Article

"We're fighting for our lives": Centering affective, collective and systemic approaches to climate justice education as a youth mental health imperative

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Abstract

Young people's ongoing, necessary confrontation with painful and distressing realities exacerbated by ecological precarity in diverse contexts has profound implications for formal education systems. Additionally, educational policy in many contexts has been slow to respond to the urgency of addressing climate change, nor has most policy robustly conceptualized a vision for climate justice education. Centering the voices of three young climate justice activists (ages 16–20) in Canada through a qualitative study, this paper explores possible educational responses that recognize the embodied consequences of climate injustice and inaction on youth mental health and well-being. Through their encounters with activism in collective, justice-centered movements, these young people articulate how their commitments to creating more life-affirming and equitable realities by challenging current economic and political structures and discourses are integral dimensions of their efforts to be and feel well (hopeful and purposeful) in a context of pronounced uncertainty and distress. Despite these possibilities, youth participants describe the overwhelming and complex emotions they are grappling with as they face dispiriting projections for the future. These growing challenges are an opportunity to reconsider common "apolitical" and individualized approaches to citizenship, climate and environmental education. Findings suggest that supporting youth to act thoughtfully and impactfully in transforming cultural, economic and political structures and systems that reproduce harm can be a way to nurture meaning, purpose and hope. Additionally, youth participants advocate for integrating robust resources and support within formal education institutions to assist in collectively processing the emotional and psychological

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impacts of climate injustice. At the same time, findings suggest that the participating youth did not yet integrate conceptions of ecological interrelationship or interconnection in their approaches, offering possible avenues for further pedagogical development.

Introduction

The growing mental health crisis unfolding among youth worldwide amidst persistent ecological violence demands intensive consideration and response from educational communities. Mounting evidence reveals the profoundly harmful and inequitable impacts of climate anxiety, climate dread and climate grief in diverse communities (Cianconi et al., 2020; Ojala et al., 2021; Wray, 2022). A growing concern is unfolding about the extent to which younger people are being affected by widespread and persistent ecological violence and resultant social harms (Gharabaghi and Anderson-Nathe, 2018; Hickman et al., 2021; McKie et al., 2020; Sanson et al., 2019; Sanson and Bellemo, 2021). Inadequate curricular responses to the climate crisis are overemphasizing scientific and technocratic solutions and imaginaries at the expense of deeper engagements with both structural roots causes and affective, embodied experiences of both complicities in harm and transformative possibilities (Cairns, 2021; Karsgaard and Davidson, 2021; Verlie, 2022). Increasingly widespread forms of ecological violence amplify historical and ongoing harm and trauma to communities and populations most negatively affected by legacies of colonialization and capitalism and their extractivist and supremacy logics (Davis and Todd, 2017; Hern and Johal, 2019; Liboiron, 2021; Nixon, 2011; Yusoff, 2018; Woodbury, 2019). The communities affected by this violence include the *more than human* world of plants, waters, animals, insects and other living organisms while drawing a more significant number of vulnerable human communities to the rapacious net of existing inequitable power structures and their diminishment of collective flourishing and possibility (Haraway, 2016). To address these growing crises meaningfully, interdisciplinary perspectives can support deeper understandings and generate opportunities for life-affirming educational responses. This paper draws on diverse literature to frame this study and contribute to scholarly conversations rooted in action and solidarity during a crisis: educating for climate justice, attending to learner well-being and supporting youth activism and agency.

Within neoliberal contexts, youth remain a marginalized and vulnerable community. In using the broad category of youth, I am not collapsing the real and profound inequities within this larger category of the human, nor centering them at the expense of other *more than human* forms of ecological life. Instead, this paper acknowledges that young people's access to structural power to shape more promising futures can be limited by systems that often deny them central roles in decisions which most directly affect them. Access to

structural power is even more limited among youth whose identities have been mar-ginalized. The urgency of immediate, radical change and the failure of adult-led systems to respond in robust and reassuring ways has sparked increased political engagement among some youth within diverse geographic, economic and cultural contexts. The curricula in many school systems ostensibly designed to 'prepare' learners for the future have merged with the exigencies of *real* life, prompting students to strike from their participation in classrooms through widespread youth-led mobilization in the Fridays for Future movement. Formal education systems within the Canadian context have not yet centered the climate crisis in their policies (Bieler et al., 2017), though classrooms remain a critical location for responding to and supporting learners in confronting its complex realities.

The lack of meaningful integration of youth climate justice activists' voices, expe-riences, desires and perspectives into decision-making processes that affect their lives perpetuates the need for their acts of refusal. Yet not addressing their calls for radical changes to existing systems continues a pattern of foreclosed possibilities that profoundly affect their well-being. My overarching inquiry asks how educators and education systems can teach about climate justice in ways that nurture a sense of meaning, purpose and hope. Within this larger question, it is important to gain insight from youth per-spectives on this issue, particularly youth advocating for climate justice. This paper explores educational opportunities that recognize the embodied consequences of climate injustice and inaction on youth mental health and well-being by centring the voices of three young climate justice activists (ranging in age from 16–20) within the Canadian context through a small-scale qualitative study. Climate justice activists have determined that the status quo is untenable for their and the planet's well-being (which their movement understands to be interrelated), so these findings may be situationally relevant and resonant in diverse regions. While this study focused on gaining insights related to K-12 education, some youth perspectives may also be relevant in post-secondary contexts.

