Exploring Connection to Nature and Place for Wellbeing With Refugees Who Access
Nature-Based Programs in Mi'kma'ki (Nova Scotia)

by

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Dalhousie University is located in Mi'kma'ki, the ancestral and unceded territory of the
Mi'kmaq. We are all Treaty people.

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Abstract

We have entered an epoch characterized by record-breaking climate events and human displacement. While more people are experiencing the detrimental effects to their wellbeing from climate change, environmental degradation, and displacement, there is an opportunity to explore what solace and wellbeing benefits are found (or prevented) when fostering a connection to nature and community. Nature-based programs, such as those offered to refugees by the Immigrant Services Association of Nova Scotia (ISANS), are known to foster an array of social, physical, and emotional wellbeing benefits. Focusing on participants' perspectives and lived experiences, this is a phenomenological qualitative study that used semi-structured interviews and photovoice methods with eleven newcomers who accessed nature-based programs through ISANS. With the knowledge-dissemination plan of returning insights back to ISANS, the goals of this thesis were to: understand the wellbeing outcomes for refugees who attend these trips, identify their motivations, barriers, and supports for access, and explore their experiences connecting to community and nature. Using a social wellbeing framework, participants' wellbeing outcomes from accessing nature-based programs were explored. Critical attention was given to access and inclusion factors that influence how participants may access, interact, and feel within an outdoor space. Participants' experiences connecting to community and nature were explored using photovoice, a participatory arts-based method that encouraged participants to showcase their own lived experiences and stories while spending time in nature. Refugees' experiences centred in this thesis offer insight into the emotional and social wellbeing outcomes of nature-based programs as well as provide recommendations to mitigate the identified gaps and barriers in access that remain.

List of Abbreviations Used

BIPOC	Black, Indigenous, and People of Colour
CBPR	Community-Based Participatory Research
CER	Community-Engaged Research
COVID-19	Coronavirus Disease of 2019
EC	Environmental Connectedness
GAR	Government-Assisted Refugees
HRM	Halifax Regional Municipality
ISANS	The Immigrant Services Association of Nova Scotia
MES	Master of Environmental Studies
PBE	Place-Based Education
PBOL	Place-Based Outdoor Learning
PTG	Post-Traumatic Growth
PTSD	Post-Traumatic Stress Disorder
RSD	Refugee Status Determination
SSHRC	Social Sciences and Humanities Research Council of Canada
TE	Traumatic Event
UNHCR	United Nations High Commission for Refugees

Glossary

Biophilia

This study highlights the role of biophilia while outdoors, which refers to the general human preference for being in natural settings (Engineer et al., 2021). This preference may be due to the underlying benefits nature offers to our mood, daily coping strategies, social behaviour, social cognitive functions, blood pressure, and heart rate, and may also be attributed to human's evolutional survival needs to access food, water, and protection from the natural environment (Kuo, 2001).

Climate Grief

One of the ways people express their concern for nature and the interconnected suffering of human and non-human entities is through the term climate grief. Climate grief describes the emotional reaction of sadness, hopelessness, anguish, distress, or despair from environmental degradation and change. Refugees are particularly vulnerable to experiencing climate grief, which can arise as an emotional effect of disruptions to place-attachment (Galway, 2019). A strategy to cope with climate grief and other climate emotions is to connect with and advocate for one's local environment and community through nature-based programs, community action initiatives, and pro-environmental activities (Hordyk et al., 2015; Ives et al., 2017; Pretty et al., 2005; Seaman et al., 2010). A better understanding of the complex and diverse emotional experiences of climate grief can help pave the way for collective understanding, mourning, reconfiguring, and ultimately, designing effective environmental actions that can inspire hope toward more sustainable futures (Cunsolo & Landman, 2017; Wilks & Harris, 2016).

Place-Attachment

Place-attachment theory investigates our emotional connection (which can be influenced by our personal or cultural identity, imagination, memory, meaning, social connection, etc.) to the natural, cultural, and social environment (Dandy et al., 2019; Dynamics of Placemaking, 2020; Hernández et al., 2007; Leviston et al., 2018). Researchers increasingly highlight the wellbeing effects of experiencing disruptions to place-attachment due to displacement, "leading many refugees to feel a sense of loss, grief, and disorientation which can negatively impact upon their wellbeing" (Kale, 2019, p. 1). Recent studies indicate that on top of forced displacement, climate and landscape change

also threatens many people's connection to their natural and social environments which can lead to feelings of anxiety, grief, fear, and hopelessness (Comtesse et al., 2021; Leviston et al., 2018). The severity of these emotional reactions is tied to one's level of place attachment (Comtesse et al., 2021). Paradoxically, while people with a closer connection to a place are more vulnerable to experiencing adverse emotional reactions due to climate change and/or displacement (Cunsolo & Ellis, 2018), simultaneously, a close connection to nature also improves overall wellbeing and mitigates climate-related mental health challenges (Hordyk et al., 2015; Pretty et al., 2005; Seaman et al., 2010).

Environmental Connectedness (EC)

Environmental, nature, or place connectedness is a psychological construct that describes an "affective, cognitive, and/or physical human relationship with nature by using terms such as affinity, biophilia, commitment, ecological self, identity, inclusion, relatedness, and sensitivity" (Beery & Wolf-Watz, 2014, p. 198). Using the broadly encompassing term of connection, people-place relationships are explored in this thesis.

Environmental Education

Environmental education refers to the curriculum, best practices, and teaching styles that educate on, inspire about, and connect to the environment. Environmental education can take many context-specific forms of learning in and out of the classroom setting. Such variety of approaches include place-based education (PBE) which focuses on local natural, cultural, and social ecosystems, nature-based education which situates learning experiences outdoors, and land-based education which is "specific to the North American context based on Indigenous epistemology through which the land is understood beyond the physical sense as spiritual, emotional, and intellectual" (Outdoor Play Canada, 2022, p. 5).

Nature-Based Programs

For the purposes of this thesis, the use of the term nature-based programs is broadly defined as the community activities, trips, events, teachings, gatherings that are outdoors or incorporate an element of the natural world. Nature-based is a frequently used term to describe "schools, programs, learning approaches" that tends to be a "vague term with a wide range of applications" (Childhood by Nature, 2021, para. 10). Not all nature-based programs require access to outdoor environments beyond urban spaces. In fact, many

nature-based programs are placed-based and catered to the local environment and community which aims to diminish common barriers of access (Lloyd, Truong, & Gray, 2018a). Specific examples of nature-based programs offered by ISANS often in partnership with another organization (such as Parks Canada, Common Roots Gardens, and the Nova Scotia Sea School) include: community garden programs, birdwatching trips, apple-picking trips, recreational events, kayaking and sailing activities, and overnight camping trips.

Refugees

Refugees are people who, from no fault of their own, have been forced to leave their homes and countries due to persecution, war, or violence (USA for UNHCR, 2023). Refugees have a "well-founded fear of persecution for reasons of race, religion, nationality, political opinion or membership in a particular social group. Most likely, they cannot return home or are afraid to do so" (USA for UNHCR, 2023, para. 1). Refugees who have been identified by and registered with the United Nations Refugee Agency (United Nations High Commissioner for Refugees, or the UNHCR) or another referral organization can be referred to government-assisted refugee program (GAR) in Canada which makes them eligible for income assistance from the federal government and support from service provider organizations (Government of Canada, 2022). The legal determination process of whether a person seeking protection is granted refugee status under international, national, or regional law is conducted by the government and sometimes by UNHCR (UNHCR, n.d.b); this legal process is called the Refugee Status Determination (RSD). At the Immigrant Services Association of Nova Scotia (ISANS), an immigrant-serving organization that partnered with this thesis project, clients who are government-assisted refugees receive first priority to attend their nature-based programs.

Solastalgia

Solastalgia is a term sometimes used to express these feelings of homesickness, nostalgia, or melancholia that arise for people when witnessing undesirable changes to their home environments (Albrecht et al., 2007). Solastalgia can also be understood as an emotional reaction to environmental degradation that can influence migration decisions (Askland et al., 2022). Through the lens of solastalgia, Askland et al. (2022) point out how:

...we are not only faced with an exodus of climate migrants who physically migrate but also a significant group of people who will become displaced when still in place. This has implications on the mental health and wellbeing of communities and their ability to adapt and be resilient even when in place. (p. 7)

The serious and distinct loss of sense of place has long been expressed by some communities, including Indigenous communities in the context of mental health and wellbeing (Middleton et al., 2021), and is gaining a more distinct recognition alongside the physical losses of climate change (Askland et al., 2022; Galway et al., 2019), yet critical gaps remain to support people, specifically refugees, who face emotional wellbeing challenges from relocation, displacement, or environmental change.

Trauma & Posttraumatic Stress Disorder

Trauma is experienced differently by each individual. Trauma is a term that describes the "challenging emotional consequences that living through a distressing event can have for an individual" (CAMH, n.d., para. 1). Traumatic stress is defined as the ongoing stress response activation of the mind-body experience of 'fight or flight' that can lead to health complications or other varying outcomes, such as natural recovery or resilience, or developing Posttraumatic Stress Disorder [PTSD] (Bond-Yancey, n.d., International Society For Traumatic Stress Studies, n.d.). PTSD is defined as "a diagnosable, mental health disorder that may occur after exposure to psychological stressors during a specific, severe, potentially psychologically traumatic event or series of events" (Government of Canada, 2021, para. 1). Developing and coping with traumatic stress depends on an array of factors specific to the individual, environmental, and cultural conditions in place. It can show up after a prolonged stressful situation, a painful short-term event, or a critical incident that created fear for one's life and can generally be described as an unwanted and uncontrollable event that brought an unplanned emotional reaction of fear, hopelessness, sadness, and/or anxiety (S. Calatayud, ISANS, personal communication, January 18, 2022b). Furthermore, "events that refugees have experienced related to war or persecution can all be called 'traumatic events'" (TE) (The National Child Traumatic Stress Network, 2018, para. 1). It is important to remember that posttraumatic growth (PTG) from a TE is possible. Furthermore, using trauma-informed, strength-based, safety-focused, and culturally-sensitive practices can help to avoid re-traumatization

while collaborating with refugee families. Post-traumatic growth also depends on addressing *systemic* inequities and building community resilience (Bond-Yancey, n.d.); this includes "implementing systems-wide changes to reduce violence, abuse, discrimination, oppression, marginalization, poverty, and all other root causes perpetuating the cycle of trauma" (Bond-Yancey, n.d., para. 9).

Posttraumatic Growth (PTG)

Moving beyond simply thinking about trauma as a specific event, the post-traumatic growth (PTG) "concept considers trauma as a circumstance that can produce transformative change because of challenges to core beliefs" (Tedeschi & Moore, 2021, p. 180). Transformative changes may include the challenging act of rebuilding one's identity, narrative, and core belief system that was shattered by a TE; this may explain why the processes of meaning-making and constructing one's own personal narrative (often rooted in spirituality, relationality, and new finding possibilities) is frequently captured in this study. Posttraumatic growth occurs for an individual after trauma and describes a range of areas of growth, including stress-related growth. However, defining posttraumatic growth can depend on a range of factors, including the cultural influences of different types of TE, different ways of interpreting TE, and different definitions of wellbeing and living well (Tedeschi & Moore, 2021).

Trauma-Informed Approach

"Trauma-informed practices (TIPs) are based on the knowledge and understanding of trauma and its systemic causes and impacts" (Bond-Yancey, n.d., para. 16). Core principals and concepts of being trauma-informed within the specific context of ISANS include taking an approach that is strengths-based, safety-focused, collaborative, hope-focused, and centred on the dignity of people, empowerment and choice, and cultural humility and sensitivity (S. Calatayud, ISANS, personal communication, January 18, 2022b). In practice, while collaborating with the refugee and immigrant community at ISANS, trauma-informed practices included providing opportunities for choice, collaboration, and connection based on determination, dignity, and personal control (S. Calatayud, ISANS, personal communication, January 18, 2022b).

Acknowledgments

Chapter 1: Introduction

Humanitarian and climate crises displace people at record-breaking rates each year. People who are forced to leave their homes for a myriad of multi-causal reasons, many of whom are refugees, face considerable risks to their overall wellbeing throughout their relocation journey. Reasons for relocation and displacement may be interconnected or separate from humanitarian and climate crises and can include persecution, war, and environmental threats (UNHCR, n.d.b). Improving the wellbeing of migrants and refugees through place-based approaches that connect them to their local natural and social environments is important. It is also important to listen to refugees directly and ensure that their voices are heard about effective place-based wellbeing interventions, and in ongoing dialogues surrounding the relationship between nature and wellbeing. While immigrant-serving organizations already work diligently to support refugees during their relocation journey, a greater understanding of how to structurally and relationally support the wellbeing of people who experience new and changing environments, especially as we enter an era notably characterized by perpetual change, is still needed.

This thesis is relatively unique as it spanned two research projects in Dr. Melanie Zurba's 'Community-Engaged CoLab.' The two broader projects, namely, the 'Improving Newcomers' Wellbeing Through Nature-Based Approaches (supported by a Social Sciences and Humanities Research Council of Canada [SSHRC] Insight Development grant) and the 'Creating Vocabularies and Rituals for Climate Grief Through Multiple Knowledge Systems and the Artistic Process' (supported by a New Frontiers in Research Explore grant), have a number of community and university partners. The community partner for this thesis was the Immigrant Services Association of Nova Scotia (ISANS) and the research scope focused on the nature-based programs they offer to refugee families. Nature-based programs are a form of socioecological wellbeing interventions that are well-known to be effective for newcomers, including refugees and immigrants, in Canada (Hartwig & Mason, 2016; Hordyk et al., 2015; Hurly & Walker, 2017). Exploring how refugees experience ISANS' nature-based programs to connect with their environments adds to the existing literature on socioecological wellbeing interventions, the relationship between nature and mental health, and strategies to collaboratively work towards more equitable and sustainable communities.

The pursuit to understand and embrace how humans are connected to their natural environments is not new, although public and academic interest in this topic is steadily rising. Community-based practices have long connected people to their local geographies, such as *shinrin-yoku*, also known as forest bathing in Japanese (Li, 2018), or *friluftsliv*, the Norwegian concept of finding solace in nature "not for an activity, but just to be there" (Delorie, 2020, p. 6). While it is documented that a myriad of environmental determinants can negatively impact human health, especially as climate change ensues (Bourque & Cunsolo Willox, 2014; Costello et al., 2009; Regis College, 2023), it is also well-established that spending quality time outdoors can generate an array of social, physical, and emotional wellbeing benefits (Adams & Morgan, 2018; Havlick et al., 2021; Hurly & Walker, 2019; Mutz & Müller, 2016; Seaman et al., 2010). This thesis focuses on community outdoor activities that facilitate these processes, referred to as nature-based programs.

Nature-based programs act as catalysts for wellbeing outcomes by combining the two integral elements of connecting with nature and community. Individual and community wellbeing outcomes from participating in nature-based programs are bolstered by evidence (Koay & Dillon, 2020; Markevych et al., 2017; Ono, 2020; PaRx, n.d.; Singleton, 2020). Healthcare professionals in select Canadian provinces now prescribe time spent in nature (with a Parks Canada Discovery Pass) as a component of their mental and physical health treatment plan (CBC Radio, 2021; Outdoor Play Canada, 2022). Combining the benefits of physical activities while spending time in nature, such as hiking, also presents the two-fold benefits of boosted mental and physical health; these wellbeing outcomes include a lower risk of developing type 2 diabetes and depression, decreased stress and anxiety, lower systolic blood pressure, improved cardiovascular fitness, and higher self-perceived health (Coventry et al., 2021; Jiminez et al., 2021; Pretty, 2004; Markevych et al., 2017; Twohig-Bennett & Jones, 2018).

Nature-based programs also offer opportunities for fostering social connections which enhances both individual and community wellbeing. Spending time in community spaces and connecting with nature not only can improve support networks and community wellbeing (Adams & Morgan, 2018: Hordyk et al., 2015; Koay & Dillon, 2020; Pretty et al., 2005; Seaman et al., 2010), but it can also improve climate-related

mental health, such as climate grief, and overall wellbeing (Barraclough, 2022; Hordyk et al., 2015; Pretty et al., 2005; Seaman et al., 2010). However, not all natural spaces are accessible or induce the same wellbeing outcomes. In fact, the rhetoric describing Canada's parks system as "awe-inspiring 'wild' lands..." can reinforce and reinstate "…the purposes of settler-colonial territorialization and tourism" (Youdelis, Nakoochee & O'Neil, 2020, p. 223). The exclusion and displacement of Indigenous people from natural spaces erase Indigenous history, identity, and sovereignty to and on the land (Castleden et al., 2008; Hurly & Walker, 2019). Other marginalized groups, including Black, Indigenous, and People of Colour (BIPOC), have also been historically excluded from accessing natural spaces, while being disproportionally impacted by the mental, physical, social, and environmental effects of climate change and while being on the frontline of climate and environmental justice movements (Burton, 2020). While not monolithic, "BIPOC communities do have their own connections with the natural world" (Tang, n.d., para. 8). Tang (n.d.) emphasizes how dialogue around environmental activism and outdoor recreation has been "missing the voices of the BIPOC and marginalized communities" and their lived experiences about what nature and outdoor recreation means in their own lives (para. 9). Diverse group's experiences about their relationship with nature can add to our understanding of the intimate connections between humans and their natural and social environments, and if this separation exists at all. Furthermore, nature-based programs are sometimes criticized as being assimilationist if the so-called Canadian outdoors is offered, specifically to newcomers, in a way that excludes diverse perspectives of the landscape or nation (Hurly & Walker, 2019).

Refugees may face barriers to accessing nature, recreation spaces, and nature-based programs. Privilege exists in Canada to acquire the equipment, time, transportation, and knowledge to engage in many outdoor activities and feel emotionally attached to one's environment (Hurly & Walker, 2019). The Immigrant Services Association of Nova Scotia (ISANS) understands and mitigates these access and inclusion gaps in outdoor recreation in Mi'kma'ki (Nova Scotia) by offering nature-based programs to refugees to better support their wellbeing. Nature-based programs offered by ISANS aim to mitigate these accessibility barriers for refugees, and this study will contribute to this goal by identifying what helps and what hinders participation in ISANS's nature-based programs.

Refugees' lived experiences, about nature-based programs were centred in this thesis. Simultaneously, it is important to note that the relationships that ISANS refugee community members have with nature vary significantly and cannot be generalized. This rings true with all communities which must be recognized as often having diverse interests and lived experiences (Dempsey et al., 2010; Natcher & Hickey, 2002). With that being said, this thesis explored refugees' insights about spending time in nature with ISANS and on their own time.

1.1. Community Partner & Research Background

The Immigrant Services Association of Nova Scotia (ISANS) operates both online and in-person across Mi'kma'ki (in Nova Scotia), where this study took place. ISANS is a highly suitable community partner for this study as the largest immigrant-serving agency in Mi'kma'ki (ISANS, 2017). ISANS has several physical locations in the Halifax Regional Municipality (HRM) where it is a key service provider for immigrants and refugees (ISANS, 2017). Along with language, employment, skills, and community connection programs (ISANS, 2022; ISANS 2021b), a range of recreation programs are offered by ISANS with priority given to government-assisted refugees (GAR) who have arrived in Mi'kma'ki within 18 months. I use the traditional Indigenous boundary of Mi'kma'ki in an effort to take a decolonial approach to the colonial geographical boundaries and systems I operate in. However, it is important to note that the nature-based programs featured in this thesis only took place in the province of so-called Nova Scotia, specifically, while the entirety of Mi'kma'ki encompasses the areas now known as Nova Scotia, Prince Edward Island, and parts of Newfoundland, Gaspé Peninsula, and New Brunswick (Native-Land.ca, 2022).

ISANS also offers opportunities for immigrants and refugees who are interested in advancing their skills to find, register, and access recreation programs in HRM to be matched up with Recreation Navigator volunteers who support these processes (ISANS, 2022b; L. Poce, personal communication, December 3, 2021). These programs are particularly important during the current COVID-19 pandemic as newcomers face even higher levels of social isolation (L. Poce & H. Thorne, personal communication, 2021). Additionally, due to the COVID-19 pandemic, sports registration and funding applications have moved almost entirely online which gatekeeps refugees who do not

have internet access, computer skills, literacy, or do not speak English (H. Thorne, personal communication, December 7, 2021).

The growing popularity of nature-based programs, such as those currently offered by ISANS, is among an established body of research stating the mental and physical benefits of outdoor recreation for newcomers, including immigrants, refugees, and migrants, during the oftentimes challenging and isolating period after relocation (Campbell et al., 2016; Hurly, 2019; Hurly & Walker, 2019). Prior to relocating to Canada, many immigrants report equal or higher levels of health compared to the Canadian-born population; however, as defined by the Healthy Immigrant Effect, their health declines in the years following relocation to "develop the same or even worse health status than Canadian-born population" (Swinkels et al., 2011; Fuller-Thomson et al., 2011; Newbold, 2005; Vang et al., 2017; Woodgate et al., 2017, p. 2). Decline in immigrant wellbeing can be caused by stressors of adapting to a new place and learning a new language and new cultural norms, exposure to different diseases, mental health effects of post-traumatic stress disorder (PTSD), and social determinants of health which include the barriers mental health services, inadequate housing, low income, discrimination, and social isolation (Hartwig & Mason, 2019; Hordyk et al., 2015; Harris et al., 2014; Swinkels et al., 2011; Ng & Zhang, 2021). Meanwhile, refugees usually arrive in poorer health than immigrants, while also being impacted by social determinants of health, "face health disparities and often a greater burden of infectious diseases" (Swinkels et al., 2011, p. 928; Woodgate et al., 2017).

Refugees are also more likely to experience poorer mental health outcomes than the Canadian-born population, and they are less likely to access mental health services (Ng & Zhang, 2021). Barriers to accessing mental health services may include cultural barriers (such as lack of appropriate linguistic and cultural services) and structural barriers (such as lack of time or transportation) (Ng & Zhang, 2021). Wellbeing interventions such as nature-based programs (alongside structural healthcare changes) that are accessible, inclusive, and culturally specific offer promising avenues to improve newcomer wellbeing (Hartwig & Mason, 2016; Harris et al., 2014).

Examples of nature-based programs offered by ISANS include community gardens located in the Halifax Regional Municipality (HRM) (Burgess, 2019; Burgess &

Drudge, 2018; ISANS, n.d.). Community gardens are a well-documented example of a community initiative that connects gardeners to their local environments and promotes a sense of belonging to a community of like-minded individuals sharing a common space and experience, which is a process sometimes referred to as 'place-making' (Albers et al., 2021). Such nature-based community initiatives are also a crucial component in the wider project of climate change adaptation. For example, refugee participation in place-making activities may facilitate a closer connection to nature which in return motivates them to protect and sustain their natural environments (Dushkova & Ignatieva, 2020). Finally, insight about the mental wellbeing impacts of relocation and climate change remains unsaturated in the literature, and gathering diverse perspectives and experiences of these phenomena may reveal if (and *how*) nature-based programming provide some form of sanctity, relief, or community support for the growing number of people experiencing unique mental health challenges due to forced relocation from their home environments, or even due to witnessing undesired changes to their home environments (i.e., 'solastalgia') (Gifford & Gifford, 2016). Despite growing interest and literature, the emotional and spiritual aspects of relocation and climate change remain understudied (Askland et al., 2022).

1.2 Research Rationale

In an effort to be as transparent as possible regarding the creative and practical inception of this thesis, as well as include the affiliated project partners and funding, this section will describe the rationale for this research. The community partner for this study, ISANS, is also a part of the broader and affiliated 'Improving Newcomers' Wellbeing Through Nature-Based Approaches' (funded by a Social Sciences and Humanities Research Council of Canada [SSHRC] Insight Development grant) that is a research project created in collaboration with ISANS and other immigrant-serving agency partners. Ongoing collaboration with a community partner in all stages of the project (i.e., discussions on an appropriate research topic, recruitment strategy, and knowledge dissemination plan), specifically in health research with underserved communities is key (Afifi et al., 2020), and ensures that the outcomes of the study are relevant and beneficial for the community (Cundill, 2015; Ortiz et al., 2020; Shea et al., 2017). This thesis added insight to the 'Improving Newcomers' Wellbeing Through Nature-Based Approaches'

project which will be shared back with ISANS and can be beneficial for other organizations offering nature-based programming to newcomers, and more specifically to refugees. These nature-based programs are almost never offered by one organization such as ISANS alone but are rather offered in collaboration, such as with Parks Canada and the Nova Scotia Sea School. Therefore, this thesis offers valuable insight for other organizations in Mi'kma'ki that facilitate nature-based, place-based, and community-based programs. Refugees' experiences shed light on what is currently working at ISANS and what changes can still be made to improve the offerings of future nature-based programs in terms of accessibility and wellbeing outcomes.

This thesis also gathered diverse phenomenological insights into the unique processes of relational wellbeing during time spent in nature. The insights shared by newcomer participants, and specifically refugees, were centred and amplified to fill in a gap in the second broader project, 'Creating Vocabularies and Rituals for Climate Grief Through Multiple Knowledge Systems and the Artistic Process' (funded by a New Frontiers in Research Explore grant). This broader project unpacks the impacts of the environmental crises on human wellbeing through the diverse vocabulary (such as different ways of expressing the terms 'climate grief' and 'sense of place'), rituals or actions (such as spending time in nature or taking part in community initiatives and activism), and the artistic practices (such as visual art or photovoice) as means for undertaking complex conversations and detangling the thread (and threat) of climate change and overlapping, ongoing crises.

1.3 Research Purpose & Objectives

A knowledge gap remains for ISANS as a service provider about the impact of their nature-based programs on the wellbeing of refugees. To offer these programs, ISANS partners with other organizations, such as the Nova Scotia Sea School and Parks Canada. This study includes diverse perspectives of refugees with different backgrounds, ages, and experiences who attend these and additional nature-based programs in Mi'kma'ki. As framed by Schwass et al. (2021), this thesis aligned with the goal to "explore how the characteristics and processes of experiences on place-based [and nature-based programs] develop participants' relationship with natural places" with the intention to reveal any implications for refugee wellbeing (p. 227).

