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Youth eco-consciousness and environmentalist identity development at a summer camp

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ABSTRACT

Developing youth eco-consciousness is a crucial step to resolving the climate crisis. Existing literature supports that immersive experiences like camps can change participants' understanding and connection to nature (Khanaposhtani et al., 2010). In the first author's work as an environmental educator at a youth camp in California, she collected qualitative data on how environmentally engaged learning affects eco-consciousness in youth. Through pre- and post-camp session surveys, interviews with participants, and field note observations, three major findings emerged. First, environmentally engaged learning has significant positive impacts on youth eco-consciousness, including shifts in attitudinal responses and behavior. Second, there is an inequitable distribution of environmental education in traditional K-12 schooling. Finally, youth today are increasingly aware of the severity of climate change, experiencing severe bouts of climate anxiety. These findings demonstrate the value of environmentally engaged education and how these experiences can create more eco-conscious citizens.

Keywords: eco-consciousness, identity development, eco-anxiety, youth, environmental education

INTRODUCTION

Developing youth eco-consciousness is a crucial step to resolving the climate crisis, and one that is quite often overlooked. Identity formation as an eco-conscious young adult can contribute to actions and behaviors. One way of assisting in this identity development is through environmentally engaged education and opportunities. Exposure to these experiences helps raise young people to be leaders in environmental stewardship and engage with sustainable practices and long-term lifestyles.

This paper contributes to answering the question: "How does environmentally engaged learning affect youth consciousness?" That is, in what ways does participation in environmentally engaged learning programs and activities affect young peoples' identity as environmentalists, how they view the world, and the actions and behaviors they exhibit. To answer this question, the first researcher on this study partnered with Catalina Island Camps (2022), an environmental education summer camp located on Santa Catalina Island in California. In her role as an environmental educator, she collected ethnographic data with young people spanning the ages of 12-15 years old. Through analyzing field notes, pre- and post-experience surveys, and interviews with multiple participants, this research demonstrates the significance of environmentally engaged learning on youth.

The findings of this study demonstrate how environmentally engaged learning experiences have a significant positive impact on the eco-consciousness of youth in many different forms. These experiences can be critical in the development of young people as environmentalists as is evidenced by participants' considerable shifts in eco-conscious attitudes and behaviors. This paper reveals the weight young people carry regarding the climate crisis and the ways environmentally engaged educational experiences, such as through this residential summer camp, can empower youth to act and develop themselves as environmentalists.

LITERATURE REVIEW

The importance of educational opportunities outside of the traditional classroom is not a novel idea. Existing literature supports that engaged and often informal educational experiences can lead to dramatic growth in participants. For example, researchers examining participants in a four-day immersive outdoor ecology and STEM camp found sensory-rich environments paired with a well-designed program and curriculum helped participants cultivate interest and acquire knowledge (Khanaposhtani et al., 2010). Breaking away from

the traditional classroom model allows students greater access to hands-on and experimental educational opportunities.

Drawing from identity research, the researchers considered ways in which participants navigated times and spaces that contributed to developing an identity of an eco-conscious young adult. We examined these experiences in terms of identity performances. Using the notion of identity performances, first established in gender studies (Butler, 1990), we determine that expressions of identity are "performatively constituted" (p. 25). We understand these identities as both what people say and do, and/or how they act in specific spaces and times. We also consider the ways in which these youth were performing identities at a camp focused on eco-consciousness and thus attend to the role of audience in these performances (Ressler & Blackburn, 2015). As we consider the notion of identity as being both fluid and fixed (Lewis & del Valle, 2009), we recognize that the development of an identity of an eco-conscious young adult has both temporal and potentially life-long reverberations.

If these opportunities are proven to encourage youth to engage in the STEM field, then it is very likely that these same opportunities can encourage youth to engage in the environment and act towards addressing the climate crisis. Environmental education is still crucial in traditional schooling. An ethnographic study followed high school students' identity changes as they progressed through an environmental studies course. Researchers found that factors such as emotional response, identity affirmation, and a willingness to critically reflect on new information all contribute to whether a student is likely to change their views towards the environment (Blatt, 2013).

