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“Seeing is Believing:” The Influence of Outdoor Experiences on Climate Awareness and Action

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I. Introduction

As a child, I spent every summer night with my window cracked open, listening to the toads, crickets, and frogs sing their sweet symphony in the pond outside. During the day, I played in the backyard, grew food in our garden, and watched for painted turtles, chirping chickadees, and green garter snakes. I built snow fort after snow fort with neighborhood friends in the winter and picked apples at local orchards every fall. My father encouraged me to explore the natural world, taking me for walks in the woods and on family road trips to National Parks in the summer. Now, as a young adult, nature is my greatest source of comfort and personal renewal.

These early interactions with nature have shaped my connection to the environment and directed me toward more environmentally conscious behaviors and beliefs today. As a young adult I value spending leisure time outside, and I recognize the impact it has on my well-being and interests. This time in nature has also increased my awareness of climate change because I have had the opportunity to see changes in seasonal variation, species presence, and overarching weather patterns. These experiences have made me both more concerned about climate change and more motivated to take action to mitigate it.

Such personal experiences have led me to question the influence of outdoor experiences on other youth, especially those who are active in the climate movement. Youth are at the forefront of the climate movement, leading divestment campaigns on college campuses, fighting for our human rights and climate commitments in court, and holding political leaders accountable

through demonstrations at annual COP convenings.[1;2;3] Therefore, understanding the motivations behind youth involvement in the climate movement is of the utmost importance as activists, researchers, and frontline communities around the world continue to push for climate positive political, structural and cultural changes. Researching how engagement in the outdoors affects college students' awareness of climate change can provide better insight into the motivations and deterrents for individuals to take climate action. Recognizing these influences has the potential to inform future campus programming and may hold implications for climate policy, education, and organizing beyond college campuses.

Educational institutions - particularly college campuses – are especially important to focus on because these educational environments are where students learn, lead, and prepare for their futures. With this in mind, my research looks specifically at student experiences on the College of Saint Benedict and Saint John's University (CSB/SJU) campuses. Through survey analysis and interviews with members of the Climate Justice Club (CJC), my research seeks to address the following questions:

1. How does the amount of time CSB/SJU students spend outdoors and/or in nature shape their awareness of climate change?
2. How does this awareness affect students' motivations for taking climate action?
3. How does outdoor recreation compare to involvement in climate initiatives?

1 "Youth Plaintiffs in Juliana v. United States File Return With Ninth Circuit Court of Appeals Seeking Full Court Review Of Their Case," Our Children's Trust, 2020, accessed 12 March, 2020, https://www.ourchildrenstrust.org/juliana-v-us.

2 Carolyn Beeler, "Students Push College Fossil Fuel Divestment To Stigmatize Industry," *National Public Radio* (npr.com), 11 April 2015, https://www.npr.org/2015/04/11/398757780/students-push-college-fossil-fuel-divestment-to-stigmatize-industry.

3 John Foran, Summer Gray, and Corrie Grosse, "Not Yet the End of the World: Political Cultures of Opposition and Creation in the Global Youth Climate Justice Movement," *Interface* 9, 2 (2017).

4. How can these findings inform future outdoor programming and climate actions within the CSB/SJU community?

II. Background

Climate change is the greatest issue facing humanity today, and its effects are being felt in communities across the globe. In Minnesota specifically, annual temperatures warmed 2.9°F and precipitation increased by 3.4 in/yr between 1895 to 2017. These climatic changes have been more significant during winter months, with winter temperatures warming at 13 times the rate of summer temperatures since 1970.[4] Such dramatic shifts in temperature disrupt phenological cycles, harm native flora and fauna, strain local and seasonal businesses, intensify public health concerns, and threaten Minnesotan cultural traditions.

Changes like these are not unique to Minnesota. In fact, climatic shifts are taking place across the nation and the globe, and anxiety is mounting as the impacts become more apparent in our daily lives. A recent study from the Pew Research Center found out of 26 nations surveyed, the majority of respondents viewed climate change as a major threat.[5] While the US ranked 20th for climate change concern overall, Americans' climate fears have risen significantly in recent years, growing nearly 20% between 2013-2018.[6] Such fears are due in part to the Intergovernmental Panel on Climate Change's (IPCC) acknowledgment of the threats posed by global warming. In 2018, the IPCC warned political leaders about the urgent need for leadership and action in the next ten years to limit global warming to 1.5°C.[7]

[4] "Minnesota Climate Trends," Minnesota Department of Natural Resources, accessed February 11, 2020, https://arcgis.dnr.state.mn.us/ewr/climatetrends/; "Climate Trends," Minnesota DNR, 2020, accessed 25 February, 2020, https://www.dnr.state.mn.us/climate/climate_change_info/climate-trends.html.
[5] "A look at how people around the world view climate change," Pew Research Center, updated April 18, 2019, accessed February 5, 2020, https://www.pewresearch.org/fact-tank/2019/04/18/a-look-at-how-people-around-the-world-view-climate-change/.
[6] "A look at how people around the world view climate change."
[7] I.P.C.C., *Special Report: Global Warming of 1.5ºC: Summary for Policymakers*, Intergovernmental Panel on Climate Change (Intergovernmental Panel on Climate Change, 2018), https://www.ipcc.ch/sr15/chapter/spm/.

While political leaders remain largely inactive, civil society members, and youth in particular, have increased engagement in the climate movement. In recent years, youth activism has taken center stage as leaders from organizations like #FridaysForFuture, Earth Guardians, and the Sunrise Movement push for political accountability and meaningful policy changes.[8;9;10] Academic institutions have been a hub for climate activism in recent years: Greta Thunberg and many others have inspired international school protests, and the divestment campaign is increasing momentum on college campuses across the world.[11;12] This localized action has also found its way into the political arena of the United Nations Conference of the Parties (COP) convenings and international mobilizations like the Global Climate Strikes on March 15th and September 20th, 2020.[13;14;15] Examples of this activism can be found everywhere; yet, relatively little research has been done to understand the motivations behind such activism. Understanding how and why youth are motivated to take climate action can help increase support for climate

[8] "About - FridaysForFuture," #FridaysForFuture, accessed 12 March, 2020, https://www.fridaysforfuture.org/about.
[9] "Are You In?," Earth Guardians, 2020, accessed 12 March, 2020, https://www.earthguardians.org.
[10]"Who We Are," Sunrise Movement, 2020, accessed 12 March, 2020, https://www.sunrisemovement.org/about.
[11] "The Rise of U.S. Youth Climate Activism | Harvard Political Review," Harvard Political Review, updated October 4, 2019, accessed February 7, 2020, https://harvardpolitics.com/united-states/youth-climate-activism/.
[12] Jessica Grady-Benson and Brinda Sarathy, "Fossil fuel divestment in US higher education: student-led organising for climate justice," *Local Environment* (2015), https://s3.amazonaws.com/academia.edu.documents/36998594/Local_Environment_FFD_in_Higher_Education_Grady-Benson_Sarathy.pdf?response-content-disposition=inline%3B%20filename%3DFossil_fuel_divestment_in_US_higher_educ.pdf&X-Amz-Algorithm=AWS4-HMAC-SHA256&X-Amz-Credential=AKIAIWOWYYGZ2Y53UL3A%2F20200225%2Fus-east-1%2Fs3%2Faws4_request&X-Amz-Date=20200225T181824Z&X-Amz-Expires=3600&X-Amz-SignedHeaders=host&X-Amz-Signature=609de4b976bf652aca612ae97918b6b1e695c99f27bb4781d7bc427efaa2b585.
[13] "About - YOUNGO," YOUNGO, 2020, accessed March 12, 2020, http://www.youngo.uno/about/.
[14] Torey Van Oot, "Minnesota youth activists rally across metro for action on climate change," *Star Tribune*, 7 December 2019, http://www.startribune.com/minnesota-youth-activists-set-to-rally-for-action-on-climate/565888732/.
[15] Naomi Larsson, "'The youth generation is united': the uni students striking for the climate," Education, *The Guardian*, September 19 2019, http://www.theguardian.com/education/2019/sep/19/campus-is-the-perfect-place-to-disrupt-why-university-students-are.

justice[16] policies and stimulate the creation of more sustainable mitigation and adaptation strategies.

III. Literature Review

Environmental beliefs and behaviors have been researched extensively over the years. Beginning in the 1970s, researchers sought to understand the relationship between outdoor recreation and environmental attitudes. Dunlap & Hellernan were the first to analyze this association, surveying a group of outdoorsmen in Washington State.[17] This 1975 study addressed two types of outdoor recreation: appreciative and consumptive. Appreciative activities sought to enjoy nature without altering it, whereas consumptive activities took from nature for utilitarian purposes.[18] The researchers found a weak association between outdoor recreation and environmental concern, with those engaging in appreciative activities expressing more environmental concern than their consumption-centered counterparts. People advocated more strongly for environmental policies and management practices that protected natural resources associated with their preferred recreational activities.[19] These findings align with the more emotionally expressive environmental concern of John Muir's preservation efforts. They also reflect Gifford Pinchot's conservation ethic as individuals focus their management actions on maintaining natural resources for personal benefit.[20; 21]

Dunlap & Hellernan's study began a new field of scientific inquiry, analyzing the influence of outdoor recreation on environmental attitudes and actions. Since then, academics

[16] Climate justice addresses the intersection between climate change and human rights, framing global warming as not only an environmental issue, but also a political and social one.
[17] Riley E. Dunlap and Robert B. Heffernan, "Outdoor Recreation and Environmental Concern: An Empirical Examination," *Rural Sociology* 40, no. 1 (1975).
[18] Dunlap and Heffernan, "Outdoor Recreation and Environmental Concern: An Empirical Examination."
[19] Dunlap and Heffernan, "Outdoor Recreation and Environmental Concern: An Empirical Examination."
[20] John Muir, "The Yosemite," in *My First Summer in the Sierra* (1911).
[21] Gifford Pinchot, "From The Fight for Conservation," in *Evolving Environmental Awareness* (1910).

have critiqued and expanded upon this research. Theodori et al. and Geisler et al. broadened the categories and scope of this research by opening up "environmental concern" to address more than just policy-based preferences and knowledge, and re-defining its categories based on degrees of resource utilization.[22; 23] In contrast, O'Brien and Teisl argue categorical assessments should be eliminated altogether. Their research on forest-specific recreational activities shows how separating specific activities within each category can produce significantly different results.[24] For example, hunting and fishing are both considered consumptive activities, but when each is measured independently, they have significantly different effects on the individual's environmental concern and behavior. The association between environmental concern and outdoor recreation is more complex than originally believed.

