

## CASE STUDY

# Weathering the storm together: Cultivating climate leadership through affective pedagogy and psychological support groups [version 1; peer review: 2 approved with reservations]

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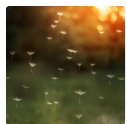
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## Abstract

How can students become transformational leaders if they are left alone to grapple with the emotional toll of climate change, preparing for careers while scientists sound the alarm that business as usual is untenable? Ecoanxiety, solastalgia, and climate grief are the affective undercurrents in sustainability and environmental science classrooms. This case study discusses strategies used to support students' emotional well-being in an introductory sustainability class and a co-curricular climate change support group program at Oregon State University. Psychologists and sustainability educators created space for students and faculty to engage in authentic dialogues confronting the emotional uncertainty of the climate crisis and working together to define their roles building a resilient future.

## Keywords

climate psychology, ecoanxiety, student leadership, affective pedagogy





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## Open Peer Review

Approval Status  

	1	2
<b>version 1</b>		

23 Aug 2021

1. **Panu Pihkala** , University of Helsinki, Helsinki, Finland

2. **Thomas Doherty**, Sustainable Self, LLC, Portland, United States

Any reports and responses or comments on the article can be found at the end of the article.

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**Author roles:** Myers J: Conceptualization, Writing – Original Draft Preparation

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## Introduction

University students are often driven to major in sustainability or environmental science fields because they care deeply about the state of the natural world and are inspired to make a difference. And while sustainability educators aim to nurture students' capacities as change agents, the idealism, optimism, and motivation they enter classrooms with can easily fade. Faced with facts about the gravity of climate change and an increasing understanding of the complexity and systemic nature of sustainability issues, students may feel more daunted by global challenges the more they learn.

I frequently hear from students that they feel alone in processing their disorienting emotional responses to the information gleaned in their sustainability and environmental science courses. Some feel hopeless, believing nothing they can possibly do will make a difference. Some struggle with a growing sense of alienation when their families do not share their perspectives, particularly when issues are parsed across political divides. Some talk about pressures they feel to compartmentalize their learning and adapt to the collective cognitive dissonance described by [Kari Norgaard \(2011\)](#) in *Living in Denial: Climate Change, Emotions, and Everyday Life*. This is not the denial of those who doubt the scientific consensus that anthropogenic climate change is a global threat. Rather, this denial is enacted by those of us who understand the urgency of the situation and continue to live life as usual. It is the denial of political responses falling short after Greta Thunberg implored world leaders to "act as if the house is on fire" at the World Economic Forum in 2019. Thunberg said, "Adults keep saying, 'We owe it to the young people to give them hope. But I don't want your hope.... I want you to panic. I want you to feel the fear I feel every day. And then I want you to act. I want you to act as you would in a crisis. I want you to act as if the house was on fire. Because it is'" ([World Economic Forum, 2019](#)).

In October 2018, the Intergovernmental Panel on Climate Change (IPCC) released a report warning that global greenhouse gas emissions must be reduced to 45% below 2010 levels by 2030 to avert catastrophic climate impacts. The urgency and scale of the change required to achieve this target requires unparalleled action. According to an analysis in the *New York Times*, the report "paints a far more dire picture of the immediate consequences of climate change than previously thought and says that avoiding the damage requires transforming the world economy at a speed and scale that has 'no documented historic precedent'" ([Davenport, 2018](#), para. 1).

And yet, many of us in the academy continue to teach the science and politics of sustainability as if the world were not on fire. On campuses across the globe, we continue the practices of teaching and learning without panic. We are in a state of emergency performing the status quo. This is the unspoken tension in universities in the age of climate change: students diligently prepare for careers while scientists sound the alarm that business as usual is untenable. As sustainability educators, we are called to prepare students for leadership roles in a world that requires profound transformation. We need graduates

who are equipped with both the skills to transform their communities and the emotional intelligence to navigate unpredictable and changing terrain. How can we expect students to become the transformational leaders we need if they are left alone to grapple with the emotional burdens of climate change?

## Moving through despair as the "taproot of action"

As classes began in the fall of 2020, the Pacific Northwest region of the United States *was on fire*. Many Oregon State University students work as firefighters and were missing from class as they spent weeks battling forest fires. While we waited for them to join us, the rest of us met in our virtual classroom, home-bound because of both the coronavirus disease 2019 (COVID-19) pandemic and now, hazardous air quality. We tried to carry on, fearing for communities and wild places we love as fires spread throughout the state and ash fell from orange skies, turning the landscape grey all around us.