The ISANS community has valuable insight into the benefits of community connection and nature-based programs. Refugee participants in this thesis offered effective ways to address the existing barriers, challenges, and strengths of nature-based programs; their insight and experiences will help to improve the accessibility and wellbeing outcomes of these programs that will in return benefit future refugees who access services at ISANS, or at other immigrant or environmental organizations offering place and nature-based programs. Overcoming barriers and challenges is not new for refugees who undergo irrevocable changes from no fault of their own; this includes backgrounds of forced displacement due to war, persecution, and increasingly, climate change that worsen existing humanitarian crises (Podesta, 2019). Refugees' incredible resiliency to adapt to change and undergo post-traumatic growth is not without the companion call for action, such as structural changes to improve the wellbeing of refugees and address social determinants of health. This thesis centred refugee perspectives about wellbeing intervention strategies for their own community, but the findings may also be relevant for people interested in understanding how community-based and nature-based approaches improve wellbeing.

With the focus on listening to, understanding, and amplifying participants' own experiences of wellbeing and connection to social and natural environments, this thesis took a phenomenological approach. This thesis explored the lived experiences of participants and engaged with some theoretical perspectives, such as the social wellbeing framework and diverse ways of expressing relationships to the world around us (i.e., place-attachment, etc.). The overarching research goal was to explore the nuanced and holistic impacts on wellbeing for refugees who attended nature-based programs offered by ISANS in HRM. The scope was then narrowed down using the lens of access and inclusion of recreation and connection to nature and community. The specific research objectives to meet this goal are outlined below:

1. Identify the motivations, barriers, and supports to access for refugees who participate in nature-based programs through ISANS.
2. Explore how nature-based programs offered by ISANS, such as the Learn-to Camp and the Nova Scotia Sea School trips, impact the social wellbeing of participants.

3. Gain insight into refugees' experiences of connecting to nature and sense of place.

4. Through the photovoice method, explore what feelings emerge in natural settings for participants and any implications for wellbeing.

1.4 Positionality Statement

Taking a nuanced approach to qualitative research that centres newcomer voices requires thoroughly situating myself as a 'qualitative instrument' in all aspects of this research design (Xu & Storr, 2012). This includes being transparent and reflexive about my background, interests, and biases that impact the crafting of the research objectives, collecting and analyzing the data, and meaning-making of the results, especially as an outsider to the newcomer community (Berger, 2015). To start with, I can unpack the dimensions of my 'positionality,' which include "personal characteristics, such as gender, race, affiliation, age, sexual orientation, immigration status, personal experiences, linguistic tradition, beliefs, biases, preferences, theoretical, political and ideological stances" as an ongoing process (Berger, 2015, p. 220).

Some of the identities and perspectives I lead with include a young, white, queer, cis woman of European settler origin who was born on Vancouver Island, British Columbia to a working middle-class family. Some of my ancestors relocated to so-called Canada in 1912 and settled on the farmlands of Manitoba. In hindsight, I often found myself longing for a more fulsome picture of my family history of relocation and our ties to land, community, and cultural practices. I have my own limited experience and story of moving within Canada and beyond for the opportunities of work and school, and to connect with new places or places my family has ties to. My experiences living in different countries for education (including Czechia for a year) likely shaped my interests and led me to the nature-based project and the climate grief project. Climate grief and eco-anxiety were familiar (but not understood emotions) that I explored through my artistic practices of painting and poetry. My love of the arts for exploring, processing, and expressing the entangled emotions of climate grief, eco-anxiety, hope, and empathy for nature presented a clear compatibility with the arts-based methods I used in this thesis.

I recognize the structural place I am situated in as I pursue these thesis topics; this includes how the land I live on, and the natural spaces I write about, have an ongoing

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history of excluding and displacing people (Community Commons, n.d.). Canada's legacy of parks and outdoor spaces includes outright displacing, disconnecting, and dispossessing Indigenous people from the land and water. I extend my recognition and gratitude to the original custodians of the land, including the Mi'kmaq people, where I currently live, and the Snuneymuxw First Nation, where I spent my childhood. Working within the system of colonialism continues to be an inevitable aspect of my positionality. I often reflect on what Nikki Sanchez shared in her presentation about her relationship with the land and climate grief: "Colonialism is not your fault, but it is your responsibility." My intention is for this thesis to be an act of honouring that responsibility; and all the while, also ensuring these acts are not patronizing (Inuit Tapiriit Kanatami, 2018) or led with white saviourism.

As an outsider to the newcomer community, I took steps to fill in the gaps in my ability and knowledge as appropriate. My Recreation Navigator volunteer role at ISANS consists of weekly meetups or check-ins with a refugee family who is seeking additional support to navigate the sometimes-confusing system of accessing recreation in HRM. With ISANS' kindness and help, I was able to learn more about the registration, outreach, communication, inclusion, and access challenges in HRM. Leisure is not always free. Occasionally, my roles as a student, community-engaged researcher (academic), and ISANS volunteer (activist and community member) had a tendency to blur (Banks et al., 2013). Volunteering helped me gain a better understanding of local recreation services, and, in hindsight, bolstered my understanding of some facilitators and barriers of recreation. Such a multi-directional approach to this work is not necessarily a limitation, but a strategy that helped me take a more community-based approach to this thesis and offer my time back to the community at ISANS. My own personal benefits as a student cannot be understated (such as gaining a master's degree).

1.5 Thesis Structure

This thesis is organized into six chapters using a two-paper approach. The two-paper approach was selected because of my intention to publish upon graduation from the Master of Environmental Studies (MES) program and upon further discussion with my community partner, ISANS, to agree on a fair authorship plan for publication. Throughout the thesis, I alternate between the use of the terms "I," which refers to the

lead researcher, Morgan, and "we," which refers to the co-authors who will be included in the publication. More specifically, I use "we" in Chapters 3 and 4 as these papers will be eventually submitted for publication with co-authors. The first chapter introduces the research context, community context, research rationale and objectives, and researcher positionality. The second chapter provides a more fulsome overview of the research methods, design, methodology, ethics, and analysis that could not be captured in Chapters 3 and 4 which are limited by the anticipated publisher's formatting standards. Some repetition in the methods sections of Chapters 3 and 4 can be found because these two papers use the same data collection methods. Chapter 3 explores the first two research objectives and integrates the findings and discussion with relevant literature on social and environmental determinants of health. Chapter 4 explores the last two research objectives and showcases the photovoice images submitted by participants to illustrate the findings on relational wellbeing and connection to nature. Chapter 5 focuses on more specifically youth's perspectives on the research objectives and shares the additional findings of personal narratives on hope and transformation. The final chapter provides summaries of the findings from Chapters 3, 4, and 5. Chapter 6 concludes with notes on this study's strengths and limitations, and finally, recommendations for future research.

Chapter 2: Research Methods & Design

2.1 Research Reflexivity & Rigour

Central to carrying out this thesis is my responsibility to be reflexive and transparent about what led me to be in the position to do this work. It is my shared belief that reflexivity and humility are crucial to co-creating and amplifying knowledge; this requires acknowledging that I have an inevitable impact on the qualitative research process (Berger, 2015). As phrased by Berger (2015), it is necessary for researchers to:

> …focus on self-knowledge and sensitivity; better understand the role of the self in the creation of knowledge; carefully self-monitor the impact of their biases, beliefs, and personal experiences on their research; and maintain the balance between the personal and the universal. (p. 220)

Reflexivity, for me, is ongoing in nature and requires a continual recognition of my historical and contemporary positioning in relational spaces while navigating my multiple roles as a student, community-engaged researcher, ISANS volunteer, and outsider to the ISANS community of newcomers (Berger, 2015). In action, this might look like a "continual internal dialogue and critical self-evaluation" (Berger, 2015, p. 220).

To self-monitor the dimensions of my positionality that impact data analysis and interpretation, I turned to journaling. Journal entries and field notes came in the form of follow-up interview notes, memos while transcribing and coding, and a record of my own personal emotional reactions, doubts, and reasoning along the way as I carried out the CER process (Berger, 2015). This recording process was akin to a trail of breadcrumbs revealing my internal processing during a study rooted in community and built with other people; more specifically, as I met, volunteered, and attended educational workshops with my community partner. In practice, this also looked like brief notes taken after I attended nature-based trips with future participants, met with my committee team, received mentorship from my supervisors and support from my peers, and attended relevant academic courses and community workshops.

The follow-up reflections after the interviews recorded the nonverbal communication, body language, interview setting, sensory impressions, and any difficulties with certain questions (The AHA Centre, n.d.). Follow-up reflections

enhanced my reflexivity and awareness of the "relational aspects encountered during the interview and their influence on the co-creation of meanings" (Burns et al., 2022, p. 6). Co-constructing meaning with participants while being cognizant of the role of the researcher's personal values through field notes and memos are useful tools for social justice research (Burns et al., 2022).

Along with journalling, member checking also maintains reflexivity and enhances the rigour of the study (Birt et al., 2016; Berger, 2015). I took the approach of member checking concurrently during the interview through follow-up and clarification questions to ensure that I correctly understood the answer. With the assistance of the interpreter if present, I tried to reinstate and summarize back what was shared by the interpreter or participant, and asked clarifying questions and probing questions as needed (i.e., Could you tell me more? Did I understand this correctly?). Meanwhile, I was aware of the risk of miscommunication, language barriers, and my own limited understanding and lived experiences of this topic. Parts of interview transcripts were relistened to and noted to ensure that I understood the meaning of what was being said to me by participants. I apologize for any misinterpretations of the meaning-making on my behalf.

The following sections in this chapter also break down the guiding ontological, epistemological, philosophical, and theoretical underpinnings of this research, as well as the guiding community-engaged research (CER) approaches and best practices I used to carry out this study.

2.2 Ontological & Epistemological Approaches

How I approached the research depended on a series of philosophical and methodological decisions. Philosophical decisions made in qualitative research are namely, "related to ontology (the nature of reality) and epistemology (the nature of knowledge)" (Al-Ababneh, 2020, p. 76.) My ontological approach subsequently influences much of my assumptions about the world around me, which in this thesis can be generally labelled as constructivist. 'Constructivism' assumes that reality is not objective, but rather is constructed by the unique processes of one's mind (Moon et al., 2019). This philosophy lends itself well to exploring a diverse and non-monolithic social group, such as the refugee community at ISANS, for several reasons. First, it recognizes the reasonable possibility of "diverse and conflicting" versions of reality even in a shared

experience, such as participation in nature-based programs (Moon et al., 2019, p. 296). Constructivism makes appropriate space for different lived experiences to exist simultaneously within the refugee social group (Moon et al., 2019) which is critical as participants have different identities, backgrounds, and privileges depending on intersectional systems of power, marginalization, and discrimination. Furthermore, constructivism recognizes the important role of one's social and cultural environments for generating and constructing knowledge (Applefield et al., 2000), which makes it well-suited to explore refugees' perspectives and lived experiences relating to nature and community.

2.3 Methodology

Working within the boundaries of constructivism, I took an interpretivist approach to the research. 'Interpretivism,' as a branch of epistemology, is a "theory of knowledge" that fits nicely into constructivism by assuming that research is not fully objective, but rather constructed or interpreted (Al-Ababneh, 2020, p. 77). In this case, the data was interpreted by the researcher (and by participants during the photovoice discussion); therefore, the data cannot be dissected from the influence of the researcher (or the participants). To further define the elements in my research methodology, which is described by Crotty (1998) as the "plan of action, process or design lying behind the choice and use of particular methods" (Al-Ababneh, 2020, p. 77), this study used an 'interpretive phenomenology' methodology because it is well-suited to explore refugees' lived experiences and perspectives. Interpretive phenomenology is also frequently used by health researchers conducting similar studies (Burns et al., 2022). This approach of qualitative inquiry is highly compatible with my research objectives to explore and amplify how participants describe their own interpretations of connecting to nature, accessing nature-based programs, and applying meaning to the world around them. Interpretive phenomenology ultimately seeks to understand subjective experiences which can be applied to how participants share their emotional responses to nature.

2.4 Guiding Theories

2.4.1 Social Wellbeing Framework

The term wellbeing is well-suited to explore the nuanced and holistic components that impact health (Cairns-Nagi & Bambrap, 2013). The term wellbeing is commonly

mobilized in similar qualitative studies for a number of reasons. Fleuret and Atkinson (2007) highlight how the breadth and broad scope enable the term's ability for different meaning-making and interpreting in different contexts. The concept of wellbeing is also highly applicable to address the social and environmental influences on health explored in this study (Fleuret & Atkinson, 2007). Refugees are often uniquely positioned to be particularly vulnerable to health inequities and the literature reinstates the need to recognize the social factors that impact their wellbeing; these factors include patterns of financial insecurity, unemployment, social isolation, and lack of social networks experienced by many refugees (Harris et al., 2014; Hartwig & Mason, 2019; Hordyk et al., 2015; Thomson et al., 2015). These social determinants of health can be further classified using a holistic wellbeing framework, called the 'social wellbeing framework' (Armitage et al., 2012) (Figure 1). For the presentation of the findings, I used the social wellbeing framework to identify, categorize, and frame the wellbeing, access, and inclusion experiences shared by participants.

The foundation of the social wellbeing framework evolved from the 'social conception of wellbeing,' which goes beyond the traditional notions of wellbeing that focus solely on the individual (Armitage et al., 2012). Building off a number of wellbeing concepts and indexes that focus on basic needs and material assets, a social conception of wellbeing emphasizes the importance of *relational* processes and the collective, as well as the natural environment. This relational approach "reflects the importance of social, psychological, and cultural needs required to thrive (McGregor et al. 2009, White 2010)" (Armitage et al., 2012, p. 14). The social wellbeing framework is highly suitable for fostering and advancing the social-ecological perspective, which is especially valuable when coupled with the concept of resilience (Armitage et al., 2012). This framework was also selected for its ability to hold space for peoples' individual needs within their overarching social and cultural needs required to live a good life (Armitage et al., 2012). The framework is divided into three dimensions of wellbeing, namely, the subjective, material, and relational dimensions (Figure 1).
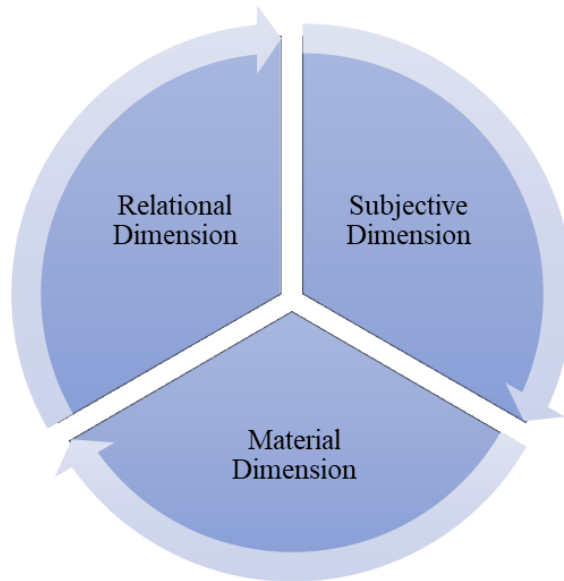
Figure 1. The three dimensions of the social wellbeing framework (White, 2009).

The subjective dimension encompasses perspectives of cultural and spiritual values and notions of self; this accounts for feelings of hope, fear, or joy that may arise while spending time with nature. Meanwhile, the material dimension relates to the considerations of time, money, physical ability, and transportation that impact the accessibility of outdoor recreation services (Armitage et al., 2012). This material dimension also identifies the opportunities and barriers to access for refugees who participate in nature-based programs, as well as physical health and wellbeing outcomes and considerations reported.

Lastly, the relational dimension recognizes the value of social interactions and relationships for wellbeing (Armitage et al., 2012). For example, it encompasses the value of making new social connections or friendships during nature-based programs. The relational dimension includes the fostering of social networks, social cohesion and trust, and a sense of belonging for participants by accessing nature-based programs. Higher levels of these elements have been associated with quality of life, social wellbeing, and community resiliency benefits (Liu et al., 2018).

Within the relational dimension, I also expanded on the complex internal and communal processes of connecting with nature. Nature-based programs can help to facilitate a closer emotional connection (i.e., place-attachment) to refugees' new, everyday environments (Gentin et al., 2019). This role of place-attachment in recreational

spaces is an emerging topic of discussion (Madgin, 2016). Drawing from the literature on place-attachment and sense of place (i.e., the subjective meaning-making people assign to a place) was key to understanding how participants express their experiences of nature-based programs.

I briefly draw on the theoretical foundations of 'sense of place' and 'place-attachment' because the "doubly constructed" place meanings using both the material and subjective dimensions were aligned with this thesis' findings (Gieryn, 2000, p. 465; Campbell et al., 2016). Participants consistently identified barriers of access which highlighted the role of the built environment in how people access and interact within a place. Meanwhile, the subjective meaning-making process and emotional interpretation and experiences of a place were also well-captured in this thesis. Campbell et al. (2016) also draw on this notion of sense of place and describes its integral role in understanding how African-Canadian youth access, interact, and feel within a place with the aim of creating more welcoming spaces for future newcomer youth:

> While sense of place consists of external and internal components, it is a subjective property of the individual, rather than the setting. Because sense of place is rooted in lived experience, different individuals may have a very different sense of place in regard to the same location and locale. This subjectivity can be influenced by several factors, some of which include gender, race, sexuality, and ethnicity. Sense of place, then, is key in interpreting different meanings and experiences of place. (p. 218)

The subjective application of meaning and values by people is the very foundation of the notion of sense of place, which is defined as the construction of subjective, emotional connections people attach to a place (Campbell et al., 2016). These lived experiences of meaning-making are intimately tied to how people relate to the natural and social world around them which makes it difficult to separate the relational dimension from the subjective dimension. At times, both dimensions, relational and subjective, were interconnected in understanding and framing participants' meaning-making and construction of emotional connection to places across time. Meanwhile, the material dimension highly influenced how participants accessed the outdoor spaces in the first place.

2.4.2 Social-Environmental Justice Theory

A highly useful approach to exploring these access and inclusion considerations is through the lens of social-environmental justice. This theory lends itself well to exploring and understanding social (and environmental) determinants of health that contribute to refugee health inequities. This theoretical background is rooted in the practical application of every citizen's right to access and enjoy the natural environment (Gentin et al., 2019). To actually achieve a fulsome picture of the role of connection to nature and community for wellbeing, it is important to ask, who currently benefits from positive experiences in nature and who is excluded from accessing the land and water?

To ethically reach my research objectives of exploring the role of connection to nature and wellbeing for participants, it was imperative to understand the considerations of access. This includes the legacy of and ongoing systems of oppression we operate in, such as the history of displacement and exclusion on so-called Canadian park systems. Privilege still exists to explore outdoor spaces that require a vehicle to access, and to enjoy urban greenspaces that tend to be located in more affluent parts of a city (Kuo, 2001). While accessing green spaces, refugees may face discrimination and systemic violence and may feel unwelcome, alienated, or like outsiders (Hurly, 2019; Hurly & Walker, 2019). However, the movement towards more accessible and inclusive outdoor recreation spaces and opportunities to connect to nature, specifically using place-based approaches and place-based education (PBE), is growing (Lloyd, Truong, & Gray, 2018a; Lloyd, Truong, & Gray, 2018b).

Key in the social-environmental justice movement is the meaningful change towards redistributing the benefits (i.e., economic, emotional, and land-based benefits) to groups that still face oppression in outdoor spaces today (Community Commons, n.d.). This includes supporting Indigenous peoples in land-back (and water-back) movements, educating newcomers on the ongoing legacy of colonialism in the parks system, and addressing access issues in outdoor recreation. While this thesis focused on the latter goal due to its limited capacity in terms of time and scope, I acknowledge the considerable gaps that this thesis operates in, and I worked to address these areas for improvement by using a social-environmental justice approach and decolonial lens to the best of my ability. Once again, and beyond the scope of this thesis, social-environmental justice calls

for commitment to actual structural shifts of decision-making power as described by Community Commons (n.d.):

> If we are to truly protect, preserve, and ensure a Thriving Natural World for future generations, it is imperative to acknowledge and repair damage done by centuries of Indigenous exploitation, environmental racism, and exclusion of people of color. At the same time as we break down barriers for communities of color to enjoy the outdoors, we must amplify BIPOC voices in scientific assessments, recognize territorial rights, and create partnerships between scientists and indigenous and local communities. In doing so, the environmental movement will gain invaluable allies in the fight against climate change and environmental degradation. (para. 13)

2.5 Community-Engaged Research Approaches

Research approaches with a community about their wellbeing, particularly in health research, need to be rooted in the community itself (Afifi et al., 2020). This was a community-engaged research (CER) study which is an umbrella term for more specific approaches of engagement that will be defined in this section of the thesis (Key et al. 2019). Enshrined in the best practices of CER is the priority for meaningful collaboration with project members in all stages of the research (Key et al., 2019; Shea et al., 2017). In this case, the project members included staff at ISANS, refugee participants from ISANS, and members of my committee team (Dr. Melanie Zurba, Dr. David Busolo, and Dr. Son Truong).

I used a CER approach and incorporated some elements of community-based participatory research to guide my partnership with ISANS. Before I was invited to join this project, ISANS and my research supervisors worked together to identify the importance of nature-based programs for ISANS and the newcomers in HRM which is key in the community-engaged process. Research *with,* and not *on,* newcomers is important in community-engaged research; therefore, the proposed study also integrated some components of community-based participatory research and participatory action research that aim to dismantle boundaries between researcher and participant.

2.5.1 Community-Based Participatory Research (CBPR)

While not completely based in or created from the community, I used community-based participatory research (CBPR) approaches to guide my partnership with ISANS. Recognizing the historical and ongoing failings within academia to meaningfully engage with relevant communities which have resulted in harmful, redundant, and counterproductive research (Inuit Tapiriit Kanatami, 2018; Funnell et al., 2020), the CBPR process aims to "elevate community knowledge, challenges traditional power dynamics in the research process, and directly benefit the communities involved (Balazs, & Morello-Frosch, 2013, p.9). This approach offers high potential to address social justice issues and encourage community action (Stanton, 2014). With a keen focus on justice, equity, and fairness, CBPR is appropriate to facilitate long-term, sustainable, and mutually beneficial relations with this community. Parachuting into a community to extract research and then promptly leaving is avoided (Beacock, 2019). Building relationships and establishing trust are enshrined in CBPR as key dimensions of long-term research that is mutually beneficial. Therefore, ongoing participation with ISANS as a volunteer occurred, and the research findings will be shared back to ISANS for further discussions on this topic. Furthermore, elements of participatory action research (PAR) were adopted in this study, specifically while using the photovoice method.

Photovoice is one of the research methods employed in this study. Standalone semi-structured interviewing is another research method conducted with all participants in this study. Meanwhile, photovoice was offered as an optional method of engagement. It was optional depending on the participants' interests to use an arts-based method and share their photos with the study.

2.5.2 Photovoice as a Participatory Method

The photovoice component of this project served as a tool for refugees to share their perspectives and lived experiences. Photovoice was selected for its suitability for the study, such as being an appropriate method to communicate with the youth participants who attend nature-based trips with ISANS (L.Poce, personal communication, April 28, 2022). Photovoice has also been used in similar studies and empowers participants to lead in the discussion of their own lived experiences (Hurly & Walker, 2019). This method can empower participants by asserting that they are the experts of their own lives and

lived experiences, as well as by offering a space for diverse voices to share their perspectives (Sonn et al., 2015). As explained by Sonn et al. (2015), "photography then is more than a methodological tool; it is a practice through which people actively engage in constructing meanings about identities, community, and belonging to place" (p. 90). As a participatory research approach, it allows for the visual communication of the research questions with participant-led photography combined with follow-up verbal discussions (Aber et al., 2017; Browne-Yung et al., 2016). This method is increasingly used by researchers in the related fields of environmental justice (Evans-Agnew & Eberhardt, 2019), human ecology (Zurba & Berkes, 2014), and cultural ecosystem services (Berbes-Blazquez, 2012). Art and images can be a bridge between cognitive and emotional knowledge systems (Bentz et al., 2021), and between researcher and participant (Hurly & Walker, 2019). Furthermore, the final photo-essay booklet included in the knowledge mobilization plan will be returned to participants who indicate their interest and served as a boundary object (Zurba & Berkes, 2024) which is defined below.

2.5.4 Boundary Work Approach & Boundary Object

Photos and other forms of art have been used as boundary objects to effectively communicate, ask questions, and advance knowledge about human ecology across knowledge-systems (Zurba & Berkes, 2014). To further define, 'boundary work' "includes methodologies to support knowledge sharing and cocreation between research partners as well as work that can translate research outcomes into on-ground action" (Zurba et al., 2019, p. 1024). Elements of the boundary work methodology were applied, which is defined by actions that create, maintain, and break down boundaries in processes of knowledge production (MacMynowski, 2007). This occurred between ISANS and the research team and worked to amplify refugees and return knowledge-products back to the partner community (Zurba et al., 2019). 'Boundary objects' are co-created products of knowledge that "make new understandings, communication, and translations between social worlds possible" (MacMynowski, 2007, p. 3). In this case, the photo-essay booklet to result from the photovoice component of this study, and the pilot nature-based program to be developed in collaboration with the 'Improving Newcomers Wellbeing Through Nature-Based Approaches' project team, serve as the boundary objects. As reflected in the knowledge-dissemination plan of the pilot nature-based program (which is beyond the

scope of this study, but my thesis findings may contribute to), boundary work highlights the importance of translating research into real-life action (Zurba et al., 2019).

2.6 Ethical Considerations

The community-engaged research vision to include and amplify traditionally excluded perspectives of refugees presents a number of ethical concerns. While engaging and collaborating with the refugee community at ISANS, specifically with the intention to fill the gap of high-quality research on their wellbeing and mental health, a number of challenges may be present (Djelantik et al., 2022). The challenges that I paid critical attention to include power dynamics, researcher biases, social inequity, the risk of re-traumatization, and the role of interpreters in ensuring informed consent is achieved and language barriers are mitigated (Djelantik et al., 2022). Community-based participatory research (CBPR) is likely best suited for addressing these challenges by dismantling structures of power between researchers and communities both systemically (i.e., redistributing control and ownership of knowledge away from universities) and individually (i.e., reflection of positionality and personal privilege) (Banks et al., 2013; Castleden et al., 2012). However, it is still imperative for me to be actively reflexive of my positionality and the inherently uneven power dynamics.