As a response to this, Dunlap and Van Liere established the "New Environmental Paradigm" (NEP) to assess an individual's environmental concern.[25] This survey-based measurement tool was framed around economic ideologies of the time (e.g. limits to growth, spaceship Earth, steady-state economy) which restricted its target audience and applicability in other research.[26] Due to critiques about the original NEP scale's poor correlation, outdated

[22] Gene Theodori, A.E. Luloff, and Fern Willits, "The Association of Outdoor Recreation and Environmental Concern: Reexamining the Dunlap-Heffernan Thesis," *Rural Sociology* 63, no. 1 (1998), https://s3.amazonaws.com/academia.edu.documents/49886905/The_Association_of_Outdoor_Recreation_an20161026-6573-1h3vht3.pdf?response-content-disposition=inline%3B%20filename%3DThe_Association_of_Outdoor_Recreation_an.pdf&X-Amz-Algorithm=AWS4-HMAC-SHA256&X-Amz-Credential=AKIAIWOWYYGZ2Y53UL3A%2F20200207%2Fus-east-1%2Fs3%2Faws4_request&X-Amz-Date=20200207T173459Z&X-Amz-Expires=3600&X-Amz-SignedHeaders=host&X-Amz-Signature=2a259cfecb0696ed02265716ddc2bcd1ebdd13ecbaa907933f6f7b3d11c7f200.
[23] Charles C. Geisler, Oscar B. Martinson, and Eugene A. Wilkening, "Outdoor Recreation and Environmental Concern: A Restudy," *Rural Sociology* 42, no. 241-249 (1977).
[24] Kelly O'Brien and Mario F. Teisl, "Who Cares and Who Acts? Outdoor Recreationists Exhibit Different Levels of Environmental Concern and Behavior," *Environment and Behavior* 35, no. 4 (July 2003), https://journals.sagepub.com/doi/pdf/10.1177/0013916503035004004.
[25] Riley Dunlap and Kent Van Liere, "The 'New Environmental Paradigm'," *The Journal of Environmental Education* 9, no. 4 (1978).
[26] Mark Anderson, "New Ecological Paradigm (NEP) Scale," *Berkshire Encyclopedia of Sustainability* 6 (01/01 2012).

language, and inconsistency, Dunlap and Van Liere created a revised version of the NEP scale in 2000 to improve its accuracy.[27, 28]

The NEP scale has been adapted for a variety of research across the United States and the world. For example, Prati et al. use the NEP methodology to study how human values influence undergraduate and graduate students' concerns about climate change, finding students with universal and self-directed values perceive higher levels of consequence from this global issue.[29] Mumpower et al. used similar NEP valuation in their study on climate risk perception and management programs. By comparing demographic, psychometric, value- and knowledge-based variables, Mumpower et al. showed both the connection to and difference between environmental values and intention to act.[30] Although some academics find the NEP scale to be a contestable measurement tool,[31] its influence in research on environmental attitudes, actions, and beliefs cannot be ignored.

Another critical aspect to define in this field of research is the difference between terms like "environmental concern," "environmental values/beliefs" and "environmental attitudes." These terms have been used interchangeably but nuanced differences in terminology can have a large effect on the overall results of a study. To Dunlap and Heffernan, environmental concern

[27] Anderson, "New Ecological Paradigm (NEP) Scale."
[28] Riley E. Dunlap et al., "Measuring Endorsement of the New Ecological Paradigm: A Revised NEP Scale," *Journal of Social Issues* 56, no. 3 (2000).
[29] Gabriele Prati, Pietrantoni Luca, and Albanesi Cinzia, "Human values and beliefs and concern about climate change: a Bayesian longitudinal analysis," *Quality & Quantity* (2017), https://doi.org/10.1007/s11135-017-0538-z. https://link.springer.com/article/10.1007/s11135-017-0538-z.
[30] Jeryl L. Mumpower, Xinsheng Liu, and Arnold Vedlitz, "Predictors of the perceived risk of climate change and preferred resource levels for climate change management programs," Article, *Journal of Risk Research* 19, no. 6 (2016), https://doi.org/10.1080/13669877.2015.1043567, http://ezproxy.csbsju.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=keh&AN=116343768&site=ehost-live&scope=site.
[31] Lucy Hawcroft and Taciano Milfont, "The Use (and Abuse) of the New Environmental Paradigm Scale Over the Last 30 Years: A Meta-Analysis," *Journal of Environmental Psychology* 30, no. 2 (2010), https://doi.org/10.1016/j.jenvp.2009.10.003, https://www.researchgate.net/publication/223187884_The_Use_and_Abuse_of_the_New_Environmental_Paradigm_Scale_Over_the_Last_30_Years_A_Meta-Analysis.

focused primarily on support for pro-environmental policy and resource valuation, whereas other studies saw environmental concern as a measure of perceived risk.[32; 33; 34] McCright's work on gender-based differences in climate change awareness and concern presents a primary example of this. In his study, women's environmental concerns related to the health and safety risks posed by climate change in their local communities.[35] Thus, research on "environmental concern" can take a variety of analytical approaches.

Looking further at "environmental values/beliefs" and "environmental attitudes" shows these terms to be equally contestable. Often, environmental values/beliefs are deeply rooted in human values and develop as a result of external, or pre-existing value-orientations.[36] Nevertheless, these environmental values/beliefs have the potential to change over time, which is why they may be of particular interest. Environmental attitudes, on the other hand, are most often associated with the actions taken by an individual or group. For example, Zelezny et al. pair environmental attitudes and behaviors together in their analysis of gender differences in environmentalism, showing how femininity and youthfulness positively correlate with pro-environmental attitudes and behaviors.[37] Yet, as O'Connor et al. indicate, environmental attitudes and risk perception may increase an individual's *willingness* to act, but there is no direct

[32] Mumpower, Liu, and Vedlitz, "Predictors of the perceived risk of climate change and preferred resource levels for climate change management programs."
[33] Dunlap and Heffernan, "Outdoor Recreation and Environmental Concern: An Empirical Examination."
[34] Robert E. O'Connor, Richard J. Bard, and Ann Fisher, "Risk Perceptions, General Environmental Beliefs, and Willingness to Address Climate Change," *Risk Analysis* 19, no. 3 (2006), https://doi.org/10.1111/j.1539-6924.1999.tb00421.x.
[35] Aaron McCright, "The effects of gender on climate change knowledge and concern in the American public," Article, *Population & Environment* 32, no. 1 (2010), 68.
[36] Prati, Luca, and Cinzia, "Human values and beliefs and concern about climate change: a Bayesian longitudinal analysis."
[37] Lynnette C. Zelezny, Poh-Pheng Chua, and Christina Aldrich, "Elaborating on Gender Differences in Environmentalism," *Journal of Social Issues* 56, no. 3 (2000), http://web.b.ebscohost.com/ehost/pdfviewer/pdfviewer?vid=1&sid=2b64c725-c99c-43ac-a114-0dbf46e46deb%40sessionmgr102.

correlation between intention and real-life action.[38] These nuanced meanings make using such terminology somewhat contestable. They also bring into question the true meaning of the word "environment." For example, one individual might see the "environment" as their farmhouse and corn fields. Another might interpret it as the city park down the street, or the wildlife refuge 50 miles away. In other words, our environments are defined differently based on our lived experiences, and thus, our understanding of "environmental" actions and attitudes can differ significantly from person-to-person. To combat this ambiguity, my research focuses more specifically on climate change.

Climate change is the most pressing issue facing our world today, and as its effects continue to intensify alongside public anxiety. Recent increases in climate-induced anxiety, depression, PTSD, and other mental health issues are exacerbating pre-existing public health concerns, taking a toll on communities everywhere.[39] Public recognition of climate change as a major threat has increased significantly in the United States, growing from 40% in 2013 to nearly 60% by 2018.[40] This raised concern is the result of a variety of factors, including public education, shifting management and mitigation strategies, policy development, climate activism,

[38] O'Connor, Bard, and Fisher, "Risk Perceptions, General Environmental Beliefs, and Willingness to Address Climate Change."
[39] Katie Hayes et al., "Climate change and mental health: risks, impacts and priority actions," *International Journal of Mental Health Systems* 12, no. 1 (2018), https://doi.org/10.1186/s13033-018-0210-6.
[40] Pew Research Center, "In most surveyed countries, majorities see climate change as a major threat," (Global Attitudes Survey: Pew Research Center, 2018). https://www.pewresearch.org/fact-tank/2019/04/18/a-look-at-how-people-around-the-world-view-climate-change/ft_19-04-18_climatechangeglobal_inmostsurveyedcountries_edited_2/.

and personal experiences with natural disasters and changes in local weather pattern.[41; 42; 43; 44] This latter contribution is of particular importance because emotional and experience-based learning is more meaningful and effective in developing pro-environmental behavior than intellect-based learning (e.g. learning about climate change in a classroom lecture).[45] Experience-based learning uses all five senses, driving impact and engagement as individuals are forced to puzzle through situations on-the-spot. This experience-based learning explains why outdoor experiences can play such a primary role in the development of ecological awareness and pro-environmental attitudes: as interactions with the environment increase, so too does an individual's understanding of changes taking place within those local ecosystems (pg. 343).[46] Therefore, addressing the intersection between outdoor experiences and climate change awareness can potentially provide insight into the motivations for youth involvement in climate action.