Educating for climate justice

More explicitly than conceptions of climate change and climate action, climate *justice* centers on recognizing that the adverse impacts of a warming climate are not experienced or caused equitably (Stapleton, 2018; Sultana, 2022a; Svarstad, 2021). Climate change can thus be framed as an intergenerational, interspecies and intersectional justice issue. Historically white and colonial environmental educational and political movements for climate education and action are critically interrogated through a climate justice lens. These approaches must be transformed by centring the longstanding activism from within racially marginalized communities around environmental justice and through multiple Indigenous sovereignty, land reclamation and decolonization movements (Burman, 2017; Jafry et al., 2018; Maynard and Simpson, 2022; Waldron et al., 2019).

Within Western educational contexts, climate justice education necessitates supporting learners to understand their acute entanglements and implications in the climate crisis (Martusewicz and Johnson, 2016; Verlie, 2017). Yet the drive toward standardization in Canadian education systems has created an almost unrelenting focus on accountability

measures to ensure that students are effectively initiated into '21st-century learner 'readiness,' a readiness often shaped within neoliberal discourses (Howard et al., 2020). In this conceptualization, climate change is often framed as one of many complex issues (Aikens et al., 2016) rather than centred as a deeply existential reality of utmost prominence that invites a deep re-orienting of current cultural, educational, and societal aims and objectives. Layered into discussions of climate justice education are tensions within environmental education and education for sustainable development, which have been prominent sites for addressing climate change yet have been critiqued for re-inscribing paradigms of individualism and human-centrism (Kopnina, 2020).

Existing conceptions of climate justice education, while still relatively nascent in the literature, do prioritize addressing the inequitable impacts of the causes and effects of climate change and deepening understandings of structural root causes (McGregor and Christie, 2021; Stapleton, 2018; Svarstad, 2021; White et al., 2022). I am inspired by and think with decolonial scholars, including Boaventura De Sousa Santos (2018), Arturo Escobar (2020), Walter Mignolo (2011) and Sultana (2022b), to build on these conceptions and those within the field of climate justice more broadly to advance the framings of climate justice education. From my perspective, climate justice education necessities questioning dominant understandings and paradigms of unlimited economic growth and progress rooted in modernity's extractive (and often violent) energy and economic projects.

A dimension of this study sought to understand how youth climate justice activists conceptualize and understand climate justice, given its central prominence in their movements' messaging. Better understanding their conceptualizations can contribute to developing robust approaches to climate justice education. While there is no singular definition of climate justice education, I work with a framing of climate justice education in this paper that centers on building collaborative, reparative responses that disrupt capitalist, colonial, patriarchal and supremacist logics and dynamics while promoting ethical imaginaries and actions rooted in equity, ecological regeneration and well-being within local communities for all forms of life on the planet. Centering Indigenous knowledge systems and approaches to scientific and environmental learning that extend deep humility within ecological webs regenerate conceptions and epistemologies of justice as encompassing reciprocal respect, relationality and interconnection (Burman, 2017; McGinty and Bang, 2016; Sheridan & Longboat, 2013; Simpson, 2014). These approaches resonate with ecocritical and eco-pedagogical approaches that challenge the illusion of independence from nature (Lupinacci et al., 2018).

Attending to well-being

Mounting evidence of the significant mental health impacts of the climate crisis among youth surfaces an alarming picture demanding a radical response from educational systems. Judy Wu, Gaelen Snell and Hasina Samji (2020) synthesized current research connected to youth anxiety and mental health in the context of climate change. They issued a pressing 'call to action', arguing that the climate crisis could cause new psychological conditions and worsen existing ones. Noting that youth are at a critical juncture

in their physical and mental development, they assert that increased stress at this phase of life can lead to permanent changes to brain structure and the emergence of severe mental health issues later in life. The authors advocate for measuring the magnitude of the effects of climate anxiety on youth mental health, identifying groups most affected and developing approaches alongside youth to mitigate mental health effects. Caroline Hickman et al. (2021) surfaced findings involving 10,000 youth (ages 15–25) in 10 countries that governments' inadequate responses and inaction heighten youth climate anxiety and despair. Unfortunately, recent articles have pointed to the increased levels of environmental stress and anxiety in younger and younger children, as opposed to only teens (Taylor & Murray, 2020). A recent study conducted in the U.K. revealed that more than half of child and adolescent psychiatrists in England are seeing patients distressed about the state of the environment (Watts & Campbell, 2020). Psychologists are forming networks and advocacy groups around climate anxiety, grief and trauma,[1] many with particular attention to young people and psychologically supporting those directly affected by climate impacts, including wildfires and droughts.

Weintrobe (2021) warns against retreating from these challenging and grief-provoking realities, arguing that 'cultures of uncare' facilitated by neoliberal paradigms fueling entitlement, exceptionalism and distraction have prolonged the necessary reckoning. Critiques of neoliberal paradigms must be extended to colonial paradigms, recognizing that colonial societies' underlying beliefs have contributed to painful legacies of violence and the ecological crisis (Grande, 2015) that give rise to a lack of flourishing and wellness for all sentient beings. Climate change, as Kari Norgaard (2011) writes, "threatens people's sense of how the world is" (*p.* 82). Validating feelings of distress and worry rather than minimizing concerns and anxieties is recognized as a more proactive course of action than denial, which can be more harmful (Sharman and Nunn, 2020). Yet the distress of foreclosed futures is equally matched by the heavy knowledge of confronting root causes stemming from the past into the present (Farley, 2009). Ultimately, adults must harness the courage to be with younger learners as they confront destabilizing futures and support them in 'bearing worlds' (Verlie, 2019).