My positionality and subsequent power dynamics include my role as a third-generation white-settler Canadian who may represent the host country (Djelantik et al., 2022), in addition to my privileged role as a researcher and student. Additionally, the CBPR process of knowledge mobilization in itself can blur the lines between 'researcher,' 'participant,' 'academic,' and 'activist' and can even cause conflicts (Banks et al., 2013). These conflicts can arise around the ownership of the findings, data, and publications, and when an outside researcher brings assumptions of a community that reinforce stereotypes (Banks et al., 2013). As an outsider to the newcomer community at ISANS, 'cultural humility' was an important aspect of this study which requires my ongoing commitment to self-reflection, active listening, and the critique of power imbalances to ensure the research is mutually beneficial and relevant to all research partners (Abe, 2019). Shortcomings of 'cultural competency' should be noted, such as the stereotyping of culture and racializing of the "other" (Abe, 2019). Cultural humility, on the other hand, "places emphasis on a particular orientation toward others (or 'ways of being'), rather

than mastery of a set of competencies (or 'ways of doing') in working with others" (Abe, 2019, p. 697). Additionally, taking a 'human-centred approach' by recognizing that each participant is the expert of their own life was key in this study (S. Calatayud, personal communication, January 27, 2022).

Ultimately, as a researcher, it was my role to listen to and respect any ethical boundaries that my partner community may express, and not to define ethical research for them (Beacock, 2019). Djelantik et. al (2022) found that some researchers express their personal concern and bias that refugees are too vulnerable or risked re-traumatization, whether or not it was expressed by refugees themselves who chose to accept or decline invitations to participate. The option to decline interview questions, withdraw consent, and collaborate on the boundary object was a key strategy for respecting participants' right to choose how they would like to engage with the study (Canadian Council for Refugees, n.d.). I also took the approach to ensure that participants can share as little or as much as they like during the interview and that they may choose to decline conversations about sensitive topics. Emotional reactions and stress from recounting traumatic experiences (TE) were mitigated as much as possible in this way by reminding participants that they can decline conversation about sensitive topics (Banks, et al., 2013; McCosker et al., 2001). This risk was also minimized by taking a trauma-informed approach which includes understanding my own limited capacity and ability to offer emotional support, and therefore referring participants to qualified mental health services and resources (S. Calatayud, personal communication, January 18, 2022).

The Dalhousie Research Ethics Board (REB) reviewed this study's application and granted approval under the REB number 2022-6116. Key components of the ethics application surround prior informed consent; this includes special consideration given to participants who were under 18 years of age and participants who had specific language preferences. Once staff at ISANS reached out to potential participants directly or asked interpreters to share information about the study, interested participants were then contacted by the researcher. Study information was then shared via the consent or assent forms which outlined the purpose of the research, the amount of time and frequency of their involvement, what they would be asked to participate in, what the information they provide would be used for and with whom it will be shared, the potential benefits and

risks of participating in the project, and who would have access to their identity and any personal information they provide. These details were translated and interpreted to participants in Arabic, Farsi, or Turkish depending on their language of preference. The consent forms were designated for participants who were 18 years of age or older. Separate informed consent processes occurred for youth and adult participants to ensure that youth as a vulnerable population fully understood the context of the study and had the choice to withdraw from the study even if their caretakers had permitted them to participate. The consent forms were also for the parents or legal guardians of the youth participants younger than 18 years of age. The minimum age criteria of 13 years old was selected to lower the risks of engaging with younger children, but to still include youth voices as there were a high number of youth and families who took part in nature-based activities and were interested in sharing their experiences. The five youth participants were read the assent form by the lead researcher, and both the caretaker and the youth gave consent and assent respectively to take part in the study.

2.6.1 Trauma-Informed Approach

Increased awareness has been directed to the role of trauma in individual and community wellbeing (The Praxis Project, 2020). During the COVID-19 pandemic, taking a trauma-informed and person-centred approach in health-related fields is more important than ever before (Tomax & Castro-Vale, 2020). 'Traumatic events' (TE) are known to have a negative ripple effect on one's mental and physical wellbeing. These effects include a higher risk of physical diseases, depression, and 'post-traumatic stress disorder' [PTSD] (Tomax & Castro-Vale, 2020). The number of people affected by PTSD is extensive; one report by Creamer et al. (2001) indicates that PTSD impacts up to 90% of the population in the United States, for example. However, a study conducted by Reeves (2015) finds that "it appears that primary healthcare professionals fail to routinely address this issue with their patients" (Tomax & Castro-Vale, 2020, p. 340).

ISANS currently offers a number of enriching workshops to train and educate ISANS volunteers and members of the community in HRM, which includes an introduction to taking a trauma-informed approach. When talking about trauma, it is important to consider the systemic, cultural, and individual stressors many refugees and immigrants experience without adopting a disempowering lens. Critiques of trauma-

informed practice also include the reality that some cultures and families may understand trauma differently than western values or that there tends to be a focus on individual trauma rather than systems of oppression; this has led some mental-health experts and communities to call for an even more holistic approach beyond trauma-informed, such as healing-centred community practices (The Praxis Project, 2020).

It was also important to remember that fostering post-traumatic growth and resilience is very possible. While taking a human-centred, trauma-informed, and "Listen, learn, implement, and trust lived experiences" approach to the best of my ability (The Praxis Project, 2020), it was still important for me to be mindful of the risk of re-traumatization; this can occur despite my intention to do no harm. Risks of re-traumatization can occur while opening "pandora's box" by discussing vulnerable topics and not having the skills or time to do no further harm or prevent embarrassment and discomfort (Tomax & Castro-Vale, 2020). I do not have the skills or time to unpack a traumatic experience (TE) with participants nor was that the scope of my research. Yet the principles of trauma-informed practice that are increasingly adopted in wellbeing interventions in community settings guided how I approached this research. For example, active listening, no judgment, finding an interview location they are comfortable with, and referring participants to specialized mental health services that are freely accessible and appropriate to their needs and language abilities were key (Tomax & Castro-Vale, 2020). In carrying out this study, I respected participants' right to choose how much they wished to engage during data collection methods, and their right to decline to answer any question and withdraw from the study, for example, if painful memories resurfaced. A Distress Protocol (Appendix E) was also in place. Participants or their caretakers were given Counseling Services resources (Appendix D) during the informed consent process. Building empathy and trust-based ongoing communication, with the caveat of referring people to proper resources, were integral for both the applied trauma-informed and community-engaged practice (Tomax & Castro-Vale, 2020).

2.6.2 Language & Working with Interpreters

In order to provide full disclosure of what the research entails, informed consent needed to be specific to the community context by meeting language, cultural, and competency needs (Aagaard-Hansen & Johansen, 2008; Canadian Council for Refugees,

n.d.). The importance of me and the research team being open and transparent about the purpose and intention of the partnership and collaboration with refugees is outlined by the Canadian Council for Refugees (n.d.):

> Complete transparency must be upheld when encouraging newcomers to open up, be vulnerable and share stories, moments of their lives, anecdotes, wisdom… This is key for the safety and wellbeing of refugees, refugee claimants and migrants, as well as a best practice in your own communications approach/strategy/projects. (p. 7)

Participants' linguistic diversity was a central aspect of this study (Canadian Council for Refugees, n.d.). In practice, if English was not a suitable language for communication, the information was shared by an interpreter. A highly qualified interpreter was also available to translate the consent, assent, or counselling services forms and any project information or questions in the appropriate language as needed. ISANS was able to provide the contacts of trained interpreters whom I met beforehand to explain the context of the study and answer any questions they had about the interview guide and study materials. Interpreters played an incredibly important role in clarifying, interpreting, and sharing cross-cultural knowledge (Canadian Council for Refugees, n.d.).

2.7 Data Collection

2.7.1 Recruitment & Participant Information

Recruitment used both purposive and snowball sampling and included adults and youth who had participated in at least one nature-based program through ISANS within the last two years. The two-year length of time was determined because ISANS uses a similar inclusion criterion when offering their nature-based services usually to refugees who have arrived in Mi'kma'ki within 18 months. To be eligible to participate in the semi-structured and photovoice interviews, participants were required to be at least thirteen years of age. All potential participants had a basic understanding of the interview questions they were being asked (either in written form or verbally) and were able to provide at minimum a basic response to the questions in the language of the interpreter.

The recruited participants had pre-existing relationships with the community partner. The participants who met the inclusion criteria were identified and approached by staff at ISANS. Working very closely with ISANS during the recruitment stage likely

enhanced participants' feelings of trust and interest in the study (Wong et al., 2017). Staff at ISANS are responsible for coordinating nature-based programs. Often, interpreters are the ones sharing the information about upcoming nature-based programs. The nature-based programs predominantly included, but were not limited to, the Learn-to Camp and Nova Scotia Sea School trips offered in Mi'kma'ki. The nature-based programs were coordinated and facilitated by ISANS usually in partnership with a local environmental organization. These programs ranged in characteristics from the multi-day event of the Learn-to Camp overnight trips offered by Parks Canada, the one-time event of apple-picking, birdwatching, or hiking, and the repeated sessions of sailing or kayaking trips offered to youth by the Nova Scotia Sea School. People who attended an overnight camping trip facilitated by Parks Canada, specifically the trip offered in Kejimkujik National Park, were invited to share their experiences. A full account of the nature-based programs with ISANS participants attended is outlined below, as well as their identities shared (Table 1).

Since 2011, Parks Canada's Learn-to Camp program has been providing the equipment and training to support positive and safe outdoor experiences (Robinson, 2021). To date, media sources share positive camping experiences of those who attend these trips across Canada (Robinson, 2021; Parks Canada Agency, 2022). However, this thesis investigated the role of connecting with nature further as still "little is known about how the characteristics and processes of experiences in specific natural places extend to one's connection with nature more broadly (Beery et al. 2015; Beery and Wolf-Watz 2014)" (Schwass et al., 2021, p. 217).

Table 1. Participant descriptions shared.

	Identities Shared	**Immigration History Shared**	**Nature-Based Program Attended with ISANS**
Nissa	Adult, female, mother	From Iraq, lived in Libya and Korea, and came to Canada four years ago from Jordan.	Attended an apple-picking trip with ISANS. Attended a bird-watching trip with ISANS.

	Identities Shared	**Immigration History Shared**	**Nature-Based Program Attended with ISANS**
Shazia	Youth, female	Came to Canada about one year ago from Afghanistan.	Attended at least one Nova Scotia Sea School kayaking trip.
Shumaila	Youth, female	Came to Canada about one year ago from Afghanistan.	Attended at least one Nova Scotia Sea School kayaking trip.
Shama	Youth, female	Came to Canada about one year ago from Afghanistan.	Attended at least one Nova Scotia Sea School kayaking trip.
Huma	Youth, female	Came to Canada about a year ago from Turkey and originally from Afghanistan.	Attended two Nova Scotia Sea School kayaking trips. Attended Ready for Rec Day with HRM Recreation. Attended a horse-riding program with ISANS.
Maryam	Youth, female	Came to Canada about a year ago from Turkey and originally from Afghanistan.	Attended two Nova Scotia Sea School kayaking trips. Attended Ready for Rec Day with HRM Recreation. Attended a horse-riding program with ISANS.
Hareem	Adult, female, mother	Born in Iraq, lived in Lebanon for 20 years, and relocated to Canada five or six years ago.	Attended a trip to Oakfield Park and the zoo. Attended an apple-picking trip with ISANS in her first or second summer in Canada. Attended a winter skating activity at the Emera Oval in Halifax with ISANS.

	Identities Shared	**Immigration History Shared**	**Nature-Based Program Attended with ISANS**
Fatima	Adult, female	Arrived as a refugee to Canada from Syria three years ago.	Participated in the Learn-to Camp trip to Kejimkujik with Parks Canada. Also attended another camping trip to Shubie Park with ISANS.
Aisha	Adult, female	Arrived as a refugee to Canada from Syria three years ago.	Participated in the Learn-to Camp trip to Kejimkujik with Parks Canada. Also attended another camping trip to Shubie Park with ISANS. Attended an apple-picking trip with ISANS.
Abdullah	Adult, male	Arrived as a refugee to Canada from Syria six years ago.	Participated in the Learn-to Camp trip to Kejimkujik with Parks Canada. Attended previous camping trips to Kejimkujik with Parks Canada as a volunteer with ISANS.
Rania	Adult, female	Arrived as a refugee to Canada from Syria three years ago.	Participated in the Learn-to Camp trip to Kejimkujik with Parks Canada.

2.7.2 Semi-Structured Interviews (Part A)

Five interviews were conducted (both group and individual interviews) and a total of eleven participants took part in this study divided almost evenly into six adults and five youth. This sample size is aligned with similar studies that conduct a rich investigation into a specific topic with a relatively small number of participants (Hurly, 2019). All five youth chose to participate in a group interview, and four adults who

attended the Learn-to Camp trip chose to do the interview together. All participants gave permission during the informed consent process to have the interviews audio-recorded on a hand-held device. The interviews took about 60 to 90 minutes and were broken up into two sections: semi-structured interview Part A (Appendix A) and photovoice interview Part B (Appendix B). The photovoice interview Part B was optional and nine out of the eleven participants chose to do both parts, with two adult participants opting to do Part A only. Figure 2 provides a breakdown of these decisions made by participants, including whether they requested an interpreter in their language of preference. Figure 2 also captures the interview timeline revealing how many interviews took place and the length of time between photovoice training and the free, prior, and informed consent process.

Turkish interpretor present
Connected through ISANS

Arabic interpretor present
Connected through ISANS

Adult individual interview (1)
Prior consent and photovoice training conducted about two weeks before in-person interview (Parts A and B) at ISANS. Interview took place in English.

Youth group interview (2)
Prior consent, assent, and photovoice training (with camera provided) conducted before the kayaking trip. An in-person interview (Parts A and B) was conducted about three weeks after the consent and photovoice training. Interview took place in a public library.

Adult group interview (4)
Prior consent conducted on the day of the interview at a participant's home. Two participants chose to do Parts A and B (with the photovoice training) and two participants chose to do Part A only.

Youth group interview (3)
Prior consent, assent, and photovoice training (with cameras provided) before the kayaking trip. An in-person interview (Parts A and B) was conducted about one week after the consent and photovoice training. Interview took place outside a community recreation centre.

Adult individual interview (1)
Prior consent and photovoice training conducted about one week before the in-person interview (Parts A and B) at ISANS. Interview took place in English.

Farsi/Dari interpretor present
Connected through ISANS

Figure 2. Participant interview timelines.

The qualitative data was generated from the interviews in seven parts. First, I expressed gratitude and notified the participants that they may decline any question or withdraw from the interview at any time. Second, introductory questions were often used to briefly get to know the participant. Answers that revealed the participant's identity (i.e., their name) were removed from the transcript. Third, questions were asked about what type of nature-based program the participant engaged in, their motivation for participation, and what helped or hindered their participation. Fourth, questions were asked about participants' past engagement with nature-based programs, if applicable,

perceptions of the natural world were then discussed, such as feelings that arise in natural settings. Participants then had the opportunity to share their personal recommendations for improvement of the nature-based programs offered by ISANS. Accessibility challenges of outdoor recreation were also asked. Finally, questions about the participant's perception of home concluded the interview. As this may be a sensitive topic, this portion of the interview was the final question for when the participant was more comfortable with the interview process.

2.7.3 Photovoice Interviews (Part B)

The optional Part B photovoice interview recruited the same participants. All participants who agreed to join an interview were invited to participate in the photovoice portion of the interview that took place at the same time and location. Offering photovoice as optional emphasized participants' right to choose how much to engage with the study (i.e., respect of persons). The photovoice interview took place in two parts. The first part was a photovoice training session (see Appendix C) that took approximately 30 minutes. Training ensured that the participants understood what was asked of them and how to use the photography equipment (Zurba et al., 2017). In addition to basic photography tips offered by the lead researcher, participants were given tips to protect their identity and the identity of other people while taking photos during the photovoice training session. These protocols included not taking photos of other people's faces, their own faces, and home addresses. Safety protocols were also included in the photovoice training script (Appendix C). Participants used their own mobile devices to take photographs if available. Three point-and-shoot digital cameras were provided to youth participants in an effort to adhere to the rules of the Nova Scotia Sea School (no mobile devices were allowed during the trips).

Three or more photos were taken by participants while attending nature-based trips with ISANS or while spending time in nature on their own time. To inspire and guide the participants while they take photos, a prompt was given which asked: "Take a photo of a place you feel a connection to. What feelings emerge in this natural setting?"

The second part of the photovoice activity was the photovoice interview. Participants were asked to share and interpret their photographs if they wished. Nine out of the eleven participants decided to share and discuss photos with the study. A total of 31

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images were submitted to the study by participants. After the photovoice training (Appendix C), participants agreed with the researcher on a determined timeline to take three photos per participant (see Figure 2). Participants were asked to share the photos in advance with the lead researcher by email, if possible. The photos were viewed again and discussed in the interview setting during Part B. The interview locations varied depending on participants' preferences, and refreshments and snacks were sometimes offered depending on the location. During the interview, we referred to the photographs on a laptop or cellphone and discussed meaningful elements of the photos and how the photos relate to the participant's life (Berbes-Blazquez, 2012; Evans-Agnew & Eberhardt, 2019; Hurly & Walker, 2019). While looking at the images, participants spoke about what was important to them about the image, why they took the image, where and when the image was taken, and what feelings emerged in that natural setting.

As a form of art, the photos were not able to be fully interpreted by the researcher and outside viewers; as such, participants' own interpretations of the photographs are included in the study (Zurba & Berkes, 2014). Questions were asked by the lead researcher to encourage participants' interpretations. These questions were guided by the ShoWed method (i.e., "What do you See here? What is really Happening here? How does this relate to Our [your] lives? Why does this Exist? What can we Do about it?" (Gant et al., 2009; Werremeyer, 2020) and can be found on Appendix B. Finally, the participants were given the opportunity to include select images in the proposed study or to withdraw their contribution. Some participants predominately discussed past programs, while others who had opted to do the photovoice component of the study and attended a photovoice training, were pondering the prompt during their time spent in nature or on recent a trip with ISANS; participant responses ranged from past experiences in nature to experiences of recent trips with ISANS, and the breadth of experiences was evident in the findings.

2.8 Data Analysis

Thematic analysis of the data, which included the interview transcripts and the photovoice discussion provided by participants, took place on NVivo 12 QSR. The photovoice images themselves were not analyzed by the researcher but rather assembled with the corresponding text and themes. The interview data was transcribed using the

Microsoft 365 Word software and the researcher manually corrected each transcript by re-listening to the audio-files. Listening to the audio-files and re-reading the written transcripts also helped to immerse myself in the data. The photovoice images were coded to match the corresponding code mentioned by the participant which allowed for them to conduct and lead the meaning-making process themselves. The meaning of each photo was summarized and recorded in a separate Microsoft 365 Word document for my own tracking, identification, and organization of key themes shared in the photovoice discussion (Fereday & Muir-Cochrane, 2006). Select images were then included in the presentation of findings in Chapter 4 to illustrate key themes.

On NVivo 12 QSR, initial 'descriptive' or 'thematic' coding was conducted for each interview transcript to meet the goals of all research objectives to understand what the data 'is about' (Linneberg & Korsgaard, 2019). This approach was aligned with a similar study conducted by Hurly and Walker (2019), and the general themes included: (a) social wellbeing outcomes, (b) access considerations, and (c) relational wellbeing and place-making. The inductive data analysis used the techniques of coding, constant comparison, and memoing (Burns et al., 2022). Constant comparison using a thematic coding approach of key points of each theme within the interview and with different interviews ensured that each theme is supported by the data and consistent (Fram, 2013). Each line was coded and 'nodes' were developed to closely mirror the terms (i.e., verbatim or 'in vivo') used by participants (Linneberg & Korsgaard, 2019). Theme names presented in the papers were kept as true to the original participant statement as possible. Additional rounds of 'categorization' coding helped to identify, condense, and organize 'higher-level' themes (Linneberg & Korsgaard, 2019). All higher-level themes were compared to previous stages of coding to ensure that the final categories accurately represent the initial analysis (Fereday & Muir-Cochrane, 2006). Selected quotes are featured in the thesis to illustrate the meaning of the themes.

In order to meet the research objectives that explored dimensions of participants' wellbeing, additional rounds of deductive coding using the social wellbeing framework ensued. Predetermined nodes were used to categorize, organize, and frame the findings into the dimensions of subjective, material, and relational wellbeing. On reading the transcripts additional times, responses related to participants' motivations, barriers, and

recommendations to accessing nature-based programs and outdoor recreation were categorized thematically. Once these nodes were found in the text, the data was read line-by-line and key information was highlighted and coded as a tentative theme. An overview of the inductive and deductive steps taken for each corresponding research objective and paper is outlined below (Table 2).

Table 2. Inductive and deductive data analysis steps taken.

	Research Objective	**Inductive Analysis**	**Deductive Analysis**
Chapter 3	Identify the motivations, barriers, and supports to access for refugees who participate in nature-based programs through ISANS.	Several rounds of thematic inductive coding occurred using the constant comparison technique to identify participants' experiences, perspectives, and recommendations surrounding access issues of nature-based programs and spending time outdoors.	Final rounds of deductive coding helped to compare, add to, and categorize participants' experiences and perspectives using the 'social wellbeing framework.' The predetermined nodes used were labelled, 'social,' 'material,' and 'relational' dimensions.
Chapter 3	Explore how nature-based programs offered by ISANS, such as the Learn-to Camp and the Nova Scotia Sea School trips, impact the social wellbeing of participants.	Several rounds of thematic inductive coding occurred to 'let the data speak for itself' and cluster participants' experiences and perspectives about the relationship between spending time in nature and attending nature-based programs and impacts on their wellbeing.	Final rounds of deductive coding helped to compare, add to, and categorize participants' experiences and perspectives using the 'social wellbeing framework.' The predetermined nodes used were labelled, 'social,' 'material,' and 'relational' dimensions.

	Research Objective	Inductive Analysis	Deductive Analysis
Chapter 4	Gain insight into refugees' experiences of connecting to nature and sense of place.	Several rounds of thematic inductive coding occurred to 'let the data speak for itself' and cluster participants.' Higher level themes emerged inductively and include 'connection to community' and 'connection to nature.'	N/A.
Chapter 4	Through the photovoice method, explore what feelings emerge in natural settings for participants and any implications for wellbeing. Photovoice prompt given to participants: "Take a photo of a place you feel a connection to. What feelings emerge in this natural setting?"	Photovoice discussion transcripts were merged into the existing data using an inductive approach to identify key themes. In the final rounds of analysis, the photovoice images were matched up with the corresponding text for review and comparison.	N/A.

During data analysis, I highlighted areas of the transcripts that required additional time to ensure I understood what was being said (i.e., listened to the audio files multiple times), wrote memos indicating any areas of potential misunderstanding or researcher bias, and annotated the transcripts if key insights or discoveries (i.e., what I deemed to be

important and why) that helped to define the major themes and justify the finding claims. Findings were drawn and validated from the coded material, existing literature, supervisor review, and analytical memos (Linneberg & Korsgaard, 2019). Initial findings produced from the first round of coding were presented to my committee team for review, and the second round of coding was then shared with my supervisors to ensure research dependability. A thesis outline was also submitted to my supervisors for full review. Finally, themes were visualized on NVivo 12 QSR and all datasets (i.e., the interview transcripts, photographs, memos, and field notes) were compared to find any overlapping themes. The final themes were sorted into the two papers and bolstered by existing literature.

In closing, Chapter 2 outlined the research methodology and design of this thesis. This phenomenological study takes a constructivist and interpretivist approach to research that presents participants' own experiences and interpretations of the research objectives. The guiding theories for the thesis included the social wellbeing framework and social-environmental justice theory. This chapter also introduced the participants, described the recruitment process, and outlined their levels of engagement with the study. This thesis used semi-structured interviews and photovoice methods and took a hybrid approach of both inductive and deductive analysis of the data. In the next two chapters, findings will be shared using a two-paper approach.

Chapter 3: Exploring Access and Wellbeing Outdoors With Refugees Who Participate in Nature-Based Programs

3.1 Introduction

Promising wellbeing outcomes are associated with positively interacting with the natural world and connecting with one's localized community and place (Bell et al., 2018; Gentin et al., 2019; Kale, 2019; Markevych et al., 2017; Puhakka, 2021; Ulrich, 1991). Nature-based programs offered by environmental, private, public, and community-based organizations incorporate these interconnected elements to improve participants' wellbeing (Harris et al., 2014; Hurly & Walker, 2017). This includes nature-based programs offered to refugees, a population that often experiences health inequities, such as those accumulated by social determinants of health (i.e., social isolation, social inequity, and lack of adequate healthcare support) and environmental injustice (i.e., access rights to outdoor recreation and natural spaces).

The Immigrant Services Association of Nova Scotia (ISANS) is an organization that offers a range of client-centered programming to immigrants and refugees in Mi'kma'ki, specifically in Nova Scotia (ISANS, 2017). These programs include language, employment, skills, recreation, community connection, and mental health services (ISANS, n.d.; ISANS, 2017; ISANS, 2022). In this paper, we focus on the nature-based programs offered by ISANS, which are usually facilitated in partnership with other organizations, such as the Nova Scotia Sea School and Parks Canada. When we say 'nature-based programs,' we refer to place-based initiatives, activities, trips, and events that incorporate some element of the natural world, such as group kayaking and camping trips.

Using the 'social wellbeing framework' (Armitage et al., 2012), we explore the wellbeing impacts of refugees connecting with nature, such as heightened sense of place, social bonding, and perceived quality of life. We were guided by the question, what is working with the nature-based programs offered by ISANS and what access challenges remain? Our research objectives were as follows:

1. Identify the motivations, barriers, and supports to access for refugees who participate in nature-based programs through ISANS.
2. Explore how nature-based programs offered by ISANS, such as the Learn-to Camp and Nova Scotia Sea School trips, impact the social wellbeing of participants.