The majority of research addressing the influence of outdoor recreation on environmental attitudes and behaviors focuses on childhood experiences in nature. Richard Louv established a foundational principle on "nature-deficit disorder" in his book *Last Child in the Woods: Saving Our Children from Nature-Deficit Disorder*. Louv saw nature-deficit as an "alienation from nature," whereby children's decreased engagement in the outdoors "diminished use of [their]

41 Tien Ming Lee et al., "Predictors of public climate change awareness and risk perception around the world," *Nature Climate Change* 5 (2015).
42 McCright, "The effects of gender on climate change knowledge and concern in the American public."
43 Päivi Lujala, Haakon Lein, and Jan Ketil Rød, "Climate change, natural hazards, and risk perception: the role of proximity and personal experience," Article, *Local Environment* 20, no. 4 (2015), https://doi.org/10.1080/13549839.2014.887666, http://ezproxy.csbsju.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=keh&AN=100628215&site=ehost-live&scope=site.
44 Teresa A. Myers et al., "The Relationship Between Personal Experience and Belief in the Reality of Global Warming," *Nature Climate Change* 3 (2013), https://doi.org/10.1038/NCLIMATE1754.
45 Lujala, Lein, and Rød, "Climate change, natural hazards, and risk perception: the role of proximity and personal experience."
46 Myers et al., "The Relationship Between Personal Experience and Belief in the Reality of Global Warming."

senses, [produced] attention difficulties, and [led to] higher rates of physical and emotional illness."[47] Although his work makes certain cultural assumptions about human-nature relationships, Louv's popular theory sparked a national movement to reconnect with our environments, and to get children outdoors.[48]

Later studies have raised awareness about the influence of childhood experiences in nature on the development of environmental values as an adult. Researchers have recorded several different factors influencing children's connection to nature, such as family support for outdoor activities, involvement in environmental education programs, relative location to natural landscapes, and type of outdoor activity (e.g. more domestic activities like gardening or more "wild" activities like rock climbing).[49,50,51] These factors affect the development of what Broom terms our "ecological consciousness."[52] This ecological consciousness, or personal connection to the land, is based on personal knowledge of, appreciation for, and activities within the environment.[53] Thus, those with positive experiences with the outdoors are more likely to develop pro-environmental behavior and increased awareness of ecological phenomena.

[47] Richard Louv, *Last Child in the Woods: Saving Our Children from Nature-Deficit Disorder* (Chapel Hill, North Carolina: Algonquin Books of Chapel Hill, 2008). https://books.google.com/books?hl=en&lr=&id=WnLBBwAAQBAJ&oi=fnd&pg=PP1&dq=nature+deficit+disorder&ots=XBGsuRaLvg&sig=iHNTSlFCzlLmxQcycE2-PlTNU1s#v=onepage&q=nature%20deficit%20disorder&f=false.

[48] Elizabeth Dickinson, "The Misdiagnosis: Rethinking "Nature-deficit Disorder"," Article, *Environmental Communication* 7, no. 3 (2013), https://doi.org/10.1080/17524032.2013.802704, http://ezproxy.csbsju.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=ufh&AN=89571220&site=ehost-live&scope=site.

[49] Catharine Ward Thompson, Peter Aspinall, and Alicia Montarzino, "The Childhood Factor: Adult Visits to Green Places and the Significance of Childhood Experience," *Environment and Behavior* 40, no. 1 (2008).

[50] Heather E. Arnold, Fay G. Cohen, and Alan Warner, "Youth and Environmental Action: Perspectives of Young Environmental Leaders on Their Formative Influences," *The Journal of Environmental Education* 40, no. 3 (7 August 2010), https://doi.org/10.3200/JOEE.40.3.27-36.

[51] Nancy Wells and Kristi Lekies, "Nature and the Life Course: Pathways from Childhood Nature Experiences to Adult Environmentalism," 16, no. 1 (2006).

[52] Catherine Broom, "Exploring the Relations Between Childhood Experiences in Nature and Young Adults' Environmental Attitudes and Behaviors," *Australian Journal of Environmental Education* 33, no. 1 (2017).

[53] Broom, "Exploring the Relations Between Childhood Experiences in Nature and Young Adults' Environmental Attitudes and Behaviors."

Yet, these formative environmental experiences are not exclusive to childhood. People engage with their outdoor environments every day and at every stage of life. For this reason, it is crucial to assess environmental interaction and outdoor experiences from a variety of age levels. While extensive research has addressed K-12 experiences with nature, relatively little research has addressed the formative influences of outdoor activity on college-age youth. Focusing on this particular age group is essential because college campuses are hotspots for innovation, leadership development, and youth activism. College-age youth are preparing to enter the workforce, representing the voices of contemporary and future society. Thus, researching the influence of outdoor experiences on college-students' development of climate change awareness and action may provide a vital tool for developing more effective public policies, climate campaign marketing and communication strategies, and organizing tactics.

Youth climate activism has been on the rise in recent years, and its momentum only continues to grow. As Kim Cobb, climate scientist at Georgia Tech said, this increase in climate activism "is long overdue, and it's super exciting to see. [It's] something climate scientists have always dreamed about."[54] While climate scientists have spoken out about the facts and figures for years, it is youth testimonials, political lobbying, marches, court cases, social media campaigns, and school protests that are truly putting the pressure on political leaders around the world.[55] Their appeals are more personal and emotional, driven by the urgency and concern they feel for protecting their futures. "Every crisis that is currently happening is going to be so much worse when this world has been passed on to us," stated Xiuhtezcatl Martinez, youth climate

[54] Kim Cobb qtd. in Carolyn Gramling, "Students Activists Push for Climate Action," *Science News* 196, no. 11 (21 December 2019), https://www.sciencenewsdigital.org/sciencenews/december_21__2019___january_4__2020/MobilePagedArticle.action?articleId=1544999#articleId1544999.

[55] "The Rise of U.S. Youth Climate Activism | Harvard Political Review."

activist and plaintiff for *Julianna v. United States*.[56] "The amount of action we do today," he said, "will determine… the future. It's important to start now."[57]

The rate and scale of change to the planet are unprecedented. Recognition of this change can be debilitating when such emotions do not channel into action. However, many young people are taking matters into their own hands, gathering and organizing to stand up for their right to a healthy, happy, and livable future (Figure 1). Turning anxious thoughts into action "creates change" rather than "perpetuates accepted norms," and leads to the type of climate dialogue necessary to reduce our global footprint.[58] Hence, youth enable meaningful change through creative involvement in the climate movement.

Figure 1: Youth Protest at COP25[59]

This raises the question: What motivates youth to act? While the pressure of climate chaos and the threat to youths' futures are contributors, there are several differences between those who do and those who do not take part in climate action. Social theorist Bert Klandermans

[56] "Youth Plaintiffs in Juliana v. United States File Return With Ninth Circuit Court of Appeals Seeking Full Court Review Of Their Case."
[57] Xiuhtezcatl Martinez qtd in Zoe Loftus-Farren, "Youth Voices Are Powerful," (Spring2017 2017), Interview. http://ezproxy.csbsju.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=egh&AN=121323678&site=ehost-live&scope=site.
[58] Arnold, Cohen, and Warner, "Youth and Environmental Action: Perspectives of Young Environmental Leaders on Their Formative Influences." pg. 28.
[59] Photo provided by Corrie Grosse, Dec. 2019 (Madrid, Spain).

points to three fundamental reasons why individuals participate in social movements*:* *instrumentality* (the ability to change socio-political circumstances), *identity* (identification with a group's morals), and *ideology* (the chance to express personal values).[60] For some youth, personal experiences with extreme weather events and climate injustice drive their decision to get involved. For others, motivation stems from the opportunity to make a positive difference in their community and build relationships with like-minded individuals.[61; 62] As Goodwin, Jasper, and Polletta discuss, such relationships are cornerstones in the success of any social movement because relational organizing facilitates trust, respect, and accountability among group members.[63] The emotional bonds behind interpersonal relationships lead individuals to action. Peer-to-peer engagement and collective identity thereby present themselves as core components of movement building among youth. What awaits further research is the influence of environmental experiences – such as outdoor recreation – on the development of youth leadership and motivation for climate action.

VI. Methods

To better understand how outdoor recreation influences college students' climate change awareness and action, I conducted literature review and analysis on the topics of outdoor recreation, environmental attitudes, climate change perceptions, and youth activism. Such literature included scholarly articles, national and international survey data, books, statistics, and

[60] Bert Klandermans, "The Demand and Supply of Participation: Social-Psychological Correlates of Participation in Social Movements," ed. David A. Snow, Sarah A. Soule, and Hanspeter Kriesi, *The Blackwell Companion to Social Movements* (Hoboken: John Wiley & Sons, Inc., 2008), https://ebookcentral.proquest.com/lib/csbsju/reader.action?docID=351505.
[61] Arnold, Cohen, and Warner, "Youth and Environmental Action: Perspectives of Young Environmental Leaders on Their Formative Influences."
[62] *At the COP: Global Climate Justice Youth Speak Out*, (COP20, Lima Peru, December 2014).
[63] Jeff Goodwin, James M. Jasper, and Francesca Polletta, "Emotional Dimensions of Social Movements," in *The Blackwell Companion to Social Movements*, ed. David A. Snow, Sarah A. Soule, and Hanspeter Kriesi (John Wiley & Sons, Incorporated, 2008), 420.

media articles. This research informed the creation of a campus-wide survey for CSB/SJU students. The voluntary, online survey was distributed via email communication. A total of 365 students completed the survey, including 253 CSB and 112 SJU students. Survey questions addressed outdoor leisure time as a child and young adult, climate change awareness, motivation for climate action, and involvement in climate change initiatives. The survey also collected demographic information such as gender, political affiliation, and race to analyze any potential influence these factors may have on survey outcomes. After collecting responses, survey data was compiled and analyzed using t-tests and correlations between the different study variables. Interpretations of survey results were assessed independently and compared to other scholarly literature, government data and research on outdoor recreation and the youth climate movement.