The coupling of a wildfire season that impacted so many of our students' communities with the vulnerability and widespread grief wrought by the global pandemic brought the emotional undercurrents in our classrooms into stark relief. What once seemed like a far off, intangible issue to many students, climate change now has a proximate immediacy that makes our emotional reactions more visceral, our vulnerability more real. Just the term prior, it was primarily students from California who spoke about climate change as a personal reality. Now, we all do.

And we are certainly not alone in our feelings of grief, anxiety, fear, and anger about the complex sustainability challenges we are facing. The American Psychological Association released a report in 2017 called *Mental Health & Our Changing Climate: Impacts, Implications, and Guidance*. Their research identified acute mental health challenges in response to climate related disasters, as well as chronic mental health impacts of more gradual change, including hopelessness, fear, depression, and ecoanxiety ([Clayton et al., 2017](#)). The authors describe the psychological effects of "watching the slow and seemingly irrevocable impacts of climate change unfold, and worrying about the future for oneself, children, and later generations" ([Clayton et al., 2017](#), p. 27). These emotions, and our capacity to move through them, are essential to the process of transformational re-imagining we need in a world coming to terms with systemic inequality, injustice, and ecological limits. Acknowledging and being present with our emotions helps free us from denial and allows us to channel our passions into action. In these experiences, we find our power to create change.

My inspiration for addressing the emotional aspects of sustainability work in my interactions with students comes from perspectives shared by author and activist Terry Tempest Williams and activist Tim DeChristopher. They reflected on the importance of moving through despair as an essential, and too often missing, aspect of the climate movement in a conversation titled *What love looks like* ([Williams, 2012](#)).

DeChristopher described a meeting he had as a student with renowned climate scientist Terry Root, lead author of the

fourth IPCC report. After her presentation, he asked her how we could avoid the worst-case scenarios she had presented, and she admitted to him that it was too late. “She literally put her hand on my shoulder and said, ‘I’m sorry my generation failed yours,’” DeChristopher said. “That was shattering to me. And it did push me into this deep period of despair. I was rather paralyzed, and it really felt like a period of mourning. I really felt like I was grieving my own future and grieving the futures of everyone I care about. I had friends who were coming to similar conclusions. And I was able to kind of work through it and get to a point of action. But I think it’s that period of grieving that’s missing from the climate movement. [It] denies the severity of the situation, because that grieving process is really hard” (Williams, 2012).

As their conversation continued, Tempest Williams observed, “I think that what no one tells you is, if you go into that dark place, you do come out the other side... You can emerge with a sense of empathy and empowerment. But it’s not easy, and there is the real sense of danger that we may not move through our despair to a place of illumination, which for me is the taproot of action” (Williams, 2012).

I believe that sustainability educators play an important role in helping our students acknowledge, normalize, and move through their grief, anxiety, fear, anger, and other emotions so that they can be empowered change makers. We can support students as they navigate their learning journeys with pedagogy designed to develop their emotional resilience alongside their scientific acumen. In the sections that follow, I share strategies I use in my teaching and co-curricular programming at Oregon State University to help students process their emotions as they make meaning and integrate their learning into their developing sense of selves. I use affective pedagogy techniques akin to an approach Laura Rendón (2009) describes as *Sentipensante (sensing/thinking) Pedagogy*. It is my hope that creating space for students to process the emotional weight and disorientation they experience as they define who they will be in a world shaped by climate change will help them develop the skills to be effective leaders in whatever role they play.

### Cultivating emotional intelligence in the classroom

Gus Speth (2008) asks us, “How do we respond” when confronted with knowledge about the gravity of sustainability challenges? He writes, “If you take an honest look at today’s environmental trends, it’s impossible not to conclude that they profoundly threaten human prospects and life as we know it on the planet,” (p. 17). In the Sustainable Communities class I teach at Oregon State University, we spend the first few weeks discussing material that lays the groundwork for understanding environmental, social, and economic issues. We then turn our attention to answering Speth’s (2008) question. He outlines a list of typical responses to what he calls “the abyss” of environmental data: “Resignation. All is lost. Divine providence. It’s in God’s hands. Denial. What problem? Paralysis. It’s too overwhelming. Muddling through. It’s going to be all right, somehow. Deflection. It’s not my problem. Solutionist. Answers can and must be found” (Speth, 2008, p. 42).

