

THE CANADIAN OUTDOORS FROM THE PERSPECTIVE OF RECENT IMMIGRANTS IN  
METRO VANCOUVER: NATURE NURTURES NEWCOMERS

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The Canadian outdoors from the perspective of recent immigrants in Metro Vancouver: Nature nurtures newcomers

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## Abstract

People are increasingly alienated from nature, which can reduce human well-being, pro-environmental behavior, and emotional connection to the natural world (Soga & Gaston, 2016). In an era marked by climate change and ecological collapse, understanding, reinforcing, and facilitating socioecological interactions can support and advance human and environmental well-being. Such a transition requires widespread individual and collective buy-in and action for transformative structural change. Despite this need for widespread environmental protection, immigrants have historically been excluded from natural spaces and from the project of environmental sustainability (Kloek et al., 2015; Kloek et al., 2013). To promote pro-environmental behavior and support the well-being of Metro Vancouver's immigrant population, it is essential to analyze this population's relationships to nature, particularly in Canada.

Lived experiences, sociocultural norms, and familiarity with nature affect an individual's relationship to and value of nature and a particular natural space (Chan et al., 2016). Research demonstrates that immigrants from diverse cultural and ethnic backgrounds display unique use patterns and relationships to their host country's natural spaces (Jay & Schraml 2009; Kloek et al., 2013; Rishbeth & Finney, 2006). Understanding immigrants' values of and interactions with outdoor spaces requires identifying the meanings, benefits, and capabilities that arise from their socio-ecological interactions. This research aimed to characterize the relationship that some recent immigrants to Metro Vancouver had to the area's natural spaces. Using 27 qualitative semi-structured interviews and oral background surveys, this study aimed to consider the ways in which recent immigrants used, perceived, and derived value from their relationships with nature in Canada. Respondents emphasized that nature supported a unique set of ecosystem services that facilitated their acculturation, adaptation, and socialization into Canada and Canadian society. These perceived benefits suggest that acculturation may be a new category of cultural ecosystem services that newcomers derive from interactions with their host country's nature. This research is an initial step towards understanding the web of values and services that immigrant stakeholders have with nature in Metro Vancouver. Such an understanding can facilitate a more inclusive and representative approach to social-ecological system management.

## **Lay Summary**

Nature contributes to human's physical, mental, social, and spiritual well-being. The benefits an individual derives from nature heavily influence their cultural background and lived experiences. In an era marked by climate change and ecological collapse, understanding, reinforcing, and facilitating human-nature interactions can support and advance individual, communal, and environmental well-being. My research sought to understand recent immigrants' access, use, value, and perception of natural environments in Metro Vancouver to highlight how these spaces impacted immigrant well-being and value of Canadian nature. Respondents deeply valued nature in their host communities and experienced multiple salutary benefits of engaging with outdoor spaces including improvements in mood and mental health. Furthermore, these individuals actively utilized and understood outdoor spaces in Metro Vancouver as environments in which to socialize, adapt, and familiarize themselves with Canada and Canadian society. These spaces helped immigrants develop a sense of belonging, evolve their sociocultural identities, and cope with migration related challenges.

## **Preface**

This master's thesis received ethical approval from the University of British Columbia's Behavioural Research Ethics Board (UBC BREB # H19-00703). The approved project was named "Immigrants and Nature." Dr. Kai Chan was named as Principal investigator, Dr. David Boyd was named as a Co-Investigator, and I was named as a student investigator. With iterative and continuous feedback from Dr. Kai Chan and Dr. David Boyd, I designed a qualitative interview protocol, conducted English interviews, trained translators to conduct non-English interviews, and performed data transcription and analysis. Chapter 4 of this thesis covers the central results of this work and will be translated into a manuscript for future submission, review, and publication in an academic journal, as a paper co-authored by Dr. Kai Chan and Dr. David Boyd. These results will also be submitted an op-ed to a local news publication and disseminated to relevant organizations in a lay language report.

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## **Chapter 1: Introduction**

The world is experiencing massive demographic change with steady increases in international migration and urbanization (World Bank, 2018a; World Bank, 2018b). Simultaneously, xenophobic populism, nativism, and anti-immigrant rhetoric entered mainstream politics in many democratic nations (Henrich & Simpson, 2018). Canada's current administration presents itself as a counterexample (Government of Canada, 2018). Today, more than 1 in 5 Canadians is foreign born (Statistics Canada, 2017a). As such, political and social engagement and consideration of immigrants is crucial in Canada's multicultural society.

