how these processes are shaped by larger social structures, dynamics, and discourses" (p. 28). More broadly, Wallis & Loy (2021) points out that there is very little research exploring how people become environmental activists in general. Through oral histories with young climate activists, this research investigates the narratives young people have about becoming climate activists.

Literature Review

Factors influencing climate activism

Questions about how people come to take climate action are situated more broadly within literature on environmental action. Within this literature, researchers distinguish between various

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types of environmental actions: environmental activism; nonactivists behaviors in the public sphere; consumer behaviors and other environmental behaviors (Nielsen et al., 2021; Stern, 2000). There is, however, little research on factors that support environmental activism (Dono et al., 2010; Wallis & Loy, 2021). Additionally, although researchers distinguish activism from other actions like green consumerism, they don't necessarily treat it differently in research. Most of the literature on environmental activism draws on the same or similar tools and theories used when examining other environmental actions (ex: Buttigieg & Pace, 2013; Dono et al., 2010; Fisher, 2016; Wallis & Loy, 2021).

One key theory in environmental and climate action is the concept of environmental identity (Nielsen et al., 2021; Stapleton, 2015; Walsh & Cordero, 2019). Environmental identity is how one views themselves in relationship to the environment (Clayton, 2012; Clayton, 2003; Susan Clayton et al., 2021). Compared to other theories about environmental action, environmental identity has been shown to be more stable over time and more strongly connected to environmental action (Clayton et al., 2021). Research has shown it to be a key component of climate activism (Buttigieg & Pace, 2013; Fisher, 2016).

Much of the research on environmental identity focuses on relationship to nature (Buttigieg & Pace, 2013; Stapleton, 2015; Williams & Chawla, 2016; Young, Carsten Conner, & Pettit, 2020). This work documents how experiences in nature, and in particular, childhood experiences in nature, are especially influential in developing an environmental identity. Such experiences have been shown to encourage a positive perception of nature (White & Stoecklin, 2008; Palmer, 1993), which leads to positive environmental attitudes and action (Bogeholz, 2006; Chawla,

2007). Another key focus in the literature is the value of wilderness environments; while experiences in "domesticated" nature, such as gardens or urban parks were influential, wilderness environments were more so (Tanner, 1998; Wells & Lekies, 2006). These early experiences become a core part of the social identity of "being an environmentalist".

However, not all youth have equal access to nature, and not wilderness environments. In particular, communities of color do not have the same access as White communities (Gallay, Pykett, & Flanagan, 2021; Taylor, 2018, 2019). Furthermore, this focus on wilderness comes from the romanticizing of nature that is connected to the conservationist thread of environmentalism (Curnow & Helferty, 2018; Gallay et al., 2021; Taylor, 2000). Historically, this type of environmentalism has intentionally excluded the issues and concerns of people of color (Curnow & Helferty, 2018; Taylor, 1997, 2000). This has resulted in environmental movements being a "default white space" (Curnow & Helferty, 2018). While there has been some work examining environmental identity along lines of race, class and gender (ex: Susan Clayton et al., 2021; Miao & Cagle, 2020), there is no work examining how or if environmental identity influences activism among people of color.

When it comes to climate action in particular, researchers have examined the role that emotions play in environmental action. People tend to decisions about climate change with emotional versus rational processing systems (Marx et al., 2007). Many studies point to the importance of positive emotions such as hope and empowerment as central to engaging with climate change (De Vreede, Warner, & Pitter, 2014; Emmons, 1997; Ojala, 2012; Wibeck, 2014).

On the flipside, there is a great deal of research documenting extremely negative emotions in relationship to climate change (Ojala, Cunsolo, Ogundobe & Middleton, 2021). In particular, the concept of ecological anxiety has emerged recently to describe feelings of worry about ecological degradation (Cunsolo & Elis, 2018; Ojala, Cunsolo, Ogundobe & Middleton, 2021). This experience is also called climate anxiety when addressing feelings specifically related to climate change. However, it is unclear how climate anxiety affects climate action. Some research has shown that repression of negative feelings can lead to avoidance and ultimately disengagement (Moser & Dilling, 2004; Saffron & Nicholson-Cole, 2009). At the same time, several studies document that worry about environmental issues can be a motivator for behavior change and policy support (Ojala, Cunsolo, Ogundobe & Middleton, 2021). Despite the increased documentation of difficult emotions regarding climate change, there is no research examining the relationship between emotions and climate activism.

Youth activism

Although the literature on environmental action tends to treat activism within a spectrum of other environmental actions, many scholars of youth studies argue that activism is fundamentally different than other types of civic behaviors (Negna & Taft, 2013). This research has examined diverse identities of young people engaging in activism (Earl, Maher, & Elliott, 2017; D. R. Fisher, 2012; Gordon, 2009; Taft, 2017), whereas much of the existing literature on environmental and climate activism focuses on White populations. Given the racial diversity of the youth climate movement, literature on youth activism may offer insights into the factors influencing stories of becoming activist.

Many scholars have examined how the pathways and performances of youth activism vary by race. While all youth face barriers to activism, youth of color face additional barriers compared to White youth. They lack the access to power and resources that White youth may have (Gordon, 2009) and have identities that further marginalize them, such as immigration status (Earl et al., 2017). Youth of color also suffer from a "deficit perspective", which is the assumption that youth are disengaged politically and need to be "engaged" by adults (Earl et al., 2017; Fisher, 2012; Ginwright, 2010; Gordon, 2009). Despite the barriers, organizing and activism is an important place for youth of color to heal from the trauma of ongoing oppression (Ginwright, 2010).

One key question within the literature on youth activism is the factors that facilitate young people's entry into social movements and activism. Much of this literature focuses on the role of adults in politicizing youth, often as "teaching" youth to become activists (Kirshner, 2008). However, Taft and Gordon (2011) point out that there are generational differences that limit adult-led political socialization. Instead, Taft (2017) and Earl et al. (2017) found that transformative peer relationships were an important pathway towards political activism. This leads to youth-led, as opposed to adult-led, political socialization. Research also indicates that social media is an important tool through which youth are influencing peer politicization (Boulianne, 2015; Earl, Maher, & Elliott, 2017). Internet use more generally serves as an important place for learning about and discussing political issues (Earl et al., 2017; Kahne, Lee & Feezell, 2013; Xenos, Vromen & Loader, 2014).

Many scholars of youth activism have found that critical consciousness is central to youth political development (Christens et al., 2016; Diemer, Kauffman, Koenig, Trahan, & Hsieh, 2006; Diemer & Li, 2011; Watts, Dimer, & Voight, 2011). First conceived of by Brazilian educator Paulo Friere, critical consciousness examines the way "oppressed or marginalized people learn to critically analyze their social conditions and act to change them" (Watts et al., 2011, p. 44). There are three key steps in critical consciousness: critical reflection, political efficacy and critical action (Christens et al., 2016; Watts et al., 2011). The first step, critical reflection, involves the ability to analyze and reject social systems that create injustice and constrain well-being (Ibid). Political efficacy is the belief that one can impact such systems of injustice, and critical action is taking measures to change injustices (Christens et al., 2016; Watts et al., 2011).

Research Context

This research took place in the San Francisco Bay Area with the Sunrise Movement. The Sunrise Movement is a national coalition of youth taking collective grassroots action to advocate for aggressive climate action. They use disruptive tactics like unsanctioned protest, civil disobedience and non-violent direct action to demand governmental action on climate change. They also emphasize coalition building through communication strategies and trainings.

Research participants are between the ages of 19 and 28-years-old. While some may consider this constituency to be "young adults", the term youth is socially constructed with no universal age range (Gordon, 2009; Fisher, 2016). These participants have all self-identified as youth via

their participation in a youth-focused social movement. This age range was selected because they have completed their formalized K-12 education, and thus can reflect on that experience. Buttigieg and Pace (2013) took a similar approach in their work on environmental education, where they examined life trajectories of young people engaged in climate action to provide pedagogical recommendations.

Data Collection and Analysis

Oral History Interviews:

I conducted open-ended, semi-structured oral history interviews with climate activists from the San Francisco Bay Area of California. Oral history is centered around the concept of 'shared authority', positing that the participant and researcher share in the knowledge production process (Frisch, 1990). This allows interview subjects to co-construct their path towards climate activism, creating deeper meaning and garnering results that would go undiscovered from less comprehensive or more structured interview formats. This co-construction of meaning offers the ability to provide insight into the processes behind behaviors and decisions (Patel, 2005) and emphasizes the experience and perspective of interviewees (Leavy, 2011). Thus, oral histories offer rich insights into the various experiences that shaped youth's pathways into climate activism.

Participants were selected based on purposive and snowball sampling (Bernard, 2011; Cumming, Guffey & Norwood, 2008; Creswell & Poth, 2018. I started with purposive sampling by reaching out to key informants who have leadership positions within the organization. From there, I used

snowball sampling, asking each participant to suggest a list of other participants who could serve as key informants. Throughout the selection process, I prioritized people who are well-established within the group and held leadership positions. Because of the COVID-19 pandemic, all interviews were conducted remotely over Zoom, following recommendations from the Oral History Association (Oral History Association, 2020).

Sample

I gathered a total of twenty oral history interviews with racially diverse young climate activists. Of these, nine youth identified as white; seven as Asian American; two as Latinx; and two as Black. Thirteen of the participants identified as cis-gendered females, five as cis-gendered males, and two as non-binary. Twelve of the youth identified as LGBTQ+ and eight identified as straight. Ages ranged from 19-28 years old.

Data Processing

All interviews were recorded and transcribed using transcription software, and then manually corrected. I then coded them using Dedoose Data analysis software. The procedure involved iterations of listening to and correcting transcriptions, writing memos, coding, synthesizing and integrating insights. This analytical strategy reflects the nature of qualitative research as an interpretive process of constructing meaning (Creswell & Poth, 2018). Coding was first done inductively to identify key themes and patterns within the research. This inductive coding was integrated throughout the data collection process in order to continue refining observation and

interview technique. Inductive coding also included writing process memos (Saldana, 2016). Process memos help researchers capture and synthesize results throughout the process of coding (Ibid). From this inductive coding, I created a code tree. Then, once data collection was finished and all materials were inductively coded, I deductively coded all interviews using the established code tree. Throughout the synthesis process, I identified and assessed broad-picture themes that emerged from the data, which aided in synthesizing the research questions and findings.

Results and Discussion

This section identifies and analyzes key themes from the oral history interviews. They are organized by the chronology of life events that influenced youth to become climate activists. The findings indicate that the pathways into activism vary by race. In their childhood, many White youth developed an environmental identity (Clayton, 2003, 2012), characterized by connection with nature. This influenced their activism later. However, many youth of color did not have access to nature and thus did not develop the same connections as their White peers. This became a barrier for them to overcome in becoming activists. Later, as youth learned more about climate change, they experienced heightened panic and dread. These experiences were ubiquitous, although they varied on race. When coupled with exposure to climate activism, this led youth to become activists. The experience of becoming a climate activist was one of political awakening, and co-indices with the development of critical consciousness.

Nature connections (or not)

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In the research on environmental and climate action, there is a great deal of emphasis on the role that experiences in nature plays (Buttigieg & Pace, 2013; Stapleton, 2015; Williams & Chawla, 2016; Young, Carsten Conner, & Pettit, 2020). This was certainly the case for some youth, White youth in particular. Their narratives contained deep, intimate moments of connection to nature. Growing up with a stressful home life, Maria said:

> "As a kid, I spent a lot of time outside. And I feel like I spent a lot of time like, alone outside. Like one of the memories that I feel like is really stuck in my head is we had these two, two birdhouses and they were across from each other. And there were two beehives that had like, inhabited the bird houses. And the bees would get like stuck in this pond. And I remember going and like fishing them out and like putting them on the grass and just like watching them dry off. And being so fascinated by these bees and like in love with them in some ways and feeling like this deep connection to these bees."