This ongoing, necessary confrontation with painful and distressing realities has profound implications for education. While addressing the climate crisis in developmentally appropriate ways remains a concern for some educators (Jones and Davison, 2021), disregarding the climate crisis's profound affective, psycho-social and psycho-spiritual dimensions is no longer tenable in classrooms. Michalinos Zembylas (2014, 2016, 2020) discusses the complex relationship between emotion and learning and argues that transitioning from one-sided paradigms to more complex paradigms that integrate psychoanalytical, social and political theories is more beneficial for transformational projects. Without intentionally creating space and developing strategies around affective depth and discomfort in learning, it is challenging to help learners imagine different possibilities from current, oppressive realities (Amsler, 2011: Bryan, 2020; Nxumalo and Villanueva, 2019; Van Kessel, 2020; Zembylas, 2016).

Diverse onto-epistemological conceptions of anxiety, distress and mental health are at work in the literature cited. Yet these diverse conceptions do lead to very similar conclusions that emotional and psychological harm is being caused by either direct

experiences of, or projections about, ecological precarity. Paradoxically, these agreements in the literature are a cause for both despair and hope. Despair is present because the growing evidence across fields and onto epistemologies about the extent of psycho-emotional (and potentially psycho-spiritual) harm being caused points to the depth of the crisis facing diverse societies. Hope is present, however, because these affective, emotional and psychological states point to deeper onto-epistemological truths about inter-relationality with living webs that can be regenerated through educational efforts (Common Worlds Research Collective, 2020).

Nurturing well-being in the climate crisis involves attention to how meaning, purpose and hope are cultivated and sustained in young people (Crandon et al., 2022; Dupler, 2015; Kelsey, 2020; Li and Monroe, 2019; Ojala, 2016, 2017; Pihkala, 2017; Stevenson and Peterson, 2016). These are not issues centered in formal education systems, yet they warrant attention and exploration. The ability and capacity to act, imagine and draw on deep sources of creativity, inspiration, sustenance and wisdom in the face of despair become central aspirations of dispirited cultures in the climate crisis (Gillespie, 2020; Nelson, 2008). An element of my study has explored how youth climate justice activists find meaning, purpose and hope in the climate crisis and inquires into the impacts of the climate crisis on their well-being.

Supporting youth activism and agency

The activities, messaging and objectives of the youth climate justice movement are oriented around both claiming power and speaking back to consolidations of power by participating in multiple forms of active and creative democratic dissent (Bowman, 2020; Hayward, 2020; Mayes and Center, 2022; O'Brien et al., 2018; Pickard, 2021). Given that the neoliberal status quo has contributed to the climate crisis, supporting youth activism and agency in shifting these structures is important. As a powerful example of impactful, collectively-oriented approaches to structural social change, youth-led climate movements are important sites for gleaning insights into transformative forms of citizenship, climate and environmental education and engagement. Creating a strict division between social movement learning and the formal curriculum when educating in the context of the climate crisis is unhelpful. Within democratic citizenship education theory are approaches which are less critically robust and those which emphasize the development of agency to act for justice, including through activism, in learners. The tensions in how to best support a "transformative criticality" in learners without engaging in indoctrination when educating for democratic citizenship remain an important theoretical and empirical issue (Sibbett, 2016).

Conceptions of critical (transformative) citizenship education, for example, are rooted in critical social theory and emphasize equity and social transformation as the aims of citizenship. Critical of current democratic systems and the deficits inherent within them that reproduce inequities, these conceptions challenge the confines of market-oriented notions of freedom (Sant, 2019). Critical educational theorists including Paolo Freire (1968), Michael Apple (1996) and Antonia Darder (2017) advocate for educational experiences that nurture learners to see themselves as agents of social transformation,

committed to the values of equity. In their framework for "critical citizenship education", Laura Johnson and Paul Morris (2010) emphasize nurturing critical thinking skills intending to challenge the status quo and imagine a better world. In a 2-year study of teachers' pedagogical approaches in New Zealand, Bronwyn Wood, Rowena Taylor, Rose Atkins and Michael Johnson (2018) found that citizenship learning attending to both cognitive and affective domains can provide substantive opportunities for learners to experience more transformative dimensions of democratic engagement. I agree that pedagogies that are more critically affective can better support transformative aims within citizenship (including environmental citizenship) learning.

When considering educational approaches supporting the development of youth agency and activism for climate justice, critical *global* citizenship frameworks also provide helpful insights and analytic tools. Distinctions about more globally-oriented forms of citizenship education resonant with emerging climate justice educational approaches are notably articulated through the work of critical global and environmental citizenship scholars (Andreotti, 2011; 2014, 2021; Misiaszek, 2018; Shultz, 2018). Critical approaches challenge tendencies within global and environmental citizenship education that advocate for action, particularly charitable or individual-focused activity, without nurturing critical reflexivity around the complex structures, systems, assumptions, power relations and attitudes that reinforce and perpetuate inequalities, oppressive systems and violence, particularly actions stemming from students in the global North directed towards global South actors, contexts and issues. Within Vanessa de Oliveira Andreotti's (2014) theoretical framework, critical literacy and deep, experiential reflexivity support learners in recognizing the incomplete and constructed qualities of knowledge that reproduce and re-inscribe harm. As part of this study, I integrated critical and transformative citizenship into the analytical framework for youth perspectives and recommendations for formal learning systems. This framework also informed methodological decisions, including centring youth activist perspectives in the research.

Centring youth climate activist perspectives in educational research

As mentioned, there is little research on climate justice education in formal K-12 systems. In their summary of climate change education research, Joseph Henderson et al. (2017) identify questions connecting climate change to larger social justice projects. Specifically, they identified inquiries around which pedagogies facilitate productive engagement with climate change among the most relevant inquiries for addressing current gaps in the research literature. They write:

> Given the paucity of educational research and the lack of institutional uptake demonstrated we ultimately suggest that the educational research community risks a self-imposed irrelevance if it maintains its ambivalence towards what is an existential threat facing humanity. (*p*. 420).