Students and I have frank conversations about where we typically fall on this list and if our responses differ depending upon which sustainability issue we are considering. I ask them to compare their emotional responses to climate change to their emotional experiences during the COVID-19 pandemic, which allows us to unpack the ways different threats are perceived and how perceptions and feelings can change over time. Like many of us who are paying attention, students often say that they vacillate between paralysis, muddling through, and solutionist. As noted above, I find that many are increasingly forthright about their hopelessness, resigned to “not caring” because they feel ineffectual, believing nothing they could do would make a difference. Many insist that it is the responsibility of political leaders and large corporations to change course. Others continue to hope that the small changes we can affect as individuals matter, or that the sluggish pace of political action will be enough to avert catastrophe. Still, many are staunchly committed to leading lives at the forefront of change.

After an initial conversation, I introduce students to the language of climate grief, ecoanxiety, and solastalgia – all frames for understanding our emotional responses to the environmental changes we are witnessing. We talk about place attachment and environmental identity – how who we are is shaped by the places we love – to make sense of how personally threatening environmental change can feel. Glenn Albrecht coined the term solastalgia to describe “the pain experienced when there is recognition that the place where one resides and that one loves is under immediate assault ... a form of homesickness one gets when one is still at ‘home.’” (as cited in Smith, 2010, para. 5). Albrecht *et al.* (2007) also describe the feelings of powerlessness that so many students experience. They write, “People exposed to environmental change experienced negative affect that is exacerbated by a sense of powerlessness or lack of control over the unfolding change process” (p. 96). Exposure to these theories provides students a way to name their experiences. Many express a sense of validation and relief as their feelings are normalized in the context of socio-cultural phenomena. As we sit with this material, I often ask students to compose an environmental autobiography to unpack the ways they have been shaped by attachments to natural places and the threats they face. Their reflections are consistently deeply personal and impactful.

As we move through these discussions, I also provide evocative learning material to inspire connection through music, photography, and film. We begin with the trailer for the film *Albatross*, which depicts the toll ocean plastics are having on nesting colonies on Midway Island. Filmmaker Chris Jordan poses a question to frame the film which cuts to the heart of our discussions: “Do we have the courage to face the realities of our time and allow ourselves to feel deeply enough that it transforms us and our future?” (Current, 2018). We watch pianist Ludovico Einaudi’s (2016) *Elegy for the Arctic* performed in front of a calving glacier, and Judy Twedt’s (2019) *Connecting to Climate Change Through Music*. According to Twedt (2019), expressing data through art helps reduce information overload. These pieces also create space for students to discuss tactics to

inspire others to action when they are not compelled by data alone.

Finally, we turn to examples of individuals and communities modeling emotional resilience and taking action. I share climate justice educator [Kathy Jetñil-Kijiner's opening statement and poem at the United Nations Climate Summit in 2014 \(United Nations, 2014\)](#) and stories about the Pacific Climate Warriors, including the trailer to the film *Matagi Mālohi: Strong Winds* ([Woodward, 2020](#)). In providing these examples of resilience, I aim to show students a path forward from their feelings of denial, paralysis, and muddling through ([Speth, 2008](#)). Low-lying island nations and other communities on the frontlines of the climate justice movement are reframing the narrative, resisting definition as climate victims. Jetñil-Kijiner's poem to her daughter, Matafele Peinem, powerfully states, "No one's drowning, baby. No one's moving. No one's losing their homeland. No one's gonna become a climate change refugee.... Because, baby, we are going to fight. Your mommy, daddy, bubu, jimma, your country, and president, too.... And there are thousands out on the street marching with signs, hand in hand, chanting for change NOW. And they're marching for you, baby. They're marching for us. Because we deserve to do more than just survive. We deserve to thrive" ([United Nations, 2014](#)).

The Pacific Climate Warriors also reject the notion that their homelands are destined to disappear. In the film *Matagi Mālohi: Strong Winds*, climate justice activist Kevin Lionga Aipopo tells a crowd, "You are matagi mālohi. Strong winds' diligent children. Brown bodies molding brown minds. Moving between healer and warrior, formulating the visions of liberation for years to come. And to the rest of the world, we say: We are not drowning! We are fighting!" ([Woodward, 2020](#)).