While academic coursework is beneficial in eco-conscious identity development, alternative educational experiences also demonstrate many benefits to eco-conscious identity development. It is clear that students' attitudes and beliefs can be changed to reflect a more eco-conscious orientation through immersive experiences such as camps and fieldtrips (Farmer et al., 2007; Kruse & Card, 2004). Additionally, a quantitative study demonstrated that elementary "students' environmental knowledge, environmental sensitivity, intention, environmental attitudes and responsible environmental behaviors significantly increased" after participating in a Summer Environmental Education Program in Turkey (Erdogan, 2015). Furthermore, San Jose and Nelson (2017) demonstrated more broadly the significance of camps and other engaging educational experiences. Their study illustrated how after time spent at a four-day outdoor nature camp, youth participants demonstrated substantial gains in areas of connection to, knowledge of, and orientation towards nature. Children felt nature played a more significant role in their lives, had greater awareness of how their actions impacted the environment, and were more likely to act. Finally, Cheeseman and Wright (2020) demonstrated how changes were observed in both children and their parents after participating in an environmental education program. That is, the program encouraged the adoption of environmentally responsible behaviors, and children encouraged the adoption of these behaviors among their parents (Cheeseman & Wright, 2020).

In addition to the ways in which this education impacted both participant and family behaviors, learning how to take effective action is also shown to help combat climate anxiety, a mental health epidemic that is sweeping the world's youth. Young people already face a range of mental health challenge. For instance, an American Psychological Association (APA, 2018) report explained nearly half of teenagers surveyed reported being more worried than they were the year before. This data was prior to the pandemic, which has dramatically increased anxiety in adolescents. Even as the pandemic subsides, the climate crisis (or the adolescents' perception of it) escalates and serious mental health consequences can be expected in our youth (Grauer, 2020). Climate change can result in feelings of anxiety, pessimism, helplessness, loss of control, stress, grief, and guilt. The mental health challenges tied to climate change are already so prevalent that the APA (2018) has designated "climate-related despair" as a distinct mental health condition. A landmark study surveying thousands of 16-25-year-olds found that climate change is causing distress, anger, and other negative emotions so severe that respondents' report it impacts their daily lives and is partly caused by the feeling that governments are not doing enough (Thompson, 2021).

But there is hope. According to Dr. Dianna Saxe, the former Environmental Commissioner of Ontario, education is one of the most important tools we have to mitigate climate change (Acton & Saxe, 2020). Dr. Saxe explained that students have more influence than they realize and acting is a critical step to lessening feelings of eco-anxiety. Furthermore, an immense disservice is done to youth if policymakers and educators do not make environmental education a priority and make sure students are equipped with the knowledge and tools to act (Acton & Saxe, 2020). It is incumbent that adults provide spaces for learning, autonomy, and agency. With this education, adolescents can move from a position of feeling helpless to drawing from an identity as a change-agent in the climate crisis.

This research is focused on how engaged experiences at Catalina Island Camps (2022) contribute to the understanding of youth emotional response to the environment and assists in positively impacting youth development through increased awareness and knowledge of actionable steps. In sum, this educational experience fosters the identity development of adolescent change-agents.

METHODS/METHODOLOGY

This qualitative study draws from ethnographic methods and uses constructivist grounded theory (Charmaz, 2014). This model is most appropriate for this study, as it is useful for critical qualitative inquiry. The practice of emergent critical questioning through inquiry emphasizes the importance of the use of surveys. The methodological self-consciousness is utilized in both the semi-structured interviews and field note observations. Both these aspects of constructivist grounded theory provide the model that informs this work. Thus, three methods of data collection were utilized for this study: field observation notes, pre- and post-session surveys, and interviews conducted towards the end of their session time.

Appendix A shows survey questions. **Appendix B** shows interview questions.

This research was collected from June 10 to August 17 of 2021 on Santa Catalina Island in California. The first researcher was a counselor at the camp. The participants were campers who attended two-week long sessions and were assigned to that researcher's cabin. The campers were between 12 and 15 years old. Each session consisted of five-seven campers per cabin, per session. There were four different sessions throughout the summer. The total participant pool consisted of 25 campers (**Appendix C**).

Several safeguards were in place to ensure the rights and welfare of the participants (children) were protected. The parents of each participant provided passive consent prior to their child's participation in the study. The participants themselves also assented to the study. No parent or participant decided to opt out of the study, though they were given the option before, during, and after the study. Additionally, all participants were given pseudonyms, all records and data were kept in a locked safe during the data collection process, and all electronic records were kept in a password-protected drive, which only the researchers have access to.