This exploratory qualitative research project is intended as a contribution to turning the tide on this research dearth and building upon the relatively small number of existing inquiries into ways of responding to the holistic challenges facing young learners in relation to the climate crisis. Given it highlights the perspectives of three youth activists, it is difficult to generalize the findings nor do I wish to overstate the claims of this research. By paying attention to the nuances and details of youth activist perspectives engaged in transformative forms of citizenship in the face of an ongoing crisis, important and sound insights were gleaned that should not be minimized. These insights are intended to continue moving climate justice education research conversations forward to enable better policy and practice. As a former public middle school educator in Tkaronto (Toronto), my growing concern for youth mental health in the unfolding climate crisis and how education systems (specifically classroom educators) could best respond prompted my research inquiry. As the daughter of Greek immigrants to the Canadian settler-colonial context, I have also been attuned to social inequities as part of ongoing learning and commitments to social and ecological justice through my work as an educator and researcher.

From June to November 2021 I engaged in data collection as part of my doctoral research field work. I focused on how a few highly-committed elementary and secondary educators in Canadian public schools are enacting pedagogies for climate justice attentive to youth well-being – in other words, that nurture a sense of meaning, purpose and hope in learners. As part of this project, I included the views of youth climate justice activists in the Canadian context, to compare these views with participating teachers' orientations and perspectives. Additionally, I intend a transformational research praxis whereby myself, youth activists and educators were engaged in a short-term learning community that disrupted traditional hierarchies between youth and adults by centering youth perspectives in a joint focus group. I conducted individual semi-structured interviews with each youth activist online during July 2021. The larger project involved individual interviews and three focus groups with each cohort of elementary and secondary teacher participants (three elementary teachers in one cohort and three secondary teachers in the other). I facilitated a separate focus group in early August 2021 involving all six educators participating in the study and the three youth activists. This was in keeping with the transformational-oriented lens of the larger project whereby participants could be learning from each other's perspectives and approaches in these complex times involving an ongoing pandemic and the climate crisis.

Through snowball sampling, beginning with diverse networks in which I am engaged, I recruited three youth climate justice activists who consented to participate in the research study. I assigned pseudonyms to all participants. Two were from Ontario, both engaged in the Fridays for Future climate movement for approximately 1 year. Nadia, a white, sixteen-year-old, had just completed grade 10 at a public high school at the time of the study. Iris, a racialized activist, turned 20 during the study and had just completed her second year in university. She had completed her elementary and secondary education in the public Catholic school system. The third participant, Fallon, was a racialized activist from British Columbia. She was 18 at the time of the study and had completed her education at a private religious school. She had been actively involved for a year in two

BC-focused youth climate-led movements centred on enacting systems change. I have used the term 'racialized' to indicate that two of the participants would be "read" as youth of colour. I have not been more specific in order to protect their identities as activists. Despite two of the activists being part of the same movement (Fridays for Future), none knew each other before meeting for the first time during the joint focus group conversation.

Focus group dialogues and interviews with the six teachers involved in the larger thesis study were carried out separately from the youth activists, aside from one joint focus group held in early August 2021 involving all participants and oriented around youth perspectives. The conversation was centered on how school-based teachers might educate for climate justice in ways that would nurture a sense of meaning, purpose and hope in young learners. This paper presents the youth activist perspectives found during that larger research project to center their experiences and recommendations.

Data collection and analysis

I conducted one semi-structured interview with each youth activist participant that each lasted approximately 50 min. While each interview had its own dialectic, I implemented an interview protocol asking participants questions in these areas: climate justice, well-being, educational experiences and insights into educational possibilities.

During the joint focus group with participating teachers, which lasted 95 min, the three youth activists shared their perspectives on issues of justice, well-being and education with the larger group. Additionally, teacher participants engaged in the conversation, primarily by asking the youth questions related to these themes.

I prepared transcripts from the semi-structured online interviews involving each climate activist and the joint focus group and provided an opportunity for each participant to review each transcript of their direct participation. I initially coded the transcripts in relation to dimensions of the overarching conceptual framework of the larger research project relevant to conversations with youth activists: teaching for ecological/climate (in) justice; pedagogies of/for action and activism, and relational well-being. Additionally, specific references to contextual, supportive and hindering factors in their educational experiences were also coded by the pre-set conceptual codes.

Further analysis, through iterative data coding, established four thematic findings, discussed in the following section: (a) struggles with overwhelming and multifaceted climate change emotions (b) well-being through collective action and learning in movement building (c) robust understandings of climate justice developed outside formal education d) the importance of education and experiences related to political action and engagement. The transcripts of our conversations as a whole made a compelling contribution to thinking about climate justice education and youth well-being, as our discussions were very rich in specific detail and nuance. For this reason, findings have been written to center on participants' voices as much as possible in order to provide the reader with an understanding of the depth of affect and insight shared during the research process.

Findings

Struggles with overwhelming and multifaceted climate change emotions

When asked how the climate crisis impacts participant and peer well-being, the youth activists involved in this study were unanimous in asserting the profound deleterious impacts of climate anxiety, dread and grief on youth mental health. The authenticity and sobriety with which participants articulated how the climate crisis deeply affected their sense of the present and future were unambiguous. Learning about its realities had shifted their life experience trajectories towards a focused attempt to stave off further impending harm. Their efforts and experiences in responding to a rapidly changing climate were central dimensions of our conversations, as was their recognition that their peers in other historically marginalized contexts were even more directly threatened by climate change. As a researcher, I was affected emotionally, psychologically and spiritually by hearing the extent to which all three youth activists struggled under the weight of climate despair and the psycho-spiritual effort required of them to keep a sense of hope, meaning and purpose active in their lives.