Using a survey-based analysis aligns with previous studies conducted in this field.[64;65;66;67;68;69;70;71;72;73] This survey also builds on one conducted in Fall 2019 by the ENVR 250 Methods and Analysis class, addressing students' interest in renewable energy, information sources, awareness of climate change, and involvement in climate action.[74] My research expands

64 Wells and Lekies, "Nature and the Life Course: Pathways from Childhood Nature Experiences to Adult Environmentalism."
65 Dunlap and Heffernan, "Outdoor Recreation and Environmental Concern: An Empirical Examination."
66 Geisler, Martinson, and Wilkening, "Outdoor Recreation and Environmental Concern: A Restudy."
67 Theodori, Luloff, and Willits, "The Association of Outdoor Recreation and Environmental Concern: Reexamining the Dunlap-Heffernan Thesis."
68 Broom, "Exploring the Relations Between Childhood Experiences in Nature and Young Adults' Environmental Attitudes and Behaviors."
69 O'Brien and Teisl, "Who Cares and Who Acts? Outdoor Recreationists Exhibit Different Levels of Environmental Concern and Behavior."
70 Ward Thompson, Aspinall, and Montarzino, "The Childhood Factor: Adult Visits to Green Places and the Significance of Childhood Experience."
71 Gretchen Newhouse Berns and Steven Simpson, "Outdoor Recreation Participation and Environmental Concern: A Research Summary," *Journal of Experiential Education* 32, no. 1 (2009), https://journals.sagepub.com/doi/pdf/10.1177/105382590903200107.
72 Mumpower, Liu, and Vedlitz, "Predictors of the perceived risk of climate change and preferred resource levels for climate change management programs."
73 Prati, Luca, and Cinzia, "Human values and beliefs and concern about climate change: a Bayesian longitudinal analysis."
74 ENVR 250, "F19 250 Survey (Responses)," ed. ENVR 250 (2019).

upon these previous studies by a) focusing on college-age youth, and b) shifting the focus on broader environmental behavior and action to climate change awareness and action.

Finally, CSB/SJU students from CJC were interviewed about their experiences with the outdoors, their involvement in climate action, and their motivation for such action (see Appendix for a list of interview questions). Interviews were conducted as a "conversation with a purpose" and completed throughout the April 2020. Interview conversations ranged from 30 to 45 minutes in length. Pseudonyms are used throughout the paper to keep interview responses anonymous.

CJC members were chosen for interviews because CJC "serves as a platform for students to organize, exercise leadership, and advocate for intersectional issues related to the climate justice movement."[75] Therefore, these students actively engage in the climate justice movement on campus. Their stories bring to life the unique experiences which motivate them to take climate action. Through a combination of both quantitative survey results and qualitative interview analysis, my research therefore seeks to deepen readers' understanding of – and provide potential opportunities for – connecting personal experiences with the outdoors to youth engagement in the climate movement.

Campus Context

To better understand the survey results, it is essential to address the campus and community context of CSB/SJU. CSB is an all-women's college and SJU is an all-men's university. These two Catholic, Benedictine private schools established a "cooperative undergraduate education" in 1968 that has produced a "two schools, one community" model for the institutions.[76] Students enrolled at CSB and SJU share the same academic calendar, common

[75] "Climate Justice Club Constitution: Mission/Purpose." Accessed Apr. 30, 2020.
[76] "C.S.B. History," College of St. Benedict's and St. John's University, accessed 28 Mar., 2020, https://www.csbsju.edu/csb-archives/csbhistory.

curriculum, and degree requirements. Students travel the 6-mile route back-and-forth between campuses for classes, study centers, student activities, and dining halls each day. All academic departments are joint but housed on one campus or the other. For example, the Environmental Studies department is housed at SJU, while the Chemistry department is housed at CSB.

Looking at each campus individually, CSB/SJU provide very different living and learning environments. CSB is a traditionally all-women's college located in the heart of downtown Saint Joseph, MN (Figure 2). This small town of approximately 7,000 is surrounded by both small- and large-scale agriculture. The city of St. Cloud is a only 6-miles east of campus, and students can take a weekly shuttle bus to visit. Downtown Saint Joseph is home to a number of small businesses, including local restaurants, breweries, and retail stores. Students frequently walk into town for food and entertainment. The monastic community of CSB also has community garden plots for rent in the northwest corner of campus, and the Monastery Woods provides a small wooded area on the south-southeastern end for students to enjoy. Despite this small natural refuge, SJU is where the majority of students go for outdoor recreation.

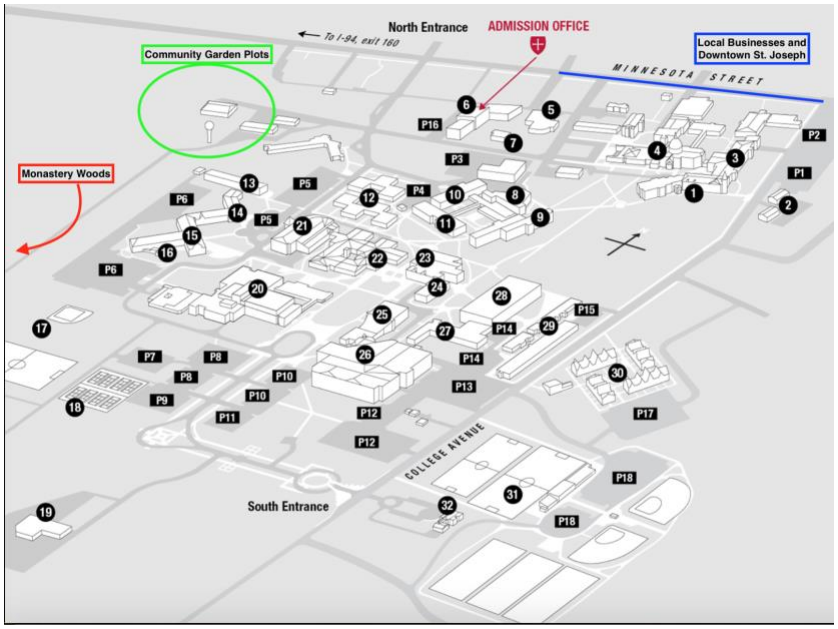

Figure 2: CSB Campus Map[77]

[77] "CSB Campus Map," *About CSB & SJU*, https://www.csbsju.edu/about/at-a-glance/csb-campus-map, Accessed Apr. 5, 2020.

SJU is in the small, rural community of Collegeville, MN. While the traditionally all-men's campus is not located near any local shops or businesses, it is surrounded by the 2,944-acre Saint John's Abbey Arboretum, an undeveloped area of deciduous forests, lakes, and restored native prairie (Figure 3).[79] The Abbey Arboretum was founded in 1856, designated as a wildlife refuge in 1933, and has stood since 1977 as a natural arboretum for "conservation, education, research and spiritual renewal."[80] The Arboretum has an active land manager, and students use Arboretum spaces

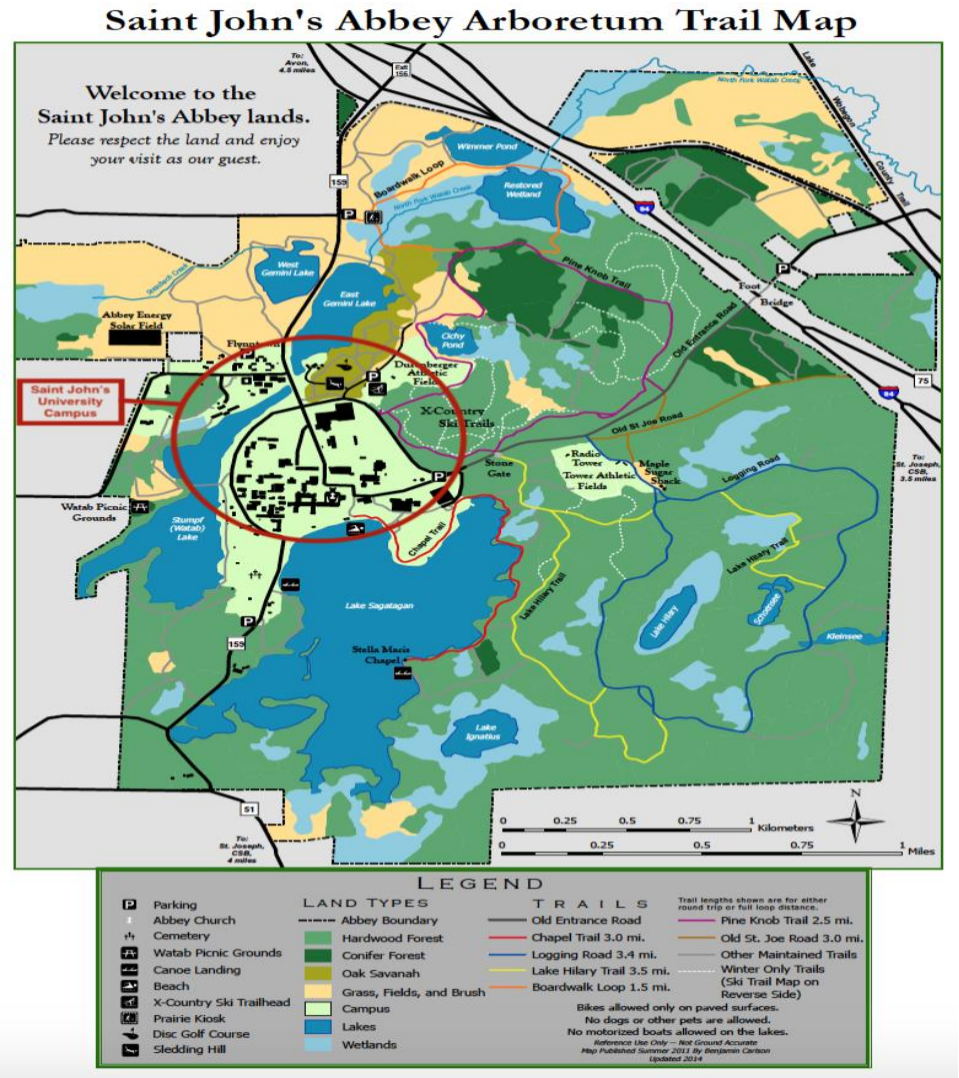

Figure 3: Abbey Arboretum Trail Map[78]

[78] "Abbey Arboretum Trail Map," *OutdoorU*, https://www.csbsju.edu/outdooru/aboutus/maps-publications, Accessed Apr. 6, 2020.
[79] "Saint John's Abbey Arboretum," *OutdoorU*, accessed 27 February, 2020, https://www.csbsju.edu/outdooru/abbeyarboretum.
[80] "Saint John's Abbey Arboretum."

for laboratory research, nature-based employment opportunities, and recreational enjoyment (Figures 4 & 5).