Data Analysis

After the initial data collection on site was complete, all interviews were transcribed with the support of digital software. As each transcript was reviewed, analytic memos were made and quotes depicting strong patterns in the data were identified and coded. This process continued as all surveys and field notes were transcribed into a digital format by hand. Consistent and pervasive themes (e.g., climate anxiety, positive impact of camp, access to environmental education in traditional schooling) were identified from these memos and quotes. Data was triangulated from these data sources, and the themes were organized into a comprehensive codebook. An extended data corpus can be found in **Appendix D**.

Research Setting

Catalina Island Camps (2022) was chosen for this study because of their philosophy and practices that extend into the experience of the campers. Their mission statement is to develop "life-long skills through fun and unique outdoor experiences in a community that cultivates respect for self, others, and the environment" (Catalina Island Camps, 2022). This mission statement is put into practice in many ways, the main one being that the well-being of the environment is at the forefront of every activity campers experience.

There are a few concrete examples most referenced by campers that reflect how this mission statement is implemented into practice. Composting occurs at every meal and campers experience making soil from the compost in the garden each session. Everyone, including staff, is limited to three-minute showers to help conserve water. The island is exceptionally susceptible to drought and water conservation is implemented across the camp in addition to showers, like washing dishes and watering plants in the garden. On the waterfront, campers are taught not to take shells from the beach because it can be used as a home for another organism. Before overnight hikers, campers are taught the "Seven no trace policies" in accordance with the Catalina Island Conservancy. Regular trash sweeps are conducted across campsites to ensure waste and pollution is kept to a minimum. The garden is made of mostly repurposed and recycled materials for growing and structure, which campers reflected on often. Finally, there is an emphasis on leaving the environment better than it was found.

Catalina Island Camps (2022) also take sustainability measures that are not explicitly taught to campers but are covered in staff training. The camp cleans waterfront equipment using dunk tanks as opposed to hosing off equipment. That water is then poured down a French drain, which filters the water through rocks and returns it to the water table. Sinks and showers are operated by on-command buttons and pull-string shower heads, so water only runs when necessary. All soap is biodegradable, and laundry is done in quick wash cycles. The garden uses drip irrigation and rainwater collection and native plantings that are drought resistant and require less watering. All of these practices are put in place to conserve water. In sum, Catalina Island Camps (2022) works in every facet to be as environmentally sustainable as possible and to pass on lessons of how to live sustainably to staff and campers.

FINDINGS AND DISCUSSION

Three major findings emerged from the data collected over the four sessions. First, environmentally engaged learning programs and activities like this summer camp have a significant positive impact on the eco-conscious identity of participants into environmental stewards. Second, while environmental K-12 schooling participants received was seen as largely insufficient by participants, the camp works to supplement that education. Third, young people experience climate anxiety, and engaged educational experiences mitigate some of that anxiety by leveraging agency and autonomy.

Positive Impact of Environmentally Engaged Learning

The very first stated outcome Catalina Island Camps (2022) aspires to meet is "campers will develop a positive identity." Through the time spent and data collected during this ethnographic study, it is clear that there was positive identity development, especially in terms of becoming increasingly eco-conscious from the start of their experience to the end. Overall, participants expressed that they apply the skills and ideas they have learned at camp to their lifestyle back home. There were two major shifts in eco-consciousness that can be identified through this data: changes in attitude and changes in behavior.

Attitude

A significant shift in identity to be more eco-conscious was not only seen in the way participants thought about the environment and addressed their attitude towards the environment, but in the way they saw themselves as change-makers. There is an overarching theme of increased awareness, appreciation, and interest.

Many participants reflected on their newfound outlook on nature after their time spent on Catalina Island. Improved emotional wellbeing after time spent in nature was a prominent outcome. For example, one participant referred to the ocean as her "happy place" and stressed that she would like it to "not get destroyed at the hands of humans" (Melaney, survey). Melaney has a positive emotional connection to nature that is shared by many, as a recent study showed that youth reported feeling better both physically and mentally after spending time in nature (Zamora et al., 2021). Another participant described her anecdotal connection to research on nature and well-being as she shared, "nature is super cool and there's been a study that nature makes people feel better and [...] it makes me feel better" (Sally, interview). Other participants reported similar positive emotional responses such as happiness throughout their time on the island. During a hike, one participant said, "especially after being here on Catalina Island ... I definitely want to move out of the city ... because I feel much happier in nature" (Geneva, interview). The connection to the environment was an initial piece to shaping the participants' positive identities as environmental stewards.