3.2 Background

3.2.1 Social and Environmental Determinants of Health

Refugees who relocate for various and multicausal reasons often encounter social and environmental challenges to their wellbeing. As described by Swinkels et al. (2011):

> Refugees and many immigrants may have poor or deteriorating health, because of conditions experienced before, during or after arrival to Canada. A health care system that is poorly adapted to their needs compounds this situation, result[s] in further marginalization. (p. 931)

'Social determinants of health' acknowledge the "social and economic characteristics of individuals and populations" (Dunn & Dyck, 2000, p. 1573). More specifically, this refers to the contexts of social support, social networks, education, housing, income, and employment or working conditions (Woodgate & Busolo, 2018). Social determinants of health for refugees, and often immigrants, can include patterns of financial insecurity, unemployment, social isolation, and lack of social networks (Harris et al., 2014; Hartwig & Mason, 2019; Hordyk et al., 2015; Thomson et al., 2015). 'Environmental determinants' build off this perspective and can specifically include the lack of access to healthcare services (Regis College, 2023). Refugees are more likely to experience poorer mental health outcomes than the Canadian-born population, but less likely to access mental health services (Ng & Zhang, 2021). Barriers to accessing mental health services may include cultural (such as lack of appropriate linguistic and cultural services) and structural barriers (such as lack of time or transportation) (Ng & Zhang, 20211). It is important to note that each refugee's experiences, backgrounds, and interests are varied and complex (Dunn & Dyk, 2000). Such complexity makes generalizing

participants' experiences to the wider population of all immigrants and refugees in Canada unattainable and undesirable for this paper.

'Social-environmental justice theory' responds to these inequities and attends to the right of every individual to safely access and enjoy the natural environment, which in return offers an array of wellbeing benefits (Gentin et al., 2019). Urban planning has been long criticized for restricting access to urban green spaces that tend to be located in more affluent parts of a city, thus requiring the use of a vehicle to practically get to and enjoy (Kuo, 2001). Place-based approaches that focus on the local environment, such as neighbourhood garden initiatives, mitigate these access gaps and are specific to each localized community context (Lloyd, Truong, & Gray, 2018a). However, it is also recognized that even while accessing green spaces, refugees may still experience discrimination, systemic violence, and feelings of being unwelcomed, alienated, or like outsiders (Hurly, 2019; Hurly & Walker, 2019). Community organizations like ISANS recognize these barriers and work towards mitigation efforts of outdoor recreation, which are centred in this paper.

We explore social and environmental determinants of health using a holistic three-dimensional framework, called the 'social wellbeing framework' (Armitage et al., 2012). It is important to note that not all experiences can easily be categorized into one box; this framework accommodates this limitation by approaching participants' nuanced experiences and identities as holistic and intersectional, yet some outliers in the reported findings still occurred. The social wellbeing framework holds space for peoples' individual needs within their overarching social and cultural needs required to live a good life (Armitage et al., 2012). Accounted in the subjective dimension are participants' notions of cultural, spiritual, and personal values as well as feelings that arise in natural settings (Armitage et al., 2012). In the relational dimension, findings about participants' relationship with community and the natural world are captured. Finally, the material dimension relates to the considerations of time, money, physical ability, and transportation that impact the accessibility of outdoor recreation services (Armitage et al., 2012). These dimensions are well-suited to identify the wellbeing outcomes, and the

opportunities and barriers to access, for refugees who participate in nature-based trips through ISANS.

3.2.2 Nature-Based Programs Offered at ISANS

In general, nature-based programs is an umbrella term that can range in purpose, activity, design, and terminology (i.e., outdoor learning, place-based education, and land-based programs), that often incorporate catered approaches to achieving best practices and learning outcomes (Childhood by Nature, 2021). In this paper, we focus on nature-based programs offered by the community partner ISANS which are usually characterized by a small group setting, a physical activity involving social interaction, a skilled instructor, and some variation of a natural environment (Mutz & Müller, 2016). Most programs at ISANS tie in some form of environmental literacy (Peacher, 2018), such as learning about local plants or animal species. Nature-based learning "includes learning about the natural world, but extends to engagement in any subject, skill or interest while in natural surroundings" (PennState College of Agricultural Studies, n.d.). These processes are known to not only enhance newcomers' awareness of their environment but also facilitate a closer connection and sense of responsibility to give back and act as a steward to a place (Seaman & Ellaway, 2010).

A closer connection to or relationship with nature can also enhance our mental and physical wellbeing. Numerous studies highlight the effectiveness of nature-based programs in improving immigrants' and refugees' sense of belonging, build self-esteem, cope with stress, and recover from physical or mental illness (Adams & Morgan, 2018; Havlick et al., 2021; Gentin et al., 2019; Hurly, 2019; Mutz & Müller, 2016; Pretty, 2004). While there is high potential for nature to be psychologically nourishing for all who are interested in accessing natural spaces, important determinants come into play when exploring how people get to, interact with, and feel within a space (often referred to as 'sense of place' or 'place-attachment'). Hurly and Walker (2019) find that "nature relatedness is a basic psychological need," but the wellbeing benefits of nature are dependent on "choice, perception of safety, absence of fear. Race, ethnicity, and gender tended to impede leisure in natural environments" (p. 290). We explore the complexity of

positive, negative, and even neutral wellbeing outcomes for participants during their time spent in nature.

3.3 Methods

3.3.1 Methodology

This study took a constructivist philosophy and interpretivist phenomenological view of knowledge while co-constructing meaning with refugees and analyzing the results. These approaches are compatible with the guiding 'social wellbeing theory' (see Chapter 2.4.1) that was employed through participants' own lenses of their lived experience of wellbeing while attending a nature-based trip. Interpretivist phenomenology was also suitable for exploring memories, feelings, and emotional attachments across time and place that can arise while attending a nature-based trip. Orbanic (1999) writes that, "consequently, 'lived experiences are the culmination of a persons' past, present, and future being-in-the-world' (Orbanic, 1999, p. 142). While co-constructing meaning with participants, the "experience of time in relation to the participant's descriptions of their lived experiences" was relevant, and past experiences and memories of time spent in nature were captured in the findings (Burns et al., 2022, p. 6). This was a community-engaged research (CER) study that values participants' own experiences of their social and environmental determinants of health, place-attachment, and wellbeing outcomes using the social wellbeing framework.

3.3.2 Community-Engaged Research & Ethical Considerations

Approval for this study's ethics application was given by Dalhousie University's Research Ethics Board. The expectations of the study were explained to all participants during the informed consent process which was offered in their language of preference with the assistance of an interpreter from ISANS. Participants were told to share as little or as much as they liked during the interview and that they may choose to decline conversations about sensitive topics. All participants agreed to have their information included in this project, but they were given the option to have their data removed up to six weeks after the interview took place. Finally, I attended two nature-based programs, was invited to the Learn-to Camp orientation session at ISANS offered by Parks Canada

staff, attended training workshops offered by ISANS for volunteers, and volunteered as a Recreation Navigator at ISANS which encouraged relationship-building with my community partner. These engagement strategies are key in community-based participatory research (CBPR).

3.3.3 Data Collection & Participant Description

Once research ethics was approved, recruitment was both purposive and snowball sampling. Recruitment happened in close cooperation with the staff at ISANS who had previously established relationships with potential participants and were the ones to initially share information about the study with them. Inclusion criteria required participants to have attended at least one nature-based program through ISANS within the last two years. Potential participants who were registered to attend the Learn-to Camp trips and potential youth participants who were registered to attend the Nova Scotia Sea School trips were invited to take part in the study. From these groups, ten people accepted the invitation and joined the study, and one person who had previously attended a nature-based trip with ISANS was recruited through snowball sampling.

Participants had the option to do a group interview with friends or family; they also had the option to interview with an interpreter in a language of their choice. Increasing participants' comfort levels was a key reason for offering different options of engagement, as well as emphasizing their freedom of choice. All youth participants chose to group interview, and four adult participants chose to do the interview as a group. All of the youth participants chose to interview with an interpreter (in either Farsi or Turkish). The four adults in the group interview chose to have an Arabic interpreter present. The two remaining adult interviewees chose to do their interviews individually using the English language without an interpreter present. In total, this amounted to five interview sessions with six adults and five youth who spoke in the languages of either Farsi, Turkish, Arabic, or English. The interpreters were paid for their time and contracted by the research team through ISANS. All interpreters already had an established working relationship with ISANS, and some even had previous connections with participants which enhanced comfort levels. In this study, interpreters were key in the communication of knowledge and information during the interview; they played a highly valuable role in

clarifying and relaying questions and answers between the lead researcher and participants in ways that were respectful and appropriate. The interviews took place at a location that the participant was comfortable with, following appropriate COVID-19 health guidelines, such as at an ISANS location or on a park bench outside a community recreation centre.

3.3.4 Data Analysis

Once consent was given and the interviews were conducted, the audio-recordings were transcribed using the online transcription service Microsoft 365 Word. Both deductive and inductive coding of the interview transcripts were conducted on the NVivo 12 QSR software. Interpretive phenomenology is characterized by research questions that "focus on meanings of lived experiences of phenomena" and findings that capture narratives (Burns et al., 2022, p. 2). In this interpretive phenomenological study, participants who experienced the shared phenomenon of accessing outdoor recreation and nature-based programs with ISANS were recruited. The interview questions explored this phenomenon, and the experiences that participants shared were first coded inductively into major themes that were identified, clustered, and organized. These themes include social wellbeing outcomes, accessibility challenges of nature-based programs and the outdoors; motivations for attending nature-based programs; and recommendations for future nature-based programs. The social wellbeing framework guided the rounds of deductive coding. The three dimensions of social wellbeing (i.e., subjective, relational, and material dimensions) were used as predetermined nodes that were used to further classify relevant data. Data relating to the motivations, barriers, and facilitators of access were searched for in the data, and, as examples, major themes described communication and outreach barriers. Quotes that illustrated the themes were then selected and transferred to the papers. During data analysis, I wrote brief memos to record any of my assumptions, biases, or reactions to the interview transcripts. Memo-writing and journalling are distinct tools in interpretive phenomenological studies, which are not necessarily used to classify themes, but to "instead chronicle the researcher's evolving understandings, personal growth, and increasing sensitivity to human experience" (Burns

et al., 2022, p, 7). Finally, a codebook was reviewed by my supervisors, Drs. Zurba and Busolo, to ensure research dependability.

3.3.5 Validity & Rigour

Steps were taken to ensure that rigorous research was conducted. Field notes and memos are recognized as effective tools for transparency and dependability in collaborative social justice research (Burns et al., 2022). Ongoing reflexiveness of my positionality and biases also increased the dependability of the research (Moon et al., 2016). To capture my impact on the interview data and the external factors on the interview dynamics, such as interview settings, I wrote follow-up reflections in the form of field notes after each interview. These brief field notes consisted of my personal understanding of important non-verbal communication (i.e., body language), key stories embedded in the interview, the physical location of the interview, and any potential misunderstandings or difficulties that came up regarding certain questions (The AHA Centre, n.d.). As foundational in social justice research, the researcher must be highly cognizant of how their personal values impact the co-construction of meaning with participants (Burns et al., 2022). Follow-up reflections help the researcher unpack their role in the creation of data and allow for a more robust awareness of the "relational aspects encountered during the interview and their influence on the co-creation of meanings" (Burns et al., 2022, p. 6).

3.4 Results & Discussion

In this section, we share how participants experienced and talked about their wellbeing while attending a nature-based trip with ISANS. We begin this discussion by sharing lived experiences of the wellbeing impacts of relocating and adapting to a new place. With the understanding of the inevitable connectedness of participants' experiences of wellbeing across the three dimensions (i.e., subjective, relational, and material), the findings are organized using the social wellbeing framework. We explore refugees' subjective wellbeing experiences (i.e., mental health) which are often linked to both relational wellbeing experiences (i.e., learning about, relating to, taking care of, and

connecting with one's social and natural environment across time and place) and material wellbeing experiences (i.e., physical health, employment, and volunteering).

Eleven participants identified and shared their wellbeing outcomes, motivations, barriers, and supports to spending time in nature. Five participants were youth under the age of 18 years old, and the remaining six participants were adults. The differences in the age of participants may have resulted in a more fulsome understanding of the experiences of the nature-based programs with ISANS and added to the diversity of this study population. Additional identities, demographics, and immigration statuses shared with us are outlined in Chapter 2.7.1 (Table 1).

3.4.1 Social Wellbeing Outcomes of Nature & Nature-Based Programs

Social-ecological wellbeing interventions that are cognizant of the social determinants of health likely to impact refugees are key for addressing the gaps in refugee wellbeing in a context-specific way; this context includes relocating and adapting to a new place. Nissa explained how being far away from her extended family and support networks, having her work experience being devalued, starting a new job, and taking care of family members was overwhelming:

> "I feel I'm starting from *zero*. And it's hard, you know? ... [when] I came here I was 45 or 46 [years old]. You come here and you see that everything is changed now. I start from zero. It's so hard. It's not easy for me. And I have responsibility. I have my husband, he is sick. And I have my son, he is small. And I was coming to ISANS, attended the interview. They have programs [that are] very nice for newcomers. [Such as], how to [do a] interview, how to increase your English. [ISANS] have nice staff here to help me. Yes, I feel…[overwhelmed]…But after attending this course, it changed me. I feel more connected to everything. Even here [today]. I come here for a reason. Yes. I arrive here for a reason. I [am] here for a reason...I have to be useful." (Nissa)

She recommended that other newcomers access available mental health-related programs to improve their mental wellbeing. Stress was expressed as being directly

linked to physical health by this participant. She expressed that a decline in the physical health of her and her family was due to stress from various factors, including "pressure, stress, many things." Below she elaborated that their decline in physical health was correlated to stress levels:

> "Because of mental health. Pressure, stress, many things. Plus to that, maybe all [of] these problems will make for him maybe headache, maybe sometimes it goes to heart attack. And this is the problem. I think if we take care of this part [mental health], we will [solve] many problems." (Hareem)

3.4.1.1 Subjective Dimensions

Subjective wellbeing outcomes were expressed by other participants, like those who attended at least one overnight camping trip with Parks Canada's Learn-to Camp. After attending the trip, Fatima and Aisha expressed how spending time in a different scenery (compared to being indoors at home) boosted their moods. Abdullah also mentioned the importance of disconnecting from everyday life (being away from cellphones, work, and stress) helped to boost his mood. The subjective wellbeing benefit of relaxing and feeling calm in nature was also expressed by most participants who spent time in nature in various ways (including on the Learn-to Camp trip). Shazia who attended an overnight kayaking trip with the Nova Scotia Sea School expressed how she felt comfortable in nature, and how spending time in nature took her mind off other things:

> "I don't think about anything else. I only think about the nature and [I] also only think about the trip." (Shazia)

The mental health benefits of relaxing, disconnecting from everyday life, and getting out of the house to spend time in nature may be enhanced when sharing the experience with friends. In other words, the subjective and relational wellbeing dimensions go hand-in-hand. Socializing was expressed as a frequent motivator for attending the nature-based trips which was shared as specifically as an opportunity to have a chance to spend time away (i.e., away from family members) and to meet new

people. As aligned with similar outcomes of place-based education (PBE) found by Lloyd, Truong, and Gray (2018a), Maryam who attended the kayaking trip explained that meeting new people and socializing in these programs boosted her self-confidence. When asked about her motivation for attending the nature-based programs with ISANS, she said:

> "To socialize with others. And to have more self-confidence and socialize people and improve my English language. When I came from Turkey, my self-confidence was very low. After I attend to ISANS program activities, it was totally different. I got to socialize with people better." (Maryam)

Learning about the local environment and discovering new places were also main motivators for attending the trips with ISANS. The nature-based programs offered by ISANS often incorporated elements of environmental education and PBE, such as through exploration, engagement and creative social play which is highly beneficial for the wellbeing of youth (Chawla, 2015). PBE have been shown to enhance levels of environmental knowledge and a sense of agency to continue learning and caring for their local environment on their own time (Chawla, 2009; Smith, 2016.; Ives et al., 2018). Most participants indicated their interest in going on similar trips on their own time or with ISANS after attending a guided nature-based program with professionals at Parks Canada and Nova Scotia Sea School. One participant, Abdullah, shared how he already goes on camping trips on his own time after first attending a camping trip with the YMCA. In the quote below, Fatima shared on behalf of Aisha and Rania about their interest in experiencing camping facilitated by Parks Canada:

> "We were interested to go because we've never had the experience of camping. We wouldn't know where to go. Where the safe place to be." (Fatima)

Huma shared her experience of being scared when first attending a nature-based trip with horses, and then feeling more comfortable after learning how to interact with them. Huma described this process and related it to other instances of overcoming initial hesitancies while trying something new:

"For everything at the beginning, if you feel a little bit like, you know fear, but when you get to know [the horses], about them and when you get closer to them, your fear is gone or totally gone. You love them. All the strange things at the beginning make you a little bit [scared]." (Huma)

Another youth, Shumaila, described unruly circumstances on the water as big waves made it difficult to control the kayak. She described how other youth on the trip felt unsafe and afraid in that circumstance, but she knew that the kayaking guides would offer the rescue support needed immediately. These feelings of increased safety and comfort in group settings and with trained professionals or guides during the nature-based programs (such as the staff at Parks Canada or ISANS) were important for participants. Other trepidations were expressed by some participants around fear of animals (such as dogs due to a traumatic event and snakes) and fear of insects (such as ticks, mosquitos, and spiders) during the overnight camping and kayaking trips.

Memories of familiar landscapes and nature-based activities were expressed as holding complicated emotions for most adult participants. While many subjective, material, and relational wellbeing benefits were gained, many of these processes (such as connecting with nature in a way that brought about remembrance of a past time, place, and community) held mixed emotions. Fatima, Rania, and Abdullah in the group interview discussed their experience seeing similar landscapes to Syria and what those memories felt like when they resurfaced during nature-based trips:

"The nature of Syria is also very beautiful, and it has a lot of like nature-based places. We have a lot of lakes and rivers. And ocean. A lot of places look like places in our hometown, you know places, where… (Fatima on behalf of Rania)

It brings back that memory." (Abdullah)

"Yeah, it brings our memory back. And as well, we remembered what we did in the specific place because it looks like the place, we're at right now. Like the gatherings, and yeah, [the time] we spent together with families. [This feeling] is not always relaxing. It does relax you, but there's like a rock in your throat

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sometimes. What relaxes you a bit is that you are finding similarities in things you used to do back home, or with the people that you used to do, but at the same time it also, like, reminds you that you're away from that." (Fatima)

"The kids were saying that they feel like their grandma and grandpa are around, but they're not their actual grandma and grandpa. Like the older couples that were with them. So yeah, it gives you that feeling of happiness and sadness at the same time. There is somebody that you can connect to, but it's not the people that are your immediate family, you know." (Rania)

3.4.1.2 Relational Dimensions

Relationality with nature was expressed in different ways by participants, including the visual similarities of different environments and landscapes. When discussing familiar landscapes and 'connection to nature,' Abdullah described his perspective of nature as one word and one connection:

"Yeah, it's the same 'nature.' It's like the same thing. It's just one word, right? ... It's like the sand, or sun, or like the sunrise, or like the mountain, the trees. It's, like, similar. It's one connection." (Abdullah)

In addition to nature-based programs, Nissa discussed the wellbeing benefits of accessing job skills training and language courses offered by ISANS. This participant also described the empowering and cyclical process of first accessing socioecological services from organizations such as ISANS and the YMCA, and then contributing her skills back in the form of volunteering and employment, including dedicating her time to take care of the local environment through volunteer initiatives. She also takes the time to pass on information she learned about community and nature-based programs, such as future offerings, to her friends and other newcomers:

"I try now [to] volunteer with the YMCA for translation. Even here, now I am with the ISANS [working as a translator]. You know, whenever I have the chance, [when] I have time… I go volunteering now. Also cleaning the environment with

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them. I try to be useful. It's sharing. For example, if there is some program, I share

it with the friends who don't know. I share with them some event, for example, for

kids or for adults, I share with them some programs in [the] libraries. We all share

the good information with them. I want to make some, you know, some change.

Not for me, but for them also. Like I feel now the change. I want them also the

change. Yes, I all the time I am encouraging them to attend, all the time I

encourage them, all the time. I go, 'Please go, attend, it's a nice course.'

Whenever I have a chance, I tell them." (Nissa)

However, she highlighted and accepted how not everyone has the interest to
participate in these above-mentioned community and nature-based programs,
acknowledging that, "Every human is different" (Nissa).

3.4.2 Reported Social and Environmental Determinants of Health

While exploring the wellbeing outcomes of connecting with nature, accessibility
barriers must also be explored. In this section, we share participants' motivations for
accessing a nature-based program (such as to improve wellbeing and enjoy relatively free
forms of recreation). These motivations often go hand-in-hand with barriers of access to
outdoor recreation and nature-based programs (i.e., material and relational barriers).
Within the material dimension, the COVID-19 pandemic, socioeconomic factors,
physical disabilities, transportation, weather and appropriate clothing, dietary restrictions,
and overall organizational capacity of agencies such as ISANS are presented and
explored. Along the lines of relational barriers, outreach, communication, language, and
community connections are discussed.

3.4.2.1 Material Barriers of Access

Some participants sought to improve their wellbeing which was negatively
impacted during the COVID-19 pandemic. The impact of the COVID-19 pandemic's
temporary closures of local parks and recreation centres due to the COVID-19 pandemic
was described as having a direct impact on wellbeing of this participant and her family.
At the time, ISANS offered art kits to newcomer youth. A participant described the art kit
initiative as cheering up her son in this time of widespread isolation and recreation

services closures. She discussed the art boxes and nature-based trips and how they impacted her family's wellbeing during the COVID-19 pandemic:

"The park, it was closed. Everything was closed. Swimming. Everything. The sports. It was a very hard time. Therefore, they bring one box. He was colouring. It was a little [more] busy, playing together, like this, escaping. I mean, [it] cheer him a little up [more] than before. It was very hard during COVID-19…. And for one child, it's so hard. He didn't have friends. And you know, not too much these days, but [back then] you cannot visit each other, you cannot meet. It was a hard time, as you remember, for him. Therefore, things like this, when you go hiking…and we go outside, it helped him [very much] …Yes, he had [so much] fun. Walking, He likes adventures. He is like me, he likes to go out." (Nissa)

In addition to health promotion, spending time in nature and accessing nature-based programs were also celebrated as a relatively free leisure activity. Hareem suggested that more steps should be taken to inform newcomers and the wider population of the opportunities to spend time outdoors and learn about the local environment as a free form of recreation:

"I mean, it's very hard to have money… if I want to go to a museum, I have to pay for a ticket, which is OK, but there are many places [that are] free. So, this is very nice. It will not cost me any money. It's free…The immigrant people or the newcomer really need it. I think not [only] immigrant, even the Canadian citizenship people…Many people, they don't know there are nicer places there because the municipality, I think, the municipality should work on that, [they] should introduce these places to their people." (Hareem)

However, she also pointed out the high price of living and cost factors as barriers for many people to go on their own trips and explore nearby places as a family. A variety of other material factors were expressed by participants as barriers that impact access of nature and nature-based programs. Transportation was mentioned as a determinant of

getting to and enjoying outdoor recreation, this includes the physical toll of taking a bus to a trip for a person with an injury or physical disability:

> "Actually, I thank ISANS [very] much for their programs. It was helpful for me and my family. Especially in the hard time with the COVID-19 pandemic, and after COVID-19, [and] also now. I [had a good time] with my family. Yeah, actually their program is nice, good. I don't have any [issues]. I am satisfied with them. Only the bus maybe. The bus. They [need to] change the chairs for some people. Yes, some people have problems." (Nissa)

Additional transportation factors that impacted participants' access of nature-based programs and trips of their own time include finding the meet-up or outdoor activity location. Some participants shared the barrier of not having a family vehicle needed to carry out similar trips on their own. For the friend group who attended the Learn-to Camp trip with Parks Canada, at least one participant, Fatima, suggested that the program would have been better if there was a bus to transport campers to the camping location at Kejimkujik.

Other material considerations to enjoying nature-based programs included the impact of weather (such as wearing appropriate clothing for cold weather), food (such as not being able to eat the food offered during nature-based trips or not enjoying the food), and sanitation and hygiene (such as not having access to showers or clean water).

The availability of the nature-based programs offered by ISANS was constrained by other material factors, such as rainy weather (which cancelled one of the scheduled Learn-to Camp trips), or COVID-19 health restrictions (which restricted the group sizes and prevented interested newcomers from being invited from the trips). Fatima described the general challenge of being invited and registering for nature-based programs. She explained how there is a high level of interested families who would like to attend a trip. Still, there is a limited capacity of organizations (such as ISANS) to accommodate everyone:

"We were lucky to go on this trip because some other families that were registered apparently cancelled. The limit of how many families could go on this trip was very little, you know which were four families. So we were the lucky ones that had the privilege to go. But like there were a lot of other people that wanted to go. I mean, a lot of our friends were not able to register because it was so limited. But a lot of them did want to go when like they found out about it… and they wish they could have gone." (Fatima)

Organizational capacity (such as staff shortages, limited funding, and the general lack of time and resources) may impact the outreach and communication strategies implemented by service providers. Hareem described how she took the initiative to contact ISANS to ensure that she was not left behind and excluded from the invitation list. Although she was able to access and benefit from other resettlement services offered by ISANS upon arrival in HRM, such as being shown where relevant health, education, and banking services were located, she did not get invited to the nature-based programs. Beyond the scope of organizations introducing and facilitating access to outdoor recreation and greenspaces, she also called on the responsibility of the municipality for this. This participant urged the municipality to allocate more resources to better signage that informs and directs people, especially newcomers, to nearby parks and outdoor recreation spaces as a health promotion strategy. Being informed about nearby places to enjoy and engage in physical activity was described as a pre-emptive strategy to prevent a decline in health that she experienced. She explained that:

"I mean, maybe I didn't need the hospital as much I need to go in some park and just maybe to breathe some fresh air. It's just for that. And then, when I didn't go [to the park], that led me to the hospital in the end! Because I just gained weight. I didn't go walk." (Hareem)

3.4.2.2 Relational Barriers of Access

Outreach and communication strategies for the nature-based programs were sometimes identified as ineffective and presented a challenge to some participants.