Figure 4: Students in ENVR 275 taking fieldnotes in the Arboretum[81]

Figure 5: CSB Students guiding a group at the Maple Syrup Festival[82]

CSB/SJU has a variety of campus organizations focused on outdoor education and recreational activities, both within and beyond the Arboretum. The Outdoor University (Outdoor

[81] Photo provided by the Saint John's Outdoor University.
[82] Ibid.

U) was founded at SJU in 1997, and uses the Arboretum as a center for environmental stewardship and education, providing outdoor educational experiences for approximately 8,000 pre-K – 12 students, 5,000 community members, and 5,000 CSB/SJU students annually.[83] A number of CSB/SJU students work as student naturalists leading these programs on campus. Students also work at the Outdoor Leadership Center (OLC). This student-run center provides outdoor recreational equipment such as bikes, snowshoes, and fishing gear for CSB/SJU students to rent on campus. In addition to this, the OLC develops workshops to teach students outdoor skills.[84] The Peer Resource Program (PRP) – a student organization focused on personal development through healthy risk-taking – facilitates similar workshops and campus programming to get students active and engaged in their environments.[85]

PRP is one of several eco-oriented student groups on campus. Others include the Sustainability Alliance (SA), and Full Circle Greenhouse. CJC is the main avenue for student engagement in climate activism. CJC members are currently working on a fossil fuel divestment campaign for CSB and have two president petitions calling for more climate-conscious presidential selections at

Figure 6: Students listening to President Hinton's speech at CJC's Global Climate Strike Solidarity Event[86]

[83] "OutdoorU: About Us," College of Saint Benedict & Saint John's University, accessed 26 Mar., 2020, https://www.csbsju.edu/outdooru/aboutus.
[84] "Outdoor Leadership Center," College of Saint Benedict & St. John's University, https://www.csbsju.edu/outdooru/events/adventure/olc.
[85] "Peer Resource Program," College of Saint Benedict & St. John's University, accessed 26 Mar., 2020, https://www.csbsju.edu/outdooru/events/adventure/prp.
[86] Photo by author, Sept. 20, 2019 (College of Saint Benedict, Saint Joseph, MN).

CSB/SJU. CJC also hosts speakers and collaborates with other campus groups to put on student events for climate justice (Figure 6).

Many CJC members attended the United Nations Framework Convention on Climate Change (UNFCCC), 25th Conference of the Parties (COP25) in Madrid, Spain this past December 2019. CSB/SJU offers one semester-long course each Fall for students to learn about, research, and attend the COP sessions. The course is open to all majors and years, with students from a variety of disciplines taking part in the class. Students research different international climate issues, UNFCCC policies, and COP proceedings during the semester. Students also complete participant observation and in-person interviews while at COP. Once returned home, the students write a research paper to present their findings to their local communities (Figure 7).

Figure 7: CSB/SJU Students in COP25 Youth Demonstration[87]

Lastly, both CSB and SJU have sustainability offices. These offices coordinate sustainable initiatives for the campuses, to host student events, conducting waste audits, compile greenhouse gas emissions inventories, and assist with project proposals for the campus green fund. All of these campus resources collaborate to increase sustainability, climate change

[87] Photo provided by Corrie Grosse, Dec. 2019 (Madrid, Spain).

awareness, environmental education, and access to the outdoors for CSB/SJU students, creating a unique community context for this research.

V. Results

Survey Results

When asked to explain what "the outdoors" meant to them, students frequently used descriptors like "outside," "nature," "fresh air," "out of a building," and a wide-open space "to get away" from society. In other words, students generally think of the outdoors as separate from human-made structures and social settings. The majority of students (~88%) played outdoors "Often" or "Very Often" as a child. Most students (more than 90%) also indicated spending time outdoors was valuable to them. This result mirrors a survey from The Outdoor Foundation which suggests participation in outdoor activities as a child has a positive influence on outdoor participation as an adult.[89] On campus, students took part in a variety of outdoor activities.

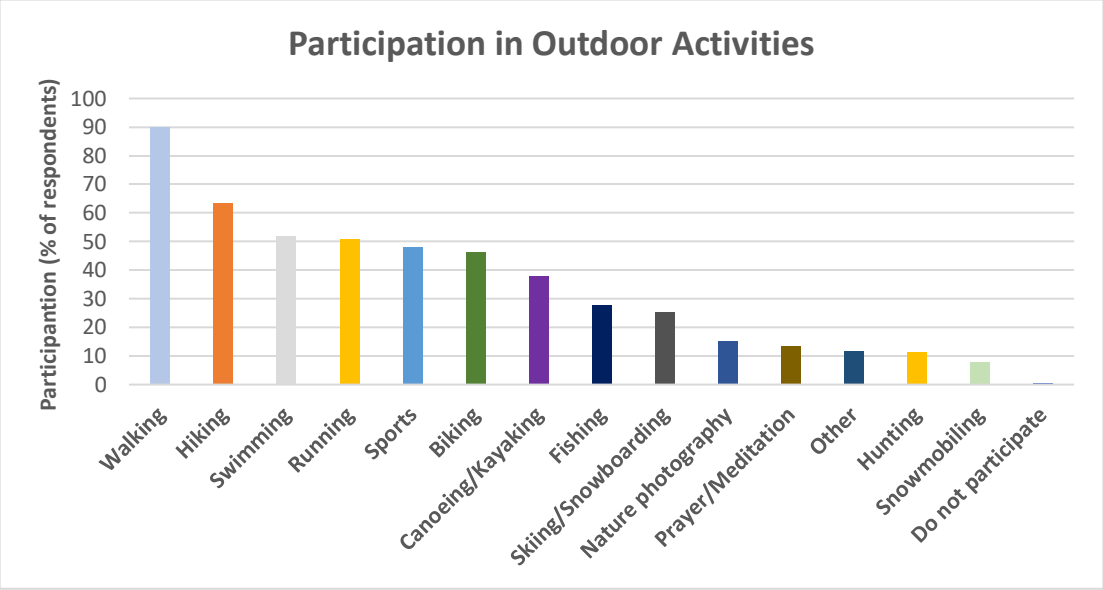

Figure 8: Breakdown of types of outdoor activities CSB/SJU students participate in while on campus.[88]

[88] Respondents could choose more than one activity. Results shown as percentage of participation for overall respondents. The most frequent "Other" activity was hammocking.

[89] The Outdoor Foundation, *Outdoor Participation Report*, The Outdoor Foundation (Washington, DC: The Outdoor Foundation, 2018), https://outdoorindustry.org/wp-content/uploads/2017/05/2017-Outdoor-Recreation-Participation-Report_FINAL.pdf.

Walking, hiking, swimming, and running in the Arboretum were among the most common forms of recreation (Figure 8). Only two students indicated they did not take participate in outdoor activities, which suggests the CSB/SJU community has a strong foundation in outdoor engagement.

Amount of time playing outdoors as a child was also found to have a significant, positive effect on students' climate change awareness in college ($p < .05$). In spite of this correlation, the amount of time spent outdoors while *on campus* did not appear to influence students' overall attitudes toward climate change. Looking more closely at students' attitudes reveals a positive correlation between students' climate change awareness and belief that climate change is affecting them, their community, and humanity at large (Figure 9). As climate change awareness, concern, and motivation increase so too does student belief in the overall effects of climate change. The vast majority of students (91%) indicated that climate change "Affects" to "Greatly Affects" humanity, which implies a shared understanding among students of climate change as an issue of global precedence. A similar 2019 poll from the international research data and analytics company, YouGov, found only 62% of youth (ages 18-29) believed climate change was human-

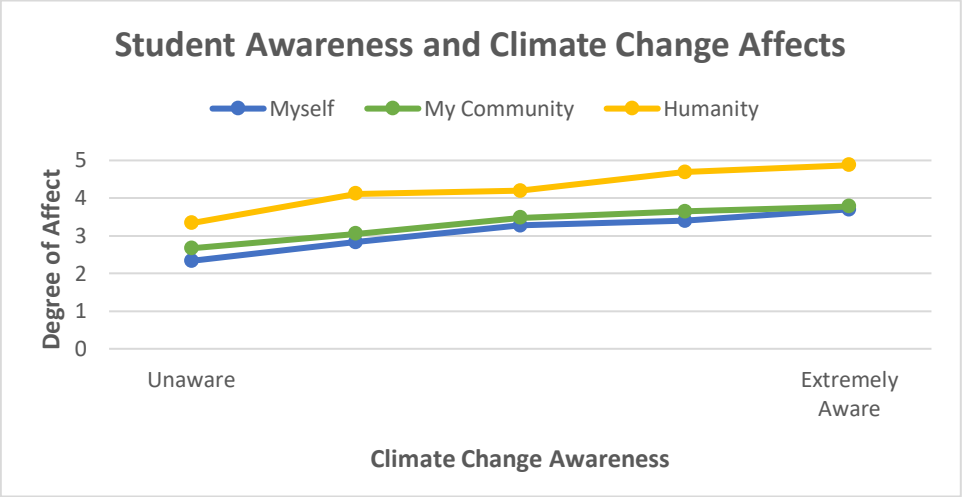

Figure 9: Comparison of climate change awareness relative to student belief in the effects of climate change.[90]

[90] Responses given based on a 1-5 scale for both awareness and affect, with 1 being "Unaware/Does Not Affect" and 5 being "Extremely Aware/Greatly Affects."

caused and scientifically proven.[91] Therefore, survey results may reveal higher rates of concern among CSB/SJU students than other United States youth.