The "city" being referred to is Los Angeles, which is home to many of the participants. Most participants were from Los Angeles, or other heavily populated areas, and reflections were based on how participants felt at camp as compared to their day-to-day lives in urban areas. One participant shared, "I think that when I'm in nature, I feel very connected to it. But when I'm living in say, when I'm in Taipei or like a big city or something, I feel a lot more disconnected because there's not as much nature around. I do not really feel part of it" (Sarah, interview). The juxtaposition of feeling strong connections to nature when spending time in designated nature or wilderness areas and disconnected from nature in urban areas is shared by others. Another participant said, "I always look forward to going to nature because our modern world is, like, toxic (laughs) and full of technology that is unwanted, and escaping is nice" (Layla, interview). The feeling that our modern world is toxic and full of unwanted technology is likely heightened by the participants' experiences with online schooling during the COVID-19 pandemic, which was still occurring at the time of camp.

These affections toward nature led in many ways to eco-conscious identity development, and participants discussed ways in which they felt more or less connected depending on external factors. Feeling like they are a part of nature was heavily discussed. One participant shared, "When I'm in nature, like camping, I still have all of my ... technology and chip bags and whatever. So it's like ... I feel like not really part of the environment; I feel like I'm visiting the environment" (Layla, interview). The awareness of one's negative impact on the environment was heightened by others as well. One participant stated, "I know that I affect the environment with almost everything I do. And I feel like there's especially some moments where I'm just like sitting there and I'm like, wow. In the grand scheme of things, I myself am not a lot, but I can affect every little thing" (Maria, interview). Recognition of one's ability to impact the environment positively or negatively is a prominent result of participants who engage with educational learning settings like camp (Cheeseman & Wright, 2020).

The impact of continued participation in these programs reinforces the ways in which eco-consciousness can be changed with experiential learning. A returning camper participant shared, "I definitely, I came back with more knowledge than I had when I got here" (Miranda, interview). The joy of learning about the environment emerged throughout the data. One participant recalled a specific impactful learning moment when she said, "like when we were stand-up paddleboarding and you told us all about the kelp forest and stuff and how much it helps the environment" (Geneva, interview). This speaks to the ways in which knowledge acquisition within engaged experiences can have particularly profound impacts on growth and identity development. Another camper shared "just [from] being at camp...you learn about so many cool things and it just ... makes everything more interesting, too" (Ophelia, interview). Overall, participants reported feeling happier in nature and increased sense of wonder and curiosity after time spent on the island. These feelings of wonder are not just feelings but are translated into behaviors that supports young peoples' identity development as environmental stewards.

Behavior

This study views behavior as a change in action or a desire to change an action that was not previously observed. Examples of behavior include regular lifestyle habits and practices both at camp and in their life at home. Through surveys, participants were asked how willing they were to change their habits in order to become more eco-friendly. One camper expressed, "I'm very willing to change my habits because camp shows that it's not too hard to change your habits and help the environment" (Ophelia, survey). This highlights the fact that camp allows participants to put these ideas into practice so that eco-friendly habits are well on their way to being formed upon their return to their regular lives and the identity of being an environmental steward is normalized.

Several participants expressed the ways in which they would implement the skills they had learned. One participant shared, "I want to ... make my house eco-friendlier and ... a better house. I do not want to see camp go away because of people that are not doing their role" (Emily, interview). Specific areas of learning such as the camp garden shine through when examining changes in behavior of the participants. One participant expressed, "especially ... in the garden specifically, just like watching how...everything is mostly ... reused and ... repurposed, and like not wasteful at all. Like if I could just learn those things and bring it back home ... I could be wasting so much less" (Ally, interview). Ally demonstrates here how camp has influenced her desire to change behaviors. Additionally, in her work to "bring it back home" the more developed identity of an environmental steward can influence others outside of camp, in this case Ally's family.

An especially interesting example of anticipated changes in behavior as a result of the camp experience is seen when comparing the survey responses of one participant from the start of their session to the end. When asked questions like, "how confident are you in your ability to explain humans' role

in climate change?", the response changed from ranking a three out five with an explanation of "because I'm not an expert" to a five out of five, stating that "I'm pretty confident because humans play a huge role in climate change." This evidence shows that campers are increasing in their environmental awareness as they progress through these programs. This type of pattern of responses was typical among campers.