Hareem described the situation of wanting to be included in more nature-based programs but experiencing the challenge of not knowing about upcoming trips or places to explore on her own time. She said this lack of knowledge was a detriment to her mental health as she was experiencing a high level of social isolation and a lack of social networks at the time, which made the need to get to places and connect with others essential for her wellbeing:

> "I remember that the trip I went with ISANS to pick apples, this came after I came here and I told them I needed you know, we just came to Canada and we don't know… no friends, no family. I don't know many places. I don't know how to go, how to go around so. Actually, and in that year it was horrible after the first year because I got into deep depression. We didn't go anywhere, we don't know. I hear, when I came, that there is some group that go so, I [was] surprised when nobody call[ed] us." (Hareem)

Language and technology barriers (i.e., sharing information about the trips online or via email) may prevent some people's ability to receive an invitation to join a nature-based program or other community-based initiatives. Most participants agreed that interpreters mitigate this barrier and play a central role in the outreach and communication of nature-based programs at ISANS. Language barriers also shaped how participants communicate with others during the trips. Hareem described the communication barriers as a problem she identified:

> "Yes, this is the problem. And especially I think with the newcomer. Because a newcomer, they don't have enough English, they don't know a lot of about the city, they don't know how to get around. And plus all that, they just strange people came into this community, the community is very suspicious to us, and we came from different cultures. So we need we need somebody to help us or just to introduce us." (Hareem)

3.4.3 Participants' Recommendations for Future Nature-Based Programs

Beyond the acknowledgement of varying barriers of access, participants also identified many opportunities for improvement and provided recommendations to organizations offering nature-based programs to diverse groups of participants with intersecting identities of age, gender, ability, and cultural background. In this section, we will explore the supports of access that currently exist, and how participants recommended that the gaps in implementation can be addressed. We begin by outlining what ISANS is currently doing well in their program facilitation and share participants' general praise for the nature-based programs. Participants then shared their recommendations for outreach strategies that can better reach interested refugees about nature-based programs, nearby green spaces, and outdoor recreation options in their community. Next material considerations and barriers of access will be shared. These findings are useful for exploring planning and program considerations, facilitation considerations, and ongoing supports and resources needed. PBE educators, environmental and community organizations, urban planners, and governments should consider both supports and barriers in their nature-based program design and implementation.

Experiences of the nature-based programs were largely very positive with most participants indicating that they would like to attend more trips with ISANS or on their own. Consistently, participants expressed gratitude to ISANS for their facilitation of the nature-based programs. These perspectives and experiences reveal the importance of nature-based programs as socioecological wellbeing interventions. However, organizations may be limited by their capacity (i.e., funding, staff, time, and resources) to offer such programs. We highlight the need to fund the offering of more programs by ISANS and other refugee-serving agencies.

Most participants indicated that the current program offering was already very effective for improving their wellbeing, such as by facilitating the processes of meeting new people and spending quality time with family and friends. Along with connecting with new people, learning about and connecting with the local environment was also

expressed as important for wellbeing. This connection to nature and community was deemed especially important during the COVID-19 pandemic. Connecting with other people on the trips was also important and even exceeded some participants' expectations. Maryam, for example, described the process of not knowing people and then meeting new friends during the kayaking trip:

> "I was thinking that because, you know, there are strangers, maybe I don't get to like [it] because I don't know them. Maybe I will get isolated. But when I got there, I saw new people, I met new people. I got to know them, and we got to know each other. We played a game together, and we had lots of fun. It was a really nice experience with them. Making new friends, like meeting new people, making new friends and having fun with them." (Maryam)

While all participants highlighted the social wellbeing benefits gained from attending the nature-based programs with ISANS, they also shared recommendations for program outreach, facilitation, and implementation. First, steps can be taken by organizations to ensure that communication and outreach strategies are effective, and reach interested refugees. Two participants, Nissa and Hareem, recommended that local service-provider organizations create and distribute a recreation booklet to all newcomers upon arrival in HRM to show them nearby green spaces and options for outdoor recreation.

Additionally, service-provider organizations should ensure that newcomers are well-informed and prepared for the specific context of an upcoming trip (such as the weather, food, sanitation, and location details). Hareem recommended sharing relevant details with trip-goers beforehand using images that transcend language barriers. She suggested sharing details about the places nearby to discover "with pictures, activities, and the information of the location" in the recreation handbook:

> "But we just go there, we don't know what we do there because we just show up, we don't have information, like, we should be sent details or maybe some photo and included with a photo just to explain where we are going to go. Then the

client or the immigrant people they will get an idea of where they will go, what activities they will do. So our clothing I think wasn't good for that trip, so like that stuff." (Hareem)

Participants consistently highlighted how trained interpreters transcend language barriers. Interpreters were revered for sharing essential information about the programs beforehand and for easing the communication between participants and facilitators during the trips. It was also recommended by at least one participant, Hareem, that the nature-based programs continue to be led by an informed guide who can increase their environmental literacy and connection to their local environment by sharing information about plants, animal species, and history of the land. This guide should also be accompanied by an appropriate interpreter as needed to ensure that all participants understand what is being said.

The social wellbeing benefits expressed by participants may also be impacted and limited by material factors. This includes the participants' preferred activities (such as hunting and fishing), duration of time for the trip (such as not having enough time to explore Kejimkujik Park), and location context of the trip (such as camping locations not having showers or having poor lighting). In urban areas, the availability of shade in the summer and shelter in the winter was also expressed as a barrier of access:

"There is a park in front of my apartment when I lived there five years. It's just a park, there is a playground for kids, but it's hard to go there because there is no trees, no trees. So, it's very hard to get there in summer because it's very hot. There is no trees, you know, trees make it very nice and it reduces…the sun." (Hareem)

Weather presents a challenge to access parks year-round, especially in the winter, which can be a barrier to the wellbeing outcomes described while connecting with nature (such as lower stress). Hareem recommended that the municipality add sheltered tables to address this barrier in the winter months:

[It would be] better because the people in winter, they get depression, [they are] under stress, because the weather- there is no sun. But at the same time, why don't [we] benefit from the winter? Winters are very nice. When it snows, the weather gets very nice actually. I know it's cold, but the view will be very nice. Yeah, so we can still benefit from that [outdoor] spaces. (Hareem)

Overall, participants' experiences reveal how nature-based programs are not a one-size-fits-all solution to addressing the social and environmental determinants of health. Many of the access issues identified by participants in general outdoor recreation are similar to their experiences of ISANS' nature-based programs (i.e., outreach and communication barriers, technology barriers, and the considerations of weather, safety, and cost). Ultimately, our findings of unequal wellbeing outcomes echo similar studies that highlight:

Access to natural areas and green space, such as parks and gardens, has been shown to offer a myriad of health promotion outcomes that include restorative effects, such as improved mental health and enhanced wellbeing, but inequities still exist in access to outdoor recreation. (Truong et al., 2022, p. 1)

3.5 Conclusion

Our goal for this paper was to explore the factors that influence how some refugees in Mi'kma'ki (Nova Scotia) experience, benefit from, and relate to nature during nature-based programs offered by ISANS. Participants shared generally positive experiences of the nature-based programs, with some variation given about what wellbeing outcomes were associated with nature, how they prefer to interact with nature, what challenges remain in access, and what recommendations were made to improve nature-based program offerings by ISANS and other community or environmental organizations. Participants shared an array of social wellbeing benefits, which validates the effectiveness of these socioecological wellbeing interventions. The reported benefits can be framed holistically as relational outcomes (i.e., spending quality time with family and friends, meeting new people, and connecting to and learning about the local

environment), subjective outcomes (i.e., boosted mood, higher self-esteem, and decreased stress), and material outcomes (i.e., improved mental health which directly correlates to physical health).

Organizations like ISANS can work to offer more nature-based programs that meet the interests and priorities of refugees who wish to attend more trips, but who may face challenges in access that limit their participation. Participant experiences of wellbeing outcomes from nature-based programs are influenced by factors such as age, distance to a nearby green space, knowledge and availability of outdoor recreation spaces, and specific interest in and preference while interacting with nature. For example, this included the preference for quiet time in nature, whereas group events were preferred by other participants. While the wellbeing benefits of nature were centred in this paper, ongoing structural and community efforts are needed to ensure that outdoor spaces and nature-based programs are inclusive and accessible to different ways of interacting with nature. We can begin by listening to the experiences and recommendations expressed by the newcomers and staff at ISANS.

Chapter 4: Exploring Connection to Nature and Place Through Photovoice With Refugees Who Access Nature-Based Programs

4.1 Introduction

The impact of climate change, environmental degradation, and displacement on wellbeing is increasingly felt, particularly for refugees. People are forced to relocate due to multicausal reasons, including "persecution, conflict, violence, human rights violations or events seriously disturbing public order" (UNHCR, n.d.b, para. 2), and increasingly due to climate change and natural disasters (Podesta, 2019; Regis College, 2022). Global human migration is only rising with each year bringing higher numbers of forced displacement higher than the last (UNHCR Canada, 2023). In 2022, at least 89.3 million people were forced to leave their homes, which is a proportion of one in every seventy-four people worldwide; meanwhile, 27.1 million of them are refugees, with 41 percent of whom are children (UNHCR Canada, 2023; UNHCR, n.d.b; United Nations, 2022). Upward trends of global migration are predicted to occur due to a range of 'sudden onset' (such as forest fires and flooding) and 'slow onset' (such as sea-level rise, ocean acidification, air pollution, and loss of biodiversity) climate events that also exacerbate humanitarian crises (Podesta, 2019; Askland et al., 2022). As we proceed into the age of irrevocable changes to the earth's climate and the social systems we operate in, another crisis persists and will likely worsen: human health and wellbeing (Bourque & Cunsolo Willox, 2014; Regis College, 2023; Rygaard, 2021).

This paper explores the relationship between human wellbeing and the environment through the perspectives of newcomers, specifically youth and adults who originally arrived in Canada as refugees (and whose immigration status may have changed since/at the time of the interview). At the time of the interview, all participants had accessed nature-based services within the last two years from the largest immigrant-serving agency in Mi'kma'ki (Nova Scotia), and this study's community partner, the Immigrant Services Association of Nova Scotia (ISANS) (ISANS, 2017). While wellbeing benefits of nature-based programs for refugees are well-established (Campbell et al., 2016; Hartwig & Mason, 2016; Hurly & Walker, 2017; Ono et al., 2020), this paper

adds important phenomenological insight from refugees in Mi'kma'ki to the existing literature on nature-based programs as effective socioecological wellbeing interventions. Under the umbrella goal of understanding any implications for refugee wellbeing, our research objectives were to:

1. Gain insight into refugees' experiences of connecting to nature and sense of place.
2. Through the photovoice method, explore what feelings emerge in natural settings for participants and any implications for wellbeing.

4.2 Background

4.2.1 Refugee Wellbeing & Nature-Based Programs

Nature-based programs are increasingly known to facilitate wellbeing benefits for refugees. Refugees often experience an array of stressors while adapting to a new place and learning a new language and new cultural norms. Additional stressors may include the mental health effects of post-traumatic stress disorder (PTSD), which can result from the transition period itself while adapting to a new place or from various other circumstances, including one's life-threatening reasons for displacement and/or circumstances before relocation (S. Calatayud, ISANS, personal communication, January 18, 2022). Refugee wellbeing can also be impacted by structural inequities in Canada, and the lack of mental health services, inadequate housing, low income, and social isolation after relocation (Hartwig & Mason, 2019; Hordyk et al., 2015; Harris et al., 2014). Outdoor recreation programs, referred to as 'nature-based programs' in this paper, have been shown to be holistic community wellbeing interventions for refugees that combine the two integral elements of connecting with nature and connecting with community.

By definition, nature-based programs are often adapted to fit the needs of the specific community (such as youths or refugees) and are generally facilitated through some form of environmental learning, physical activity, and social interaction (Adams & Morgan, 2018; Havlick et al., 2021; Mutz & Müller, 2016). Nature-based programs offered by ISANS draw from interdisciplinary research in the fields of recreation and

health studies to improve the overall wellbeing of refugees. Examples of nature-based programs offered by ISANS include the single-event Learn-to Camp overnight camping trip offered in partnership with Parks Canada and the ongoing kayaking and sailing trips offered in partnership with the Nova Scotia Sea School.

A better understanding of the therapeutic processes of nature-based programs from refugees themselves who attend trips with ISANS, such as through the lens of therapeutic landscapes (Dushkova & Ignatieva, 2020), is particularly of value. Research indicates that refugees in western countries:

> ...suffer from post-traumatic stress disorder (PTSD) as ten times more likely than that of the local age-matched population…. Refugees also have a high risk for suicide and social exclusion. Due to these risk factors, there is a large need for interventions that improve refugee mental health. (Albers et al., 2021, p. 2)

Meanwhile, a lack of established mental health support for refugees persists, and very few wellbeing interventions take a place-based approach (Albers et al., 2021). Structural changes are needed to support the wellbeing of refugees and mitigate the challenges to their wellbeing, such as the mental health effects of PTSD and the social determinants of health. Meanwhile, recognizing and bolstering local, place-based initiatives rooted in specific community contexts is also important, if adjacently, for supporting the wellbeing of refugees who experience the psychological and social impacts of environmental change.

ISANS offers nature-based programs that are not necessarily designed as targeted wellbeing interventions (i.e., mental health, psychological, or counselling services) but fall into the health promotion and outdoor recreation perspective. In this study, we explored how their programs work to connect refugees to their social and natural environments, improve their wellbeing, and perhaps ease some negative emotional effects arising from disruption to one's 'sense of place.'

Improvements to emotional wellbeing while outdoors, for example, may occur for refugees through the therapeutic processes of reducing stress and improving emotional

regulation outdoors (Hurly, 2019; Gentin et al., 2019), which can be understood through the lens of 'biophilia.' Fostering community connections, social networks, a sense of belonging, and a sense of place may also be important for newly arrived refugees who often face higher levels of social isolation, especially during the COVID-19 pandemic; accessing community nature-based programs has been shown to improve these levels (Adams & Morgan, 2018; Hurly, 2019; Hurly & Walker, 2019; Gentin et al., 2019). Gathering and amplifying refugees' feedback about their experiences accessing the trips is useful to understand more specifically, from their own voices, how relating to social and natural environments can improve refugee wellbeing.

4.2.2 Exploring the Role of Connection to Nature & Place for Wellbeing

This project recognizes that close personal and communal connections to nature have long been celebrated across knowledge systems for a range of intrinsic and practical applications, such as to improve emotional regulation, stress levels, self-confidence, loneliness levels, and overall wellbeing (Dushkova & Ignatieva, 2020; Havlick et al., 2021; Nova Scotia Health Authority, n.d.). For health promotion, we can turn to the well-documented wellbeing benefits obtained by connecting with our natural world and community (Beery, 2013; Li, 2018). Such community and nature-based approaches are recognized in academic and community spaces for generating an array of social, physical, and emotional wellbeing benefits (Adams & Morgan, 2018; Havlick et al., 2021; Hurly & Walker, 2019; Mutz & Müller, 2016; Seaman et al., 2010). Centring the relationships people have with nature and the emotional connections they form, maintain, and transform with the land is not a new phenomenon. Rather it is the backbone of many worldviews and ways of life that have been excluded, persecuted, and devalued. While not monolithic, Indigenous communities have long expressed this relationship with the land, waters, and more-than-human entities, and they have long been resilient and advocated for a more sustainable and just future (Kimmerer, 2013).

Kimmerer (2013), for example, defines 'sense of place' as a place where one feels nurtured and supported, a place that you understand on a deeper, more emotional level and that understands you back in return. An array of place-based practices have long

existed, such as in Indigenous land-based and water-based relational practices (in Mi'kma'ki, for example), or the Nordic cultural practices of *friluftsliv* which can be defined as the experience of being "outside in natural or cultural landscape for well-being and encounters with nature without demands for competition" for the "joy of being out in nature, alone or with others, feeling pleasure and experiencing harmony with the surroundings" (Beery, 2013, p. 95).

The negative environmental impact on human health is becoming increasingly understood through the lens of people-place relationships and emotional connections to place (i.e., sense of place). Recent studies reveal that environmental degradation and climate change threaten many peoples' connection to natural and social environments which can lead to feelings of anxiety, grief, fear, and hopelessness (Comtesse et al., 2021; Leviston et al., 2018). Refugees and immigrants, and most especially youth, are more likely to experience climate-related mental health challenges (such as climate grief) as the severity of these emotional reactions is tied to one's level of place attachment (Comtesse et al., 2021; Galway, 2019; Galway & Ellen, 2023). Paradoxically, while a closer connection to our social and physical environments may help to improve emotional wellbeing, people with a closer connection to a place are also more vulnerable to emotional reactions due to environmental change and degradation (Cunsolo & Ellis, 2018). Urgency remains to explore this paradox and better understand the psychosocial dimensions of environmental change. This rings true during climate change as more people experience relocation and climate-related mental health issues. Additionally, researchers and psychologists also alert us of the lesser-known mental health effects of experiencing environmental changes not due to relocation or displacement, but while in the same place. This feeling, called 'solastalgia,' is akin to homesickness and describes the distress, grief, and despair of environmental change and placelessness (Albrecht et al., 2007).

4.3 Methods

4.3.1 Methodology

To briefly define, Crotty (1998) describes how ontology (the nature of reality), epistemology (the nature of knowledge), and methodology (the plan to execute the selected philosophy and theory) make up the core elements of qualitative research studies (Al-Ababneh, 2020). This paper focuses on the lived experiences of participants using the ontology of constructivism, the epistemology of interpretivism, and the methodology of interpretivist phenomenology. We selected constructivism and interpretivism for this study because of the recognition that knowledge is constructed and interpreted through the researcher and/or participants, and thus, not cannot be objective. In this paper, we focus on participants' lived experiences by taking a phenomenological approach. Ultimately, these research elements were chosen as a more appropriate way to co-construct meaning with participants about their sense of place, emotional connections to nature, and memories that resurfaced while relating to their natural and social environments.

4.3.2 Community-Engaged Research & Ethical Considerations

As a community-engaged research (CER) study, this paper takes a participatory arts-based approach to explore what wellbeing outcomes and barriers participants experienced while spending time in nature. This was specifically conducted using the participatory art method, photovoice, with refugees who accessed nature-based programs with this study's community partner, the Immigrant Services Association of Nova Scotia (ISANS). ISANS offers various forms of outdoor recreation trips to refugees and immigrants, with government-assisted refugees (GAR) often getting priority, in Mi'kma'ki (Nova Scotia, specifically). The CER approach builds a knowledge-mobilization plan that is relevant to the community. We will share the findings back to ISANS in relevant forms of boundary objects (i.e., a plain language report and photo-essay booklet), in addition to the findings centred in this paper. 'Boundary objects,' in this case, are the art (i.e., photos) and the acts of collaboration that bridge across

boundaries, whether that be to communicate social, political, or geographical topics to a wider audience (Zurba, 2022).

This study obtained ethical approval from the Dalhousie Research Ethics Board which ensured critical attention was given to the community context of refugees and youth participants. All youth participants chose to do a group interview which was offered to help them feel more comfortable. Language barriers were also mitigated by offering the option of an interpreter who had experience working with ISANS and had established relationships with some participants. Two individual adult interviews took place without the attendance of an interpreter, one group adult interview took place with an interpreter, and two group youth interviews took place with an interpreter for each. The invitation to the study, informed consent, photovoice training, and interviews were conducted in the languages of English, Farsi, Arabic, and Turkish depending on participant preference. The interpreters were paid for their time and were contracted by the research team through ISANS. The interpreters were key in the communication of information about the study, the interview questions, and clarifications between the lead researcher and participants in ways that were respectful and appropriate. The interviews took place at a location that the participant was comfortable with, following appropriate COVID-19 health guidelines, such as at an ISANS location or on a park bench outside a community centre.

4.3.3 Data Collection & Participant Description

Data collection occurred in two parts. Eleven participants accepted the invitation to join the study, including five youths and six adults. All eleven participants joined a semi-structured interview while nine people decided to also contribute their photos and take part in the optional photovoice portion of the study. All participants had attended at least one nature-based program through ISANS in the last two years. Nature-based programs offered by ISANS range in activity, duration, and location; some programs are offered in urban spaces (i.e., in partnership with community gardens or with local recreation centres and services, such as skating). In this study, participants had accessed a range of urban and rural trips, but most interviews focused predominantly on a recent

overnight camping trip where four adults participated and a recent overnight kayaking trip where five youths attended; both of these trips took place outside of the city of Halifax. One participant was registered for an overnight camping trip that was cancelled due to poor weather, and another participant was recruited through 'word-of-mouth' snowball sampling; both of these participants had attended at least one nature-based trip within the last two years which they spoke about instead. To provide further context of this place, HRM harbours several urban greenspaces, community groups, and recreation centres. Since the 2018 Green Network Plan, Halifax municipality has aimed to better promote "parks and open spaces for health, well-being, sense of community and overall quality of life" and recognizes the physical, social, and mental benefits of connecting with nature and acknowledges the importance of equitable access to these benefits and connecting people to the land (Halifax Regional Municipality, 2023, para. 1).

Prior consent to audio-record all interviews were given, and participants' identities were kept confidential in the dissemination of findings. In the photovoice interview, special consideration was given to ensure the protection of participants' identities, such as by not including people's faces or other identifying information. A photovoice training session was offered by the lead researcher which included outlining the measures taken for confidentiality and safety while taking photos during nature-based trips and a very basic camera skills training (Appendix C).

Photovoice is a method that was developed by health promotion researchers and has been since shown to "enhance community engagement, increase awareness of community resources, and foster self-efficacy of the research partners" (Budig et al., 2018, p. 1; The Howard League, 2016). The photovoice component of this study gave participants the opportunity to lead the discussion about their experiences and perspectives about connecting to nature and community. In the photovoice training session, participants were asked to take three photos in response to the prompt, "Take a photo of a place you feel a connection to. What feelings emerge in this natural setting?". Most participants took photos during their time attending the nature-based trips with ISANS, while others shared older images taken during their everyday experiences in nature. For the timeline of engagement outlining when the photovoice training took place

and how many days the participants had to take photos, see figure 2 in Chapter 2.7.2. Before the interview, participants were asked to share the photos with the lead researcher by email, if possible; the photos were viewed together and discussed in the interview setting during Part B (for the photovoice interview questions, see Appendix B).

4.3.4 Data Analysis

The audio files were transcribed using the Microsoft 365 Word transcribing service. Transcripts were then manually corrected by the lead researcher who listened to the audio files during several rounds of data analysis. Transcripts were kept verbatim as possible with the acknowledgment that the different participants' body language and storying-telling styles could not be exactly transferred to the written text. To address this gap, follow-up notes were written by the lead researcher to record the considerations of body language and interview setting, in addition to memos and journals kept during the data analysis process. Data analysis was conducted on the NVivo 12 QSR software using an inductive approach. The inductive approach to analyzing qualitative data allows for the summary of complex raw data into themes that emerge through rounds of reading, analyzing, clustering, and refining of the categories (Thomas, 2003). After the transcripts were read over to fully be immersed in the data, a round of thematic coding was conducted to identify key themes in the transcripts. Additional rounds of coding were conducted to further cluster and organize key themes into higher-level nodes, which resulted in the two core themes with subsequent sub-themes, images, and quotes shared in this paper. The results are thus thematically organized by how participants share their experiences about connecting with community and connecting with nature. For steps taken to ensure research validity and rigour, see Chapter 3.3.5.

4.4 Results & Discussion

Participants shared their experiences of the relationship between nature and wellbeing during outdoor trips with ISANS. These trips predominately included an overnight kayaking trip with the Nova Scotia Sea School and a Learn-to Camp camping trip with Parks Canada, while some participants mentioned their experiences attending apple-picking trips, skating trips, bird-watching trips, and other outdoor activities with

ISANS. The photovoice explanations of these experiences contributed by most participants act as windows into these internal and communal processes of wellbeing and place-attachment (i.e., emotional connections to place). This place-attachment is "defined as '…the cognitive emotional bond to a meaningful setting" (Scannell & Gifford, 2017, p. 256). The findings have been categorized into two key themes important for participants during their time spent in nature: connection to community and connection to nature.

4.4.1 Connection to Community

The experiences and photos shared by participants overview the value of developing a sense of community and connecting with friends, family, and new people during the nature-based programs. Five key relational experiences that impact wellbeing were reported by participants and include: spending quality time with family and friends, meeting new people and socializing, being with like-minded people, feeling welcomed, and lastly, learning from one another.

4.4.1.1 Spending Quality Time with Family and Friends

Our findings align with similar studies that describe nature-based programs as avenues for encouraging stronger a sense of community sense of connection to nature (Puhakka, 2021; Truong et al., 2022). First, the joy of simply having fun and enjoying the time spent together in a group setting was shared, for example, during the overnight camping trip for the friends who attended together. To portray the value of spending quality time with family and friends during outdoor recreation for wellbeing, Fatima shared how being able to eat, talk, and spend the night all together as a group was an experience she benefitted from:

> "Because here in Halifax, we're never going to have a chance to sleep and talk together and eat together in one place. [In Halifax], each [family is] in a separate place somewhere. So that was an opportunity for us to, you know, to benefit from. We enjoyed every moment of the trip." (Fatima)

Food was a conduit for some participants to gather and spend quality time together. This friend group of participants, for example, described their culture as family-

oriented and shared their enjoyment in preparing dinner together during the camping trips:

> "Offering food is like when we offer someone that we're happy with. It gives us a feeling that they're part of the family now and it's comforting to feel that you have people you're enjoying time with, and that remind you of how you spent your time before with your family." (Fatima)

A participant in the group mentioned the experience of being apart from a family member for an extended period of time and she showed the value of reconnecting and spending quality time at the lake with her uncle in the photovoice image below (Figure 3):

> "With my uncle, it had been a trip. My uncle visiting and I hadn't seen him for six years. And it was just a beautiful day. All of the family together in that area…The weather was beautiful. The nature was beautiful. We had a very good time there." (Aisha)

Figure 3. Photovoice image submitted by Aisha.