Maria's narrative reflects an environmental identity (Clayton, 2003, 2012). She is "in love with" the bees and feels a deep connection to them. Although not wilderness, she experiences nature as a place devoid of humans. As previous literature has documented (Buttigieg & Pace, 2013; Chawla, 2007; Palmer, 1993; Tanner, 1980; Wells & Lekies, 2006; White & Stoecklin, 2008), this causes Maria to adopt an environmental identity. Environmental identities can be expressed through various behaviors (Miao & Cagle, 2020). One way Maria expressed this was by becoming an environmental studies major. It is through this that she learned more about climate change. While this did not cause her to become an activist, her connection to nature was

a key part of her commitment as an activist. When I asked Maria what drew her to the issue of climate change and activism, she said, "Ummm, I mean, I feel like it's definitely always been inside of me. I'm like, even since I was like, pulling the little bees out of the pond. Like it's, it's a feeling and it's something that like, I feel like is embodied and like, is in my body." For Maria, and many other White youth, the climate fight felt like an inevitability because of their love and concern for the nature world.

However, this trend was highly racialized. Many youth of color reported not having access to what is considered nature. When I asked Mai, the child of Vietnamese refugees, what her relationship to nature was like as a kid, she responded, "I didn't really have a relationship with nature unless it was field trip driven or outside on the park, the playground or my local green space park. My family are refugees. We don't really have knowledge of going camping and stuff." The pattern of this narrative was quite common—youth of color would say they didn't have access to nature, largely because their parents did not know how to access it.

It was not merely a question of access through; this lack of access to and connection with nature translated into a lack of environmental identity. When I asked Valeria, a non-binary Latinex person, about their relationship with nature, they responded that they didn't have one, explaining:

"I think that that goes hand in hand with being poor. I didn't have it. The first time I ever went into nature was when I went to science camp in sixth grade. I guess I thought it was cool, but it didn't really feel like it was for me. My experience with nature was the way I connected in a softball field, or in a cheerleading field, because I couldn't

fathom the idea of going into the wilderness and camping and doing all these cool

things, because it just was not feasible."

In saying that they "didn't feel like [nature] was for me", Valeria is responding to

cultural assumptions about the identities of who it is for. Kempton and Holland (2003)

explore the social aspects of environmental identity, saying these aspects "locate[s] a

person as an environmentalist, or a particular type of environmentalist, in a context of

persons, groups, and struggles" (p. 318). However, Gallay, Pykette and Flannigan (2021)

points out that environmental identities tend to be associated with Whiteness and being

middle or upper middle class. For Valeria and other youth of color, this became a barrier to

climate action; it wasn't just that nature that wasn't "for" people of color, but rather,

environmentalism was not for them.

Even as young children, these activists perceived who nature "was for". For White youth,

nature was a refuge, and they developed strong emotional attachments. This translated into an

environmental identity performed through first normative environmental actions and later

activism. But for youth of color, who lacked access to what counted as nature, there was not an

opportunity to develop an environmental identity. They thus felt that the environmentalist space

was not for them. This became a barrier that they had to later overcome.

Dreadful epiphany moments

One key element of the narratives youth had about becoming climate activists were experiences

of panic and dread about climate change. These narratives communicate moments of "waking

up" to the full extent of climate change. This was experienced by nearly all youth, across racial lines. For example, one young activist Marcus talked about a moment he had as an undergraduate, where he learned the "true extent" of the climate crisis. He describes being in an empty classroom before class started, doing an assigned reading about climate change:

> "I was looking at the numbers, what we needed to be doing, what we're currently doing, and could see that we needed to be doing a lot more. I think that that moment for me was just like... it was kind of like, it honestly did feel like almost like an epiphany moment, but also like, kind of like, not really sad but just like kind of like, "Oh shit, that's what we need to do, you know." And I just remember sitting back in my seat and kind of being like, "Yeah, fuck, I don't know, I don't know if we're gonna do it." Like, that's what we need to do. I don't know if we're ever going to really get there. I don't know if we're going to be able to do it."

This moment sent Marcus into a protracted period of despair, where his fear about climate change pervaded his daily experience. Describing this period, he said, "I've felt that I used to just have that as undergirding anything that was happening to me at any moment. Like if I was awake, I was suddenly worried about climate change." Many youth described a similar period in their life where the anxiety and dread of climate change took over.

Researchers have long documented negative emotions such as fear, anxiety and anger about the climate crisis (Ojala, Cunsolo, Ogundobe & Middleton, 2021). However, much of this research does not capture the extent to which young people here experienced protracted dread and anxiety

about the climate crisis. The closest thing is the concept of "ecoanxiety" or climate anxiety (Clayton et al., 2017; Ojala, Cunsolo, Ogundobe & Middleton, 2021). There are many definitions and conceptions of climate anxiety (Panu, 2020); the most fitting here is "a chronic fear of environmental doom" (Clayton, Manning, Krygsman, & Speiser, 2017).

Earlier research on climate engagement and emotions suggested that negative feelings, like fear and anxiety, can lead to avoidance and ultimately disengagement with climate change (Moser and Dilling 2004; O'Neill and Nichols-Cole, 2009). While climate anxiety alone did not lead to activism, it also clearly did not lead to avoidance and disengagement. This may be due to the fact that it is simply getting harder to avoid the climate crisis as it continues to become more tangible, suggesting a key shift in how people respond to climate change as it intensifies.

There is evidence for this in what precipitated climate anxiety for these young activists: the most common events that did so were reading the Intergovernmental Panel on Climate Change's (IPCC) report *Global Warming of 1.5°C*, which says that the world must dramatically reduce carbon emissions by 2030 or face runaway climate change; and the 2018 California wildfire season, the deadliest and most destructive fire in California's history (CalFire, 2022).

For Marcus and other youth, climate anxiety alone was paralyzing. Their experience of climate anxiety was dominated by feelings of powerlessness. This is expressed in Marcus's sense of knowing what we "need to do" but feeling like "I don't know if we're going to get there". Or, as one youth said, "I felt so depressed because I was like, it's all these big forces against me that I know that I can't do anything about because I'm just one person, and they're not going to listen to

me." In their work on climate action, Kenis and Mathjis (2012) concluded that feelings of powerlessness are important but understudied aspects of climate action. In this case, powerlessness coincided with climate anxiety and led to immobilization.

Climate anxiety was experienced differently by young based on race. Just as communities of color have a disproportionate burden of climate impacts (Kaijser & Kronsell, 2014), youth of color seemed to carry an added burden in their climate anxiety. When asked about her fears around climate change, Valeria said "I worry about my tia. She's worked for her entire life. She doesn't know that the climate crisis is coming. Will she be ready? And I think about how we won't have the money to leave if we need to." Valeria has the added burden of knowing that their community will be the most impacted and the least supported in responding to climate impacts. While White youth also worried about their families, there wasn't a concern about having the resources to respond.

Although youth of color had these additional burdens in their climate anxiety, the experiences of gripping climate dread and panic was common among youth of all races. While the moments that catalyzed their ecoanxiety may have been an "epiphany moment", as Marcus described it, they were not what catalyzed action. The opposite, in fact; the youth's ecoanxiety was pervaded with powerlessness and immobilization.

The Life Raft: Becoming Climate Activists

The activist's narratives of climate anxiety were closely intertwined with their narratives about coming into activism. Like many youth, Jamilla described a protracted period of climate anxiety, saying, "It was maybe like three months after that 2018 IPCC report dropped and really I was in this place where I was like, it basically made me feel like my entire life was meaningless. Like, why am I doing anything if there is only like a couple of good years left and then shits gonna hit the fan, and get worse and worse and worse."

It was in this period of despair that Jamilla connected with activism. She describes seeing footage online from a 2018 Sunrise action where activists sat in at Nancy Pelosi's office, demanding a Green New Deal. The video went viral. Jamilla says:

"So I saw the action that [Sunrise] did at Nancy Pelosi's office. That made all the headlines. (…) That was my first exposure to Sunrise, and it came right on time because this was like, right after the IPCC report. Ummm, and so I got involved with Sunrise because I was like, it was basically like someone had thrown me a life raft. I was like drowning, right? And activism was a life raft. And so I was like, Okay, cool. Something to do."

A longstanding debate in the literature on environmental action questions the role that negative emotions about environmental issues, including climate anxiety, play in environmental action (Ojala, Cunsolo, Ogundobe & Middleton, 2021). While most research shows these emotions can be key motivators (Buttigeig & Pace, 2013; Fisher, 2016), other research shows the opposite (Moser and Dilling 2004; O'Neill and Nichols-Cole, 2009). Jamilla's experience, which is representative for many youth interviewed, clarifies this connection in the context of youth

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climate activism. Alone, climate anxiety was paralyzing; without a way to channel her energy,

Jamilla felt like she was "drowning" in her fear. But all it took was seeing one short video of a

Sunrise action to change that; within weeks, Jamilla had joined up and found herself engaging in

civil disobedience. She describes seeing the video "right on time." The "right on time" nature of

her connection with Sunrise suggests that what matters for engendering climate activism is not

concern or fear alone but having an outlet to channel this into.

Like many youth, when Jamilla saw the video of Sunrise, she was, indeed, already taking

environmental action: "at the time, what I had been doing was like, ummm, basically voting,

signing petitions, donating, calling politicians and then knocking on doors, like all the electoral

shit, right? And like, I was like, 'This isn't fast enough. And it's not gonna get done and I can't

just wait till the right people are elected.' And so Sunrise was different."

Negna and Taft (2013) note the difference between normative civic action, like volunteering, and

activism; this is the difference Jamilla saw in Sunrise. Like many youth-led social movements,

Sunrise operated outside of the formalized and normative channels of collective environmental

action (Pickard, 2019). Instead of focusing on more normative environmental actions, like

"voting, signing petitions, donating, calling politicians and knowing on doors", Sunrise was

engaged in building collective power, often through civil disobedience. This is what Jamilla saw

in the video. This indicates that the key difference between action in Sunrise and other

environmental actions had to do with power. This suggests that efficacy and empowerment,

when paired with climate anxiety, may be key motivators. When examining experiences of other

youth activists, Buttigeige and Pace (2013) and Fisher (2016) both discuss the importance of

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self-efficacy and empowerment, but the conceptualize it as something the youth inherently

possessed. Here, youth saw examples of collective mobilization that elicited power and provided

an alternative to their experience of powerlessness.

Jamilla's entrée into activism via the "right on time" video of Sunrise suggests another key

aspect of youth coming into climate activism: youth-led political socialization process. This

online video was produced and shared by youth in Sunrise. Social media and the internet more

broadly are key ways that young people communicate and educate each other about social issues

(Boulianne, 2015; Earl, Maher, & Elliott, 2017; Kahne, Lee & Feezell, 2013; Xenos, Vromen &

Loader, 2014). The other way youth described coming into activism was through the influence of

a friend, yet another common means of youth-led political socialization (Taft, 2017). Taft and

Gordon (2011) note that there can be key generational differences in the political socialization

process. Early research on the youth-led climate movement suggests that this movement is

operating in fundamentally different ways that previous climate or environmental movements

(Gaborit, 2020; Kenis, 2021; Pickard, Bowman & Arya 2020). Thus, these youth-led political

socialization processes seem to be particularly important.

Jamilla's narrative illuminates that the experiences of coming into climate activism are deeply

intertwined with experiences of climate anxiety; while climate anxiety alone was paralyzing,

when paired with images of collective mobilization, youth were able to make the critical turn

from paralysis into collective political action. Social media and peer relationships were

instrumental in this, by portraying images of youth claiming power. This reflects youth-led, as

opposed to adult-led, pathways into activism.

Coming Into Action: Developing Critical Consciousness

In the stories young people told about becoming climate activists, the experience of being a climate activist was transformative. One key element of this transformation was developing a political understanding of climate change. This transformation happened as they were trained by Sunrise and participated in activism. In doing so, youth re-authored the stories they had about climate change and activism and developed critical consciousness around climate change.

Scholars have identified three components core to critical consciousness: critical reflection, whereby one analyzes systemic inequities and injustices; political efficacy, which is the belief that one can change these systemic conditions; and critical action, where one seeks to change these injustices (Christens et al., 2016; Watts et al., 2011).