In addition to providing moving examples of resilience, these stories allow us to unpack the myth so often used in Eurocentric framings that climate change is an existential threat the likes of which humans have never before faced. The scale of the threat may be unparalleled, but as [Kyle Whyte \(2017\)](#) reminds us, the Indigenous communities least responsible for greenhouse gas emissions and most vulnerable in their wake have long faced existential threats through colonization and extractive capitalism. He writes, "Climate injustice, for Indigenous peoples, is less about the specter of a new future and more like the experience of *déjà vu*" ([Whyte, 2017](#), p. 88). Recognizing the privilege inherent in the typical framing of climate change is an important step in validating the experiences of students who are members of minoritized communities and allows us to draw attention to the ways sustainability discourses often perpetuate marginalizing narratives.

### Climate change support groups

Prior to engaging students in the classroom, I worked as the program coordinator for the Student Sustainability Initiative at Oregon State University. Student leaders in this co-curricular program identified a need for conversations about climate anxiety and grief among the general student body. As advocates for climate neutrality at a large, bureaucratic institution, they

also had a unique perspective grappling with barriers to systemic change. They wanted to process their frustrations about institutional red tape and inertia, in addition to the challenges of motivating their peers to care and adopt behavior changes.

Student affairs programming provides another avenue for building community and a sense of belonging on university campuses to foster students' resilience. At Oregon State University, mental health professionals support student identity development as part of a robust co-curricular commitment to student success. Professionals from Counseling and Psychological Services (CAPS) provide support groups to address a variety of topics including interpersonal violence, grief and loss, parenting, and affinity groups for multiracial students, students with autism, and womxn of color. The Student Sustainability Initiative team decided to adopt the support group model as an informal way to connect with students struggling with mental health challenges related to their sustainability work and studies. Student leaders approached Dr. Emi Sumida Brown, a licensed psychologist at CAPS, and together, we created a space to share our emotional responses to the climate crisis.

We hosted weekly, hour-long, drop-in meetings, which students and faculty could attend once or on an on-going basis. Our goals were to support students in developing emotional resilience, recognizing the challenges of self-authorship and identity development in a historic period of change and uncertainty, and to create space for authentic conversations about stress, ecoanxiety, and other emotional issues. Participants identified as sustainability leaders and students majoring in disciplines related to climate change or environmental science. Most students said that they came to the group seeking strategies to navigate the day-to-day stresses of college life while maintaining perspective on global catastrophes. Perhaps unsurprisingly, the group drew the largest number of participants on the day the federal government announced that the U.S. would be withdrawing from the Paris Climate Agreement. Participants reported that they experienced many of the same emotional responses highlighted in the section above. Students studying environmental sciences expressed worry that it is too late to turn the tide. In addition, they said that they feel alone in their anxiety about the future when surrounded by classmates and faculty who don't talk about the emotional gravity of the situation we are in. They stressed the importance of spending time with other people who care about climate change. And student leaders used the space to process their stress and emotions related to their roles on campus working for culture change.

The partnership between sustainability faculty and psychological staff was key to the program's effectiveness. I was able to offer information about the science and political responses to climate change, while my colleague from CAPS provided mental health strategies and support. We collaborated using a dynamic facilitation style, and students took the lead in directing the conversation. As a facilitator who is eager to dive deep, a key take-away from the experience for me was learning to meet students where they are. As noted above, they often came seeking practical strategies for stress management. Many lacked the

vocabulary to articulate the complexity of their emotions. We offered guiding questions as needed, but it took time and an investment in trust building before we could help them think through questions relating to their identities and how their future careers would be shaped by conditions that could continue to impact their mental health and well-being.

## Conclusion

Sustainability educators have opportunities to have a profound influence on students that will ripple into their communities. Using affective pedagogy strategies and creating space to have authentic conversations enables us to build long-term relationships with students and support their development into effective and resilient change makers. It is crucial that we find the courage to engage students emotionally as they struggle to comprehend the significance of the climate crisis and define their roles building a resilient future.

I urge faculty who teach emotionally impactful topics to create space for students to talk about their reactions to the material. Oftentimes, students say that the most important outcome of their sustainability classes is being with other people who care. Yet, I acknowledge that there are challenges and risks to doing this work. In the U.S. context, sustainability issues are often politicized along party lines, and conversations should be facilitated so that no one feels attacked or excluded based on assumptions that everyone in the room shares a common perspective. What's more, I have found that students often struggle to articulate their emotions, so they may express blame and resentment rather than grief, anger, or feelings of powerlessness.