4.4.1.2 Meeting New People and Socializing

The joy of meeting new people and socializing was often shared as an important element of the nature-based programs for wellbeing. The programs offered opportunities for both youth and adults to make new connections and emerging friendships. There is a direct link identified by participants of having strong social connections and support systems and the impact on their wellbeing and mental health. For example, Maryam explained that socializing around the campfire with new friends increased her self-confidence (Figure 4):

"We got to go surround the fire, we got together, and we speak to each other. We were speaking to each other, and it was so much fun for me. It increased my self-confidence because I had to talk to people, to get together and socializ[e] with people, new people especially." (Maryam)

Figure 4. Photovoice image submitted by Maryam.

4.4.1.3 Being With Like-Minded People

The social group dynamics on the trip were important for participants. Being with like-minded people, friends, or family may improve the experiences of enjoyment and wellbeing associated with the trips. For example, groups of friends may enjoy doing the same outdoor activity and may share the same level of interest to connect with nature. The preference for being with like-minded people was discussed by Abdullah:

"I [camping] went with my brother and like a couple of guys with me, and they [are] like [my] best friends. So that's why I need *these people* for this time to be with me." (Abdullah)

Participants indicated differences in their preference of how to connect with nature, for example in group settings or alone, showing that there is no *one* way to

connect with nature. Nissa explained her preference for spending quiet time basking in the beauty of nature. However, she acknowledged that people may not share the same interests or preferences in nature, or even view or experience nature in the same way. Her statement reflects the importance of fostering space for participants themselves to decide how they want to connect with nature, or if they want to at all. Moreover, her statement suggests the instrumental need to embrace every person's decision, desire, and ability to interact with nature, in a non-judgmental way. She described herself as mindful, aware, and emotionally connected to the natural world, but others may view or describe it differently:

> "Whenever I have a good chance, I go [in nature]. My friend [says], *blah blah blah*. I say no, listen, listen, listen. The birds. See the sky, see the beautiful…See, see, see this is beauty! You know, sometimes not everybody understands you. You know, it's hard to find somebody that understands you. Sometimes you're afraid they don't share those same things with you. But we don't judge, you know, it's OK. You don't judge. When the time arises, they [get] the awareness. Yes, everybody has time to get the awareness. In their journey, their life." (Nissa)

4.1.1.4 Feeling Welcomed

Public greenspaces have been shown to promote positive social interactions between community members and contribute to more social cohesion and trust, as well as more intercultural engagement (Truong et al., 2022). However, community divisions and conflicts (such as discrimination and violence) between park users can also occur (Seaman et al., 2010). Hareem stated that she feels welcomed in parks as she often sees people with different cultural backgrounds enjoying nature together. Her experience reflects the current understanding of public greenspaces, such as parks and community gardens, as renowned catalysts for social networks, social cohesion, and community wellbeing (Adams & Morgan, 2018; Hordyk et al., 2015; Pretty et al., 2005; Seaman et al., 2010). However, she also mentioned feeling unwelcomed by the community in general, stating that, "the community is suspicious of us."

Nissa discussed her approach to bullies and unaccepting people. She highlighted the importance of leaning on her neighbours when acts of aggression do arise:

"Some people [do] not accept us. It happens. You know, it happens everywhere. And we try to accept them. We do our life. My son had bullying in school. I tried with the school, the school did nothing [to stop the bullying] …I mean, this is our homeland. This is our home. We are not going anywhere. It's our home. Therefore, we accept the things that happen sometimes. Sometimes they have anger, the people. OK, we accept that, their anger. Because they don't know. Maybe after, they will discover that they were wrong. We try to be like this. We are peaceful people. We don't like to fight. Even when somebody says something [aggressive], we don't ask, we don't turn back to him." (Nissa)

4.1.1.5 Learning From One Another

Lastly, the relational experience of learning from one another and sharing knowledge, stories, and experiences were important aspects of the nature-based programs voiced by participants. For example, participants who attended the Learn-to Camp trip in Kejimkujik Park explained how Parks Canada staff taught families "how to set up a tent, how to start a fire. And they taught us how to swim." Additional examples of knowledge-sharing spanned the topics of local plants, and camping safety, as well as cross-cultural knowledge-sharing between families and guides about food. Learning about the history of the land was especially important for Hareem who wanted a better understanding of the Indigenous and Acadian communities' connections and ties to the land that she now lives on. This deeper understanding of people-place connections in Mi'kma'ki was important for her own feelings of comfort and connection to this place because, as she explained, she values history and is from Babylon which has a long and rich history of the land:

"And also, it shows us the history. So, when we know the history with this nature, like Lunenberg. I don't know it's just the first land that the French came here, and it became a city. I don't know that…So that makes…a little bit stronger relationship with it, because when you know the history and the nature, or at least when you read, there is some small notice about, let's say park…or like this beach, there is maybe many activities to do here, it's open in this time. Maybe before, like [Mi'kmaw people] live here…For me, it's very nice to know the history about the people because maybe because I'm from Babylon it's a very old

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city, so I care about this…It gives me just a better view, a better idea…makes me comfortable, makes me relax. It's very nice if I know more information about this place." (Hareem)

While sharing information and connecting with community, the role of language must be considered. Two youths expressed how communication and language impacted their experiences connecting with nature and others:

"Now I am feeling much more connected to the nature and also the community of Canada. But the main thing is that I can't speak English, but I have to learn English. Because when I speak English, when I learn English then I can communicate well with people, then I can understand much better the culture and also the people and also the area of the area and also the community of Nova Scotia and also Canada." (Shumaila)

"I'm trying to learn English day by day because if I learn English then I can easily communicate with people and also, I can understand the nature and I can understand the community here." (Shama)

Nature-based programs may act as opportunities or ways to enjoy places in different ways; this can range from quiet, solo time in nature, to group activities like sharing food or socializing around the campfire. Participants' insights and experiences of wellbeing align with similar studies that emphasize the importance of socializing, building social networks and trust, participating in community initiatives, and developing a sense of belonging for wellbeing (Albers et al., 2021; Truong et al., 2022). Higher levels of these relational elements contribute to one's sense of place and usually increase quality of life, social wellbeing, and community resiliency (Liu et al., 2018).

4.4.2 Connection to Nature

Participants expressed their environmental connectedness (EC) in different ways, such as through emotional reactions and meaning-making, or 'place-making,' of the landscape (Kale, 2019; Truong et al., 2022; Varró & Van Gorp, 2021). Landscape and environmental characteristics are also important influences for developing a sense of place, place attachments, and place satisfaction (Stedman, 2003). Research suggests that

these place bonds are positively related to quality of life (Manzo and Perkins, 2006; Scannell and Gifford, 2017)" (Truong, 2022, p. 6).

After providing the context and significance for improving refugee wellbeing using nature-based approaches, we present findings that described the data. These sub-themes relate to refugees' emotional responses and mental health outcomes while connecting with nature and include decreasing stress(taking one's mind off difficult things, feeling relaxed, and feeling at peace), feeling free and increasing self-confidence (self-resilience, and facing fears), remembering and experiencing complicated emotions, expressing spiritual connectedness, and being concerned for or empathizing with nature.

By first sharing the context of some refugees' experiences adapting to a new place, we demonstrate why focusing on refugee wellbeing, and in particular emotional and mental health, is important. Refugees may experience an array of stressors during the time period before, after, and during displacement or relocation which was voiced by participants. Connecting to nature can mitigate some of these stresses (assuming that basic needs are met). Hareem advocated for spending time in nature to improve wellbeing, which she specifically recommended to anyone who is forced to experience uncontrollable changes. She explained an array of challenges she faced to her wellbeing (i.e., relocation or displacement, the lack of social support, threats to safety, and the resulting mental toll) and how mental health (i.e., stress) is connected to physical health:

> "It's a direct effect on our mental [health], because it reduces the stress. Actually, I told you once before that the changes in our life is not just [for] immigrant, anybody, any changes in our lives make us under stress. And this is really making us weak. Weak. So it's that affect[s] our physical [health]…Like my body, I get hurt, about pain in my back, headache, maybe high blood pressure, all that. So when you [are] in contact with the new place or nature or like these amazing places, then you feel that you're comfortable, relaxed. And I think it's also because in our countries we are very close to our nature, not like here actually. Like I am from, I told you, I'm from Iraq, so we actually [grow up] on a river. The river is from all Iraq. We have two rivers so there is many waters. So when I am beside water, I don't know why, I feel that I'm OK. … It's very nice to be close to the

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nature, even here… when [we] came to Canada, there's a lot of pressure on us because everything here is different. Our countries, I think, [are] not safe. Iraq is not safe. But you don't have that much of pressure in your life because your family is here. So if there's some problem, I get sick, my sister, my brother, you know, we have a very strong relationship with family, so they can help me, they can support me, maybe with money, they can support me. But here it's difficult to have like this support, so all that make you under stress. Make pressure on you." (Hareem)

The lack of family and social support was portrayed as a challenge during this participant's relocation journey. On top of that, she described the financial stresses of job credentials not being recognized in Canada. Attending nature-based programs and connecting with nature, in both new and familiar ways, was an important way to mitigate some stress for this participant:

"It's very hard, especially when you don't have enough experience and you don't have enough skills to work here in Canada. So it's very difficult…So that's why I told you that the trips, or to be [connected] to the nature, it is very important to us. You can see how much we are facing a difficult situation. Like you're missing your home." (Hareem)

The findings identified particular therapeutic qualities, and these are similar to those that have been found in other studies as well. Literature on the emotional healing properties of therapeutic landscapes show how they offer space for emotional healing conducive to different cultural values and relational connections to a place (Dushkova & Ignatieva, 2020; Marques et al., 2021). Studies conducted with refugee participants highlight the emotional benefits of therapeutic landscapes as coping with past traumas and healing from stress and anxiety (Dushkova & Ignatieva, 2020; Harris et al., 2014; Hartwig & Mason, 2016). Stress reduction theory recognizes the emotional healing properties of nature, and attention restoration theory lends itself well to the literature on coping; this includes coping with managing major life issues and daily stresses that arise for refugees while adapting to a new place, missing their home, missing family and

friends, and facing difficult life circumstances (Dushkova & Ignatieva, 2020; Hurly & Walker, 2019; Kuo, 2001).

4.4.2.1 Decreasing Stress

We found that decreased stress and taking one's mind off difficult things were consistently reported by participants. The potential for nature to help regulate stress levels was expressed by Maryam who said:

"I like to go to the park. As much as I can and routinely because I feel much better when I'm in the park or in the nature. I feel much better. I calm down in nature. I feel calm in nature. And you know, when you're stressed out, nature helps you to overcome your stress." (Maryam)

Feeling relaxed in nature was also highly present in the data. Huma and Maryam shared their experience of disconnecting from their phones through their photovoice contribution (Figure 5):

"Every day we were waking up to look at phone or with alarm clock. Every day was routine we had to wake up with an alarm and checking the phone. But over there, no phone. No alarm. And waking up with the ocean voice, like wave voice. It was so different. So relaxing." (Huma)

Figure 5. Photovoice image submitted by Huma.

Along with the mental health benefits of decreasing stress and feeling relaxed in nature, place-based education (PBE) also promotes sensory engagement while learning about one's local natural environment (Lloyd & Gray, 2014). Shama described her engagement with nature using their senses; this included being mindful of the sights, sounds, and smells around her on the kayaking trip.

Feeling at peace was experienced by participants, even while trying new and risky activities, such as kayaking in windy conditions. During the kayaking trip, Shazia described the feeling of fearing the rough seas, on top of missing her mother and having limited phone contact, but still finding solace in the natural environment. Shazia described the feeling of being at peace after seeing this interesting tree surrounded by rocks (Figure 6):

> "I really liked this place because it was looking like an island. Look at the stones, the big stones down there. And also, I like the tree, like it was the only single tree of that area. And it looked very, very beautiful for me. And the area was quiet, it was much quiet, and it was [very] peaceful for us…On the way to the island, I really got tired when while paddling the kayak. So it was like a long distance and I really got tired on the way. But when we sat down over there, and we had a break, and I really got afraid of the big waves of water. Then, at that moment, I was thinking that nothing would happen to us, and we're going to safely get there to the island, to our final destination. So, I had to take a pic. And it was our first day, and I was missing my mother too at that time. Because it was the first time and the first day that I didn't see my mother. So I was missing her. Then I started thinking only about the view of the landscape and completely removed the other things from my mind. So I focused or concentrated on this landscape and this view. Then I took the picture to say how beautiful this place is. It was amazing for me. The presence of a single tree in the middle of these stones." (Shazia)

Figure 6. Photovoice image submitted by Shazia.

4.4.2.2 Feeling Free and Increasing Self-Confidence

Feeling free was mentioned by both youth and adults, including Abdullah as well. For youth, the experiences of freedom, leadership, and agency while participating in outdoor recreation were achieved by taking on leadership positions, such as operating their own kayaks. This finding is aligned with place-based outdoor learning (PBOL) best practices which promote the development of agency, interpersonal skills, and confidence in young people's skills and abilities (Lloyd, Truong, & Gray, 2018a). This outcome was expressed by the youth participant and captured in her photovoice image (Figure 7) who said:

> "When I was kayaking, in the middle of the water, doing whatever you want, I felt like I have freedom when I was doing that…Because I was controlling the kayak. I was the person who was deciding where to go." (Maryam)

Figure 7. Photovoice image submitted by Maryam.

This tied in with reflections of self-confidence and resilience while connecting with nature, more specifically, confidence in one's ability, knowledge, and strength to overcome challenges that come their way. This was described by Hareem who applied the meaning of overcoming difficult things and developing resilience to her photovoice image of the ocean (Figure 8):

> "It just has something difficult: the water is very strong here. It just makes me feel how sometimes…you can face a big challenge. It's like the wave. The wave gets very strong on you, very hard! But you will survive in the end…So I like it. It's makes me feel…. When I get back, I feel I'm stronger than when I came here to this place." (Hareem)
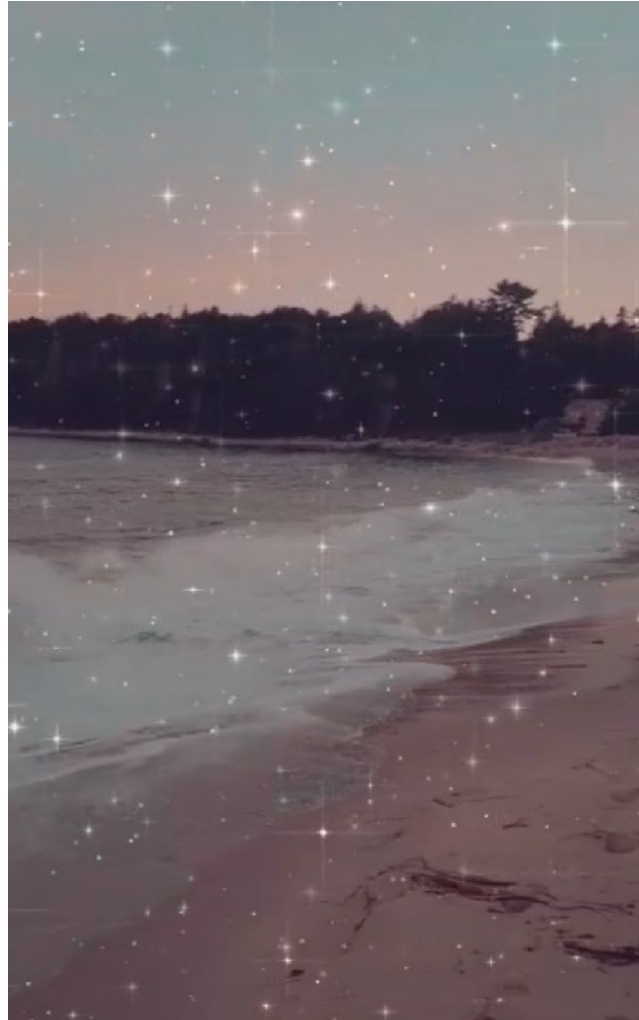
Figure 8. Photovoice image submitted by Hareem.

As aligned with similar studies (Hurly & Walker, 2019), experiencing fear was shared by some participants during nature-based programs. Shumaila spoke about the dangers of kayaking, about unsafe conditions, and about the process of being rescued at sea. Shumaila described the terror and fear she felt while being on the water in a kayak (which inherently presents a number of risks to one's safety) (Figure 9):

"So for me, it was a terrifying place and it was a terrifying moment, being in the middle of the water being in the middle of the ocean. And this situation was my first time facing such waves of the water, such big waves of the water. So everyone was trying to get out of the water and also everyone was trying to be rescued. So because of the ways of the water, we were not able to our final destination, to the island, by kayaks. So two of the ferries came over there, and

they took us, the responsible people took us to the ferries and we were rescued and used the ferries to get to the final destination. So we didn't go by kayak, we were supposed to go by this kayak, but because of the way the water was, we were not able to go by kayak." (Shumaila)

Figure 9. Photovoice image submitted by Shumaila.

4.4.2.3 Remembering and Experiencing Complicated Emotions

Participants consistently revealed how spending time in nature brought up waves of complicated emotions by remembering past experiences. This included feelings of nostalgia, happiness, and sadness expressed by some participants while in nature. These unique subjective experiences of connecting to nature through the lens of story, spirituality, culture, and communion with the world around add to the current understanding of place-attachment, which, "has always dealt with human intangibilities" (Bosca et al., 2020, p. 229). Participants' "emotional and symbolic" associations of natural landscapes across time are also reflected in place-attachment literature which proposes that places hold memories, values, and meaning across time (Bosca et al., 2020, p, 229). Participants often reflected on the role of seeing familiar landscapes but in a different country and how it brought back memories of past places, friends, and family left behind. Such a process is complex and brings about a range of emotions, including

happiness to be reminded of a fond memory, and sadness to be split in two and located far away from that time and place.

Understanding the role of place-attachment for refugees and people who experience a change in their environment is important and deserves more research attention, especially given that "complex and often traumatic emotions are associated with changes or disruptions to the habitual functioning of a place" (Bosca et al., 2020, p. 229). Despite the difficulty in putting such a complicated moment in words, Hareem contributed to this topic and described the internal conflict she experienced while remembering past places and family located far away:

> "It is very hard to tell you. Because at the same time, you get two feeling[s]: feeling with such sadness and with happiness. It's very complicated actually to explain because in one moment, you thought that you're just kids and your family's here… and you just…you just come back to the logical feeling that no, you are here." (Hareem)

Remembering past places was important for most participants, including at least one youth who intentionally took a photo because it reminded her of a lake in Afghanistan. Along the lines of remembrance, Fatima responded to the question about how the ISANS trips impacted her feeling of being connected to Mi'kma'ki (Nova Scotia) by acknowledging the relationship between familiar landscapes and sense of home:

> "What affected like the impact of this nature-based program, was that it reminded us of our country. Although Nova Scotia has drastic temperature differences between our country and here. But there was a lot of sightseeing and, you know, images of these outdoor places that reminded us of our homeland. And yeah, like it made us feel close to home, in that sense." (Fatima)

Shazia described how nature-based programs helped her feel more connected to the natural environment and community over time, however, she shared how this was a

difficult process (and one she did not choose) as she had already felt connected to Afghanistan:

> "When I was back in my country Afghanistan, I didn't like to go to foreign countries because I was connected to that area. So, when we moved here to Canada, on the first month, on the first days, it was very hard for me to get connected with the nature and with the people. But these trips had great effects on my life. [After] these trips, I connect now. I'm feeling more connected by going on such trips and now I'm feeling more connected with nature and also with the community here in Canada and also Halifax. And also, I have gotten familiar with the area and also with the nature now." (Shazia)

4.4.2.4 Expressing Spiritual Connectedness

Furthermore, the spiritual experiences or connectedness some participants described with the land and nature can be explored in different ways. While there are many diverse ways (across cultures) that express the deeply personal, cultural, and significant feeling of spiritual connectedness, the concept of *friluftsliv* offers one understanding of this; it can be defined as "a philosophical lifestyle based on experiences of the freedom in nature and spiritual connectedness with the landscape" (Beery, 2013, p. 95). An adult participant, Fatima, shared her photo to illustrate the spiritual connection and meaning she attached to this place that was so beautiful in her eyes (Figure 10):

> "This was during the trip, and this is the clarity of the clouds in the sky. The reflection is, you know, on the surface of the water. It was so relaxing. Yeah, so you start like.... just like gazing to the nature and thinking of how God created such a beautiful scenery and place. Like, there is a word in Arabic, they say 'Subhan Allah.' It means, you know, God the mighty. You know, how mighty is he to do this? You know? Like it's just the saying that we say, wow. Instead of saying 'wow,' we say, wow to him. Yeah, it's his creation. Which means like wow, wow to this, to what he's done." (Fatima)

Figure 10. Photovoice image submitted by Fatima.

Furthermore, the 'spirit of the place' is described by Hareem:

> "We here stand and in a very high area, it is like a mountain. The land, it's very high. And the water, it's too low. And then is going between the two mountains, or two rocks, this is like [a] trail and the water go there. It's amazing. I didn't see this in my country. When I see it, I like it, and I don't know what I feel. I feel like there's this spirit here in this place. I can feel the spirit of this. It's very nice. You can see the place is alive, it's a rock, it's a mountain, but you can see it's alive." (Hareem)

4.4.2.5 Being Concerned For or Empathizing With Nature

Finally, participants shared how they felt empathy or concern for their natural environments. The ability to live in relation with plants, non-human species, and the natural world is an important domain of wellbeing which also encompasses the ability to "feel and express concern for other species" (Chawla, 2015, p. 435). Higher degrees of

connectedness with nature correlate with the opportunity to engage one's senses, imagination, emotion, and affiliation with nature (Chawla, 2015). These 'capabilities' offered by nature-based programs help to develop a higher level of place-attachment, a greater sense of care for the environment, and a stronger connection to nature. Participants' concern and care for the natural world were captured in their photovoice images and revealed unique examples of place-attachment. Additionally, Nissa mentioned seeing changes to her local environment in Mi'kma'ki, and others reflected on experiencing unpredictable long-term and daily weather changes (which also impacted how campers prepared for the trips and what types of clothing to bring). At least one youth shared that they felt anxiety about climate change, and one adult shared feeling sorry for nature when the trees in her neighbourhood were cut down. This concern for the environment is relevant to the emerging field of climate-related mental health and eco-emotions, such as solastalgia, ecological grief, or climate grief (Cunsolo & Ellis, 2018; Dandy et al., 2019).

While spending time in nature can lower depression, ease psychological distress, decrease stress, and improve energy levels, which is especially important for youth participants and their childhood development (Chawla, 2015), there is also the risk of feeling anxiety, despair, grief, and concern for nature when witnessing uncontrollable and undesirable changes to one's beloved environment or during displacement. Subsequently, through participants' care and concern for their social and natural environment, we can better understand why climate grief, placelessness, and place-based distress arise, and perhaps why it will worsen during climate change and environmental degradation. Place-attachment is a growing field in climate change and displacement, and research efforts using a decolonial approach to include diverse perspectives about the human-nature relationship are imperative (Askland et al., 2022; Dandy et al., 2019).

Meanwhile, caring for the non-human world, such as through long-term and repeated connection to nature, has been shown to encourage pro-environmental behaviour, stewardship, and local action (Chawla, 2009; Gray & Martin, 2012; Lloyd & Gray, 2014, Ives et al., 2018). At least one adult participant shared her individual action to be more pro-environmental. Hareem began her photovoice contribution by sharing a meaning-making of the depicted storm as a force that brings new winds and good feelings

along with it, and then described her responsibility to protect the environment (Figure 11):

"I think the storm, we have some saying [that it] brings us the good things. Maybe the good news, the good luck. Because it comes from different lands. When the storm comes, it is not from our land. It comes from a different land, so it brings with it many feelings, many good things, and it is going over water and trees and farms. So it brings us more feelings. So we like to have all that positive energy from it. From the wind…Nature is very nice. Yeah. [Nature] brings us very nice things, but maybe the human [is] something that is wrong. And that is why the climate change. We're trying to keep the nature and the climate, to keep it clean. But we all do our best. Like we do recycling. We try to help the nature. Help the climate change not as much." (Hareem)

Figure 11. Photovoice image submitted by Hareem.

4.4.3 Implications & Recommendations

Participants' narratives and insights shine light on the internal and communal experiences of connecting to nature, and the implications for wellbeing. Insights on environmental connectedness, relationality, and place-attachment add to our understanding of the emotional implications of environmental change, which are

recognized but still unclear (McMichael & Powell, 2021). The meaning-making processes that people attach to nature matter; it is the meaning we assign to the world around us. While these processes, such as place-attachment, are increasingly acknowledged as important, it is still often mentioned as an afterthought, or it is identified as a gap that has yet to be filled. Refugees in this study explored what community connection and environmental connectedness (EC) can look like in practice, how it happens, and how it is represented visually. Understanding the complex and unique processes of nature's impact on human wellbeing (and vice-versa) may help us to develop better health promotion strategies for individual wellbeing, community wellbeing, and our more-than-human entities. Nature-based programs, as a form of PBE, are an avenue towards these goals that bring the curriculum of learning back to one's local environment. In return, this localized approach builds participants' affiliation with:

> ...their home communities and regions, develop problem-solving skills and the ability to collaborate with others, cultivate a sense of responsibility for the natural environment and the people it supports, and instill a recognition of their own capacity to be positive change-makers and leaders. (Smith, 2016)

It is imperative to support these skills and abilities of refugee youth as the generation who faces unique challenges to their wellbeing (see Chapter 5.1). Funding organizations like ISANS that empower, and support refugee youth is one actionable step towards this goal.

Understanding the complex processes of identity, sense of home, belonging, joy, spirituality, and connection not only adds to the very rootedness of creating meaning in our lives, but it can also help to facilitate community action and change (Manzo & Devine-Wright, 2014). In this case, we propose equitable access to opportunities for accessing nature-based programs and avenues for preferred ways to connect with nature that are specific to the community needs, interests, and priorities of refugees. This means allocating more funding and resources to ISANS and other immigrant-serving or environmental organizations to improve the availability and interactions with natural spaces for all. Our findings align with recommendations to develop place-based approaches that are community-driven and reflect local values, knowledge, and

relationships with the natural world (Middleton, 2021, p. 8). These findings should be considered by urban planners, health practitioners, and governments developing community wellbeing and climate action and mitigation plans, especially as more people experience displacement. Future research endeavours can further explain, address, and cope with the grief that is experienced when one's connection to nature and community is disrupted, such as due to climate change and displacement.