> We are fighting for our lives. I can feel hopeless but I also want to feel hope… You can feel climate anxiety in your body. You can feel climate dread and hopelessness; these are bodily well-being impacts...It has impacted every layer of my health. (Fallon, 18)

The reiteration of the embodied "heaviness" experienced by the youth activists in separate interviews was pronounced. The degree to which it created debilitating conditions for optimism and thriving struck me as I listened to each in individual interviews. The subtle detail in which they described these emotions challenged the framings of youth activists sometimes portrayed in the media as naïve. The maturity with which they communicated their embodied despair pointed to the profound failings of larger systems in creating flourishing conditions for them.

> Climate anxiety is actually huge; it's just a part of me at this point. Like, I sometimes spiral – I get into spirals of hopelessness once in a while. And part of that will be climate change during the fall and stuff like that. In winter, it won't snow where I live in December and January, and I will think, '*Ugh – climate change. Ugh – climate change.*' It'll get hot in early spring, or it'll hit 35–40° in mid-July and I will be like, '*Ugh – climate change. Ugh – climate change.*' Honestly, I wish I knew how to deal with climate anxiety because it is like this gnawing sense that you don't have much longer to enjoy your life. At this point, when it comes to climate change it is like being terminally ill – you don't have much longer unless you really take action. (Nadia, 16)

My conversations with them also disrupted one-sided portrayals of youth activists as energizing and inspiring beacons of hope for the future. What was often more "inspiring" was their thoughtfulness and lack of denial in confronting the challenges facing them.

Honestly, at this point, I personally feel kind of resigned, like I am doing all the work that I can, but at the end of the day, I don't know how much my work is going to do anything, even it does, it might not do anything fast enough to save us. So I'm just trying to do as much as I can for the time I can. And then, whatever happens, happens. (Iris, 20)

The youth in this study felt it was better to address these feelings rather than not acknowledge them, particularly in collective spaces where they are not carrying the sole burden of these complex emotions and feelings. They all believed this was a struggle that would be with them for the rest of their lives, and there would be no easy or quick fixes to the complex emotional and psychological terrain they were facing now and into the future. Recognizing that they were not alone in their feelings was expressed as a hopeful turning point by Nadia (16) and Fallon (18). Additionally, they said that more systemic support was needed to provide resources and spaces where these feelings could be confronted, processed, transformed and channelled into more life-affirming emotions and actions. Iris (20) stated there was no easy access to a school therapist, psychiatrist or psychologist at her high school. While she acknowledged there were guidance counsellors, she felt that "everyone knew" that they were there to help with courses or post-secondary pathways, not climate despair. Nadia (16) felt that schools were ill-equipped to deal with the depth of climate despair and worry that plagued many of her peers. She noted that her school experience did not help her process feelings of not living past 35 or dealing with the moral injury of seeing large-scale suffering caused by droughts, hurricanes and wildfires. She felt schools needed to play a much more significant role in helping young people learn coping mechanisms to address their overwhelming feelings.

It is going to take a lot of support to deal with climate anxiety and climate dread and to understand and accept how bad it is, and to learn how to live differently in the face of that…I have learned how necessary it is for us to face our climate grief, dread, all of those really heavy and difficult emotions…Facing them alone feels impossible because it is you against the world, you against these impossible emotions…Facing them in community is another level of unconditional support, which is just what you need…I need to learn how to hold it – the duality and complexity of it. I'm going to feel climate grief, anxiety and dread – but I can also feel joy, hope and a vision for good things.' (Fallon, 18)

While the youth did not share the depth of these feelings in the joint focus group conversations with teachers, they expressed solidarity with the teachers. Iris (20) and Fallon (18) both acknowledged how much teachers often have on their plates. They wanted to see more structural and systemic support for educators. Additionally, Fallon (18) showed a depth of care for the educators present, encouraging them to care for themselves and find communities of support and practice to continue centering climate justice in their work, which her fellow activists agreed with.

Please take care of yourself. Please do what you need to do to be sustainable in this fight and center oy, where you appreciate yourself and all the work that you're doing…Thank you for being champions and doing what you do.

The central role the youth activists felt schools needed to play to support the processing of climate anxiety, despair and grief challenged neoliberal conceptions of school as workplace preparation. Additionally, their perspectives disrupted the idea that schools were not places to address challenging collectively-experienced emotions. The version of "future-readiness" expressed in our conversations was about preparing for a much more uncertain, difficult, and dimmer future. Nadia (16), for example, spoke about how important it will be for students to learn more about disaster preparedness in schools. What these young people were telling the other educators and me in the study was that they needed schools to better prepare them for a reality *they* knew existed, which was not made *less* frightening by disconnecting from its presence. They also communicated that they wanted well-being to be an orienting principle for everyone in formal education systems, rather than another set of demands placed on educators that caused additional pressure and stress.

Well-being through collective action and learning in movement building

While the participants struggled with overwhelming and complex feelings, they acknowledged that working collaboratively with others around a shared vision for transformative change positively affected their mental health. Collaborating for radical change acted as a counterpoint and balm to their anxiety and despair. When I asked what gave them a sense of meaning, purpose and hope in the current context, they each separately acknowledged the importance of the movement to their well-being. These youth expressed a deep sense of purpose through their involvement in climate justice activism grounded in existential concerns. They felt they were battling time, depression and despair. Yet connecting with other youth in their movement and learning from other collective struggles for civil rights, liberation and sovereignty were sources of deep inspiration and sustenance. These enabled them to continue feeling a sense of hope, meaning and possibility despite the terrifying projections for the future.