Participants who have returned to this camp for multiple summers offer a unique perspective as they reflect on how camp has shaped them over the years. One participant shared, "as long as I've been here, you know, I pretty much … every year I still, like, figure out new things. Especially like this being … my second home … I'm always trying to stay conscious of like water usage or pollution" (Melaney, interview). As participants return to camp each summer, there is support that their eco-consciousness continues to develop and be reinforced by these environmentally engaged learning experiences and their identities as environmental stewards become increasingly fixed. Melaney's description of camp as a "second home" demonstrates that it has become a part of not just a lived experience, but a place that shapes who she is - a place that holds significant emotional meaning with an established sense of belonging. This sense of belonging and emotional attachment have the potential to extend beyond the camp itself and into nature and the environment as a whole, which can lead to more environmental awareness and action.

Inequitable Distribution of Environmental Education

Another significant theme that emerged from the data was the stark contrast between different participants' access and experience with environmental education in current traditional K-12 schooling. Connected to this discovery was that though formal educational experiences were seen as largely insufficient by participants, the camp works to effectively supplement that education. For example, there were two participants in session two who went to school in Berkeley, CA and another participant who went to school in Dallas, TX. When reflecting on their experience with environmental education in their lives so far, they shared drastically different stories.

All three of these participants were asked if they feel they are taught enough about the environment in school. One of the participants from Berkely shared, "Yes. Probably too much. I'm from Berkeley" (Layla, interview). When asked to elaborate, she explained, "We literally do things like every single week about climate change. We raise so much awareness. There's been marches, strikes, like I know so much about like … there's been endless committees, performances … about it. And everyone in Berkeley is super conscious of it." She went on to reflect on the lifestyle of the Bay Area, where people bike everywhere, there is excellent public transit, and "everything" is set up to try and create less waste. Her peer and fellow classmate from Berkley shared similar experiences. When asked the same question, she responded, "We do a lot … every day and every single week we do like a slideshow and we learn about it in … like Spanish class and regular classes and science class and advisory … and we do strikes and stuff" (Suzie, interview). Suzie went on to share that climate and environmental education is present in all aspects of her education, not just in one specific science class. Their experiences highlight the idea that being raised in an eco-conscious community significantly develops young people as environmentalists and sustainable practices and environmental education are seen as normal rather than remarkable.

The participant from Dallas had a different story. When asked if she felt she was taught enough about the environment in school, she said, "No. Honestly, no. It's only gone over about, like, once a year during like Earth Day. You watch like a really sad video about drowning animals. I'm like, 'Oh no!' 'Anyways, back to our planned scheduled television show.' You know? It's just never talked about" (Tanya, interview). This lack of acknowledgement for climate change as well as general environmental education reflects a community that is not eco-conscious, and thus is not likely to foster young peoples' interest in the environment.

Inequitable distribution of environmental education is not just an issue from state to state; it can be seen within the same city. As previously mentioned, most participants were from Los Angeles. Though they were from the same city, participants reported very different experiences when asked about their exposure to environmental education in their K-12 schooling.

In some cases, participants did feel like they were receiving sufficient environmental education. Some participants were able to take an environmental studies class and that fostered their interests. One participant reported, "I just took environmental science, so the whole year was learning about the environment. And I learned a lot from that, and I really loved my science teacher, too" (Ava, interview). Other participants reported the ways in which their schools support student climate activism. One participant shared, "like when Greta Thunberg was doing the … Friday protests … they supported people and they're like, 'yeah, if you want to do it … then we'll do it after lunch, and they really try and support us and what we believe in" (Maria, interview). This kind of support for action is crucial in empowering young peoples' voices and encouraging them to create change.

However, this support was not present in other participants' schools. Many participants reported they felt as though their schools did not understand the significance of climate change and were frustrated by their lack of action and educational opportunities. For example, when asked if she felt they were taught enough about the environment, one participant stated, "No! Not at all! I go to … a really progressive school and we still are not taught that much unless you're in like an environmental science class, which is … stupid … cause it's a really important topic" (Evelyn, interview). A lack of climate action or sharing of knowledge on how to take climate action, was also reported often. One participant said, "I feel like we really do need to be … taught more. Because I feel like they…never really put anything to action" (Sasha, interview). Another participant expressed, "I feel like we're not really taught [how to make positive or negative changes], and that would probably really … help save the earth" (Zoe, interview).

As we can see, these participants express drastically different experiences with environmental education not only across the country, but across the same city. Lack of

environmental education stunts young peoples' development of their identities as environmentalists. Thus, opportunities, such as camp, are important in filling the gap and empowering youth to develop a stronger identity as environmental stewards. Knowing about the environment and how to take actionable steps not only creates more eco-conscious citizens, but it helps ease eco-anxiety, which turns out to be remarkably prevalent.