The process of developing critical reflection was a process of developing a more critical understanding of climate change. For both White youth and youth of color, this involved re-examining and re-authoring more traditional narratives they had about climate change and environmental issues more broadly. However, *how* youth reauthored these stories varies by race. For White youth, this typically involved gaining a more radical and political idea about what it means to be an environmentalist. For example, Allie, a White youth, already had a strong environmental identity. She grew up playing in nature, majored in environmental studies, and was taking a lot of individual environmental actions. She said: "I definitely remember taking on like, a lot of individual responsibility. I was already a vegetarian but then I went for a while of

being a vegan. And like, you know, really trying to cut back on driving and thinking about these really individual things". When I asked her why she was focused on individual solutions, she said, "I guess it was like, the only option that I saw. Like, my brain couldn't come up with any other way to approach it."

For Allie, climate action meant individual action and green consumerism. This is not surprising, as this narrative has dominated climate and environmental discourses for decades (Pepermans & Maeseele, 2016). Allie saw this as her "only option" and was unable to "come up with any other way to approach it."

Despite her environmental behaviors, Allie grew increasingly panicked about climate change. It came to a head during the 2018 California wildfire season, leading her to join Sunrise. After doing so, she said,

> "And I feel like it has really changed my life in a lot of ways. And I was just saying to [my partner] today that it feels so hard though, once you have the knowledge to then like operate in the world like a normal person because I'm just constantly wanting to be like, Well, no, it's like, we need to get to the root of the problem. Like I'm so unsatisfied now with symptom solutions or surface level solutions. And I see everything as so connected that sometimes it's like, it just feels hard to have conversations with people that are not so politicized or like not so radical about it because I'm like, Ahh! how do I even explain to you how deeply connected these struggles are and that we need to like, start fresh."

In becoming an activist, Allie moved from "symptom solution" to seeing the interconnectedness of multiple struggles. The key step in doing so was critical reflection (Christens et al., 2016), which Allie describes as the ability to see how various struggles, like racism and classism, "are deeply interconnected." Now, as an activist, instead of "symptom solutions" she sees her work as getting "to the root of the problem", which suggests critical action aimed at transforming systemic injustice. Thus, becoming an activist meant transforming her understanding of climate change to be much more critical and political.

But many youth of color lacked the environmental identity that Allie and other White youth had, which was a barrier to environmental and climate action. These youth of color also reauthored their stories about climate change, but in a different way. For Valeria, who previously said that she perceived nature, and thus environmental action, as "not for me" and "not my main concern", becoming an activist meant developing a narrative about climate change that involved people of color. This perspective included understanding the way that climate change would impact them and their community first and worst (Kaijser & Kronsell, 2014), and thus the stake they had in the climate crisis. As an activist, Valeria explained that the point of their work then became: "to inspire hope to people like me and from where I'm from. (…) I want to make sure that we have a seat at the table and hopefully someone will see me there, so powerfully owning these issues and will feel called to do it too."

Because there were barriers around developing an environmentalist identity—as Valeria put it, "it felt like it was not for me"—to become a climate activist, Valeria's critical reflection was

focused on understanding the stake they had in the climate crisis. Now as an activist, their critical action is to "make sure we all have a seat at the table".

For these young activists, coming into climate activism meant developing a critical and political understanding of climate change. Doing so meant changing the story they had about who participates in climate activism and how. This transformation is reflected through the development of critical consciousness. But, this process differed along lines of race; while White youth moved from "symptom solution" to getting at the "root of the problem", youth of color moved from thinking that the environmental space was "not for me" to working to make sure "we all have a seat at the table."

From despair to tempered hope

In moving from individual to collective action via activism, youth transformed their grief, despair and anxiety. Jamilla, who talked about the deep anxiety and nihilism she held around climate change for most of her life, said,

"So, I feel hopeful when I'm around other activists because of the visions they tend to lay out of what success could look like. And small ways to reclaim power, even in like the broken system, right? […] And so I feel hopeful when I think about the amount of mass movements that are being built and the ways in which people are realizing we need to build our own systems that support each other, like mutual aid networks […]. I'm hopeful about the amount of movements and activism we're seeing."

Through being around other activists and witnessing social movements, Jamilla was able to find hope regarding climate change. What helps her feel hopeful is being "around other activists", "reclaim[ing] power", and thinking about "the amount of mass movements that are being built" and building systems of support like mutual aid networks. These descriptions suggest that it is collective efficacy from collective mobilization that made her feel hopeful. As Ojala et al. (2020) conclude, an important question regarding ecoanxiety and climate anxiety is help people cope with it. This research suggests that collective efficacy in not only important for addressing climate change, but in transforming ecoanxiety and climate anxiety. This affirms Kenis and Mathjis (2012) assertion that powerlessness is a key factor in climate action.

At the same time, Jamilla still describes experiences of despair and panic about climate change. In fact, nearly all the youth described an ambivalent relationship to hope. It wasn't so much that they felt hopeful or optimistic that their movements would actually stop climate change, but rather that taking political action allowed them to experienced moments of hopefulness that transformed their grief. As one youth commented, "I feel better, as long as I am doing everything I can do, which I feel like I am." Through being in community and taking political action youth were able to find a net wide enough to hold their experiences.

As youth became activists, they found themselves transformed by the practice and community of activism. This transformation happened in how they understood climate change and themselves in relationship to it. This transformation also impacted the way they felt about climate change; although youth still experienced panic and dread, they had the ability to hold them.

Wider Implications and Conclusions

Through examining narratives young people have about becoming climate activists, this research illuminates factors that shape young people becoming climate activists. Findings include: 1. The narratives varied by race, particularly when it came to whether or not young people constructed environmental identities; 2. Climate anxiety alone was paralyzing, but when intertwined with opportunities to engage with collective mobilization, catalyzed action; 3. As activist, youth developed critical consciousness around climate change. Below I these findings and their implications.

The narratives about becoming an activist varied by race. For White youth, this process followed patterns previously identified in literature on environmental action (Clayton, 2003, 2012; Clayton et al., 2021); they had experiences connecting to nature, which helped them develop environmental identities that were then expressed through activism. Many youth of color, though, lacked connection to pristine, untouched nature. Without access to what is considered nature, youth of color did not develop environmental identities. Instead, there was a sense that nature and the environmental movement were "not for them." To become activists, then, youth of color had to reconceptualize what it meant to fight for the climate, reauthoring the stories they had about who fights for the environment and why.

Earl et al. (2017) Fisher (2012), Ginwright (2011), and Gordon (2009) have all documented that youth of color face barriers when coming into activism. This research indicates that they face

additional barriers in becoming climate activists. As a part of the wider environmental movement, the climate movement has historically been a "default White space" (Curnow & Helferty, 2018). This phenomenon has been reified through continuing to employ narratives that resonate with White people, such as calls to "save" ecosystems or individual species. While the youth-led climate movement seems to be intentionally challenging this White normativity (see chapter three in this work) it still exists as a barrier for youth of color.

Environmental identity serves as yet another barrier for youth of color becoming climate activists. As a social concept, the belief that one needs to have an environmental identity, i.e. be a nature loving vegan who grew up going hiking and has an environmental studies degree, limits the participation of youth of color. Thus, as a research tool, environmental identity is not particularly useful in understanding the pathways for youth of color into climate activism. This comes despite the fact that environmental identity has proven to be one of the most stable and predictable ways of understanding environmental action (Susan Clayton et al., 2021). Why this shift? It likely has to do with the youth-led climate movement themselves; early research on this movement suggests that they are bucking many trends and redefining what it means to be a climate activist (Gaborit, 2020; Kenis, 2021; Pickard, Bowman & Arya 2020). I discuss this idea further below.

Another key finding from these narratives was the role that climate anxiety played. For all youth, experiences of panic and dread were deeply intertwined with their narrative of becoming climate activists. However, climate anxiety alone was paralyzing due to powerlessness. It is only when it was matched with images of collective mobilization aimed at building power that these youth

mobilized. One of the key debates in the literature on climate action is the role that concern or worry play (Ojala, Cunsolo, Ogundobe & Middleton, 2021). This research indicates that, on its own, climate anxiety is not enough to lead to action, at least in the context of climate activism. Because their experiences of climate anxiety were dominated by a sense of powerlessness, they thus needed to connect to something powerful. While a great deal of research on environmental action has conceptualized the negative emotions as the key turning points (Ojala, Cunsolo, Ogundobe & Middleton, 2021), including work on youth climate activism (Buttigieg & Pace, 2013; S. R. Fisher, 2016), in these instances, the turning point was not moments that catalyzed negative emotions, but rather moments that catalyzed power.

The connection between climate anxiety and powerlessness suggests the importance of empowerment and self-efficacy in climate action. Buttigiege & Pace (2013) and Fisher (2016) examined the importance of empowerment and self-efficacy in catalyzing youth climate activism (Buttigieg & Pace, 2013; S. R. Fisher, 2016), it has been conceptualized as an individualistic and pre-existing quality. In both of these articles, youth felt concern for the environment and then, of their own volition, sought out ways to engage. But for youth interviewed here, they needed to see climate action that fit the scale of the problem. This suggests that, while some youth are exceptional in their ability to transform their fear into action, most need support with this.

A third finding was that the process of becoming a climate activist involved developing critical consciousness (Christens et al., 2016). A key component of this was constructing a more political and justice-oriented understanding of climate change via critical reflection (Christens et al., 2016). While the specifics of this differed along lines of race, these critical perspectives were

counter to how most climate movements have positioned both the issue of climate change and how they perform their action. Historically, the climate movement has employed individualistic and apolitical narratives (Pepermans & Maeseele, 2016). These narratives have left out important dimensions of environmental justice, and thus the needs and concerns of communities of color (Kaijser & Kronsell, 2014). In becoming activist, though, young people had to re-evaluate and change these stories. For youth of color, reauthoring these stories this was necessary for their participation, as this new narrative included them and their community. This research thus contributes to mounting evidence that young people are defining and acting on the climate crisis in more political and radical ways. This has also been found by Gaborit (2020), Kenis (2021) and Pickard, Bowman & Arya (2020).

Overall, previous theories for explaining climate action, like environmental identity, concern and self-efficacy, did not function the same here. This is likely due to the nature of the youth climate movement itself. Early research on this movement suggests that it is more diverse, more justice-oriented and more radical than previous environmental movements (Pickard, Bowman & Arya, 2020). Sunrise specifically has taken a particularly political stance in opposition to past environmental organizations by advocating for far-reaching governmental regulation and programs to not only stop climate change but transforming society to be more just. The youth participating in this movement—both youth of color and White youth—thus do not have the same ideologies and beliefs about the environment, so it is not surprising that their pathways into activism were not the same either.

Thus, to study the youth climate movement warrants new epistemologies and paradigms. One such paradigmatic shift comes in how researchers regard activism. The literature on environmental and climate action treats climate activism the same as other environmental behaviors, such as green consumerism (Nielsen et al., 2021; Stern, 2000). However, Negna and Taft (2013) propose that activism is distinct from other civic behaviors, and thus the pathways and motivations for becoming an activist are distinct too. I propose that future research on youth climate activism adopt this paradigm. Doing so would result in the use of more critical approaches and theories, such as theories of intersectional justice and political socialization processes. Given the political and critical nature of the youth climate movement, such theories and approaches are fitting.

Furthermore, perhaps the most useful tool in researching the youth climate movement is youth themselves. Just as this movement is youth-led, with political socialization processes and organizing action led by youth, I propose that research should be participatory and youth-centered. This allows the opportunity for the co-construction of knowledge. In their review of the literature on youth climate activism, Neas, Ward & Bowman (not published yet) advocate for an epistemological shift that "recognizes young people's claims to knowledge, expertise, and to research itself: in other words, for more research in partnership *with* young people." Doing so will surely lead to findings that more accurately portray the experiences of these young people, while also better supporting their work as activists.