> Without climate activism, I would not have known where to turn. (Iris, 20)

> Being active in the climate movement has given me the sense that I am doing something, that I am doing my part and taking action…I think if students are introduced to ways of being active in the climate movement, then anxiety would probably lessen for most students. (Nadia, 16)

> [The youth climate movement] is rooted in generations of activism. This is what makes it empowering – to join something larger than yourself that goes beyond your lifetime. (Fallon, 18)

In our conversations, the youth activists were also critical of individualized frameworks and approaches to climate change mitigation and adaptation. They found hope in collective actions more grounded in systemic and structural changes. In different but resonant ways, they expressed that the transformative shifts needed were more possible by joining communities to enact change. Their perspectives challenged many environmental

and climate education approaches oriented toward individual and apolitical acts of conservation and heroism. Instead, they articulated being most supported by opportunities to dream, imagine and collaborate with others toward more promising trajectories that involved challenging existing power structures and forms of oppression. Their hopes were often expressed as located in collectivity and care rather than technological fixes.

> We have not been raised in a collective care-based education system; this is a cultural is-sue…I'd like to see students given the opportunities to envision what kind of future they would like – a generative, regenerative collective that is community-based; it is hopeful and empowering to focus on action-oriented responses to the crisis." (Fallon, 18)

> The climate movement has been empowering. It is amazing to think of what we can do…If we take enough action, we can really lobby politicians to change their climate legislation; we can lobby banks to divest their money from fossil fuels, we can educate people around climate change and encourage them to take more action…There is a lot we can do but need to get the power to do these things." (Nadia, 16)

> [I]f people feel like there is no hope, then no one is going to do anything and they are going to succumb to the thinking that, 'I need to get ahead of the rest of the world because this world is gonna end anyway, so I want to be the one to survive.' But if people participate in marches, direct action…it is not just seeing everything you have accomplished, but what you have accomplished *together as a group* that makes a difference. Hopefully, this will help people feel more empowered to work together and not just try to get ahead. (Iris, 20)

The forms of collective learning they were engaging with through the movement seemed to meet them where they were – in their anxiety, grief, despair, and desire to create different realities. Yet rather than bypassing those feelings or helping them "adapt" to the status quo, the movement acted as a space where those feelings could be transformed through relevant and deep learning about possibilities for change. Additionally, they each acknowledged how their sense of agency and confidence were being developed by building applicable, real-world skills in organizing, research, communicating effectively, creating inclusive spaces, and mobilizing for action. These experiences challenged ideas in the media by skeptics of this movement that in-school learning is more valuable than "skipping" school for climate strikes. These youth activists communicated that schools were *not* currently providing them with the care, knowledge or experiences they needed to be and feel well in the face of the climate crisis.

Complex understandings of climate justice developed outside formal education

The extent to which the youth participants expressed a nuanced and complex under-standing of the root causes of the climate crisis was significant and mostly tied to learning they had experienced within the movement. They were adamant that addressing climate change required dismantling systems of oppression, including capitalism, colonialism, extractivism, patriarchy and racism. They felt its impacts could not be separated from issues of identity and intersectionality. Fallon (18) advocated for a more trauma-informed

approach to educating about climate change, while Nadia (16) also explicitly extended climate justice to include interspecies and intergenerational harm.

> I am seeing the impacts of climate change so directly on Indigenous land and water defenders – all these things that come out of, you know, generations of extracting and abusing the Earth. Not only the Earth but BIPOC people. So I definitely don't just see the extractive nature of resource exploitation as just extracting from resources. I think it's extracting from land and extracting from people and extracting from labour. And so even within the climate movement and being a person of colour myself, I think the trauma-informed aspect is so essential to kind of take all these layers of things that just kind of help us conceptualize a bit. (Fallon, 18)

> Climate justice is different depending on who you are – like if you are part of a community targeted by environmental racism…It is listening to these communities and targeting landfills and toxic waste facilities …If you are an animal, you wouldn't have a concept of climate justice but it would still be able to keep your home intact and not destroyed by loggers or melting ice sheets. If you are someone like me (a young person), climate justice will be simply being listened to and having your voice taken into account and maybe feeling that hope for the future. (Nadia, 16)

Based on their own formal education experiences, these youth wanted to see different approaches to teaching climate change in schools. Each youth activist separately asserted that the voices and perspectives of those most affected by the climate crisis needed to take more prominence in education and transformative change-making work. In their conversations with teachers, everyone involved agreed that climate issues must be integrated across subjects. Fallon (18) stated that in her secondary school experience, "[t]oo many resources are focused on climate science and not enough on collective liberation." Her critiques were echoed separately by Iris (20). She felt an overemphasis on scientific and geographic understandings that missed connections with struggles for justice were inadequate in addressing the root causes of the crisis.

> I think if we look at our history classes you can easily connect the struggles faced by Indigenous peoples in the 1900s to the climate crisis we are facing now and the way that they're disproportionately impacted. So I guess [a good educational response] would be making connections between climate change and things like racism, classism, sexism, homophobia, like anything like that. I don't think that is done enough. I think, right now, climate change is kind of discussed in its own bubble and its own thing instead of interconnected to everything. (Iris, 20).

When the youth expressed these views in the joint focus group conversation, they seemed to embolden some teachers. One teacher asked the youth activists for advice on how they can better support climate justice in their schools and what kind of messaging they might use for starting a climate justice club for students. Two of the six teachers explicitly expressed gratitude for their courage. Three asked the youth's opinions on

whether/what kinds of whole school approaches to climate change would be most beneficial. All the teachers expressed that the youth had inspired them in this conversation. In these exchanges, youth activists were positioned as educators and leaders supporting teacher praxis. The learning youth are doing within the movement and outside of formal classrooms were momentarily bridged in these conversations. The movement learning informed teacher reflection and seemed to spur additional teacher motivation.