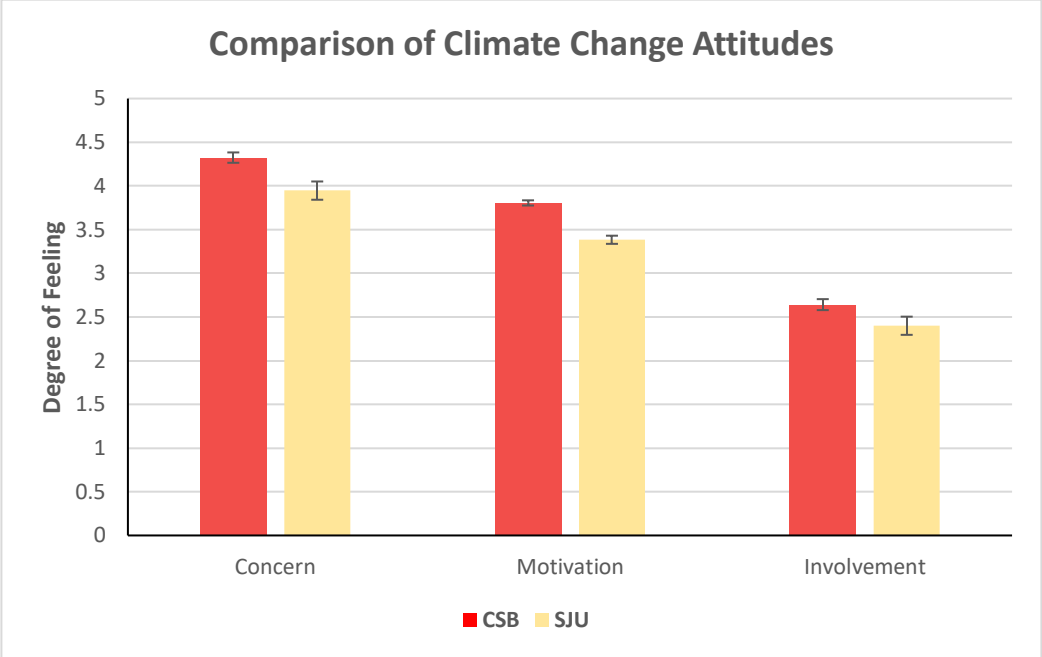

Figure 10: Comparison of climate change attitudes between CSB and SJU students.[92]

Between the two campuses, there was no significant difference amongst CSB and SJU students' awareness of climate change. Nevertheless, CSB students expressed significantly more concern about climate change, more motivation for climate action, and more involvement in climate initiatives than SJU students (Figure 10). These findings align with previous studies which indicate women[93] perceive greater risks from climate change, are more concerned about

[91] YouGov, "Belief in the scientific consensus on current human-caused climate change among U.S. adults as of September 2019, by age group," ed. YouGov (Statistica, 2019). https://www-statista-com.ezproxy.csbsju.edu/statistics/680878/us-adults-who-believe-scientists-agree-on-human-caused-climate-change-by-age/.

[92] Responses given based on a 1-5 scale for concern, motivation, and involvement, with 1 being "Not Concerned/Motivated/Involved" and 5 being "Extremely Concerned/Motivated/Involved." Responses displayed as average values for each group.

[93] Please note that not all CSB students identified within the gender binary for enrollment. Yet, due to only five survey respondents identifying as LGBTQI+ community and/or anonymous, responses were analyzed along the traditional gender divide between the CSB (all women's) and SJU (all-men's) campuses.

its impacts on their local communities and are more engaged in pro-environmental behavior than their male counterparts.[94; 95; 96; 97; 98]

While the housing location on campus (CSB, SJU, or off-campus) did not significantly affect students time spent outdoors, home demographic did. Students from rural communities spent the most time outdoors while on campus. Despite this, students from urban communities felt significantly more concerned about climate change, more motivated for climate action, and more involved in climate initiatives than their rural counterparts (Figure 11). These results appear counter-intuitive, as more time spent outdoors would seem to provide a greater opportunity for recognizing the visual and physical disturbances resulting from climate change.

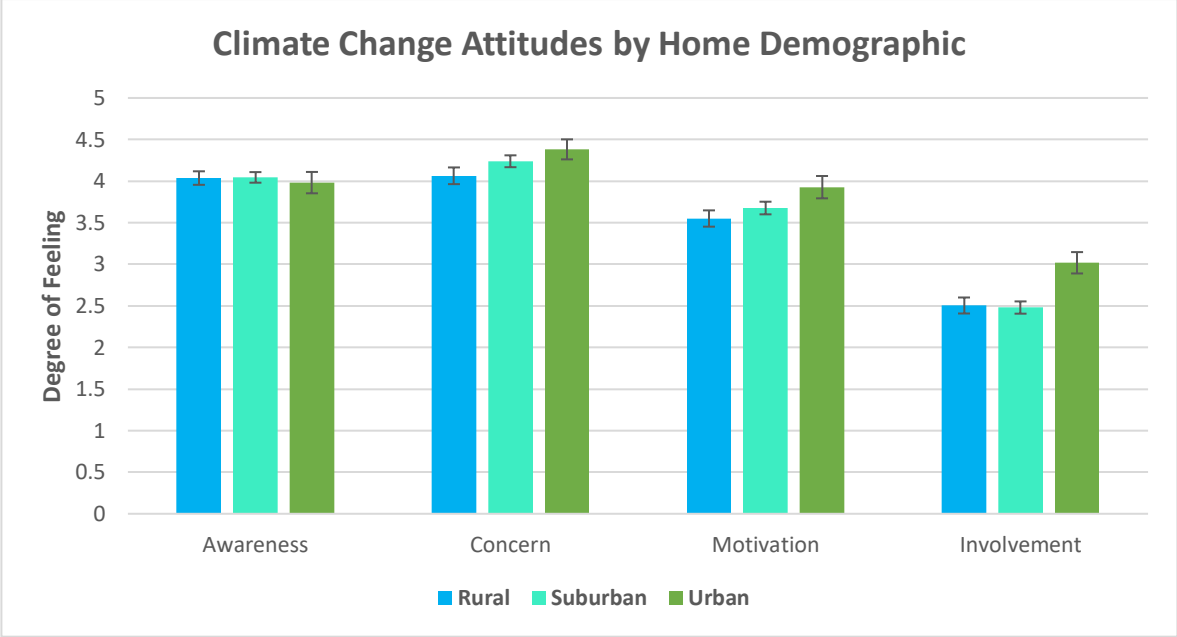

Figure 11: Climate Change Attitudes by Home Demographic[99]

[94] ENVR 250, "F19 250 Survey (Responses)."
[95] Lujala, Lein, and Rød, "Climate change, natural hazards, and risk perception: the role of proximity and personal experience."
[96] McCright, "The effects of gender on climate change knowledge and concern in the American public."
[97] O'Connor, Bard, and Fisher, "Risk Perceptions, General Environmental Beliefs, and Willingness to Address Climate Change."
[98] Zelezny, Chua, and Aldrich, "Elaborating on Gender Differences in Environmentalism."
[99] Responses were given based on a 1-5 scale, with 1 being “Not Concerned” and 5 being “Extremely concerned.” Survey responses are averaged amongst each demographic. Sample sizes are: Rural (n=109), Suburban (n=201), and Urban (n=55).

When analyzed through a climate justice lens, however, urban students have a greater chance of experiencing overcrowding, environmental pollution, direct contact with development projects, and higher rates of climate injustice. Thus, urban students may potentially be exposed to environmental degradation and/or social activism at a younger age due to their housing location.

Looking at student involvement in climate action, more than 90% of students involved in climate actions practiced "Personal" mitigation strategies to reduce their carbon footprint (e.g. using public transit, reducing meat consumption, and limiting excess electricity usage). "Activism" (i.e. collective action, grassroots organizing, and demonstrations) and "Politics" (i.e. lobbying, meeting with political representatives, and canvassing) were the second and third most popular climate actions, respectively. Findings were similar for the type of climate initiatives students wanted to see more of on campus with "Personal" actions and student "Activism" ranking highest.

Interview Findings

Speaking directly with students provided greater depth and context for these survey findings. While their identities are kept anonymous through the use of personal pseudonyms, the messages behind each student's story are equally meaningful. When discussing outdoor engagement, CJC members had a plethora of experiences growing up. Some students spent every day outdoors exploring parks, trails, and woods in the local area. Lucy spent a great deal of time playing in her neighbor's swamp and did outdoor sports with her father, Johnnie foraged for mushrooms and swam in the river near his childhood home, and Steve got involved with Boy Scouts at an early age. Veronica mentioned how she came from a community "where people really appreciate[d] the outdoors," and spending time with someone often meant going on a hike,

taking a trip to the water, or choosing to eat at an outdoor restaurant. Spending time outdoors became a regular activity and an important aspect of many students' childhood.

Yet, not all students had such readily available access to natural spaces. Traveling to outdoor environments was more difficult for students living in heavily urban environments. As Miles shared, the closest park near his home took several hours to reach and required additional financial resources to pay for public bus passes. Comparing Miles' experience to students like Clara – who could walk down the road to a public park bordering her home's backyard – reveals how central the issue of accessibility is when looking at youth's outdoor experiences. Even when outdoor spaces like urban parks are more readily available, "growing up in a dense city," as Autumn points out, "…it's not super safe to be out running around as a kid." Therefore, opportunities to get outside of urban environments often required adult supervision and additional planning travel to more open, spacious locations.

For these reasons, students from urban home environments were incredibly intentional about getting outdoors at CSB/SJU. Miles spoke about his interest in exploring all the outdoor spaces SJU had to offer, taking every opportunity possible to learn about Minnesotan wildlife and recreational activities. These Arboretum spaces were a change from the city streets Johnnie lives near at home. He took every chance he could to spend time sitting by the lake and walking in the woods with friends at school. The Arboretum's natural spaces were also a major draw for Autumn. Autumn knew she wanted to study environmental sciences, and the focus on land stewardship, outdoor recreation and environmental education at CSB/SJU heavily influenced on her decision to attend CSB/SJU. Likewise, Steve, who had access to hiking, swimming, and camping at home, found new activities to try in the Arboretum, such as Nordic skiing and maple syrup tapping. From one student to the next, having the ability to walk directly into – or get

regular transport to – the Arboretum made engaging with the outdoors much more physically accessible in college.