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Chapter 3: "We're Not Just A Bunch of Kids Making Posters About Polar Bears": Collective Action Framings of the Youth Climate Movement in the United States

Abstract

Framings used in the environmental movement address how and what those movements are mobilizing around (Taylor, 2000). A new trend in environmentalism has emerged lately, which is the presence of young people taking collective action on climate change. This youth-led climate movement has started to garner attention from researchers examining elements such as the composition of this movement (de Moor et al., 2020; D. R. Fisher & Nasrin, 2021; Wahlström, Kocyba, de Vydt, & De Moor, 2019), reasons for becoming activists (ex. Fisher, 2016; Pickard, Bowman, & Arya, 2020; Wallis & Loy, 2021) and the outcomes of it (ex. Cattell, 2021; Deisenrieder, Kubisch, Keller, & Stötter, 2020; Elsen & Ord, 2021; Lindquist-Grantz & Abraczinskas, 2018). One important question is how youth activists are defining and acting on the issue of climate change. While researchers have examined this in Europe (Holmberg & Alvinius, 2020; Pickard et al., 2020; Piispa & Kiilakoski, 2021), it has not been examined in the United States. This article does this by examining how the Sunrise Movement, a youth climate organization in the United States, frames the issue of climate change, and discusses wider implications of these framings.

Introduction

In February 2019, a group of young climate activists from three different organizations went to Senator Diane Feinstein's California office, asking her to support the Green New Deal (Beckett, 2019). Her response was less than hospitable.

"I've been doing this for 30 years. I know what I'm doing," Feinstein responds. "You come in here and you say it has to be my way or the highway. I don't respond to that. I've gotten elected. I just ran. I was elected by almost a million vote plurality and I know what I'm doing. Maybe people should listen a little bit." The video went viral.

The irony of Feinstein's response is that the amount of time that she has been in office—thirty years—is almost exactly how long Congress has known about climate change. On June 23, 1988, NASA scientist James Hansen testified before the Senate Energy Committee that he was 99% confident that anthropogenic global warming was happening and, if unchecked, it would be catastrophic (Shabecoff, 1988). In that time, though, Congress has failed to act. The United States has passed no major climate legislation and, in fact, has been instrumental in disrupting and stifling international agreements that would have addressed climate change much sooner (Brulle, 2014; Ciplet & Roberts, 2017). Since Hansen's testimony, global and domestic carbon emissions have skyrocketed and the percentage of energy coming from fossil fuels has expanded.

Of course, this failure does not rest at the feet of Feinstein or any Congressperson alone, but rather is emblematic of a growing sentiment among young climate activists: the adults have failed us (Pickard, Bowman & Arya, 2020; Holmberg & Alvinius, 2020).

It is in response to this lack of action that an increasing number of young people are engaging in climate activism. Many credit Swedish activist Greta Thunberg, who catalyzed a school walkout movement in the fall of 2018, with the advent of the youth climate movement. But, in fact, there was a great deal of activity already bubbling. Domestically, young people were already engaging in climate activism. Some of these activities include the divestment movement and resistance to

the Keystone XL pipeline. Although rarely portrayed this way, Indigenous resistance to the Dakota Access Pipeline was initiated by young people and largely youth-led (Elbein, 2017).

In 2017, the Sunrise Movement was starting to organize these localized struggles into a national movement in the United States. Born out of the movement to divest college campus funds from fossil fuel investments, Sunrise aimed to mobilize youth across the country around climate change (M. Zuckerman, personal communication, July 10, 2020). Now, five years later, they have grown their ranks to include over 400 localized hubs in nearly every state (Sunrise Movement, 2022), and their executive director was appointed to President Biden's climate task force (Prakash, 2020).

In the United States, environmental movements have always organized themselves around various discourses or framings (Brulle, 2000; Taylor, 2000). This is true of climate movements, which are situated within the broader context of environmentalism (Jamison, 2010; Zehr, 2015). These framings are important in constructing a narrative about what the problem is and how to address it (Benford & Snow, 2000; Snow et al., 1986; Taylor, 2000). Framings also define how they movement takes action. However, there is currently no research on how the youth climate movement in the United States is framing the issue of climate change. This is a particularly important question, as research in Europe indicates that young climate activists are defining climate change much differently than past environmental movements (Holmberg & Alvinius, 2020; Pickard, Bowman, & Arya, 2020; Piispa & Kiilakoski, 2020). Is this true in the United States? And if so, what does that mean for greater climate and environmental movements?

This research addresses these questions through qualitative research with the Sunrise Movement in the San Francisco Bay Area. This article uses the concept of social movement framing, which

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is the way an organization publicly interprets and give meaning to events or information (Snow et al., 1986), to explore the underlying narrative that Sunrise uses to mobilize youth around the climate crisis. This sheds new light on how these youth are understanding and making meaning out of climate change.

Literature review

Environmental and Climate Movements

The evolution of American environmentalism can be examined through different strands or discourses that have framed issues differently (Benford & Snow, 2000; Taylor, 2000). Throughout history, the most popular discourses were conservationism, which is a utilitarian sentiment that envisions the non-human world as essential to human survival, and thus needing proper management to maximizes its utility; preservationism, which espouses more romantic views of "pristine wilderness", needing protection from human interaction; and reform environmentalism, which links human and environmental well-being, positing that humans must restore ecosystem balance to ensure their own longevity (Brulle, 2000; Taylor, 2000). In 1962, environmentalism experienced a major shift with the publication of Rachel Carson's exposé *Silent Spring* (Ibid). The publication shocked the nation and united conservationists and preservationists under reform environmentalism (Ibid).

Although these influences are still prevalent today, another seismic shift happened in American environmentalism (and the country as a whole) with the inauguration of Ronald Reagan in 1981. Reagan made quick work of rolling back or defunding many of the environmental gains of the 1960s and '70s, as he ushered in a new political era of neoliberalism (Brulle, 2000).

Neoliberalism is an ideology that promotes free markets, deregulation and economic growth above all else. Suddenly, environmental organizations found themselves in a less hospitable political climate. As a result, most traded in their adversarial tactics for politically neutral approaches like "coalition building", "bridging differences" and "finding alternatives" (Brulle, 2000; Jamison, 2010).

However, as Taylor (1997, 2000, 2011) and Middleton (2014) point out, the above accounting is focused on the mobilizations of mostly White, middle-class men. These movements have intentionally excluded other groups (Middleton, 2014; Taylor, 1997, 2000, 2011). In response to this, people of color, Indigenous peoples, and working class folks have forged the environmental justice movement to express and organize around their environmental concerns (Taylor, 1997, 2000, 2011; Whyte, 2017; Middleton, 2014). The environmental justice movement, with a wholly unique origin and ideology than mainstream environmentalism, lies at the nexus of natural environments and human health and well-being (Sze & London, 2008). The central claim of environmental justice is that environmental burdens are not evenly distributed but rather sidled disproportionately on communities that are marginalized along race, class and gender lines (Bullard, 1990; Mohai, Pellow & Roberts, 2009; Sze & London, 2008; Pellow, 2018). While mainstream environmental organizations have intentionally resisted connecting environmental need to issues of justice, the environmental justice movement intentionally does that (Taylor, 2000).

Having come of age during the height of neoliberalism, much of the climate movement has integrated neoliberal ideologies (Jamison, 2010). In climate discourse, neoliberal ideologies tend

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towards inaccessible and apolitical technoscientific framings (Hulme, 2008; Jamison, 2010; Kenis & Mathijs, 2014). Such framings tend to obfuscate and protect, instead of illuminate and interrupt, the forces that have shaped climate change. In practice, neoliberal climate action tends to be individualistic and apolitical. Much of the emphasis is on market deregulation to encourage "innovation", "green consumerism" and individualized, voluntary adoption of emissions reduction measures (Ciplet & Roberts, 2017; Jamison, 2010; Zehr, 2015). There is a great deal of evidence suggesting that neoliberal ideologies and politics have interrupted substantial climate legislation (Klein, 2014; Ciplet & Roberts, 2017).

Climate justice discourse poses as an alternative to neoliberal framings of climate change. Work on climate justice examines the disproportionate burden that climate change puts on already marginalized communities, despite the marginal contributions those populations have made to greenhouse gas emissions (Jamison, 2010; Kaijser & Kronsell, 2014; Kenis & Mathijs, 2014). While most environmental justice movements have centered around singular or local justice, climate justice answers calls for organizing around multiscalar issues of justice (Pellow, 2016). Routledge et al. (2018) argues that that social movements are particularly important in actualizing climate justice.

Youth climate movement

Within the broader context of environmental and climate movements, a global youth-led climate movement has gained momentum over the past few years. While many connect the origin of this movement to the actions of young Swedish activist Greta Thunberg, to do so would be inaccurate (Neas, Ward & Bowman, submitted). Thunberg's actions were, indeed, pivotal in spurring a

school walkout movement among young people. However, the roots and origins of youth climate activism are more complex (Walker & Bowman, 2022), and connect to diverse movements like the Indigenous-led resistance at Standing Rock in South Dakota (Estes & Dhillon 2019), campus divestment movements (Curnow, Fernandes, Dunphy & Asher, 2021) and youth presence and dissent at the United Nations climate change negotiations (Thew, 2018; Thew, Middlemiss, & Paavola, 2020), to name a few.

This movement has garnered recent attention from researchers examining issues such as the composition of this movement (de Moor et al., 2020; D. R. Fisher & Nasrin, 2021; Wahlström, Kocyba, de Vydt, & De Moor, 2019), reasons for becoming activists (ex. Fisher, 2016; Pickard, Bowman, & Arya, 2020; Wallis & Loy, 2021) and the outcomes of it (ex. Cattell, 2021; Deisenrieder, Kubisch, Keller, & Stötter, 2020; Elsen & Ord, 2021; Lindquist-Grantz & Abraczinskas, 2018).

One important question is how youth activists are defining and acting on climate change. On the whole, this literature suggests that they are diverting from previous environmental movements. Researchers have demonstrated how youth in the United Kingdom (Pickard, Bowman, and Arya, 2020), Finland (Piipsa & Kiilakoski, 2020) and France (Gaborit, 2020) are calling on those in power to make significant, systemic change. Greta Thunberg's speeches, which clearly resonate with millions of youth around the planet, center themes of justice and sociopolitical change (Han & Ahn, 2020; Holmberg & Alvinius, 2020). Additionally, youth are linking climate change to capitalism (Holmberg and Alvinius, 2020; Gaborit, 2020; Pickard, Bowman and Arya, 2020) and are willing to put the needs of the environment above those of the economy (Emilsson, Johansson & Wennerhag, 2020). This divergence from past framings of climate change may be

related to the growing sense among youth activists that adults are failing them (Han and Ahn, 2020; Pickard, Bowman and Arya, 2020; Holmberg and Alvinius, 2020).

Despite the advances of the literature on the youth climate movement, there are significant gaps. All of the literature above examining how youth are understanding climate change was conducted in Europe (except for Han and Ahn, which focused largely on narratives from Greta Thunberg, but did include narratives from around the world). Researchers have yet to examine narrative or framings from youth in the United States, as well as most of the world. Doing so is particularly important, given the distinctly neoliberal framings that have pervaded American environmentalism, and the way the young climate activists seem to be challenging this.

Environmental Movement Framing Processes

When examining environmental and climate movements, scholars have used the concept of framing to understand and explain social movement mobilization (Benford & Snow, 2000; Snow et al., 1986; Taylor, 2000). A frame is a "schemata of interpretation" that enables individuals to "locate, perceive, identify and label" occurrences within their life and the world at large (Snow et al., 1986). The frames that social movement organizations use are called collective action frames. Collective action frames are a way of making meaning out of events and simplifying the "world out there" in an attempt to mobilize people (Benford & Snow, 2000; Snow et al., 1986). One of the core tasks of collective action frames is to construct frames that have a shared understanding of the problem at hand. This frame can be diagnostic (what the problem is), prognostic (how to fix the problem) and mobilizing (calls to action) (Ibid).

There have been critiques of the concept of framing. In particular, they can be static and reductionistic, failing to capture the nuance of how individuals within a movement are defining an issue (Benford, 1997; Gahan & Pekarek, 2013). Furthermore, there has been empirical data that questions the assertion that framing explains why individuals join social movements (Benford, 1997). Despite this, social movement framing is a particularly useful tool in the context of climate change. A great deal of the research efforts regarding climate change in the public sphere focuses on knowledge and acceptance of climate change (Wibeck, 2014). However, these elements alone do little, if anything, to motivate action (Wolf & Moser, 2011). Instead, what is important are values, beliefs, worldviews and ideologies regarding climate change (Corner, Markowitz, & Pidgeon, 2014; Wolf & Moser, 2011); feelings of empowerment and agency (Kenis & Mathijs, 2012); and how one makes meaning out of climate change (Wolf & Moser, 2011). Framing gets at all of these elements. Thus, while it may not fully explaining why youth are mobilizing, it is useful in examining how young activists are understanding climate change.