Climate Anxiety and Awareness of the Severity of Climate Change

The third prominent theme that emerged from the data is the intense feelings of climate anxiety shared by most participants. As the data was organized, the worries and concerns of our young people are palpable, accompanied by anger and frustration towards companies, governments, and older generations for the state of the natural world. Interestingly, this sweeping experience of eco-anxiety was also met with a deep sense of responsibility to save the planet for future generations.

The surveys show the most prominent distress signals of the three areas of data collection. To start, participants wrote, "I often get anxious about climate change just thinking about it" (Miranda, survey), and "I am extremely worried. If humans keep going in the direction that we are- we are doomed" (Maria, survey). The worries continued as results came back throughout the summer, with statements like, "[t]he environment is literally our home, and it's being destroyed, so of course I'm worried" (Geneva, survey), and "[g]lobal warming and climate change are really terrifying, and I want to try my best to reduce the effects in the future" (Evelyn, survey). A general feeling of dread twisted with determination was the major emotion from the majority of participants. Participants were very clearly articulating both the climate anxiety they were experiencing and the deep desire to be a part of the solution.

In addition to feeling great anxiety for themselves and the current status of the planet, there was remarkable concern for the sustainability of our planet for future generations. The following comments explored this aspect of concern:

> "The climate is changing a lot, so it's definitely alarming and it's really concerning when wondering what's going to happen in the future" (Geneva, survey).

> "I want to help it because I feel like the generations after us will not get to see it if we do not do something about it now" (Sasha, interview).

> "There are so many future generations to be had and it's getting to a point to where it's … how many more are left? There's like, there's literally a countdown until … it's no more, you know, that should not even be a thing" (Tanya, interview).

> "Well-I do not want to die young … the next generation does not want to die young and the planet that we have been so awful to, or the old people have been so awful to … I do not want to watch it die and collapse around me because of things I did not do" (Evelyn, interview).

While these participants are often viewed by older generations as the future, an interesting aspect of their comments was that they were bypassing their timeline and looking even further ahead. The testimonies from the participants are impactful on their own but become particularly impactful when remembering that these quotes are from youth who were 12-15 years of age. These statements are snippets of what many youth are feeling. The good news is that acting is proven to help lessen eco-anxiety (Acton & Saxe, 2020), and this study demonstrates that camp and other engaged learning programs teach participants realistic actions they can integrate into their lives to give them a sense of autonomy and pride in contributing to the solution to this crisis. While camp is not the only solution, the development of eco-consciousness *and* the identities as environmental stewards and activists, engaged experiences such as camp can lead to increased agency and reduced anxiety.

CONCLUSION

This research works to address the ways in which youth eco-consciousness can be affected by environmentally engaged learning opportunities. Through the participant's two-week program on Catalina Island, they experienced drastic shifts in their eco-consciousness. First, not only was there a positive shift in attitude towards the environment, but there was a clear desire to change their behavior in order to become more sustainable. Many of the desired behavior changes are habits that are embedded in them during their camp experience (composting, limited water usage, respect for the ecosystem, etc.) and inspire participants to continue these habits in their home lives.

Secondly, it is apparent that there is an inequitable distribution of environmental education in the participants' lives outside of camp in the K-12 schooling system. There were drastic differences when examining the experiences of participants who are from different states. But even more importantly, there were clear gaps in environmental education between participants who lived in the same city. A participant's exposure to this kind of education in regular K-12 schooling is proven to significantly impact how young people value the environment, and what kind of sustainable or unsustainable practices they will adopt in their adult life. Until there are more concerted efforts to increase environmental educational experiences in all schools, engaged experiences similar to the one summer camp provides are critical to bridge the gaps.

Finally, the state of the planet is having a severe impact on the mental wellbeing of participants. All participants, while some more than others, expressed some kind of worry, concern, and/or anxiety about the climate crisis. Many experience climate anxiety and a deep burden to fix a mess that they themselves had no part in making. There is also an intense responsibility to preserve the planet for future generations. With the education that the camp provides, participants felt an increased level of agency as well as a stronger identity as environmental stewards and activists.

While this study only examines one camp program for one summer, the results show how these environmentally engaged

learning experiences are significant to young people. Climate anxiety is characteristic of this generation that needs to be mitigated. Gaps in environmental education opportunities need to be closed. And access to and engagement in environmentally engaged learning opportunities can be a part of the broader solution of not just developing eco-consciousness but also developing change-agents.