The importance of education and experiences related to political action and engagement

Each of the youth activists wanted to see education systems address the systemic and collective dimensions of climate change and injustice. They expressed evident frustration that their formal educational experiences focused on individual responses to the climate crisis. Most significantly, Nadia (16) and Iris (20) tied the overemphasis on individual actions in environmental education to their mental health distress. They felt this individual framing of climate action added to feelings that "fixing" such complex and overwhelming challenges was solely on their shoulders. Helping young learners conceptualize the power of collective, activist-oriented approaches to climate change is something Fallon (18) identified as being important to focus on in school. Additionally, each activist's expressed understanding of the root causes and realities of the climate crisis led them to see individual actions as inadequate for the scope and scale of the problems. Nadia (16) placed accountability on politicians and corporations, arguing that schools do not help students address how to challenge their actions.

Each activist thought that addressing politics directly and nurturing political agency was essential to do in school. They acknowledged, however, that schools and teachers face complex challenges in bringing these issues forward and doing so in developmentally appropriate ways. Yet they felt that their involvement in the climate justice movement had provided deeper understandings of equity, civic action, systems and possibilities for enacting change that were important and affirming to their growth. Iris (20) wanted to see opportunities for political agency and activism extended within schools through more real-world problem-solving and projects.

> I understand that teachers face so many barriers to what they can teach. But in a perfect world, I want kids to be little activists and to work on direct action projects. It can be whatever their comfort level is. I understand comfort levels vary, especially because marginalized kids face different consequences and risks than, you know, a white child would…We activists have a lot of things we do – we do petitions, we do online posts, we do webinars, we also do marches and rallies. There is so much work that goes into them….And I would love for kids to have that type of a project where they get to organize a march, a webinar, whatever their comfort level is and see it come to life. (Iris, 20)

In her statements, Iris acknowledged the nuances and differentials in power rooted in identity that can affect learner safety in advocating for change. This, and other controversial dimensions of political and activist education, were astutely acknowledged by

the youth activists as complexities and potential barriers for educators. Yet Iris also advocated for the depth of learning these encounters enable and envisioned opportunities for students to decide, based on their level of comfort, the extent to which they want to become involved.

The importance of engaging students in experiential, action-oriented learning that contributes to substantial changes in their communities was expressed by each youth participant. Unsurprisingly, given their role as youth activists, they held views aligned with perspectives advocating for more transformative conceptions of civic engagement. Creating learning experiences that reflected student passions and interests and participating as active and equal citizens in civic processes and systems was another important recommendation from Fallon (18), who, like Iris (20), also felt that more real-world action and problem-solving were needed in formal education.

> "The education system needs to be redefined to challenge itself…It should get youth engaged with a city's climate plans, help students understand current climate policy, create art, comic books…It should connect climate change to youth's current passions and make it relevant to them. Help them envision green jobs for the future." (Fallon, 18)

While the activists understood the complexities of engaging students in political issues, particularly activism, Nadia (16) saw this hesitancy as rooted in the education system itself. Nadia expressed that creating fear in critiquing oppressive systems was inherent in how they were designed. She also acknowledged her ancestral complicity in creating these systems, demonstrating reflexivity of her positionality.

> "There's definitely a big fear of politics in the classroom…I feel like teachers don't want to seem opinionated or anything when they're simply talking about the system. And that is part of the system - when my ancestors helped to build this system deeply rooted in discrimination against pretty much everyone. They built it around not talking about politics, not uncovering it…And that is basically how any system is built. And there isn't a system around that is not based on covering up the cons of it." (Nadia, 16)

Despite the challenges the youth activists acknowledged teachers faced in addressing the political dimensions of the climate crisis in schools, they were passionate in advocating for a shift in apolitical approaches. From their perspectives, conceptual framings and enactments of responding to the climate crisis that were collectivist, activist and experiential were most supportive of their well-being. By locating the root cause of the crisis in oppressive systems, the youth participants found their climate anxiety more manageable when they were provided with opportunities, skills, tools and understandings that enabled them to imagine and create different systems. They expressed wanting to see their respective learning and experiences within youth climate justice movements extended to all students in education systems. The youth activists found their experiences engaging in real-world change and problem-solving empowering and vital opportunities for meaningful, purpose-driven and hope-generating action.

Discussion and conclusion

Findings from this exploratory qualitative study are in keeping with research that discusses engaging learners with more justice-oriented and decolonial approaches to climate change education (Kargaard & Davidson, 2021), the necessity of addressing the complex emotions related to the climate crisis within educational environments (Ojala, 2016; Verlie, 2019) and the importance of holistic, interdisciplinary approaches to climate education (Beach et al., 2017; Lehtonen et al., 2019; Nxumalo et al., 2022). This study contributes to these conversations by further linking education for sustained, collective action and critical affective literacy (over individualized actions and responses) as a powerful opportunity for supporting youth well-being. This resonates with research by Karen Nairn (2019), whose youth activist research participants highlight the significance of 'collectivizing rather than individualizing despair' (*p*. 447). By recognizing and situating meaning, purpose and hope in the participation of collective movements rooted in critical consciousness-raising, the youth activists are intimating curricular and pedagogical turns away from an overemphasis on *individual* acts of heroism, creativity and sustainable living as prisms through which to become change agents. Albert Bandura and Lynne Cherry (2020) describe the importance of collective efficacy in enacting change - like how Nadia, the 16-year-old research participant in this study, became very emboldened and hopeful when describing the possibilities of what could be achieved by youth as a collective. Educational responses focused on what one person can do by their choices alone could arguably diminish rather than generate a sense of hope for the future without emphasizing collective possibilities for action. Additionally, individualizing challenging emotions that are more collectively rooted can potentially further alienate young people and provide few opportunities to process and transform their distress into creative, hopeful, agentic action.