Research Context

This project took place in the San Francisco Bay Area with the Sunrise Movement. The Sunrise Movement is a national coalition of youth using collective grassroots action to advocate for aggressive climate legislation. They use disruptive tactics like unsanctioned protest, civil disobedience and non-violent direct action to demand governmental action on climate change. They also host trainings and use social media to educate their members on issues related to their reasons and strategies for mobilizing. The organization has garnered national attention, so much

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so that their executive director was appointed to the climate task force led by President Joe Biden. They thus have a wide scope and sway in American youth climate activism.

The Sunrise movement operates through local hubs. This research took place with the San Francisco Bay Area hubs. It is one of the oldest and most active Sunrise hubs and holds a leadership role nationally. Youth in this hub are instrumental in shaping and maintaining national messaging and will thus provide key insights into the narratives held among young climate activists. The Bay Area hub is also well-suited for this research because it is one of the diverse hubs. Throughout the history of environmentalism (and as a result, research on environmentalism), the issue has centered the perspectives and actions of middle class, white, male environmentalist (Taylor, 1997). This has led to narrow definitions of environmentalism and limited understandings of how these issues play out among people of color and other diverse populations (Ibid). By choosing the Bay Area hub of the Sunrise Movement, this research project obtained a broader cross-section of perspectives.

Research design

Overview

This research follows Sayer's (1992) notion of intensive research. Intensive research (as opposed to extensive) collects various types of rich data. Doing so allows the researcher to answer more abstract questions. This study uses a variety of qualitative methods, a useful way to understand the various discourses of an issue within an organization (Kenis & Mathijs, 2014). This study

will investigate discourses and meanings held within a youth climate action group in the San

Francisco Bay Area. I spent December 2019 through August 2020 working with and observing

the Bay Area hub of the Sunrise Movement. During this time, I participated in trainings,

workshops and meetings. I collected participant observation notes, oral history interviews and

archival materials. All data collection and human participants research procedures were approved

by the University of California at Davis' Institutional Review Board (IRB).

Participation Observation

Participant observation involves researchers taking part in the lives and activities of study

participants (Musante & DeWalt, 2011). It allows researchers to better understand the contexts of

participants within a group (Ibid). I became a participant with the Sunrise Movement BA

beginning in December 2019 through August 2020. This time period was interrupted by the

COVID-19 pandemic. However, the Sunrise Movement shifted their organizing online and had

limited, socially distanced in-person activities. This included an increased number of online

trainings. During this time, I attended a variety of meetings, events and trainings, both virtual

and in-person (see Table 1). During and after interactions, I took observation notes and wrote a

reflective memo that summarized the event and captured insights. While online activities made it

difficult to observe the more tacit elements of the group, the participant observations provided

important context into the organization and were essential in identifying key informants for

interviews and media to further analyze.

Archival Collection

Archival collection involves collecting and analyzing documents or media from a cultural or historical context. It is a way of understanding how a group constructs and reifies cultural meanings (Vogt, Gardner & Haeffele, 2012). By examining what is produced, a researcher can better understand commonly held cultural meanings, beliefs, values and understandings (Ibid). It is used as a way to triangulate, affirm or complicate what is being said by a group (Ibid). In this instance, it was used in conjunction with participant observation and interviews to better understand the framing used by Sunrise. During my observations, I collected a variety of materials for analysis. This includes emails, flyers, Powerpoints slides used during trainings or meetings, and videos produced or distributed by the group (see Table 1).

Oral History Interviews

I conducted open-ended, semi-structured oral history interviews with climate activists from the San Francisco Bay Area of California. Oral history interviews allow subjects to co-construct meanings and beliefs (Patel, 2005) and emphasizes the experience and perspective of interviewees (Leavy, 2011). Because they usually focus on a particular event or subject, oral histories can ask questions about social issues as experienced and understood by an individual (Shopes, 2002) and are ideal in studying the connections between micro- and macro-level processes (Leavy, 2011), as this project does. This provides rich insight into how individuals are interpreting and internalizing (or not) the organization's framings.

Participants were selected based on a combination of purposeful sampling and snowballing (Creswell & Poth, 2018). I started with purposeful sampling by reaching out to key informants who have leadership positions within the organization. From there, I used snowball sampling, asking each participant to suggest a list of other participants who could serve as key informants. Throughout the selection process, I prioritized people who were well-established within the group and thus have adequately interreacted with Sunrise's framings. Because of the COVID-19 pandemic, all interviews were conducted remotely over Zoom using guidelines for remote interviewing from the Oral History Association (Oral History Assocation, 2020).

Sample

I gathered a total of twenty oral history interviews with racially diverse young climate activists. Of these, nine youth were white; seven were Asian American; two were Latinx; and two were Black. Thirteen of the participants were cis-gendered females, five were cis-gendered males and two were non-binary trans people. Twelve of the youth identified as LGBTQ+ and eight identified as straight. Ages ranged from 19-28 years old.

Table 1. This table describes the most important data sources collected. What is listed is not exhaustive; other data was collected and analyzed but the table includes the data sources that proved most emblematic of Sunrise's framing and are discussed extensively in the findings.

Data Type	Date	Description
Observation (in-person)	12/15/2019	Sunrise 101: a day-long training; provides overview to the organization, their theory and strategy for change
Observation (in-person)	2/9/2020	Sunrise open meeting: an introductory meeting for new members, held monthly; two hours long
Observation (virtual)	3/28/2020	Hub-wide strategy meeting: meeting to brainstorm and workshop the hub's priorities and strategies for years to come; three hours long

Observation (virtual)	3/31/2020, 4/1/2020, 4/2/2020, 4/3/2020	Sunrise School class, GND Crash Course: an online class to introduce members to the Green New Deal (GND); offered by the national organization and available to anyone interested; one hour a day for four days.
Observation (virtual)	4/16/2020	Sunrise School class, Public Narrative: The Story of Self, Us and Now: an online class to introduce members to Sunrise's approach to telling stories about climate change; draws on Marshall Gantz's concept of public narrative (Gantz, 2011); offered by the national organization and available to anyone interested; two hours long.
Observation (virtual)	5/24/2020	Hub-wide training on public narrative: additional training about Sunrise's approach to telling stories about climate change; training offered by the Bay Area hub for their members and was similar to above training offered by national team; two hours long.
Archival (video)	Released 4/17/2019, obtained by PI on 12/15/2019	*A Message from the Future*: a seven-minute-long video about the climate crisis and Green New Deal. The video takes place in the future and envisions a world where the United States enacted a Green New Deal. Also tells a story about how fossil fuel companies caused climate change by subverting information and legislation on the issue. Produced by The Intercept and narrated by Congresswoman Alexandria Ocasio-Cortez. Was shown at the following trainings: Sunrise 101, Sunrise open meeting and GND Crash Course Day 1.
Archival (video)	Released on 1/6/2020, obtained by PI on 4/1/2020	*This is How to WIN the "Impossible" Green New Deal:* an eight-minute-long video that describes why past climate legislation has failed and puts forth Sunrise's strategy to change that. Produced by Sunrise and narrated by Varshini Prakash, Sunrise executive director. Shown during GND Crash Course Day 2 and posted on their website, at the top of the "About" page.
Oral history interviews	Conducted 2/1/2020 through 9/15/2020	A total of 20 oral history interviews conducted with Sunrise members. Interviews lasted between two to four hours. Ages ranged from 19-28 years old. Youth were racially diverse (nine were white; seven were Asian American; two were Latinx; and two were Black). Thirteen of the participants were cis-gendered females five were cis-gendered males and two were non-binary. Twelve of the youth identified as LGBTQ+ and eight identified as straight.

Data Processing, Analysis and Synthesis

Participant observations, reflection memos, interviews and all archival materials were coded and analyzed using *Dedoose* qualitative data analysis software. Interviews were first transcribed using transcription software, and then manually corrected. All data was analyzed using a procedure that involved iterations of listening and correcting transcriptions, coding, memoing, synthesizing and integrating insights. The reflects the nature of qualitative research as an interpretive process of constructing meaning (Creswell & Poth, 2018; Creswell & Creswell, 2018). The first round of coding involved inductively coding all oral history interviews. Through this, I identified key themes and patterns within the research. While doing inductive coding, I also wrote process memos, which help capture and synthesize insights (Saldaña, 2016). From this inductive coding, I created a code tree. I then applied this code tree to all other materials. Throughout coding, I continued writing process memos.

Results and Discussion

In this section, I analyze and discuss the results from interviews, participant observation and archival collection (see Table 1 for description of data sources). Benford and Snow (1988, 2000) have identified three core tasks of framing of SMOs: diagnostic framing (identifying the problem and its attributes), prognostic framing (identifying the solution and strategies for achieving it) and motivational framing (framings that motivate and mobilize). I have organized the following sections around these types of frames.

Diagnostic Framing: The victims and the perpetrators

Diagnostic frames establish the parameters of the issue a social movement organization is working on (Benford & Snow, 2000). One core task of diagnostic framing is to illuminate the "victims" of the issue (Benford & Snow, 2000). In Sunrise's framing, the victims of climate change are already-marginalized communities, such as communities of color, immigrants and low-income communities. Sunrise frames the consequences of climate change as happening disproportionately along lines of race, class and ability, aligning with narratives around climate justice (Kaijser & Kronsell, 2014).

This framing is represented in the way they dramatize climate impacts. In the Sunrise 101 training, when illuminating the problem of climate change, they used the example of Hurricane Maria, which devasted Puerto Rico in 2017. The example of Hurricane Maria became a way to talk about the concepts of frontline communities—those who are being hit first and worst by climate change—and social vulnerability. Trainers related these concepts to environmental racism. Sunrise also highlights this justice-oriented framing by highlighting the voices of youth of color and low-income youth as victims of climate change. They do this often by having youth from these groups tell stories during trainings or at meetings. Through this frame, the problem of climate change is shaped by systemic forces of oppression, like racism. They thus portray climate change a justice-related issue.

Through its justice-oriented framing, Sunrise was rejecting traditional environmentalist framings of climate change. Since its inception, the American environmental movement has centered the

needs and concerns of White, middle class males at the cost of issues of justice (Taylor, 1997, 2000; Brulle, 2000; Middleton, 2014). Leading environmental organizations have resisted linking human and environmental issues (Ibid). This is true of climate movements, which has portrayed climate change as something happening to ecosystems or individual species, like polar bears. Thus, by framing already marginalized groups as the victims of climate change, Sunrise was rejecting traditional environmentalist framings of the issue. Instead, their framings align with the environmental justice movement. As an ideological framework, environmental justice frames link racism, classism, injustice and environmentalism as interconnected issues (Pellow, 2016; Sze & London, 2008; Taylor, 2000).

This rejection of mainstream environmental frames is reflected in comments from many oral history interviewees as they contrast a focus on preserving nature versus concern for human impacts. One youth, Elis, said that this justice-oriented framing was part of what compelled them to join Sunrise: "Sunrise's framing is more focused on people, which I so agree with. […] It was, it was framing the problem as not just being an environmental problem, but being a socio-political problem, bringing in the race/class analysis. […] We're not just like a bunch of kids, who are, you know, making posters about polar bears, like we have a complex analysis of the situation, and we can organize ourselves to change it."

Elis identifies a traditional environmental framing of climate change as being about the "polar bears" and rejects this, saying that Sunrise's framing is, instead, more focused on people. And not people ubiquitously; Sunrise brings a "race/class analysis", thus centering the needs of low-income people and people of color.

Another woman, Jasmine, commented on this by saying, "It's not just… like, we say it's more than just saving the trees and saving the polar bears and saving the icebergs from melting. It's more than that. So, I love 350 and Greenpeace. I think those are great too, and Sierra Club. But I feel like in Sunrise, we really fight for more than just climate change. It's Sunrise where I opened my eyes up to, like, racial justice, social, economic justice and, and, like Black Lives Matter movement. And I learned that from Sunrise."