I am not a psychologist, and at times I feel like I am opening Pandora's box when I invite these conversations in my classes. But as I see it, stepping into my discomfort leading these conversations models the vulnerability and risk taking that I am asking of my students. I make sure to offer further resources for support from trained professionals as needed. More often than not, there is a palpable sense of gratitude and relief in the classroom when we can all show up to class as our authentic, fully human selves.

## Data availability

No data are associated with this article.

## Acknowledgments

I would like to express deep gratitude to Dr. Emi Sumida Brown, who co-facilitated Oregon State University's Climate Change Support Group, and the student leaders who recognized a need on campus and created the space to address it: Kat Crane, Graham Shaw, and Taylor Bennett. Thanks to all who participated in the support group and to all of the students who have had the courage to share their emotional experiences in our classrooms. I am also grateful to Deanna Lloyd, who models vulnerability and emotional intelligence in her teaching and supports my growth in this work. Thank you to EAUC - The Alliance for Sustainability Leadership in Education for creating an inspiring collaborative environment to share these strategies and learn from colleagues at the 2019 Influence Conference. And finally, thanks to Will Wright, who cared for my daughter while I attended the conference.

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# Open Peer Review

Current Peer Review Status: ? ?

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## Version 1

Reviewer Report 12 October 2021

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**Thomas Doherty**

Sustainable Self, LLC, Portland, OR, United States

Greetings,

This is well written and informative. I think the proposed students supports are helpful and should have wider uptake. To add for this paper and/or for going forward.

I recommend that you begin with having students explore positive emotions re. nature and other species and how this influences their self concept (e.g., "environmental identity"). Use a time line exercise to elicit key life experiences. After working with and strengthening positive emotional "muscles" then introduce work on more troubling eco-emotions, starting with more easier to cope with issues before exploring deeper more existential issues. Do not just go with topics; you can plunge people into despair if they are not prepared. Often the most pressing topic is also most distressing. Don't fall into that. Urge students to pace themselves. Think of this as emotionally-intelligent environmental education.

The paper would be stronger with quotes or anecdotes from students. Which topics were most distressing. What was said in groups that was helpful.

Another main connection on campus is with the student mental health or counseling center. If students are distressed by eco-issues, or too over whelmed by other issues in other areas to take on eco-issues, than they would likely benefit from support. Consider partnering with mental health providers on campus to create coping groups using easy to understand coping skills for anxiety or depression.

Good luck!

**Is the background of the case's history and progression described in sufficient detail?**

Yes

**Is the background of the case's history and progression described in sufficient detail?**

Yes

**Is the work clearly and accurately presented and does it cite the current literature?**

Yes

**Is the work clearly and accurately presented and does it cite the current literature?**

Yes

**If applicable, is the statistical analysis and its interpretation appropriate?**

Not applicable

**If applicable, is the statistical analysis and its interpretation appropriate?**

Not applicable

**Are all the source data underlying the results available to ensure full reproducibility?**

Yes

**Are all the source data underlying the results available to ensure full reproducibility?**

Yes

**Are the conclusions drawn adequately supported by the results?**

Yes

**Are the conclusions drawn adequately supported by the results?**

Yes

**Is the case presented with sufficient detail to be useful for teaching or other practitioners?**

Yes

**Is the case presented with sufficient detail to be useful for other practitioners?**

Partly

**Is the argument information presented in such a way that it can be understood by a non-academic audience?**

Yes

**Does the piece present solutions to actual real world challenges?**

Yes

**Is real-world evidence provided to support any conclusions made?**

No

**Could any solutions being offered be effectively implemented in practice?**

Yes

**Competing Interests:** No competing interests were disclosed.



**Reviewer Expertise:** Clinical psychology and climate change

**I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard, however I have significant reservations, as outlined above.**

Reviewer Report 09 September 2021

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**Panu Pihkala** 

University of Helsinki, Helsinki, Finland

Instructor Jenny Myers raises up very important points in this case study. Students are emotionally distressed by the horrors of the contemporary ecological crisis, and there has of yet been too little support for them in facing this. Myers tells of a multidisciplinary methodology where students have been offered such support, both through cognitive processing and affective methods. The case study brings a valuable contribution to research and public discussion, and it joins a rapidly growing international movement of research and action on related themes. It is exactly the task of referencing this existing research, which I see as the main need for improvement in Myers' otherwise high-standard text. I do not believe that Myers is intentionally omitting the references which discuss the very same issues – that would be highly problematic. Instead, my hypothesis is that Myers simply has not yet been aware of this relatively new but already significant branch of research, and thus the references are lacking. I warmly welcome Myers to contribute also in the future to this international movement, and below I offer some suggestions and recommendation about linking this case study more firmly with it.