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REFERENCES

Acton, K. S., & Saxe, D. (2020). A discussion of critical issues in environmental education: An interview with Dianne Saxe. *Journal of Philosophy of Education, 54*(4), 808-816. https://doi.org/10.1111/1467-9752.12460

APA. (2018). Stress in America: Generation Z. *American Psychological Association*. https://www.apa.org/news/press/releases/stress/2018/stress-gen-z.pdf

Blatt, E. N. (2013). Exploring environmental identity and behavioral change in an environmental science course. *Cultural Studies of Science Education, 8*(2), 467-488. https://doi.org/10.1007/s11422-012-9459-2

Butler, J. (1990). *Gender trouble: Feminism and the subversion of identity*. Routledge.

Catalina Island Camps. (2022). *The Catalina Island Camps mission.* https://catalinaislandcamps.com/about-cic/our-mission/

Charmaz, K. (2014). *Constructing grounded theory* (2nd Edn.). Sage.

Cheeseman, A., & Wright, T. (2020). Perspectives from parents: An investigation of the longer-term benefits of an earth education summer camp program. *Applied Environmental Education and Communication, 19*(2), 117-128. https://doi.org/10.1080/1533015X.2018.1530621

Erdogan, M. (2015). The effect of summer environmental education program (SEEP) on elementary school students' environmental literacy. *International Journal of Environmental & Science Education, 10*(2), 165-181.

Farmer, J., Knapp, D., & Benton, G.M. (2007). An elementary school environmental education field trip: Long-term effects on ecological and environmental knowledge and attitude development. *The Journal of Environmental Education, 38*(3), 33-42. ttps://doi.org/10.3200/JOEE.38.3.33-42

Grauer, S. R. (2020). Climate change: The thief of childhood. *Phi Delta Kappan, 101*(7), 42-46. https://doi.org/10.1177/0031721720917541

Khanaposhtani, M. G., Liu, C. J., Gottesman, B. L., Shepardson, D., & Pijanowski, B. (2018). Evidence that an informal environmental summer camp can contribute to the construction of the conceptual understanding and situational interest of STEM in middle-school youth. *International Journal of Science Education, Part B: Communication and Public Engagement, 8*(3), 227-249. https://doi.org/10.1080/21548455.2018.1451665

Kruse, C. K., & Card, J. A. (2004). Effects of conservation education camp program on campers' self-reported knowledge, attitude and behavior. *The Journal of Environmental Education, 35*(4), 33-45. https://doi.org/10.3200/JOEE.35.4.33-45

Lewis, C. & del Valle, A. (2009). Literacy and identity: Implications for research and practice. In L. Christenbury, R. Bomer, & P. Smagorinsky (Eds.), *Handbook of adolescent literacy research* (pp. 307-322). The Guilford Press.

Ressler, M. B., & Blackburn, M. V. (2015). Academic consequences of performing for friends in English Language Arts classrooms: The significance of culture and language In Thomas, P., & Takayoshi, P. (Eds.), *Literacy in practice: Writing in private, public, and working lives* (1st Edn.). Routledge. https://doi.org/10.4324/9781315668369

San Jose, A. L., & Nelson, K. E. (2017). Increasing children's positive connection to, orientation toward, and knowledge of nature through nature camp experiences. *International Journal of Environmental and Science Education, 12*(5), 933-944.

Thompson, T. (2021). Young people's climate anxiety revealed in landmark survey. *Nature, 597*, 605. https://doi.org/10.1038/d41586-021-02582-8

Zamora, A. N., Waselewski, M. E., Frank, A. J., Nawrocki, J. R., Hanson, A. R., & Chang, T. (2021). Exploring the beliefs and perceptions of spending time in nature among U.S. youth. *BMC Public Health, 21*(1), 1586. https://doi.org/10.1186/s12889-021-11622-x

APPENDIX A: SURVEY QUESTIONS

Opportunity to assent: By completing this survey, you are agreeing to participate in this research. This research is aimed to discover how an immersive, environmentally-focused experience can impact young peoples' eco-consciousness. You are free to leave this study at any point. There is no risk to you as a participant in this research.