This study provides support to calls to bring more critical, experiential, participatory and transformative dimensions of citizenship, climate and environmental education to the forefront of teaching and learning experiences (Brennan et al., 2022; Dimick, 2015; Field, 2017; Glithero, 2018; McIver, 2020; Schugurensky, 2020; Watts and Flanagan, 2007). My conversations with the youth activists also resonate with Callum McGregor and Beth Christie's (2021) analysis that climate education is more engaging and empowering when it avoids tendencies towards depoliticization and avoidance. Institutional ambivalence and reluctance toward 'politicizing' classrooms (although classrooms are inherently political spaces) often neuter their transformative potential to engage students robustly in activism and social change. Youth activists in this study acknowledged teachers' challenges when engaging the controversial and political within classroom contexts. Yet the ways these challenges lead to teacher ambivalence about engaging these issues can also conceal the insidious ways classrooms have been politicized by stealth by fossil fuel interests (Eaton and Day, 2019). Climate change is a profoundly political issue for the youth activists in this study, and their commitments to climate *justice* are inherently more so. Their school experiences, however, were not equipping them to contend with these issues.

Other research has addressed the limitations of 'depoliticizing' environmental education (Håkansson et al., 2019) and shying away from emphasizing activism (Whitehouse, 2016) and robust political participation (Reichert and Torney-Purta, 2019). According to the youth activists in this study, educational approaches that turn away from controversy and complexity can serve to disempower them. They were clear that in these particularly critical times, their active, collective, political engagement was most supportive of their well-being. Given that young people worldwide, including in Canada, are taking their governments to court for inaction on climate change, to what extent do formal education systems prepare them for often necessary confrontations with entrenched power structures, particularly when the stakes for inaction are so high for their generation? Large-scale cross-national and comparative research of students in 22 countries conducted by Erika Kessler (2021) emphasizes the importance of robust civic education and generating trust in schools. Her findings indicate that generating concern about climate change in students is supported when they trust institutional systems and understand how to become involved. The three youth activist research participants' commitment to climate action had been most supported *outside* of school. Schools might then consider how to center trusting, engaging opportunities for students to address complex and controversial climate-related issues in their communities through their proposed actions, responses and solutions.

The dimensions, nature and nuances of curriculum and pedagogy also influence orientations towards social movements (Gorlewski and Nuñez, 2020). Teaching and learning encounters within formal education spaces and social movements can be profoundly connected, with each serving as an impetus for broader social change. This study highlighted that for the three youth activist participants, the 'curriculum' of climate justice was learned primarily through participation in social movements and not their respective K-12 classroom contexts. In our joint focus group with educators, the youth activists were centred as influential leaders and educators. In the context of facing a crisis collectively, there were indications that intergenerational relationships that were not primarily hierarchical might be generative within education.

This study indicates a positive association between the participants' well-being and their robust engagement in social movements and actions for systems change around seemingly intractable problems and complex social and cultural phenomena. Similar to findings from McGregor and Christie (2021) in their study of educators, activists and environmental advocacy workers in Scotland, more robust conceptions of climate justice were developed through social movement learning. This is not a call for political indoctrination in the context of the climate crisis (Ohman & Östman, 2008) but rather another moment to consider more substantively the importance of teaching critical, creative, collaborative and systems thinking rooted in developing critical consciousness (Christens et al., 2016). There is a difference between teachers espousing a particular ideology uncritically or unreflexively versus engaging students in relevant critical inquiries into complex, controversial and political issues. Robust citizenship education centers on the ability of educators (and education systems) to engage learners in controversial and value-related issues with a high level of attention and skill (Bickmore and Parker, 2014; Lo, 2017). This requires investment, time and supportive cultures for developing these abilities across the system through policy, leadership and implementation.

Another important aspect of the findings to highlight is the dimension of climate justice that was *not* present given the more decolonial, holistic conception of climate justice used as an analytic framework. Integrating cognitive and epistemological justice around marginalized knowledge systems, particularly Indigenous knowledge systems, as integral to climate justice did not surface in the study data. While the youth activists expressed an understanding of colonial genocide and ongoing oppression and were deeply inspired by Indigenous environmental leaders and knowledge keepers, they did not themselves articulate perspectives centred on interconnectedness with the land and webs of life. This absence may have been more of a feature of the study design. Still, it could also gesture towards a lack of opportunities to encounter knowledge systems embedded in a deep sense of interconnection in ecological webs within their formal learning experiences. Nurturing deeply embodied and entangled forms of agency rooted in emotional, political and ecological realms are pedagogical possibilities worth exploring further to address this gap (Vamvalis, 2022).

This study reflects data generated through powerful research conversations with a small sample of youth climate justice activists in the Canadian context. I am deeply grateful to each participant for sharing their feelings and insights as part of this research process. Each of the three voices of this study calls on education systems to reflect and reconsider approaches not centering the magnitude, urgency and implications of the climate crisis on youth and planetary well-being. Through their experiences and understandings, conceptions of meaningful, purposeful and hopeful climate justice education have been stretched to be more critically affective, more systemically rooted and entangled, and more collectively, politically agentic. Education systems would be wise to consider how they might better meet their learners here.

Declaration of conflicting interests

Funding

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Note

1. See Climate Psychologists of North America (2019–2022). Available at: https://www.climatepsychology.us/(Accessed January 4, 2022) and The International Society for Traumatic Stress Studies (2021) Global Climate Change and Trauma. Available at: https://istss.org/ISTSS_Main/media/Documents/ISTSS-Briefing-Paper_Climate-Change-Final.pdf (Accessed January 6, 2022)

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