Similar to Elis, Jasmine was drawn to Sunrise because of the justice-oriented framing. She specifically distinguishes Sunrise's frame from that of more traditional and professionalized organizations, like 350, Greenpeace and the Sierra Club. She describes this work as being more about than "saving the trees and saving the polar bears and saving the icebergs from melting." While she supports and appreciates those organizations, she was compelled by Sunrise's framing, because in Sunrise "we really fight for more than just climate change".

Sunrise further emphasizes this justice-oriented framing through the issues they take up. Although they clearly identify themselves as a climate movement, as Jasmine says, they are fighting for "racial justice, social, economic justice and, like Black Lives Matter movement." During the summer of 2020, the police killings of George Floyd and Breonna Taylor sparked national protest and unrest around police brutality and racism. During this period, Sunrise paused many of their other efforts to support and give space to Black Lives Matter protests. They also produced a video that addresses police brutality and racism, as well as an hour-long recorded

webinar calling for, and explaining, efforts to defund the police, a demand of the Black Lives
Matter Movement and other racial justice organizations.

Through these efforts, Sunrise is aligning themselves with racial justice organizations. This
represents frame bridging, whereby a SMO seeks to link two or more "ideologically congruent
but structurally unconnected frames regarding a particular issue or problem" (Snow et al., 1986).
Sunrise is framing their ideology as congruent with racial justice organizations calling for
radical, systemic change. This radical, justice-oriented ideology is in stark contrast to other
climate organizations, who have relied on traditional environmental frames that focus strictly on
harm to the environment (Taylor, 1997, 2000; Brulle, 2000; Middleton, 2014).

Besides marking this shift, this framing achieves an important outcome: through this broader
frame, Sunrise is able to render many, if not all, progressive concerns relevant to their struggle.
They do this frequently—through document analysis and participant observation, I identified
times where Sunrise linked climate change to wealth inequity, police brutality, homelessness, the
COVID-19 pandemic and voting rights, to name a few. In doing so, the fight for climate justice
is not just about the environment, but a broader vision of human well-being and liberation.
Sunrise is thus redefining the issue of climate change as situated within systems of power and
oppression, connected to many other issues.

By drawing on and further articulating environmental justice frames, Sunrise is seeking to build
a build a broader, multiracial, cross-class coalition for climate justice. This is in contrast to past
environmental organizations, which excluded and then reluctantly included such groups (Taylor,

1997, 2000). Sunrise is seeking to welcome in people who have non-traditional identities in the

movement. As one youth said in her interview, "[A]nti-racism is anti-capitalism is climate justice

and it's like, how do we help continue this momentum to mass strike to keep mass striking? […]

This is collective and I think we have to stop looking at what we have to lose [from being a

multiracial coalition], but instead what we all have to gain." Just as they are redefining the issue

of climate change by broadening its scope, Sunrise is redefining who is a climate activist.

Diagnostic Framing: The Perpetrators

Diagnostic frames also establish perpetrators—those who are to blame for the harm caused to the

victims (Benford & Snow, 2000). Another diagnostic frame identified within Sunrise is a

political framing, which centers blame on a few wealthy, White male elites who sold out for their

own profit and power. These culprits are primarily the fossil fuel industry and the politicians they

bought out.

Sunrise communicates this framing by telling political stories about events in the past, where

politicians and corporations intentionally stopped climate action because of corporate greed and

power grabs. One political story frequently told within the organization is the story of how the

fossil fuel companies intentionally discredited climate science and then bought off politicians so

they could continue making profits.

A key example of this story is in the video *A Message from the Future.* This video is shown

frequently in Sunrise. I saw it during three different trainings—the Sunrise 101 training, the

general meeting, and Sunrise School GND Crash Course, day 1 (see Table 1). The video starts

by putting forth an answer as to why climate change is happening. This story opens in the 1970s,

talking about substantial research efforts to further understand the hazards of global warming

caused by burning fossil fuels. Narrator Ocasio Cortez then dramatically says, "Guess who was

doing all of this research? Exxon Mobil, the oil and gas company. Oh yeah, Exxon knew, this

whole time, as did our politicians." She then asks, "So did Exxon listen to the science, including

their own? Did they change business models, invest in renewables? No. The opposite. They

knew, and they doubled down." She then goes on to elaborate on the efforts of the fossil fuel

industry, including lobby groups and think tanks, to stop climate legislation. As she is doing that,

images of money bags are piling up on the screen.

In this political story, blame for climate change sits squarely in the hands of fossil fuel

executives, who used misinformation to cover up climate change, as well as the conservative

politicians they paid off. In Sunrises framing, these entities have traded money and power for

"our future".

It is important to note that the stories they are telling are accurate. Researchers have documented

how corporations were able to manipulate politicians, the media and the public to stall significant

climate legislation domestically (Brulle, 2014) and prevent international cooperation (McCright

& Dunlap, 2003).

However, these stories play a role beyond simply truth-telling. Sunrise is framing climate change

as the result of greed by wealthy elites. This establishes a powerful group narrative about who is

to blame. Such a narrative is key in mobilizing people; without a strong diagnostic narrative, SMOs often fail to mobilize people (Benford & Snow, 2000). Past diagnostic framings of the climate movement often aimed to depoliticize the issue (Jamison, 2010; Pepermans & Maeseele, 2016). In doing so, these climate-related SMOs laid blame on private citizens through individualistic narratives about personal choice; those who failed to make "green choices" were the responsible parties (Jamison, 2010; Levy & Spicer, 2013; Pepermans & Maeseele, 2016). Such frames are aligned with the neoliberal manifestations of climate ideologies, which emphasizes personal choice, the value of market forces, deregulation and a focus on "the science" (as opposed to the political aspects of the problem) (Jamison, 2010; Levy & Spicer, 2013; Pepermans & Maeseele, 2016). However, such framings enforce guilt and shame, both demobilizing forces, and fails to serve as an adequate rallying cry to garner political mobilization (Gifford, 2011; Wolf & Moser, 2011).

Through establishing political, as opposed to apolitical or individualistic narratives, Sunrise is again rejecting the traditional framings of climate change. Many youth interviewed perceive and commented on these different framings. One youth, Jen, said:

"I knew [climate change] was manmade, anthropogenic because of pollution and meat, growing food. I knew before Sunrise, even if we recycled, it's not going to make a difference until we fix the systems but I didn't know how deep of an influence politics had. I knew, because you would kind of read about stuff in the news and people would talk about it, but I didn't read the memos [from the fossil fuel industry] until Sunrise showed me […]. It wasn't until Sunrise because, before that, definitely I had a science perspective, we talked about climate change very

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scientifically. It's like, 'X causes this' because of words like greenhouse effect and parts per million. It would be about why this is happening, why climate change is happening, versus what can we do to stop it and what led us to be here? We're here because we're driving gas powered cars, but we don't talk about why we have so many gas-powered cars and why we refuse to switch to renewable energy. It's digging a level deeper that Sunrise showed me but science covers surface level if that makes sense."

In this passage, Jen says that, before Sunrise, she mainly "talked about climate change very scientifically" and she did not know "how deep of an influence politics had." This represents the apolitical and individualistic neoliberal framings that have been prevalent in mainstream climate organizations (Jamison, 2010; Levy & Spicer, 2013; Pepermans & Maeseele, 2016). Through Sunrise, though, she saw "the memos" documenting the efforts of the fossil fuel industry to stop climate legislation. Jen then moved from understanding climate change as the result of driving gas powered cars to questioning the political reasons as to *why we have* so many gas-powered cars. This is critical shift, in that the attention moved from an individual's actions to questioning the structural forces (i.e. the influence of the oil industry) that shaped these element. The framing moves blaming individuals and their "selfish" choices, to blaming fossil fuel executives and politicians.

In providing a diagnosis of the problem, Sunrise frames climate change as a political and environmental justice issue. The story they tell about climate change is that the victims, largely people of color, low-income people and other already marginalized groups, will suffer first and worst regarding climate change. They are suffering at the hands of a few wealthy political and

corporate elites. Both of these diagnostic frames push up against traditional frames within the environmental and climate movement, which framed it as a scientific, apolitical problem.

Prognostic frames: Action at the Scale of the Crisis

Prognostic framings reflect an organization's proposed solution and often correspond to diagnostic framings (Benford & Snow, 2000; Snow et al., 1986). This is true for Sunrise. Because they frame climate change as an environmental justice problem, with the victims being already marginalized communities, the solutions must thus be informed by justice. To achieve this, Sunrise's diagnostic frames center around the Green New Deal, a policy framework which calls for legislation to address climate change while also working towards social equity. Sunrise frames the Green New Deal as the only solution big enough to address the scale of climate change; they do this through their commonly used phrase "action at the scale of the crisis". A significant amount of their communication and training efforts center on the Green New Deal— of the videos produced during the duration of this research, almost half of them were centered around the Green New Deal, including their most commonly used videos *Message for the Future* and *This is How to WIN the "Impossible" Green New Deal*. Also, the most frequently offered training was the GND Crash Course (offered four times during summer 2020).

Sunrise frames the Green New Deal as climate justice legislation. The point most emphasized is that the Green New Deal will not only address climate change but build a more just and equitable world. This is apparent through their GND Crash Course. Before even providing a comprehensive overview of the Green New Deal, they presented a slide on how it will address

environmental justice. They emphasized how it will achieve a "just transition"—prioritizing the needs of those most impacted by climate change and the economic transformation it requires—and rely on the Principles of Environmental Justice (Delegates to the First National People of Color Environmental Leadership, 1991) in its design.

In framing the Green New Deal as climate justice legislation, Sunrise focuses heavily on jobs creation and social programs. When describing the Green New Deal on the website, they say it will "mobilize every aspect of American society to 100% clean and renewable energy, guarantee living-wage jobs for anyone who needs one, and a just transition for both workers and frontline communities (…)." Sunrise articulates the social programs of the Green New Deal in *Message from the Future,* where Ocasio-Cortez describes various proposed programs, such as Medicare for all, AmeriCorps Climate and increased pay to teachers and other care workers.

In emphasizing social and jobs programs, Sunrise connects the Green New Deal to many progressive causes, such as a $15 minimum wage, universal healthcare access, defunding the police and Indigenous sovereignty, to name a few. Just as Sunrise's diagnostic framing renders many, if not all, social ills as interconnected, they position the Green New Deal as a holding place for many, if not all progressive causes. In doing so, the Green New Deal becomes a panacea for social ills. As Ocasio Cortez says in *Message from the Future,* "And we didn't just change the infrastructure, we changed how we did things. We became a society that was not only modern and wealthy, but dignified and humane. By committing to universal rights like health care and meaningful work for all, we stopped being so scared of the future, we stopped being scared of each other, and we found our shared purpose." In Sunrise's framing, the Green New

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Deal doesn't just address climate change, but rather becomes a key tool for achieving broad social justice.

Through this broad prognostic framing, Sunrise is aligning with many progressive causes and thus positioning itself to assemble a broad coalition of support. This is in contrast to most environmental campaigns of the past, which emphasized environmental wins without regard for human needs (Taylor, 2000). In fact, many environmental campaigns have historically pitted the needs of marginalized communities against environmental agendas (Ibid). They also are eschewing another common strategy in past climate movements, which focused on small, slow incremental change (Brulle, 2000). This strategy emerged in response to neoliberal politics, which made the sweeping environmental victories of the 1960's and '70's difficult to come by (Ibid). However, through their framing, Sunrise is signaling that they are mobilizing around a different type of environmental politics that calls for "action at the scale of the crisis."

Interviewees reflected this broad view of the Green New Deal through the sense that, as Jasmine said, "we really fight for more than just climate change." As one youth put it:

"I always like going back to the Sunrise tagline of stopping climate change and creating millions of good paying jobs. I think that summarizes it in a really important way. Because it's tying the economy and people's economic lives to the work of preserving our planet. I hadn't really heard that perspective until the Green New Deal became a talking point or a major thing to get behind. I really like the framework of the Green New Deal because I don't think I had a clear

conception of what the environmental movement should be doing or should be aligning around

before this framework came about."