4.4 Conclusion

Refugee participants' insights shed light on their unique processes of meaning-making, place-making, and relational wellbeing during time spent in nature and with community. Participants consistently revealed how spending time in nature in community programs offered by ISANS enhanced their wellbeing. However, this is not a straightforward or cookie-cutter endeavour. Ensuring refugees feel supported and connected to their environments is important for spheres of political influence, community organization, and mental health support. In this paper, we explored the importance of building strong bonds with our community, as well as the value of enjoying, caring for, and advocating for our local natural environment. These findings are validated and aligned with the growing field of climate change and mental health. Community resilience should be facilitated in order to effectively support people who experience changes to their sense of place, and nature-based programs that bring people together, offer solace and enjoyment, and create bonds to the natural and social environment that encourages continuous care for nature and one another. Connecting to our local environment is the start of an effective avenue for human and more-than human wellbeing we can pursue together.

Chapter 5: Additional Findings

5.1 Highlighting Youth Voices

As explored in the previous chapters, an array of wellbeing benefits from connecting with community and nature were reported by both adults and youth. Participants' experiences align with existing literature that explore the relationship between nature and wellbeing (Kuo, 2001; Puhakka, 2021), while also adding important new insights. This chapter will explain why it is important to centre youth voices specifically, and I will include their experiences, perspectives, and photovoice stories. The sub-themes that emerged from youth contributions add to the dialogues on future dreaming, agency, mental health, and sense of home.

Understanding refugee youths' perspectives on nature-based programs is important for a few reasons. First, Campbell et al. (2016) highlight that "recreation is particularly relevant to the settlement experiences of adolescent newcomers (Stodolska & Yi,2003). Anisef, Kilbride, and Khatter (2003) noted how the challenges of being new to a country are exacerbated by the stresses of adolescence and vice versa" (p. 213). Second, during the COVID-19 pandemic, refugee youth experienced more stress, more social isolation, and less access to services (Canadian Council for Refugees Youth Network, 2020). Existing literature tends to focus on the experiences of school-aged children and adults, and there is a gap in refugee youths' experiences during relocation (Campbell et al., 2016). Finally, youth voices also matter in the context of climate change as children and youth are more likely to experience climate-induced anxiety, depression, and PTSD (Sanson et al., 2019). Developing approaches to improving refugee youths' mental health that are trauma-informed and aware of specific challenges this demographic, particularly through place-based, community-based, and nature-based approaches, is essential.

Youth experiences may also differ from adult respondents regarding the types of nature-based programs they have previously attended which may shape their connection to nature and place. For example, youth may not have opportunities to access certain outdoor recreation activities because of their young age. In one interview, the interpreter identified how- although there were opportunities in Iran to experience mountain climbing, the youth participants were too young to have gained that experience. Instead, youth participants sometimes shared their stories of 'future dreaming' (Hurly & Walker,

2019). For example, Shumaila described dreaming about the landscapes, places, and activities she experienced on the kayaking trip, like roasting marshmallows or seeing a shooting star. She explained this future dreaming through photovoice (Figure 12):

> "It was in my dreams. This area was in my dreams. But I'm happy that I saw or visited this place from a near distance…It was in the past and I was dreaming of such an area. Yeah, but when I saw and we visited this place, then I immediately took a picture of that." (Shumaila)

Figure 12. Photovoice image submitted by Shumaila.

> Shazia also shared a story of both future dreaming and hope:
> "So from when I was child, what I was hoping for when I was watching in movies, some movies [had] such kind of fire and also the people sitting around the fire and also they were cooking something or also warming something on that fir for fun. I was dreaming of such time and also dreaming of such a scene. So it was the first time that it happened… I was dreaming of such fire and also to have dark chocolate and also tea and also we had marshmallows…The stars in the sky were looking very beautiful. Right at this spot, we were able to see the stars in the sky, all the stars. All the stars were visible. And also I had watched it in movies and like if you are in a place or in a spot that you were able to visit stars, and [when] some stars are moving around, then if you wish something or if you dream

something, then you will your dream will come true. Then I wished that, at that

moment, I wished to be successful in my life, in my future life." (Shazia)

Shazia's perspective also touched on the importance of building youth's

confidence and agency in their future successes. It is important that nature-based

programs offer space for youth to develop confidence in their own skills and abilities.

Some youth participants shared that they decided to attend the nature-based programs

because they wanted to learn for themselves what gear, environmental knowledge, and

skills are needed to safely do a similar trip on their own time. This education process

encourages youths' sense of agency and leadership skills, which is a strength-based

approach. For example, Shazia and Shumaila shared how they learned the skills to be

team players during a nature-based trip with ISANS and plan to apply these skills during

a trip on their own time:

> "We really liked the group work, the teamwork, they had for us down there.
> Therefore, we are interested to experience everything. We're interested to go on
> such trips. So if someday we go alone on such trips, then, we have to know what
> we need, and we have to know what are our responsibilities. So now at least we
> can, we know how to, if we are going on a trip, then we know what we would
> have [to do], what we should get done." (Shumaila)

This finding aligns with other studies that found that nature-based programs can

encourage participants to gain a new skill that inspires feelings of achievement, pride,

and confidence (Hurly & Walker, 2019). Overall, youth's involvement in sport and

recreation "show positive relationships among recreation contexts, self-esteem, and

feelings of settlement success" (Campbell et al., 2016, p. 215-216).

However, nature-based programs should still accommodate varying levels of

confidence and mental health of youth participants. Huma shared an experience of

overcoming the initial anxiety and hesitancy of meeting new people and socializing on

the trip. Doing a mindfulness exercise as the first group activity eased her social anxieties

and helped to create a space that was built on trust and shared experience:

"It was the reason we got to get closer to each other, all of us in the group. For the first day it was a really good activity. And it protected us to not get scared or afraid of anything that didn't happen yet. For the first day to get to know each other and have more self-confidence and socialize and, you know, make an environment that is trustworthy. She wants to explain that to overcome your fear, that was better for the first day. It was good activity." (Huma)

Other mental health considerations to note include the impact of disconnecting from technology for the duration of the nature-based trip. Puhakka (2021) finds a positive impact on mental health and that "natural settings provide a venue for students' socially shared experiences but also support retreat behaviors by enabling 'being away' and providing freedom from the pressures of student life" (p.1). In this study, disconnecting from technology was mentioned by youth in mixed ways. Although the wellbeing benefits of disconnecting from daily stresses were noted, it was still expressed as a challenge to disconnect from cellphones completely during the overnight kayaking trip. Some youth participants shared that they missed their parents and wanted to be in closer contact by cellphone, while others wanted to listen to music during the trip and had difficulty adjusting to life without technology. This was described by Maryum and Huma:

"It was the first time that we had no parents on a trip. And we were, like, just thinking, my parents were asking about going or not going, but when we arrived there, they allowed us to, two to three times, to talk to parents and it was no problem after that. They feel relaxed." (Maryam)

"It was so hard." (Huma)

"Because we are used to listening to music every day for hours. It was so hard. It was not a good experience for that part." (Maryam)

"And about taking a look at the time to know what time it is. Things like that. It was challenging. We had to keep asking, what time is it?" (Huma)

It appears that disconnecting from technology got easier with time, and Maryam described her newfound appreciation for her material belongings and everyday amenities. This was captured in her photovoice contribution which depicted the amount of gear she carried during the kayaking trip (Figure 13):

"During the day, more than our needs, we are carrying many, many things with us. But this time, I understand that whatever we need we carry, we don't carry more than our needs, expectation of things. [What] we need, we have. I understand the difference between the things that I'm carrying on everyday with me, and the things that I'm carrying on here as a need. For example, phone every day with us. Backpack. Whatever is inside of the backpack, even if you need it, you don't need it with us. Whatever we took with us over there for two to three days, it is different from whatever we are taking, carrying everyday with us from home…It was surprising because when I came back to home, I even didn't until now, until night, I didn't check my phone. I don't feel that I need it, that I need to check it. For example, before the kayaking trip, maybe I spend 10 hours we spend the time with my phone, but after we spend almost five hours a day. I think this is really nice if sometimes we get a little bit far away from our phones, like to use it for sometimes. For example, before I try to [not] use too much my phone, but during quarantine I was not successful that time." (Maryam)

Figure 13. Photovoice image submitted by Maryam.

There were also insights shared by refugee youth that enhanced dialogues on the meaning of home, belonging, and safety. In the literature, the concept of 'sense of home' is intertwined with place-making and encompasses a range of meanings including a shelter, sanctuary, idea, or site of belonging (Ahmet, 2013). Like other refugee youth (Campbell, 2016), Huma grappled with the meaning of home and shared it with the study through her photograph. She described how she missed her home while attending the overnight kayaking trip, and she should not forget that. Meanwhile, she reflected on how, even if she was in a different place, all around the world is her home (Figure 14):

"On the ground, I made a home, like I draw at home. Because she missed their home. And I want to explain about the meaning of this photo. Even if we are too far away from our homes again, we don't have to forget about that, that all around the world is our homes. Even if we are in different place, one place is different than the other place, there is difference between place and two place, again we don't have to forget about that that everywhere is our home. Everywhere is same for us. All of us living under the one sky. If it just looks like we have a problem, the sky is blue everywhere. The sky is the same colour for everyone. Everywhere is the same. Even if you are on this side of the world or the other side…After we

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got far, far away from home, we know [the] value of the home. What we have at home. We know value, that this valuable for us… [Like] my mom to cook the food, like homemade food my mom baked. And our beds and sleep time. No bugs." (Huma)

Figure 14. Photovoice image submitted by Huma.

5.2 Highlighting Personal Narratives of Hope & Transformation

This section captures some of the stories and images shared by participants that illustrated how "landscapes are experienced in different ways by different people" (Marques et al., 2021). The photovoice contributions illustrated how participants attached and associated symbolic meaning to places and natural environments. Photographs act as tools for storytelling, activism, and social change, such as by telling personal stories about what nature means to them (Taplin, 2019). Being inclusive of the different ways that people interact with and attach stories to the natural world is important for our evolving understanding of the relationship between nature and wellbeing, as well as the exclusion and access issues that persist.

Participants consistently shared their stories of hope for the future and personal transformation (Havlick et al., 2021; Hurly & Walker, 2019). 'Hope' has a variety of definitions, such as a positive state of mind, a motivator, or a finite possibility of success

(Park, Williams, & Zurba, 2020). Refugees' feelings of empowerment, agency, and subjective and relative wellbeing may also be intertwined with hope (Park, Williams, & Zurba, 2020). As with the future of climate change, 'radical hope' may be applicable to the refugee experience of adapting to a new, unknown, and unimaginable future (Park, Williams, & Zurba, 2020). Hope is sometimes an important element in one's personal experience of resiliency and post-traumatic growth, this includes the empowerment to build a brighter future (Albers et al., 2021).

Paramount for refugees' long-term transition into a new place is the potential of nature-based programs to help "generate hope for the future, empower people to create a new narrative of their life story, and serve as a mechanism for personal transformation" (Havlick et al., 2021, p. 3). While this study did not examine participants' experiences through the lens of trauma, displacement and the refugee experience can be a traumatic event; one way to explore participants' narratives and insights on life is through concepts on posttraumatic growth (PTG). According to scholars Tedeschi and Moore (2021), the rebuilding of one's narrative and core belief system that is disrupted and shattered by a traumatic event (TE) (such as displacement) is important for PTG. This may reveal why personal narratives of hope and transformation, as well as meaning-making of the natural world, were frequently shared by participants. Other relevant processes that sometimes appear in PTG include: relating to others, recognizing personal strength, appreciating life, undergoing spiritual and existential change, and being open to new possibilities (Tedeschi & Moore, 2021). Due to a TE, there is a shift in one's own story, one's personal narrative, from no fault of their own, and faced with new decisions about what one wants their life to be. The process itself is incredibly challenging, with losses of identity, people, comfort, feelings of unfairness, emotional distress, and rumination (Tedeschi & Moore, 2021). Finding tools for emotional regulation (such as calming down in nature), relying on and getting support from others who are culturally appropriate (such as service providers who are trauma-informed and follow context-specific best practices for offering nature-based programs) can allow space for meaning-making, constructing, and reflection of one's narrative.

Fatima described the symbolic meaning she attached to the imagery of the pine needles she noticed on a tree. She shared a story of hope for the future in her photovoice contribution below (Figure 15):

"So the pine needles were so like close to each other and like giving her memory of we have a lot of pine trees in our country. So it gives you an insight to life. Like, look how the needles are all kind of twisted together and overlapping each other. And within these needles, you can see such a beautiful scenery so it gives you hope. Like looking at all those, like, you know, mixed up and, you know, interconnecting needles, and then you see something beautiful. And it gives you a lot of hope…Look at how the needles are all twisted in each other, and at the same time, there's peace around it. And it gives her hope. So the needles look like our life. A lot of commotion and so many things evolving around you. And even though they're there, it gives you hope because of the beautiful scenery around it. That there's that there's a future. You know. And it takes your mind off of all the worries you have. And, I mean, it reminds you of all the worries and the commotion you have, but at the same time, like, you see the beauty if this picture and it also like takes you to a peaceful place. It gives you hope for the future." (Fatima)
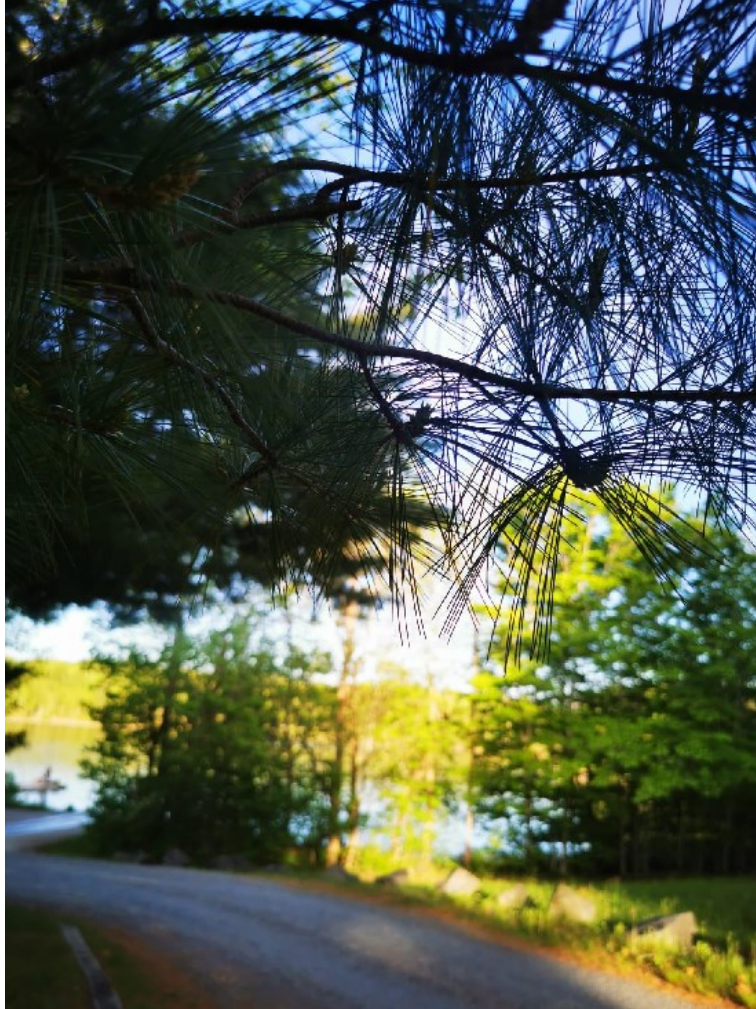
Figure 15. Photovoice image submitted by Fatima.

Another image and story of a life lesson attached to the depicted tree was shared by the same participant (Figure 16):

"So this picture, for her, it's also like a lesson in life. When you look at it, it's like the person, every time they get educated and pass through opportunities in life, and become more prosperous and, you know, grow bigger. And it's like these trees that are growing tall. So it reflects on how people start, and grow into, you know, something successful or someone successful." (Fatima)

Figure 16. Photovoice image submitted by Fatima.

Lastly, Nissa shared her image and story of a lesson she received during a walk on a hiking trail in HRM. In the photovoice contribution, she described the importance of living in the moment, especially since one never knows what lies ahead on the path of life (Figure 17):

"This is the path of life for me. When I take [the photo] for you, it was for me, the path of life. That I am walking on my path. And I don't know what's going there later on. If it's good or not, I don't know. I cannot care about this. You are walking…This is the voice of your future. Right? Yes, it's nice for me to experience, to get [this] voice or message... You don't know what's going to you through the path of the life...You only live day by day. I can tell you something: live day by day. This is my message." (Nissa)

Figure 17. Photovoice image submitted by Nissa.

Chapter 6: Conclusion

6.1 Summary of Findings & Recommendations

This phenomenological qualitative study explored participants' perspectives and lived experiences accessing nature-based programs through ISANS. Using a community-engaged boundary work approach that spanned academic disciplines and elevated community knowledge, the goals of this thesis were to: understand the wellbeing outcomes for refugees who attend these trips, identify their motivations, barriers, and supports for access, and explore their experiences connecting to community, place, and nature. In this conclusion chapter, I will first summarize refugee participants' reported social wellbeing findings from accessing nature-based programs with ISANS that were presented in Chapter 3. Next, I will expand on the discussion of the wellbeing outcomes of connecting with community and connecting with nature as presented in Chapter 4. The discussion continues with a summary of Chapter 5 which showcases and narratives depicting participants' perspectives on the concepts of hope, sense of home, resilience, and transformation. Youth voices on these topics, which were particularly centred in Chapter 5, are summarized as a separate demographic. Finally, in the conclusion chapter, will I combine and summarize the access and inclusion gaps, barriers, and recommendations of nature-based programs as shared by participants in both Chapters 3 and 4.

6.1.1 Summary of the Reported Wellbeing Outcomes of Nature

The findings in Chapter 3 captured refugee participants' reported social wellbeing outcomes from accessing ISANS' nature-based programs. These findings were framed using the dimensions of subjective wellbeing, material wellbeing, and relational wellbeing (see Figure 18). Mental health outcomes fell into the subjective dimension category; this included how spending time outdoors took participants' minds off difficult things and changed their moods. This was facilitated through spending time in a new place as well as disconnecting from the stressors and expectations of everyday life (such as cell phones). Participants also mentioned the subjective wellbeing benefit of feeling calmer while in nature. However, not all experiences in nature were fully relaxing for

participants. Remembering past places and distant family members (while enjoying the present moment) was described as holding both positive and negative emotions (such as happiness and sadness at the same time).

In the material dimension, which included any improvements to physical health, the positive impact of lower stress on the body was reported. Thus, with mental health improvements, there is potential to impact physical health too. Material wellbeing outcomes were also described through the empowering process of newcomers contributing their skills back to ISANS (through employment or volunteering) after being connected with this community. Some also described the satisfaction of being involved in pro-environmental initiatives that, in return, benefit their local social and natural environments.

This cyclical relationship was tied to the relational process of connecting with and learning about one's local environment, and then giving back or taking care of it. The importance of environmental education and learning, such as learning how to safely go camping, was also evident in the findings. Environmental education and learning ensured that participants were informed and felt safe to go on trips on their own time in the future. There were varying experiences of feeling comfortable in nature. Some described feeling comfortable while others mentioned their existing fears surrounding safety (such as fears regarding insects and animals, doing outdoor trips on their own, and trying new things). These fears were sometimes mitigated by attending overnight trips in a group setting and with a trained outdoor professional.

Finally, spending quality time with friends and family, as well as taking time for oneself, was mentioned by participants as important for their relational wellbeing. The impact of socializing and making new social connections on wellbeing was widespread, including the outcome of improved self-confidence.

Relational Wellbeing   Subjective Wellbeing

Learning about and caring for the local environment and community, socializing and making new connections, and spending quality time with friends and family

Empowerment, improved mood, feeling relaxed, took mind off difficult things, boosted self-confidence, fear

Improved mental health which improves physical health, and feeling safer as a group
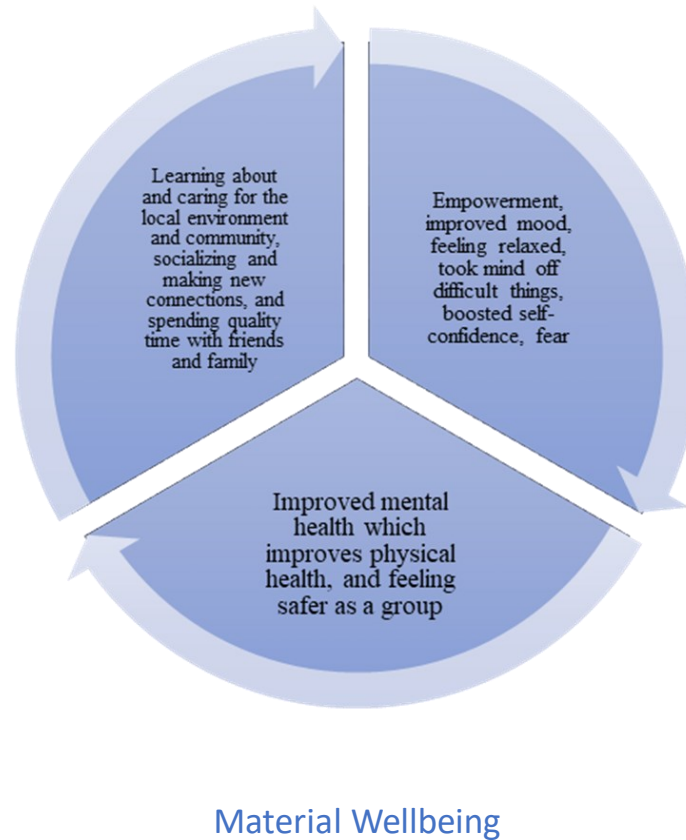
Material Wellbeing

Figure 18. Summary of the reported social wellbeing outcomes shared by participants.

In Chapter 4, the analysis of the findings showed that connecting to community, nature, and place is important for wellbeing. The nature-based programs facilitated important social dynamics at play that impact how participants connect with their communities. These dynamics were summarized as spending quality time with friends and family, meeting new people, being with like-minded people, feeling welcomed and a part of a community, and learning from one another.

The camping trip offered a valuable opportunity for participants to bond in ways they would not normally do in their day-to-day lives back in the city and was described as a fun and memorable occasion to bond over shared meals. The joy of meeting new people and socializing was also important for participants, which was consistently reported throughout the thesis findings. This included the heightened benefits expressed by some

participants who preferred to spend time in nature with like-minded people, such as close friends, and on their own time without the rules and guidelines of ISANS and partnered guides. How participants preferred to engage with nature varied, with some preferring quiet alone time and others preferring activities to take place in a group setting.

While outlining the role of community wellbeing and connections, it is imperative to note the existing dynamics of exclusion and aggression that participants sometimes described. While welcoming neighbourhood communities and the feeling of being welcomed in the park were reported, experiences of bullying or facing suspicion were also shared. Lastly, the important learning process about the history of the land, recreation activities, and cross-cultural community practices (such as the preparation and sharing of traditional foods) was an important element of connecting with others and nature during the nature-based trips. Once again, language barriers should be considered, and participants often recommended the presence of an interpreter to improve the knowledge-sharing process.

While connecting with nature, emotional responses were reported which impacted participants' mental health (see Figure 19). In summary, these responses included decreased stress, relaxation, peacefulness, freedom, improved self-confidence, fear, complicated emotions and remembrance, spiritual connectedness, and concern or empathy for nature. Improving refugees' mental health was important as the stress, pressure, and social isolation of being in a new place without family support had a direct impact on overall wellbeing, including physical health. Participants shared how spending time in nature engaged their senses, took their minds off daily worries and stressors, and decreased stress overall. Participants also shared their experiences of feeling relaxed and at peace in nature, such as while looking at beautiful and interesting landscapes or by disconnecting from cellphones and daily routines.

Feeling free, empowered, and in control to choose how to engage with nature was shared by participants during some outdoor activities. Youth being in charge of the kayak, for example, boosted their self-confidence and belief in their ability to overcome new and challenging tasks. Self-confidence grew after getting used to socializing with new people during the trip. Perspectives of confidence and resilience were also shared from the

meaning-making attached to the power of the ocean and viewing it as a metaphor for overcoming challenges in life, for example. Along with the strength, the dangers of the ocean and natural environments were also noted, specifically for youth who relied on the support of sailing instructors to guide them to safety if an issue on the ocean arose.

The process of remembering past connections to community and nature was a consistent, yet complicated, feeling brought up by participants. Feelings of happiness and sadness accompanied the feelings of familiarity with a landscape or moment. Participants also sometimes felt a spiritual connection to the land and natural environment and described scenes with awe, gratitude, and spiritual meaning. Finally, concern for nature was intertwined in some emotional responses, such as the commitment to care for nature through pro-environmental behaviour. Concern for nature also encompassed the feelings of grief, anxiety, frustration, and hopelessness of the role of human activity in environmental degradation.
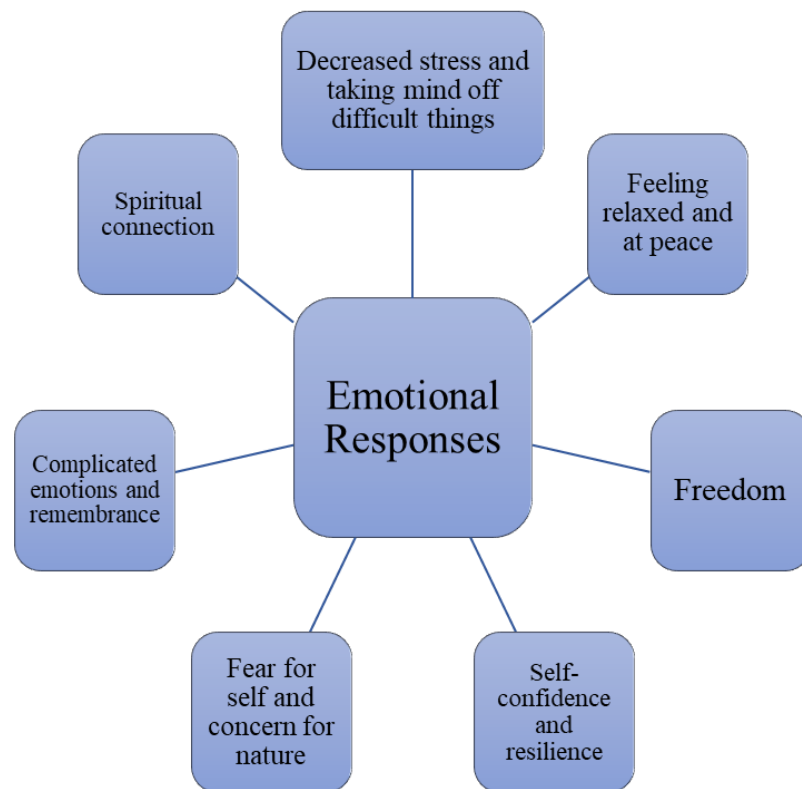

Figure 19. Subjective emotional responses to nature and mental health impacts reported by participants.