Such outdoor engagement did not come without its limitations. Getting older often meant getting busier, and students who previously spent so much time outside at home found it challenging to balance academics, employment and extracurriculars with free time for outdoor exploration. “I’ve always cared very deeply about the outdoors…and I have a lot of fond memories playing in [nature] growing up,” Clara said, “[but] as I got older, I got a lot busier and I tended to spend less time outside – which is quite sad.” Clara’s experience shows how busy schedules and insufficient free time can be a barrier for students to access outdoor. Another obstacle is lack of knowledge and prior experience with the outdoors. Part of Autumn’s initial hesitation to going outside was “not knowing how to do things.” Autumn’s first time in the Arboretum was for a class assignment. She recalls thinking to herself, “What do I do? Do I just go out there…?’” For students with limited experience with outdoor activities, the Arboretum can be an unknown, and potentially anxiety-ridden environment. If CSB/SJU are to truly make the Arboretum a welcoming space for all, CSB/SJU must account for the diverse array of backgrounds, home environments, and experiential contexts which students come from.

When students do overcome these barriers, their time in the Arboretum and other outdoor spaces is well worth the effort. Clara noted how the Arboretum “was a very amazing place to be” when she could make time to visit. Likewise, Veronica acknowledged how grateful she was “to know what it’s like to have the outdoors be [a] sanctuary and place [of] peace,” even if she could not get outdoors often. Lucy also found that her recent time in college and study abroad experiences instilled an even greater appreciation for nature. “I find for me; nature is kind of an escape – especially on these campuses,” Lucy shared. “I find I go to nature when I need a break.”

Nature can be a safe and calming space for students, when given the opportunity. The Arboretum can help students feel more at home in their transition to college, while offering others with a chance to redefine what the outdoors means to them.

These conversations raise an issue of importance: what do "the outdoors" and "nature" mean for college students at CSB/SJU? Like many other student respondents, Nat felt being "outdoors" was "being somewhere that isn't surrounded by buildings." Lucy, Veronica, Johnnie, and Miles felt the same, defining outdoor spaces by their proximity to artificially built environments. "I consider 'nature' anywhere you have to travel at least a mile to reach human-made structures," Miles stated. In other words, nature is separate from human-made environments.

Other students had similar feelings about nature growing up but came to challenge those perceptions in college. "Most people think of just parks and trees and birds [when they think of nature]," Clara said. "But technically, everything is related […] and there's not really this big separation between us and the outdoors that we've created as a society." Instead of living in two separate worlds, Clara sees humans and the outdoors as an interconnected. Autumn agrees with Clara, reminding us that "we're in natural spaces whether they're urban or not. We just don't learn to recognize them that way." Western concepts of the nature-culture dichotomy turn nature into something "other" than human, reserving interactions with nature for experiences beyond day-to-day human activity.[100] Yet, the psychological separation between humans and nature separates us from our environments and can justify the maltreatment of our home communities. Autumn summarized this concept well when she said, "We don't take responsibility for the front lawn or engage with it *because* we consider it a built environment." Recognizing this challenged

[100] Philippe Descola and Gísli Pálsson, "Introduction," in *Nature and Society: Anthropological Perspectives*, ed. Philippe Descola and Gísli Pálsson (London: Routlage, 1996).

Autumn to redefine her concept of nature in college. "Now," she said, "I think [of nature as] more of just a space. Like, if I'm sitting outside and I can feel the sun, that's nature to me, even if I am on a front lawn." This more flexible, all-encompassing definition can make "nature" more accessible for city dwellers. It can relieve some of the pressure that comes with "not knowing" how to interact with outdoor spaces. Breaking down this nature-culture dichotomy is an essential first step in making the Arboretum and the CSB/SJU campuses a more welcoming, engaging space students environmentally.

This all-encompassing definition of the outdoors demonstrates urban students are engaged with and aware of their community's connection to the outdoors. Nat said that growing up in a city made her realize the importance of taking time to be outside and get away from the bustle of urban life. These foundational values drove her to get involved with PRP and the Outdoor U. Similarly, Autumn's awareness of the chemical contamination in her home community drove her toward an Environmental Studies major in college. The journalism, film, and environmental studies classes she took in high school drove her to journal, research, and record the environmental disparities she experienced in her neighborhood. Her environmental exploration has only continued.

Miles' story echoes these students' experiences. He remembers how shocking it was to see the blanket of brown smog hovering over his city: "It made me think, like, 'I'm breathing this air. How is that impacting me? […] What is this doing to [my community]?'" In addition to air pollution, Miles witnessed disturbing amounts of garbage sweeping through the streets after rainstorms, getting caught in the drainage ditches. He worried about how the garbage would affect nearby waterways and ocean ecosystems. Miles' experience with these things made him realize how climate change impacts his community. He sought out courses that connected social

justice to climate change in college and gained the knowledge and skills necessary for community collaboration, non-violent action, and critical thinking. He, like Autumn, Nat, and others who grew up in urban settings, were motivated to seek out more opportunities for environmental research and community engagement as a young adult.

These experiences provide valuable context for understanding survey findings. Students from urban home environments were significantly more concerned about climate change, motivated for climate action, and involved in climate initiatives than those from rural home communities. Witnessing pollution, learning about environmental disparities, and experiencing geographic barriers to the outdoors steered these students toward climate initiatives. Veronica also found the demonstrations and activism in her home's capital city inspirational, leading her to take part in more collective action in college. While these CJC members do not represent every student's urban experience, their words provide valuable background for understanding survey results.

Another essential theme from these interview conversations was how students first became aware of climate change. Many students learned about climate change in high school classes like biology, chemistry, and environmental studies. These classes gave students an introductory, natural science-based understanding of climate change. It was not until students took the initiative to research or take environmental courses in college that climate change became a significant issue in their lives. Veronica's passion for climate action began when she researched its relationship to the food industry. Lucy grew much more interested in climate issues once she saw its connection to the social sciences—a topic she cares deeply for. College courses like Introduction to Environmental Studies, Energy and Society, and the COP class also drew students to the movement. These courses enlightened students on the urgency of the

climate crisis, helping them relate their real-life experiences to class concepts. Nat summarized the significance of these courses quite clearly by saying Introduction to Environmental Studies "should be mandatory for everybody."

It was through these deep, personal connections that students felt more compelled to take action. "When I went to [my] first COP […] I started to learn about climate *justice*," said Clara, "[which means] the people who are most vulnerable to climate change are the people who have been historically oppressed." Hearing stories of climate *in*justice from a Marshall Islands poet and Fijian residents made Clara realize the importance of engagement in climate justice. Lucy echoed these feelings when she spoke about how conversations with friends helped her realize how inextricably linked human rights and climate change are. "Acting against human rights violations and inequities in our society gets me riled up more than pretty much anything else," Lucy said. She went on to explain how not everyone has an equal voice in climate justice, but using her privileges to advance others' voices, stories and concerns was valuable to her.

These connections to human rights ran even deeper for students who, like Autumn and Miles, witnessed these environmental injustices firsthand. They are now able to better educate their communities at home. Exposure to urban gardening, environmental policy, Latinx mentors, and like-minded youth from all around the world helped Autumn understand how her experiences relate to climate change. These experiential learning opportunities gave Autumn clarity in her passion for climate justice and action. As for Miles, college helped him make connections between historic injustices like capitalism, racism, poverty, chemical contamination, and food insecurity to environmental destruction. In addition, learning about non-violent action gave him the tactics for turning his pre-existing concerns into action.

Personal connections also steered these students to climate action. Johnnie explained, how going to the climate change march in Minneapolis with friends during his freshman year got him more involved in activism. His friends encouraged him to sign up for CJC with them—that was the beginning of Johnnie's climate activism. Nat also joined CJC because of personal relationships. She knew one of the CJC board members and her roommate attended the club on a regular basis. Her roommate asked her to come along for meetings at the beginning of the semester, and she has been a member ever since. Connections to those in PRP, CJC and the Peace Studies department steered Veronica toward the climate justice movement in much the same way. "I know for a fact that I have met the most positive and most hopeful and most creative people [in college]," she said with a smile. These interpersonal relationships allowed Veronica to dive more deeply into the activist work she is now so passionate about. Whether through relationships with friends, personal experiences, or connections to the topic students care most deeply about, involvement in the climate justice is a central part of their college experience and future goals.

What keeps students motivated for action amidst the chaos of the climate crisis? Many students felt climate action was the best route they could take to support those in their communities. "The way I was raised, my parents were really big on 'Others before yourself,'" Steve explained. "As I started looking at climate change [I began to see climate action as] a way I [could] help people." This initial realization in high school continues to motivate Steve. For Lucy, climate action is about more than just helping others; it is about saving lives:

> *"Being part of the climate justice movement is right now – to me at least – the most important thing that needs to happen for peoples' lives to be*

saved. […] I would feel terrible if I didn't do anything to help stop things and help slow [the] impacts of climate change."

Lucy's devotion to stand up for those systematically oppressed and disproportionately affected by the climate crisis is something many other CJC members share. "I think my motivation is this very deep sense of injustice," Clara said, "[because it's] not fair that [some] people have to experience things in a way that's different from other, more privileged people." As Autumn, Lucy, and Miles express, the climate crisis presents an unprecedented opportunity for social solidarity, cross-cultural collaboration, and systemic restructuring. Miles views climate justice as common ground for marginalized communities to come together over shared disparities and build one another up through community engagement and activism. "Simultaneously, as [climate change] is destroying the world," Lucy said, "it is also bringing […] people together [from] everywhere." Even though climate change impacts communities differentially, Autumn sees "a lot of similarities" between these experiences. She shared how she resonates with other youth from her study abroad, internship, and experiential learning opportunities through COP and COPAL—a Latinx climate justice organization based in Minneapolis, MN. Autumn finds a great deal of inspiration from this global solidarity.