In communicating this justice-oriented prognostic framing, Sunrise presents the Green New Deal

in bold, visionary terms that elicit empowerment. In *Message from the Future,* Ocasio-Cortez

refers to the "decade of the Green New Deal, a flurry of legislation that kicked off our social and

ecological transformation to save the planet. It was the kind of swing-for-the-fence ambition we

needed. Finally, we were entertaining solutions on the scale of the crisis, without leaving anyone

behind." Sunrise re-iterates this bold, empowering framing through the commonly used phrase,

"solutions at the scale of the crisis. In presenting framings that match the scale of the crisis to the

scale of the problem, Sunrise is overcoming a key hurdle in climate action—the feeling of

powerlessness. Such feelings often stifle action, as people feel that they cannot affect such a big

problem (Kenis & Mathijs, 2012). By presenting bold, visionary solutions, Sunrise thus builds

empowerment and efficacy, which is necessary for action (Benford & Snow, 2000).

Prognostic Framings: People Power

Sunrise expands on their prognostic framings by articulating a strategy to achieve a Green New

Deal: people power. This framing directly corresponds to their prognostic framing that centers

blame on corporations and politicians by positing that people power can overcome these forces

(Benford & Snow, 2000). They communicate this framing explicitly, through articulating the

importance of people power and what it looks like, as well as implicitly, through photos and

images of groups chanting, marching, and rallying.

In their video *This is How to WIN the "Impossible" Green New Deal,* Sunrise both explicitly and implicitly communicates their framing around people power. After talking about how fossil fuel money has flooded politics and impeded climate legislation, the video takes a turn by asking "what could beat out money and power?" The answer they provide: people power. Prakash says, "there were times in American history when people did win massive social and economic changes despite having to confront enormous quantities of wealth and power defending the status quo." This plays over images of the Civil Rights movement, including a clip of Martin Luther King Jr reading part of the *I Have a Dream* speech, followed by images of other social movements, such as the LGBTQ+ and labor rights movements. She then says "We needed to go back further in our history to find out what these moments had in common. From abolition to the New Deal, we found out that the key ingredient was people." She then says "these were not shallow bases of support. These movements engaged in escalating protest that brought the issues to the forefront of public consciousness, putting immense pressure on leaders to act." The implication in this last statement is that this strategy—escalating protest to bring an issue to the forefront of public consciousness—is what Sunrise must do to win a Green New Deal. They further elaborate on this plan in their follow up video, *Our Plan to Win,* where they lay out three ways of harnessing people power: Organize, vote, strike. The "organize, vote, strike" strategy is reiterated through trainings (Sunrise 101 and GND Crash Course), as well as merchandise (tee-shirts, tote bags and stickers) with the phrase printed on them.

The way they frame the solution to climate change as people power is focused on building and claiming political power. In this sense, Sunrise's framing is once again rejecting neoliberal forms of environmentalism. Much of the climate movement has overwhelming emphasized individual

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behavior change (Jamison, 2010; Kenis & Mathijs, 2012; Pepermans & Maeseele, 2016; Zehr, 2015). However, this focus on individual behavior change has failed to garner the systemic changes necessary to address climate change and fosters guilt and avoidance, as opposed to action (Brulle & Jenkins, 2008).

Sunrise avoids these individualistic narratives all together. Many youths interviewed note this diversion by critiquing the emphasis on individual action. As one youth said: "Often we get into these stupid debates about paper straws and it is more about these individual consumption habits or market dynamics, like trying to change demand for certain goods rather than getting into the structural problems which can only be solved through political action." Here, the youth identifies and rejects individualistic narratives through their comment about "stupid debates about paper straws". They instead bring attention to the "structural problems which can only be solved through political action."

Just as Sunrise is redefining who is a climate activist, they are also redefining how to fight for climate action. Instead of focusing on incremental or behavioral change, they are mobilizing adversarial, direct action that agitates for bold climate justice. They aim for a total reimagining of society, building a more justice and equitable world.

Mobilizing Framings: "Fierce Hopefulness" and "Militant Optimism"

Motivational framings are those that serve as a "call to arms" (Benford & Snow, 2000). A primary task of motivational framing is to build and communicate agency—the sense that

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something can and must be done (Gamson, 1995). Sunrise's motivational framings focus on what they term "fierce hopefulness" or "militant optimism". These terms reflect an intentional choice to be and remain optimistic in the face of bleak realities. They communicate a sense that change is possible, but only if we believe in it and act on it. Sunrise emphasizes this framing by directly addressing the importance of hope to mobilizing. In all of the trainings I attended (see table 1) there was some discussion of "fierce hopefulness" or "militant optimism".

In portraying these framings, Sunrise intentionally shifts attention away from the horrors of the climate crisis and instead re-focuses attention on the possibility of a better world. This strategy was clearly articulated in the public narrative training, when the leader drew a contrast between what he called "the nightmare", which is the terrifying reality of both climate change and the corrupt political systems that created it, and "the dream", which is what Sunrise wants, a world that stopped the climate crisis and built a more just society through a Green New Deal. Through the training, we were coached to talk about "our nightmare", how climate change and/or corrupt political systems have impacted us, but then to end by talking about "the dream."

The choice to turn towards between "the dream", as opposed to "the nightmare", is also communicated through a story commonly told about Sunrise's origin. This story was told in the 101 training and mentioned during several oral history interviews. The story goes that, during its inception, Sunrise wrote up two descriptions. The first focused on "the nightmare": how youth had lived in times of overlapping crises, under the rule of politicians who had sold out their future and how they must take action to change this. The second reflected "the dream": it talked about how they were building a revolution to stop climate change, create millions of good paying

jobs and build a more just society. After testing the two narratives through focus groups, they opted for the first description.

This story reflects the intentionality of Sunrise in choosing hopeful framings. But it also serves as an allegory to teach their members the benefits of refocusing on hope or "the dream"—by articulating the vision they want and how they will achieve it, they are building the political efficacy necessary to mobilize (Benford & Snow, 2000).

Although they focus on "the dream", Sunrise does not ignoring "the nightmare"; they often start both meetings and videos by acknowledging and dramatizing the difficult reality of climate change through their diagnostic framings. They often allow space for people to feel the emotions that came up for them around climate change. But after acknowledging it, they bring attention to "the dream". This strategy is also reflected in the phrase commonly used in the organization "stop envisioning the apocalypse… start envisioning the revolution".

Despite the effectiveness, a hopeful framing is rarely used in narratives about climate change. Research shows that the vast majority of communication, including that from environmental movements, focuses on gloom-and-doom scenarios of climate change (Saffron & Nicholson-Cole, 2009). While these foster a great deal of concern, they rarely lead to substantial action on the issue and in fact, can sew fear and disengagement (Ibid). Thus, through "fierce hope" Sunrise is again bucking the trends and forging a new path for environmentalism.

Wider Implications and Conclusions

Through their framing, Sunrise is telling a distinct story about climate change. In their story, the climate crisis is caused not by the careless choices of individuals, but rather the greed of a wealthy few. It is power-hungry politicians, who stalled climate action, and greedy fossil fuel executives, who bribed these politicians, who are to blame. The victims of this story are not singular species, like polar bears or whales, but rather communities of color, working class communities and otherwise marginalized groups who are disproportionately harmed by climate change. Instead of advocating for individual behavior change or legislation strictly on environmental issues, Sunrise is building collective power in an attempt to transform political systems and usher in a more just world through a Green New Deal. To motivate the action necessary to achieve this, Sunrise acknowledges the bleak outlook of both climate change and the political systems that created it but then intentionally turns towards hope and optimism.

The way Sunrise is framing climate change is an outright rejection of the framings used in mainstream climate movements. Where these movements sought to depoliticize climate change under the neoliberal guise of "building consensus", Sunrise has sought to re-politicize it, linking its causes to the corrupt choices of wealthy few. Where mainstream movements relied on romantic narratives about "saving the whales", Sunrise is intentionally pivoting towards justice, using climate change as an opportunity to envision and strive towards a more equitable world. And finally, where traditional framings wallow in the nightmare of climate change, Sunrise intentionally fosters fierce hopefulness.

These framings not only reject neoliberal approaches to climate change, but also respond to critiques leveled against them. For example, neoliberal framings of climate change that focus on individualistic, apolitical narratives have been criticized for obfuscating the very forces that shape climate change (Brulle, 2000; Jamison, 2010; Pepermans & Maeseele, 2016; Zehr, 2015). They have failed to build the collective efficacy and mobilization necessary to make climate change a political priority (Brulle & Jenkins, 2008). Furthermore, the focus strictly on environmental issues has created a "default white space" that excludes many diverse populations (Curnow & Helferty, 2018).

In this sense, a key part of Sunrise's organizing is telling a different story about climate change. And indeed, much of their organizing efforts focus on communication through social media and trainings, where they promulgate this new story. In doing so, Sunrise is redefining who is a climate activist, as well as why and how they perform their activism.

Sunrise is instead employing climate justice framings which examine the disproportionate burden on marginalized communities (Kaijser & Kronsell, 2014). These framings also seek to re-politicize climate change (Brulle & Norgaard, 2019; Kenis & Mathijs, 2014). In many senses, Sunrise seems to be meeting the calls for what Pellow (2018) calls critical environmental justice. Critical environmental justice brings environmental justice into a conversation with critical social science theories, such as intersectional feminism and critical race theory; it considers environmental justice at multiple scales; it posits that social inequity is deeply embedded in social systems; and takes a stand for indispensability of human and non-human bodies (Pellow, 2018). In positioning climate change as the product of structural social inequity, by organizing in

solidarity with racial justice organizations and by using climate justice as a tool to build a more

justice world, Sunrise reflects critical environmental justice. As one youth said in her interview,

"climate justice is racial justice. They are a circle, not a Venn diagram." Furthermore, by

operating through localized hubs under the wider national organization, Sunrise organizes for

climate justice at the local, state, national and international level, meeting Pellow's (2018) call

for addressing multi-scalar issues.

The framings and activism of Sunrise seem to be similar to that of other organizations and

individuals participating in the youth climate movement globally. Research shows that youth

around the globe are defining climate change and climate action in more radical left, justice-

oriented terms (Emilsson, Johansson & Wennerhag, 2020; Gaborit, 2020; Han and Ahn, 2020;

Holmberg and Alvinius, 2020; Pickard, Bowman and Arya, 2020; Piispa & Kiilakoski, 2020).

Additionally, there is research showing that other American youth are also rejecting neoliberal

ideologies (Ferman, 2020).

Thus, I posit that this suggests a potentially bigger shift happening in environmentalism.

Throughout the history of American environmentalism, justice-oriented framings have been

subverted under more traditional framings (Taylor, 2000; 2011). But youth climate activism is

bringing these to the forefront, and in more critical ways. Just as Rachel Carson's book *Silent

Spring* and then the Reagan era led to massive shifts in how and what American environmental

movements were organizing for (Taylor, 2000), youth climate activism seems to be moving the

needle again. They are redefining who a climate activist is and how they are mobilizing. Their

movements tend to be more racially diverse, more queer and more working-class than

mainstream climate organizations. They focused on building collective power and operate outside of normalize channels of power. The extent to which this transformation will be actualized still remains to be seen, but at the very least, young people are challenging normative environmental politics in the United States and around the world.

When considering the possibility that young climate activists are challenging normative environmental politics, it is worth revisiting the scene this paper opened with: in Senator Diane Feinstein's office as she berates young climate activists. If young people are truly challenging the way things have been done, it is perhaps not surprising that they got the harsh response they did. Feinstein's thirty years in office are emblematic not just of the period of time within which the federal government knew about climate change, but are also the height of neoliberalism. She was instrumental in ushering and upholding that. So if young people are challenging this regime, then of course she would not be receptive.