The findings revealed that nature-based programs were effective socioecological wellbeing interventions for participants. It is still important for organizations offering nature-based programs to be aware that participants experience the benefits of nature differently, for example, depending on social (and environmental) determinants of health, personal preferences, and access limitations. While generalizations were not made in this thesis about *who* (based on demographics of age, ability, cultural and spiritual identity, or gender identity, etc.) experienced nature in a certain way and why, it acknowledged the importance of intersectionality and shed light on the diverse internal and communal processes connecting with nature. The photovoice contributions in Chapters 4 and 5 also shed light on refugee participants' perspectives on the major concepts of hope, agency and resilience, sense of home, and personal transformation.

Youth considerations were embedded in Chapters 3 and 4 and were also separated in Chapter 5. The reason for separating youth perspectives was that their priorities, interests, and previous experiences may differ from adult respondents. For organizations providing programming for newcomers, it is important to understand the experiences of refugee youth (such as their unique stressors) during and after relocation, as well as understand their priorities in skill development, environmental education, and health promotion. Chapter 5 outlined some key contributions youth shared with the study which included dialogues on future dreaming, agency and self-confidence, mental health, and sense of home.

6.1.2 What Supports & Limits Connection to Nature & Place

Participants shared their motivations for accessing the nature-based programs, what ISANS is doing that worked well in outreach, facilitation, and implementation of the programs, and recommendations for future offerings of the programs. Steps should be taken by organizations offering programs to refugees to support positive interactions with nature and facilitate the reported wellbeing benefits found in this thesis. These steps can be guided by participants' recommendations and experiences of what supports and limits connection to nature and place (see Figure 20). Chapter 3 paid critical attention to access and inclusion considerations of accessing nature-based programs.

In summary, outreach and communication of the nature-based programs were impacted by language, technology, registration, and organizational capacity which may determine how many trips are offered to how many participants. These relational and material factors ultimately impacted how participants are able to be informed and invited about upcoming trips with ISANS. Other material factors included the availability of transportation to the trip location, which can be limited without a vehicle. The demands of cost and time to access leisure activities were also reported as a challenge by participants. The COVID-19 pandemic also had an impact on participants' wellbeing who described how the closure of parks and sports was challenging, and how some of the mental health impacts were mitigated by ISANS' nature-based programs. The challenges of social isolation and being far away from friends, family, and support networks were also key to contextualizing participants' wellbeing, on top of the additional challenges presented by the COVID-19 pandemic.

Additional considerations included socioeconomic factors, disabilities, transportation, weather and appropriate clothing, dietary restrictions, and the overall organizational capacity of agencies such as ISANS. While outdoor recreation was revered as a relatively free form of health promotion, some cost-related challenges were noted. Transportation was a barrier consistently mentioned, especially for people living with a disability and travelling to a distant greenspace location. Acquiring the equipment, gear, and appropriate outdoor clothing were more access considerations, especially in cold or rainy temperatures. Weather impacted how participants accessed and experienced the trips, and recommendations were presented to better inform participants about what to wear and how to prepare for colder weather. Food and sanitation also impacted how participants experienced the trip and required improvement in program implementation. While offering a nature-based program to diverse groups of refugees, food preferences and dietary needs, preferred recreation activities, and hygiene and sanitization should be accommodated.

In summation, participants shared different and unique ways of accessing, feeling in, and interacting with nature that illustrated the diversity of experiencing the nature-based programs. Understanding the different ways of engaging with nature and personal

interest to access nature-based programs in the first place is fundamental. Once again, the considerations of safety include whether participants felt comfortable in nature due to a variety of reasons, such as the risk of dangerous weather conditions or fear of insects. Accommodations can be made to ensure participants feel safe, which participants shared as being with trained professionals, guides, and a group setting.

Relational Dimension   Subjective Dimension
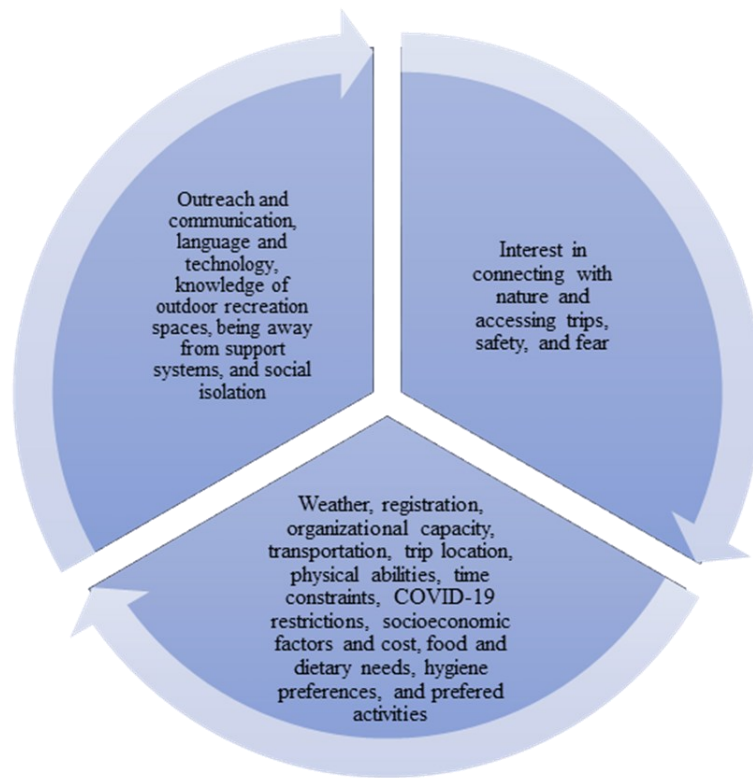
Material Dimension

Figure 20. Summary of what impacts access and interactions of time spent in nature for participants.

6.2 Study Strengths, Limitations & Recommendations

6.2.1 Strengths

A notable strength of this study was its community engagement and collaboration that ensured the relevancy of both the research topic and the selected methods, including photovoice. Discussions with staff at ISANS included the logistical project design steps, such as how potential participants would be recruited and what they would be invited to do. Upon collaboration with ISANS, the photovoice method was decided as an appropriate method to express their own views, ideas, and feelings on the research topic (The Howard League, 2016). Photovoice was a more engaging, creative, and flexible approach that complimented the more formal semi-structured interview process; this creativity, especially in a group setting with friends or family, was expressed as important by staff at ISANS to ensure that youth were comfortable and enjoyed their time participating in the study. Partnered and community-engaged approaches that use participatory methods such as photovoice are well-recognized for acknowledging and working to mitigate the 'university-community divide.' In addition to the historical and ongoing structural exclusion of certain community voices and knowledge from academic settings, the university-community divide is also characterized by the well-founded distrust of research from marginalized communities after decades of research abuse, research extraction, and ignorance of community interests and benefits (Dempsey, 2010; Ortiz et al., 2020). In addition to strengthening this study by offering options for expression through photovoice and/or a semi-structured interview, participants became "co-researchers because they take the photographs and interpret their meaning for the researchers. This differs fundamentally from traditional research where the power often lies solely with the researcher" (The Howard League, 2016). By showcasing participants' own images that they chose to share with the study, there is a better chance of communicating, promoting, and amplifying their perspectives back to ISANS, to relevant policymakers, and to the public in general (The Howard League, 2016). Careful consideration, however, was given to protecting participants' identities, maintaining boundaries and the options of engagement, and training and explaining the photovoice process to mitigate the associated risks of this participatory method.

Careful consideration was also given to engaging with the demographic of youth (Boughton, n.d.), and their contribution to the study significantly bolstered the findings. It was deemed important to include and centre refugee youth voices by the research team and ISANS, especially since the nature-based programs offered by ISANS are usually family-orientated and include a range of age groups, including refugee children who are also adapting to the multitude of effects from relocation. Another strength of this study is that, by working with youth and adults who have different backgrounds and intersectional identities, come from different countries, and carry their own personal immigration stories, the study still revealed similarities in their experiences.

6.2.2 Limitations

This thesis was not intended to be generalized to the immensely diverse population of refugees who carry their own stories, ideas, experiences, interests, and strengths. Another important note relates to community participation and the recruitment strategy. Recruitment with ISANS may have limited potential participants to those who already had a close connection with staff at ISANS and were on the invitation call list. Meanwhile, other potentially interested participants, in both the study and in nature-based programs in general, may not have had the opportunity to be invited due to the outreach challenges identified by participants in the study. This includes the general lack of time refugees may have to participate in nature-based programs and this study, the 'digital divide' which may limit refugees' access to email which was used as one of the methods for recruitment (in addition to the other method of phone calls by interpreters), and any practical implications due to the current COVID-19 pandemic and subsequent restrictions (Dempsey et al., 2010; Natcher & Hickey, 2002). Hurly (2019) also finds that potential participants were excluded from their study due to time constraints, lack of information, and childcare or domestic responsibilities. However, it is important to note that the recruitment strategy taken was deemed most appropriate and logistically viable with staff at ISANS and aimed to mitigate the language bias by paying interpreters for their work in the recruitment and interpretation. The close cooperation with staff at ISANS and interpreters involved in the recruitment was instrumental in carrying out this study.

Furthermore, it is important to consider that some participants shared that they are generally interested in trying new things and have a high interest in spending time in nature and attending courses with ISANS and the YMCA, for example. These participants might be more likely to report positive wellbeing outcomes than people who do not value these specific types of outdoor recreation activities and try new programs, including the nature-based programs offered by ISANS. However, the different ways of valuing and interacting with nature bolster the findings which reveal a variety of participants' interests, abilities, and past experiences connecting with nature. This is an important and realistic portrayal of the diversity of people-place relationships that already exist for refugees.

A note on the logistics of conducting a photovoice study, participants who borrowed the cameras for the kayaking trip reported how the photographing process was a challenge due to the low-quality cameras offered by the study. This technology limitation made the process more tedious for participants. I would recommend higher-quality cameras for future photovoice research projects. This photovoice process challenge was described by Huma:

"I think it was a little bit difficult, challenging. Because it was very low-quality cameras. Just for these six photos that I took, I [had] almost 200 photos. And I had to choose six of them." (Huma)

Although the images themselves did not impact the participants' ability to share the meaning-making processes of their art in the follow-up discussion, the technical difficulties may have impacted how the photos turned out visually and aesthetically, as well as their overall experience with the photovoice method. Meanwhile, additional youth participants talked about how they felt limited in what photos they could take safely (i.e., not taking photos on the water). This was a safety precaution in place by the Nova Scotia Sea School staff and also a part of the training and consent protocols to keep participants, especially youth, safe while taking photographs on the trips. However, this may have impacted the youths' time frame to take photos. They describe this circumstance below:

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"The only problem was with the camera. When the landscape or the view was very beautiful, but when we were trying to take a photo of that, it wasn't looking like the same. Because we are not allowed to do it take the camera and take photos [during some activities]. So we faced short periods of time taking photos. During the kayaking trip, in the kayak, we were not allowed to take out the camera and take photos. But we were taking photos as we were camping." (Shazia on behalf of Shamaila and Shama)

Like all research endeavours, it is important to note how my interpretation of the data impacts the framing and presentation of the results and discussion. I am limited by the academic thesis format restraints and the two-year master's program timeline constraints to craft this collection of phenomenological responses. Additionally, my understanding of certain concepts within the climate change and mental health movement, such as climate grief and hope, may reveal my own biases and positionality. Burton (2020) highlights how "the white-led climate community leans on the idea of hope" while not following up with change (para. 30); meanwhile, BIPOC and other marginalized communities have long been on the front lines of the climate crises, the climate movement, and colonial systems of racial terror and violence that continuously threaten their way of life and inform how they experience climate grief.

This thesis accompanies other knowledge mobilization efforts to share back the information with ISANS in a relevant way. Furthermore, while I tried to maintain a reflexive approach to my impact on the data, I acknowledge my lack of lived experience in interpreting and gathering the data. However, taking a community-based approach outlined in previous chapters aims to mitigate this gap, and I also acknowledge my role of gathering and presenting the participants' responses, recommendations, and experiences (a.k.a., a glorified note-taker), and aimed to not embed my own ideas into the data extensively.

6.2.3 Recommendations

The findings in this thesis are incredibly relevant for the nature-based program facilitators at ISANS, as well as for the staff at Nova Scotia Sea School and Parks

Canada. Broadly speaking, other community and environmental groups can benefit from understanding the diverse connections people may have with their natural and social environments. Groups and organizations that offer outdoor recreation programs to refugees and migrants (such as immigrant-serving agencies) and also those who partner with ISANS (such as Bike Again and Common Roots Urban Farm in HRM) may learn from the participants in this thesis to make their programs more trauma-informed and context-specific. These program design considerations also extend to outdoor education and PBE offerings (such as by HOWL) to youth, specifically.

Finally, future research endeavours should aim to fill in the gaps and limitations identified in this thesis. While the lived experiences, stories, and perspectives centred in this thesis may provide useful insight into the importance of nature-based programs that are place-based, trauma-informed, educational, inclusive, and enjoyable for youth and adults, more research that is community-based and inclusive of different voices can build on this goal and ultimately help to build more resilient communities. A better understanding of this topic is especially important in the face of relentless climatic and societal change that challenges human and more-than-human wellbeing.

While this thesis contributes a better understanding of the wellbeing effects of nature, specifically for refugees who experience unique social determinants of health, this thesis did not have a sole focus on climate change (and avoided climate centrism during the dissemination of findings despite my research interest). More community-engaged research is needed to understand the specific wellbeing implications of climate change and resultant environmental effects (McCunn et al., 2022; Middleton, 2021), for example, for climate migrants, which was beyond the scope of this study. Wellbeing implications from changing environments should be explored further as a threat to not only livelihoods, but to our way of life, sense of place, sense of community, spiritual connectedness, memories and emotions, and relationship with nature.

The psychological effects of environmental change and displacement, including the role of our connectedness and solace within a place, should be considered by urban planners, policymakers, public health, and governments. Creating and maintaining equitable access to healthy, safe, and emotionally regulating natural environments (such as urban green spaces) is particularly important for youth and future generations who will

need to cope with the negative repercussions of climate change and displacement, and research finds that "youth who live close to nature tend to cope better with stress and develop psychological resilience" (McCunn et al., 2022, p. 1040). Actionable steps forward include working with urban and health practitioners, public and private organizations and communities to bolster community-based strategies to improve human wellbeing and to cope with the psychological effects of environmental change and displacement. Ensuring equitable access to different types of outdoor recreation and experiences, fostering a reciprocal relationship with nature that assumes a responsibility to care for the more-than-human world, and bolstering more accepting, healthy, and resilient communities is one step in that direction.

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Appendix A: Semi-Structured Interview Guide (Part A)

Introductory points:

➢ Express gratitude for meeting with me

➢ Briefly explain the study and introduce me [This is a research study exploring the emotions and experiences associated with nature and activities in nature. We are also looking to better understand how the trips with ISANS improve your wellbeing and in what ways they can improve to make the experiences easier and more enjoyable for you and newcomers who attend these trips in the future.] I joined this project because it was very aligned with my interests…

➢ Acknowledge that participants can share as little or as much as they like, and withdrawal at anytime. They are the experts of their own lives

➢ Land acknowledgement

➢ Ask if there are any questions before we begin

➢ Start recording

Introductory questions:

1. These first few questions help to get to know you a little bit. Gender, age, etc.
   a) What is your gender?
   b) How old are you?
   c) How long have you lived in Halifax?
   d) What is your country of origin?
   e) Are you married? With kids?
   f) What is your level of education?
   g) What was your immigration status when moving to Canada

Nature-based programs with ISANS:

Now we will talk about the program you attended with ISANS. What program with ISANS did you attend?

2. Can you tell me a little bit about why you were interested in participating in this program?
3. Can you describe what kind of activities you took part in on the trip?

4. Did the trip meet your expectations? [If so, please tell me more. If not, please tell me more.]

5. Did you experience any challenges accessing or getting to this trip?

   a) What were these challenges?

   b) What was helpful for accessing this trip?

Past experiences of nature-based programs:

These next questions are about your past experiences with the outdoors.

6. Have you participated in other outdoor programs in your origin country or other location?

   a) If so, how was this program *similar* to other activities you have participated in before?

   b) If so, how was this program *different* from your past experiences?

   c) Do these activities make you remember connections or memories from a previous place or country?

Emotional connections to the natural world:

Next, I would like to talk about how being outdoors makes you feel. There is space for positive, negative, neutral emotions when it comes to being outdoors and experiencing a change in environment.

7. Can you share a little bit about what nature means to your life?

   a) What were your past experiences with nature like?

   b) Was there anything about nature that felt familiar to you during this trip with ISANS? Was there anything new?

8. How does being outdoors make you feel?

9. Do these programs make you feel more connected to the natural environment here in Nova Scotia? Can you tell me more?

10. Have you seen any changes to nature around you?

    a) This could be from pollution, whether disasters, or moving to a new place. Can you share how that made you feel?

11. Do you have any particular concerns for the environment? [Can you tell me more?]

Accessing the natural world:

12. After participating in this program do you intend on spending more time in nature (if applicable, with your family)?

    a) If so, what activities will you participate in?

13. What are some of the challenges you face to access nature and outdoor activities in your everyday life? [You mentioned this… can you tell me a little more about that? For each challenge, ask them to elaborate.]

14. In what ways could this trip be improved for next time?

Perspectives of home:

These final questions are about your perspectives about feeling at home and a part of a community.

15. What are the types of things have helped you feel more at home since arriving in Nova Scotia ____ many years ago?

    a) Has participating in ISANS programs impacted these feelings? In what way?

Thank you for your time. This is the end of the interview if you did not participate in photovoice. If you took photographs to share with me now, please have them in front of you to look at during the next part of the interview.

Appendix B: Photovoice Interview Guide (Part B)

➢ Next, we will talk about the photos you took

➢ Have the photo open on my laptop or on their phone to view

➢ Acknowledge that participants can share as little or as many details about their photographs as they like, and that they can withdrawal at anytime

➢ Reminder of the photovoice question: *Take a photo of a place you feel a connection to. What feelings emerge in this natural setting?*

➢ Explain how photos will be assembled into a photo-essay. Think about how you would like this photo-essay booklet to look like (no text) and let me know your thoughts. For example, what is the best way to edit out the date stamp without taking too much out of the photo?

➢ Here is my email you can contact me anytime about ideas, questions, concerns etc. You have 6 weeks to withdrawal from the study.

Introductory Questions:

1. What did you think about the photovoice process?
   a) Did you enjoy taking photos?
   b) Was there anything about it that was difficult? Easy? Exciting?

Exploring the photograph:

2. What did you photograph here?
   a) Where was it taken?
   b) Why did you choose to photograph this?
   c) What does this image mean to you?

How does this relate to our lives?

3. How does this image represent feelings that emerge in natural settings?
4. What do you feel when you see this (landscape, building, tree, plant, etc.)?

5. Does this picture represent your daily experiences of nature? [Does nature often make you feel this way?]
6. Did you see a similar landscape/ tree/ plant, etc. before being in Canada?
   a) If so, does this image remind you of that?

What can we do about it?

7. Final two questions. What was your overall experience like of this nature-based program with ISANS?
8. Is there anything you like to add that is important for me to know?

Thank you, that is the end of the interview. Do you have any additional questions or comments for me? Give gift card. [We will send your gift card by mail, or I can drop it off for you.]

Check in about how they are doing, if they would like to access free mental health services, or have any concerns about their contribution to the study.

Contact me by email, text, phone, or through staff at ISANS if you have any questions, comments, etc.

Staff at ISANS will let you know when the final paper is finished and photo-essay brochure. Likely next summer or fall.

Appendix C: Photovoice Training Guide

This is the photovoice introduction script was used in the first training meeting with youth and adults.

- ➢ Express gratitude for meeting with me
- ➢ Acknowledge that participants choose what they photograph, how many photographs they take, what photographs they share with me and include in the study.
- ➢ Acknowledge that they can withdrawal at anytime
- ➢ Ask if the participant will need access to a camera and training on how to use it

Explaining the study: This is a research study exploring the emotions and experiences associated with nature and activities in nature. We are also looking to better understand how the trips with ISANS improve your wellbeing and in what ways they can improve to make the experiences easier and more enjoyable for you and newcomers who attend these trips in the future.

Explaining photovoice: Photovoice is a way to express your ideas, insights, and experiences of the world around you though photos. You take photographs on your own time and then meet with me afterwards to have a discussion about what the image means to you and the important and interesting parts of the photo. Each photo has a story behind it and can have a big meaning.

Things to remember: The photos needs be taken by you. Please do not take photos of people's faces, your face, or your home address. This is an anonymous study meaning that your name will not be attached to the picture you share with me. You can use old photos that you have taken a long time ago too, or even a screen shot of something meaningful to you.

Photos will answer this question:

While attending a nature trip with ISANS, take a photo of a place you feel a connection to. What feelings emerge in this natural setting?

- Go over safety protocols. Do not take any risks while taking photos. Pay attention to your surroundings while taking photos.
- Conduct training on how to take photos using the digital camera or phone.
- I am asking for three photos. Please take as many photos as you like and you can choose which three you would like to share with me before we meet again
- Ask if there are any questions or concerns
- At the end of the meeting, ask participants to be ready to share photos during the interview. Set up interview date.
- Ask that participants share the photo with me 3 days before meeting for the interview.

Appendix D: Counselling Services

This resource outlines free mental health services for participants of all ages.

Mental Health and Wellness Resources at ISANS

Link to Mental Health and Wellness: https://isans.ca/mental-health-and-wellness/

Link to Stages of Adapting to Life in Canada: https://isans.ca/resources/stages-of-adapting-to-life-in-canada/

Provincial Mental Health Crisis Line

Operated by Mental Health and Addictions, Nova Scotia Health Authority.

Toll Free (24 hours, interpretation is available): 1-888-429-8167

General Inquiries: (902) 429-8167

Crisis Text Line: Text NSSTRONG to 741741

Crisis Services Canada and Suicide Prevention Line

Toll Free (24 hours): 1-833-456-4566

Text Line: 45645

Good2Talk Nova Scotia

Mental health support for university and college students.

Toll Free: 1-833-292-3698

Text Line: Text GOOD2TALKNS to 686868

Kids Health Phone

Trained counsellors and volunteer crisis responders for youth ages 5 to 20.

Anonymous Support (24 hours): 1-800-668-6868

Text Line: 686868

Appendix E: Distress Protocol

This is a guide to support participants experiencing distress.

For the interviewer: What to do when you encounter a situation where a participant is distressed.

While conducting the interviews, participants may become distressed due to memories that can be difficult for them. Dealing with strong emotions can be extremely challenging. A participant may:

- Appear withdrawn and unwilling to share information, or present information in a vague manner
- Be very critical or negative about certain aspects of their perspectives or experiences
- May intimidate you through jokes or sarcastic statements
- May appear sad or depressed
- May cry or shed tears
- May inform you that it is difficult to talk about their experiences

When faced with distressed participants, it is important to be aware that:

- Experiencing distress is a common and normal reaction especially when talking about certain topics
- Distress can be justified and should be managed accordingly
- Expression of distress is a sign of an important problem that needs attention

What to do:

- Maintain a calm and a professional detachment and not become too involved or distressed, or express inappropriate emotion
- Maintain an open demeanor and be willing to listen to the participant
- Acknowledge the emotion
- Focus on the issue. Take it seriously and pay full attention to what the participant is saying.
- Listen actively and maintain eye contact. Always listen without interrupting

- You can then paraphrase the information supplied and ask clarifying questions
- Identify the participant's key concerns. For example, say 'Can I just check that I have heard you correctly… you said that you were feeling …'
- Move on to suggestions of resources that the participant can access. Refer to the distress protocol
- Ensure you are aware of where to direct participants if they would like to see a counselor or mental health service, provider. For example, refer them to the Mental Health and Addictions, Nova Scotia Health Authority. See contact information on Appendix J.
- Stay with the participant until they calm down or direct them to a quiet room if they request to have some time by themselves. Stay close to the room or at a place where they can easily reach you
- Document in your field notes and inform Drs. Busolo or Zurba about the situation

For the participant:

If a participant indicates that they are stressed or appear to be in distress (e.g., crying or shaking), the interviewer will:

1. Stop the interview
2. Provide immediate support. You can ask "Are you okay?" "Please tell me what thoughts you are having." "Would you like to take a break?" "Tell me what you are feeling right now?"
3. Depending on the participant's response you may also ask: "Do you feel you can go on about your day?"
4. If a participant feels able to carry on; resume the interview or group discussion
5. If a participant is unable to carry on:
   a. Discontinue the interview
   b. Encourage the participant to contact their family doctor, a walk-in clinic, or mental health provider OR
   c. Offer, with participant consent, for a member of the research team to do so

For the interviewer:

1. The interviewer will conduct 2 to 3 interviews in a week to prevent the chances of experiencing physical and/or psychological exhaustion.
2. Upon completion of every interview, the interviewer will complete field notes. On the field notes, she will document their reflections including any distress she experienced during the interview and wishes to disclose.
3. The interviewer will debrief after every interview with her co-supervisors.
4. If the interviewer continues to experience distress, she will access the student counseling services.

For the follow up:

The lead researcher will be encouraged to access the co-supervisors if she experiences increased distress in the hours/days following the interview.

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