Perhaps the easiest way to access the growing literature and action related to supporting students amidst the ecological crisis is the Existential Toolkit for Climate Justice Educators website. The movement behind this website also organizes webinars and produces materials for education. Please see [www.existentialtoolkit.com](http://www.existentialtoolkit.com). Many of the authors of related research, which I will mention below, have taken part in this movement.

Myers approaches the subject matter by engaging primarily with prosaic literature and interviews, such as those by Terry Tempest Williams, Tim DeChristopher, and Gus Speth. These discussions could be linked also with research that probes the very same issues. That way, the author would also be supported by other voices and an emerging research tradition in the arguments. There are many studies that could be cited, but I strongly recommend to integrate at least the following:

Ojala, M. Facing anxiety in climate change education: from therapeutic practice to hopeful transgressive learning. *Canadian Journal of Environmental Education* 2016, 21, 41-56<sup>1</sup>.

Ray, S.J. Coming of Age at the End of the World: The Affective Arc of Undergraduate Environmental Studies Curricula. In *Affective Ecocriticism: Emotion, Embodiment, Environment*; Bladow, K.A.; Ladino, J., Eds.; UNP: Nebraska, 2018; pp. 299-319<sup>2</sup>.

Wallace, R.L.; Greenburg, J.; Clark, S.G. Confronting anxiety and despair in environmental studies and sciences: an analysis and guide for students and faculty. *Journal of Environmental Studies and Sciences* 2020, 10, 148-155<sup>3</sup>.

Pihkala, P. (2020). Eco-anxiety and Environmental Education, *Sustainability* 12:23, 10149; <https://doi.org/10.3390/su122310149><sup>4</sup>.

In addition, the emerging work of Blanche Verlie would be especially useful.

When discussing the challenges of universities in the vein that the author does, a brand new article summarizes many earlier propositions: *Renewing Universities in Our Climate Emergency: Stewarding System Change and Transformation*, Fazey et al. 2021, <https://www.frontiersin.org/articles/10.3389/frsus.2021.677904/full><sup>5</sup>.

When discussing art-based methods, the research literature in eco-criticism and environmental humanities where similar methods have been used could be referenced. See, for example,

Bladow, K.A.; Ladino, J., Eds.; *Affective ecocriticism: emotion, embodiment, environment*; University of Nebraska Press: Lincoln, 2018<sup>6</sup>.

Siperstein, S.; Hall, S.; LeMenager, S., Eds.; *Teaching climate change in the humanities*; Routledge: London & New York, 2017<sup>7</sup>.

Some research literature about climate psychology support groups would also be good to be cited. See, for example, the articles by Wallace et al<sup>3</sup>. and Pihkala<sup>4</sup> mentioned above. Organizations working with climate psychology, such as the Climate Psychology Alliance and GoodGrief Network, are also providing such support and literature about it.

Overall, the case study is well written, and its substance is both valid and potentially impactful. The most important thing is that the author and colleagues have engaged in this work, and that the author has managed to share information about it to others via this case study. For academic credibility and impact, it is crucial to link the content more to existing research, as I have argued above. It is my sincere hope that these efforts would spread in educational institutions, and the author is to be commended about taking courageous initiatives further.

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**Is the background of the case's history and progression described in sufficient detail?**

Yes

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Yes

**Is the work clearly and accurately presented and does it cite the current literature?**

Partly

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Partly

**If applicable, is the statistical analysis and its interpretation appropriate?**

Not applicable

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Not applicable

**Are all the source data underlying the results available to ensure full reproducibility?**

No source data required

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No source data required

**Are the conclusions drawn adequately supported by the results?**

Yes

**Are the conclusions drawn adequately supported by the results?**

Yes

**Is the case presented with sufficient detail to be useful for teaching or other practitioners?**

Yes

**Is the case presented with sufficient detail to be useful for other practitioners?**

Yes

**Is the argument information presented in such a way that it can be understood by a non-academic audience?**

Yes

**Does the piece present solutions to actual real world challenges?**

Yes

**Is real-world evidence provided to support any conclusions made?**

Yes

**Could any solutions being offered be effectively implemented in practice?**

Yes

***Competing Interests:*** No competing interests were disclosed.

***Reviewer Expertise:*** eco-anxiety, education, emotion, environmental humanities

**I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard, however I have significant reservations, as outlined above.**

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