Of course, there are limitations to this research. In particular, the research was conducted in the Bay Area of California. This area is known for its distinct progressive political history. Youth here thus reflect a population more likely to hold progressive views. While the various frames were identified largely through communication materials produced by the national center of Sunrise, it is unclear how much this actually resonates nation-wide. Thus, an important new direction for research on youth climate activism would be to examine how youth in more conservative and less politically distinct places are understanding and acting on climate change. Further, while these framings clearly had meaning to these young people, I am not arguing that

they fully explain what mobilized them; there are complex pathways and stories about becoming an activist (Taft, 2017). There is forthcoming research documenting these pathways.

Nevertheless, this research reveals important insights into the youth climate movement in the United States. It appears that young people are rejecting the neoliberal framings coming out of traditional climate movements. Instead, they are telling a story that is political, justice-oriented and surprisingly hopeful. This distinct story opens up pathways for a broader coalition of support and more radical, collective mobilization. It also potentially marks a wider shift in environmentalism as a whole. Researchers have documented a growing sentiment from youth around the world that "the adults are failing us" on climate change (Han and Ahn, 2020; Pickard, Bowman and Arya, 2020; Holmberg and Alvinius, 2020). In response, it seems they are taking matters into their own hands through youth-led activism. This activism reflects a critical environmental justice analysis of climate change.

As Elis said, "We're not just like a bunch of kids, who are, you know, making posters about polar bears. Like, we have a complex analysis on the situation, and we can organize ourselves to change it." And indeed, they are.

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Chapter 4: Youth Climate Voices: A Public-Facing Showcase

The fourth output of my dissertation is a public facing showcase of a selection of the oral histories. When I started working with Sunrise, their interest in the project had to do with the oral histories I would collect. Personal storytelling is a key element of their organizing—they work with members to craft and share personal stories about climate impacts and fighting for justice as a recruitment and mobilizing tool. So in order to provide value to Sunrise, I needed to share the oral histories publicly. (A note on ethics: I made it clear in my IRB that this research would not be anonymous, which is in line with the tradition of oral histories.)

Early in my fieldwork, I also had the good fortune to connect with the Wick Poetry Center at Kent State University in Ohio. They are increasingly using poetry as a tool to help public audiences make sense of climate change. They were also in the process of building an online tool called the Listening Wall, where users can build a poem from an existing text. The director expressed interest in making the oral histories a part of the new Listening Wall tool. Given Sunrise's interest in storytelling, it was a great fit.

Thus I built Youth Climate Voices. I used the oral history transcripts to create short scripts for each participating activist. I then had each activist record their script and did a photoshoot. From there, I compiled short videos about each activist. The videos tell who the activist is, why they're fighting for climate justice and what their vision for change is. Only some youth who did oral histories chose to participate in this aspect of the project, resulting in eight videos total. The stories emphasize the diverse identities of young people in the climate movement.

This tool is already being used by Sunrise in their storytelling workshops. It is also geared towards educators. I will be hosting a webinar for educators with Wick Poetry Center to talk about using storytelling and creative writing to teach climate change (date TBD, fall 2022). During that webinar, I will also introduce the website and highlight ways to use it in a classroom.

The website is at www.youthclimatevoices.org.

Conclusion

As I reflect on my dissertation, one initial reaction is that perhaps I experienced a bit of mission drift. I started out in graduate school wanting to understand how to use education to empower young people around climate change. I imagined myself producing a list of recommendations for educators around climate pedagogy. I have not done that. In fact, I did produce a chapter where I originally did that, but it got divided into chapters one and two, and I scrapped much of the portion where I directly addressed recommendations.

The truth is that the experience of research and writing my dissertation has changed me. I suppose that is the purpose of research—to learn new things and thus view the world differently. In writing my dissertation, it has become less important to me to develop a pithy answer about what climate education should look like. I have realized how big and complicated both climate change and climate action are, and thus how complicated climate pedagogy is, so I am not sure I could actually produce a pithy answer anyways. And moreover, it has become less important to me to answer the questions I want to answer, and more important to share the stories I heard. That is largely reflected in papers one and two. In truth, I did not envision writing either of those papers, or at least not how they appear now. But both of those narratives—first in chapter one, of how dysfunctional traditional climate pedagogies actually are, and then in chapter two, of how much these pathways into activism differed than what is reflected in the literature—felt so clear and salient that I felt compelled to write them. And chapter three was motivated out of my experience of working with Sunrise. Having worked with countless environmental and climate action groups, I was struck by how clearly it appeared that young people were forging an entirely

new climate politics, one that subverted the dominate narratives of the last thirty years. In my informal conversations with activist in Sunrise (many of whom I have maintained relationships with), these are the papers they think I should be writing, because they reflect their experiences.

That being said, I feel more ready than ever to think about questions around climate pedagogy. Across these three papers (as well as other themes in my data, yet to be written about), there are a few larger themes and conclusions that inform how I am now thinking about climate change.

The first conclusion is how central the experience of panic and dread about climate change is for young people. This theme manifested in all three papers and indeed, was a central part of each oral history. In the first paper, I discussed how a "science-only" education left young people unsure of what to do about climate change. In this state of action paralysis (Jensen, 2002, 2004), they felt despondency about climate change. This was a deeply pathologizing experience. While I am arguing that "science only" education is *causing* panic and dread perse, it is certainly not helping and moreover, by failing to support young people in connecting to meaningful action, "science only" education is at least a contributing factor to their panic and dread.

In the second paper, I further describe these experiences of panic and dread and their relevance. In this paper, I use the term "climate anxiety" for these experiences (Ojala et al., 2020), although I must admit I feel discomfort with this term. I am not sure it really gets at what they experienced. What these activists described to me was a near-ubiquitous experience of a protracted period where dread, panic and nihilism pervaded their everyday experience; it came to define a certain period of their lives. I do not think research yet fully understands how deep and

pervasive this panic and dread is, especially for young people. Much of the research on climate anxiety is couched in more normative psychology terms like worry, concern or fear (Ojala et al., 2021). Do worry, concern or fear really express the experience of understanding that you may be facing a future with an unlivable planet, and that the leaders in power are knowingly letting this happen? And how should we be, as a society, be responding to this? So far, by drawing on psychology and counseling theories, much of the literature treats ecoanxiety is a mental health problem, needing to be treated as such. From my vantage point, it feels like a very reasonable reaction to a completely unreasonable situation.

I thus conclude two things: that future research needs to pay more attention to young people's experiences of panic and dread surrounding the climate crisis. Grounded in these experiences, I imagine we will discover a new lexicon of language and experiences that describe what it means to live in a time of unfolding crisis. And moreover, that educators should be prepared to help young people grapple with these experiences. They are only likely to become more intense as the climate crisis does too.

Another central theme that emerged across all three papers was the centrality of power and powerlessness. In chapter one, young people describe their experiences of climate education that neglected issues of power, including environmental justice. They received a flattened, apolitical education that ignored the structural power dynamics that brought about climate change or the differential burden it posed. These traditional pedagogies also failed to help young people build power to strive towards the world they want in response to climate change. This powerlessness was connected to their "action paralysis" and ecoanxiety. In chapter two, we see how young

people changed this powerlessness. It was only when they first saw something powerful—images of Sunrise doing collective action via social media or a friend—that they could take action. And then, it was only when they felt power—through engaging in this collective action—that they were able to transform their ecoanxiety. Also, in becoming climate activist, they developed an understanding of the political, power-related issues of climate change. These stories mirror what I find in chapter three, where I explore the political, power-related ways that Sunrise frames climate change.

Kenis & Mathijs (2012) posit that powerlessness is a key experience regarding climate change, even among those taking collective action. However, since their work, there has been little advances in understanding experiences of powerlessness in relationship to climate change. This work answers that call, highlighting how powerlessness is connected to the despair and dread many feel about climate change. It also demonstrates how youth can transform powerlessness via collective, political action. Furthermore, it pushes back on much of the literature that contends that people are not taking climate action because they do not know about climate change or do not care (Corner et al., 2015; Flora et al., 2014; Lawson et al., 2019). Instead, my research suggests that perhaps people are not taking climate action not because they do not know how to. Environmental leaders both in the government and civil society have failed to provide opportunities for climate action that meet the scale of the crisis. In other words, people may want to take climate action, but are not seeing power represented in the options available to them.

This suggests that, in the context of climate change, educators might consider using pedagogies that are more political and focused on building power among and alongside youth. A keyway to

do that is to focus on critical pedagogies that foster critical consciousness. Literature that will be helpful in this regards is work on youth participatory action research (YPAR) (Anyon, Bender, Kennedy, & Dechants, 2018; Ozer, Newlan, Douglas, & Hubbard, 2013; Scorza et al., 2017; Scott, Pyne, & Means, 2015; Villa et al., 2018). In YPAR, youth research an issue facing their community and then use that new knowledge to lead community change. There has been work connecting YPAR and critical consciousness. Also work on critical civics education is fruitful (Westheimer & Kahne, 2004). And of course, Jensen's (2002, 2004) model of "actionable" environmental education is key in organizing the types of knowledge young people may need to take action on climate change.

A final key finding from my research is the importance of youth voice when it comes to research on climate change and education specifically. Much of the literature that pervades climate education and engagement operates under the assumption that young people are "disengaged" and need to be "engaged" (Anderson, 2012; Bofferding & Kloser, 2015; Schreiner, Henriksen, & Kirkeby Hansen, 2005; Stapleton, 2015). But perhaps the problem is that youth are concerned and want to engage, but no one is listening. All of the young people interviewed here had deep experiences with climate change—they felt and understood its impact, they had a visceral, gut-level response to know that it was happening, and they connected to meaningful action. And all of this happened outside of, and in spite of, adult influence or attempts to "engage" them. Furthermore, perhaps the assumptions about youth being "disengaged" are that, in fact, youth are engaging quite differently than adults. Pickard (2020) talks about how youth tend to operate outside of the normative channels of civic action or activism; as a result, much of their civic engagement is misunderstood for disengagement among researchers and educators. Based on my

research here, it is clear that young people are defining and acting on climate change much differently than older generations have. But adults do not seem to be asking young people about their experiences of climate change. Before becoming activists, all of these young people had deep experiences with climate change and deep and unique understandings of it. However, no one along the way simply asked them what they thought or had experienced.

The implication of this is that young people are thinking about climate change, but our educational institutions don't give them the chance to talk about it. Thus, education should start there—by simply asking young people what they know, how they feel about it and how they understand it. Many of them will probably have experiences like these activists, where their panic about it has taken over their life. But some might be uncertain, or some might have been influenced by conservative misinformation that it was a hoax or natural phenomenon. Either way, there is power in starting with their understandings and experiences. This aligns with Freire's notion of "problem-posing education", which starts with the experiences and concerns of the populations you are working with (Freire, 1970).

This last point, about education for conservative youth, leads me to an important note on limitations. I have highlighted these throughout the sections. But there is a big one when it comes to considerations for climate pedagogy, which is that this research was done on progressive populations who were taking political climate action. It is thus not surprising that I am arguing that we re-politicize climate change by talking about the power dynamics that shape it. But I imagine that this would backfire in conservative spaces, giving evidence to conservative youth

and parents that climate change is, in fact, a liberal Trojan horse to usher in socialism. Thus, more research should be done on how to approach climate change with these populations.

Regardless of these limitations, though, there is value in starting with the experiences of young people around climate change. This research joins a chorus of voices documented how young people have become leaders on climate (Han & Anh, 2020; Neas, Ward & Bowman, submitted; Pickard, Bowman & Arya, 2020). Despite this, young people and their activism experience are continuously delegitimized and regarded paternalistically.

This is disappointing, because it seems to me the young activists I interviewed have thought about climate change much more than most people. They have a deep and visceral understanding of what horrors the world will face if we continue to delay action. They have taken that truth into their body and live with it on a daily basis. Moreover, they have a deep socio-political analysis of why climate change is happening and why past generations have done nothing about it. They are strategically crafting narratives in an attempt to mobilize a broader coalition of action to stop climate change, largely in response to the exclusivity of traditional environmentalism and its narrow definitions of climate change. They have done this on their own terms, in spite of, and not because of the support of adults.

I will end with the words of David Bowie, "…And these children that you spit on as they try to change their worlds, they're immune to your consultations. They're quite aware of what they're going through."

And indeed, when it comes to climate change, it seems that young people are quite aware of

what they're going through.

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