Name:

1. How much do you know about climate change (scale of 1-5)? Explain.
2. How confident are you in your ability to explain humans' role in climate change (scale of 1-5)? Explain.
3. How concerned are you about the environment (scale of 1-5)? Explain.
4. How much does your concern impact your daily decisions (scale of 1-5)? Explain.
5. How willing are you to change your habits to lower your environmental impact (scale of 1-5)? Explain.
6. How much do you agree with the following statement: Humans, including myself, play an active role in nature, and the environment (scale of 1-5)? Explain.
7. How likely are you to talk to your family and friends about protecting the environment (scale of 1-5)? Explain.
8. On a scale of 1 to 10, how confident would you feel explaining the importance of each of the following environmental topics with detail?
    a. Climate change
    b. Recycling/waste management
    c. Air pollution
    d. Water pollution
    e. Composting/gardening
    f. Clean energy
    g. Environmental impact on human health
    h. Environmental justice

APPENDIX B: INTERVIEW QUESTIONS

1. What's your name?
2. Where are you from?
3. How old are you?
4. What grade will you be in in the fall?
5. Do you have an interest in nature, wildlife, or the environment? Why or why not?
6. Do you view yourself as part of nature or part of the environment? Why or why not?
7. Do you feel like you're taught enough about the environment in school? Why or why not?
8. Do you know about climate change? Can you tell me what you know about it?
9. Do you think protecting the environment is important? Why or why not?
10. Do you do anything eco-friendly or good for the environment at home? Tell me about it.
11. Is there anything you've learned or any experiences you've gained from camp that you want to take and apply back home? Tell me about it.

APPENDIX C

Table C1. Participant demographics data

Name	Session	Age	Location	Grade entering in Fall	Presenting race/ethnicity	Pronouns
Session 1 participants (n=7)						
Andrea	1	13	Los Angeles	Eighth grade	White	She/her
Sarah	1	13	Los Angeles	Eighth grade	White	She/her
Miranda	1	13	Los Angeles	Eighth grade	White	She/her
Sally	1	13	Los Angeles	Eighth grade	Asian (Thai)	She/her
Emily	1	12	Los Angeles	Seventh grade	White	She/her
Lauren	1	13	Los Angeles	Eighth grade	White	She/her
Katherine	1	13	Los Angeles	Eighth grade	White	She/her
Session 2 participants (n=6)						
Layla	2	14	Berkley	Freshman	White	She/her
Sasha	2	14	Ontario Montclair, CA	Freshman	Mixed race (partially Black)	She/they
Izzy	2	14	Los Angeles	Freshman	White	They/them
Suzie	2	14	Berkley	Freshman	White	She/her
Tanya	2	14	Dallas, TX	Freshman	Mixed race (partially Asian)	She/they
Ally	2	14	Los Angeles	Freshman	Hispanic/Latina	She/her
Session 3 participants (n=7)						
Evelyn	3	14	Hollywood	Freshman	White	She/her
Melaney	3	15	Silverlake, CA	Sophomore	Mixed race (Asian)	She/her
Amy	3	15	Avalon, CA	Freshman	White	She/her
Jenna	3	15	South Pasadena	Sophomore	White	She/her
Ava	3	14	Ojai, CA	Sophomore	White	She/her
Michelle	3	15	South Pasadena	Sophomore	White	She/her
Avery	3	15	South Pasadena	Sophomore	White	She/they
Session 4 participants (n=5)						
Kaitlin	4	13	Oxnard	Freshman	White	She/her
Zoe	4	14	San Marcos	Freshman	Black	They/them
Geneva	4	14	Los Angeles	Freshman	White	She/her
Ophelia	4	14	Los Angeles	Freshman	Asian	She/her
Maria	4	13	Los Angeles	Eighth grade	White	She/her

Note. Total participants (n=25)

APPENDIX D: DATA CORPUS

Table D1. Data corpus that informs the paper and findings

Type of data	Form of data
Observational field notes	Three pages of composition notebook: • Session 4 campers shed tears over beauty of landscape on top of Howland's Peak & Parsons Landing Campsite. • Session 4 camper learned that they feel a lot better in nature which will help them when they return home. • Session 1 camper asked by opinions on mitigation vs. adaptability in relation to solving the climate crisis.
Staff trainings	Full composition notebook
Audio interviews	• Total of 25 • Averaging about four minutes each • Saved as audio file • Saved as transcription
Pre-camp session survey	• Total of 25 • Hand-written hard copy • Digital version in Google Forms
Post-camp session survey	• Total of 25 • Hand-written hard copy • Digital version in Google Forms