Johnnie's motivation for climate action stems from solidarity with his peers. "One thing that really drives me is the youth. […] I believe in the youth and how we're going to make a change," Johnnie said. The youth continue to recognize the urgency of the climate crisis and are calling on leaders to take action. The insufficient political responses can be frustrating for youth who are passionate about the climate justice movement. Howerver, Nat finds comfort in her belief that "we do have the solutions; we just need to do them." Her certainty in our ability to act,

and her desire to give back to the environment, pushes her to be involved in the climate justice movement.

In addition to these connections to social justice, community solidarity, youth activism, and tangible action steps, students were also driven by a strong desire to protect the environment for future generations. Miles mentioned how his actions would impact his younger sister and all the kids he worked with through the Boys & Girls Club. He often asks himself, "What can I do that will preserve this land for the current generation, but also for the next generation?" Johnnie shares Miles' concerns for the youth of tomorrow. "I feel like […] we have to leave something for the […] younger, upcoming generation to have," Johnnie said. "If we don't leave something for them to grow up from […] It's not fair." Intergenerational justice motivates these young men to continue taking steps toward a more sustainable future for the youth of tomorrow.

Lastly, among these motivations are personal experiences with the climate inequities students work to address. Having family members and friends who are immigrants gave Autumn a deep-seeded connection to the racial, environmental, and socioeconomic injustices migrants experience as a result of hostile institutional policies. "Seeing the hostility toward […] immigrants from all over here in the United States; that really pisses me off," said Autumn. "Knowing there's a connection [between migrants and] the climate crisis has really motivated me." Students are driven to take action against the institutional structures which continue to place these burdens on family members.

Suggestions for a More Climate Justice at CSB/SJU

At the end of each interview, students shared their thoughts on how CSB/SJU could implement more climate action in campus operations and activities. Students expressed a wide range of ideas, from informational flyers and hosting climate justice sessions at first-year

orientation, to sending CJC students into middle and high school classrooms for in-class presentations. They repeatedly spoke about the importance of getting more non-Environmental Studies students involved in the climate movement. As Johnnie points out, "Climate change […] is going to affect everyone. […] It would be helpful for other students to know and be aware about it," said Johnnie. He saw classroom conversations as a method to get more campus-wide dialogue started within the student body.

Clara, Autumn, Lucy, and Veronica also saw joint campus programming as a way to get more students engaged in climate action. Autumn believed collaborative events with other campus departments, student groups, and local organizations were "some of the most successful events [CJC put on]." Clara cited the Gitchi Gami Gathering in Duluth, MN as a primary example of how these collaborative events bring student awareness. "I think [traveling for the gathering] really brought students in, and […] moved them to an understanding of the connection between climate, themselves, and the local area," she said. Engaging in similar activities with the Institute for Women's Leadership (IWL), Prism, PRP, and the Outdoor U was something Clara and other CJC members hoped to see more of in the future.

In addition to increased student involvement, CJC members repeatedly expressed their longing for more action at the institutional level. "It's frustrating that I feel like the administration gets in the way of what the student body – and even the faculty – wants," Lucy said. "I think that money is always the main concern for our school as opposed to things […] like morals or the bettering of society." Autumn agrees, saying she give CSB/SJU a C- on climate justice initiatives. "[A]dministration could do so much more to get involved," she said. Autumn believes "Environmental issues really fall under the school's Benedictine values through stewardship and justice […] but [CSB/SJU is] not prioritizing [climate justice] that way." From

students' perspective, the Board of Trustees, Investment Committee, and administrative leadership were not living up to their commitment to sustainability.

Clara compared our institution's climate actions as "mostly at the level of understanding that recycling is good, and we should do more of it." Clara and others expressed that CSB/SJU needs to "move towards system change and an entire shift in the way we do things." Miles states how CSB/SJU "have the opportunity to be leaders in sustainability, if they want to be." Yet, CJC members believe CSB/SJU is far from reaching these leadership goals. Some potential pathways toward these large-scale, systemic changes which came from interview conversations include fossil fuel divestment, increased administrative transparency and engagement with the student body (such as inviting more students to board meetings), and selecting presidents who prioritize climate justice and campus sustainability. As Steve says, "It's our future [at stake] and we're the ones, […] who are gonna feel it."

VI. Discussion

These survey results and interview conversations offer several recommendations and future paths for the CSB/SJU community to take going forward with outdoor programming and climate action. There was a common understanding of nature's importance in students' lives. CJC members all recognize how their experiences in traditional (national parks, woods, mountains, beaches) and nontraditional (lawns, urban gardens, city neighborhoods) outdoor spaces shaped their environmental perspectives and concerns coming into college. Miles and Autumn's stories highlight, differential barriers for access to, and knowledge about, more traditional outdoor recreation can potentially limit students' ability to engage with natural spaces at CSB/SJU. Students who did not grow up with many traditional outdoor experiences may feel hesitant to take part in outdoor activities on campus. If CSB/SJU is to get more students outside, campus

groups should make their programming accessible to students with all levels of experience. This may take the form of more "How-To" events to explain things like hiking, fishing, snowshoeing, and canoeing. It could also look like having "Trail Walks for Beginners" or partnering with cultural clubs on campus to put workshops together that highlight different ways cultures from around the world engage with the outdoors.

Slight changes in rhetoric and advertising can make programming more welcoming. For example, ensuring students from a variety of backgrounds, physical abilities, and experience levels are represented in outdoor advertising can help more students feel like they are represented in these spaces. Other suggestions include highlighting how outdoor recreational equipment is used rather than just saying the OLC has equipment for rent. Titles like "I'm in the Arboretum. What do I do now?" can engage a different audience than titles like "Arboretum Activities" might.

Another key theme to note is the desire for more collaboration between different campus departments, clubs and organizations. The student body has taken great notice of this disconnect between campus groups and is actively working to bridge the gap on. Collaborative programming offers a variety of advantages, from providing more diverse ideas for topics to cover and approaches to take in event planning, to welcoming students with a wider array of interests and backgrounds to the program. Partnerships between outdoor/sustainability/climate groups like CJC, the Outdoor U, SA, OLC and PRP, and other campus organizations like the Institute for Women's Leadership, Active Minds, Prism, International and Intercultural Student Services, and the cultural clubs on campus can help more students feel connected to the climate movement and outdoor recreation. For example, CJC could partner with the Hmong Americans Involving Students (HAIS) club to host an event about climate change and Hmong agriculture, or

a program about environmental racism and climate injustice with the Black Student Association (BSA) and Exploring Latin American Culture (ELAC) club. More collaborative programming gives CJC a way to spread awareness and concern for climate justice, and can help more students find connections to the climate movement.

Looking at partnerships for outdoor programming and climate action in particular offers a number of ways CJC, SA, PRP, the Outdoor U, and OLC can engaged with one another. PRP and CJC could partner for Spring break trips and take students to climate demonstrations in other parts of Minnesota. CJC could help the Outdoor U put together programming, tips, and tools for discussing climate change with K-12 student groups during their field trips in the Arboretum. The OLC could come speak about how climate change impacts winter sports like ice fishing, cross-country skiing and snowboarding at one of the CJC meetings – or vice versa. There are endless possibilities.

While students' motivation for climate action stemmed from personal values, relationships, and identification with climate injustices, students' outdoor experiences helped inform several of these motivations. For example, Veronica recognized how valuable outdoor spaces were to her as a sanctuary and place of peace, connecting this to the social injustices of climate change: "[A] lot of times, not having access to [natural places] also leads to not having access to a lot of resources and disparities in human rights." Similarly, Miles' care for his community and concerns about the environmental pollution he witnessed outside provided a platform for him to connect climate justice experiences in college to these environmental disparities. Therefore, building more connections between CSB/SJU students' outdoor experiences and the intersectional issues of climate change can motivate more students to take climate action.

Finally, survey results and interview conversations reveal not only the ways students are currently taking climate action, but also their desire for stronger climate initiatives at CSB /SJU. From increased student involvement and climate-based classroom curriculum to stronger institutional commitments, goals, and strategies for climate action, CJC members and survey respondents believed climate change should be taken more seriously on campus. Students are concerned about what the future holds in the midst of the climate crisis. As a higher educational institution grounded in the Benedictine values of stewardship, justice, and community living, CSB/SJU has the responsibility to provide the best mission, strategic planning, and institutional actions for its students. Now, CSB/SJU has the opportunity to be a leader in climate justice by integrating new climate initiatives to ensure students have a sustainable, healthy planet to live in.

VII. Conclusion

Understanding the impacts of outdoor recreation on young adults' perceptions of, and willingness to take action for, climate change is a crucial part of developing a climate just future. CSB/SJU offers a unique campus environment for outdoor programming, environmental education, and experiential learning. Incorporating more climate justice conversations within these spaces can be a valuable tool for students to connect their outdoor experiences to the issues, uncertainties, and opportunities for action which the climate crisis presents. By focusing on intersectional and collaborative campus programming, the CSB/SJU community can bring students from all backgrounds, experience levels, and interests into the climate movement. The next generation of young leaders are speaking out, standing up, and holding political leaders accountable from across the world. Youth are concerned about what climate change means for their lives now and into the future. Now is the time for CSB/SJU to stand up alongside its student body and be leaders in stewardship, sustainability, and social justice.

Appendix

Interview Questions:

Outdoor Experiences

1. Could you please tell me a little bit about your personal experiences with the outdoors?
    a. Both as a child and young adult/college student
    b. How do you define "nature"? What comes to mind when you think about "the outdoors"?
2. Has this time spent outdoors changed at all since coming to CSB/SJU? If so, how?
3. Do you take part in any outdoor activities or outdoor programming at school? If so, what?

Climate Action

1. How did you first become aware of climate change?
2. How did you get involved in the climate movement and/or CJC specifically?
3. What is your driving motivation for taking action on climate change/climate justice?
4. What would you like to see more of regarding climate action at CSB/SJU?
    a. Alternative phrasing: What is CSB/SJU doing well in terms of climate action and what could be improved?

Closing

1. Do you have any questions for me?

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