Human behaviors and actions are causing dramatic climate change and widespread biodiversity loss, jeopardizing existing ecosystem dynamics and threatening the well-being of current and future generations (Diaz et al., 2019; IPBES, 2019). A global sustainability transition comprised of transformative economic, social, political and technological changes is necessary to combat current negative trends in climate, biodiversity, and ecosystem health (Diaz et al., 2019; IPBES, 2019). Such a transition requires widespread individual and collective buy-in and action for transformative structural change. Lay articles describing the immigrant experiences in the United States argue that pro-environmental messaging has been used to fuel anti-immigrant sentiments, blaming newcomers for increased environmental degradation and unsustainable resource consumption (Nandagopal, 2010; Valle, 2018). The underlying assumption to these xenophobic expressions is that immigrants, particularly newcomers, do not love the natural environments of their host countries as much as their fellow residents. Work in the United States suggests that new migrants have higher levels of environmental concern than their domestically born counterparts (Hunter, 2000). Furthermore, Head et al.'s (2019) review of literature exploring the impacts of migration on environmental values and behavior argues that

acculturation to a new host country and culture can disturb or strengthen immigrants' pro-environment behavior and sustainability actions. Based on insights of this type, there is reason to think that immigrants do value their host country's natural environments and could potentially be engaged in local environmental stewardship and protection initiatives. However, a preliminary step in encouraging immigrant environmental stewardship is characterizing this population's relationship to and value of their host country's nature.

Relationships and stewardship inclinations towards nature are founded on environmental relational values, those associated with individual and collective senses of culture, identity, interpersonal relationships, and quality of life (Chan et al., 2016). Accordingly, these values are fundamentally linked to an individual's life experiences, cultural background, and identity. It follows that groups from diverse cultural and ethnic backgrounds have different relationships, perceptions, and values of nature and natural spaces (Jay & Schraml, 2009; Kloek et al., 2013; Rishbeth & Finney, 2006). Some studies find that immigrants perceive socio-political barriers to greenspace use (Boone et al., 2009; Byrne, 2012; Stodolska et al., 2009; Tirone, 2010). Others argue that urban parks facilitate social cohesion through informal interactions and attachment to a shared space (Peters et al., 2010; Seedland et al., 2009). This research sets out to characterize immigrant-nature relationships by investigating the ways in which recent immigrants<sup>1</sup> to Metro Vancouver use, access, and benefit from natural environments in their new Canadian home.

Using semi-structured qualitative interviews and a background demographic survey, this study analyzed 27 recent immigrants' experiences in and relationships to natural environments in Metro Vancouver. The findings serve as an initial step towards ensuring outdoor spaces are

<sup>1</sup> Recent immigrants are defined by Statistics Canada as those who moved to Canada in the past 5 years.

inclusive and equitably beneficial for Metro Vancouver's residents. Furthermore, considering immigrant relationships to and in some Canadian natural spaces could support immigrant communities through the process of adaptation to a new country, culture, and home.

## **1.1 Project Overview**

There are concerns that immigrant voices can often be marginalized or poorly considered in environmental governance processes, specifically those pertaining to greenspace planning and park design (Kloek et al., 2013). A 2018 survey measuring 2,640 adults, representative of the Canadian population, engagement in 17 different outdoor activities found that people of color demonstrated an 8% higher participation rate in outdoor activities than their white counterparts (Environics Research, 2018). However, Canadian social justice scholar, Jacqueline Scott, argues that the outdoors are still portrayed and perceived as a 'white space' (Brean, 2018). Recently, the Canadian outdoor sporting goods store, MEC, publicly apologized for the lack of ethnic diversity in its advertisements (Labistour, 2018). Understanding immigrants social-ecological relationships using a relational values and cultural ecosystem services lens can facilitate the inclusion and consideration of marginalized and heterogenous perspectives (Chan et al., 2012; Satterfield et al., 2013). Furthermore, characterizing of how recent immigrants value and benefit from their engagement and relationships with outdoor spaces in Canada is crucial to shape and consider their perspectives and preferences in decision-making contexts.

Little is known about the ways interactions with a host country's natural environments influence immigrants' identities, values, and experiences post-migration. Further analysis into these relationships is necessary to understand if and how local conceptions and use patterns of outdoor spaces serve to welcome or alienate new immigrants. Given increases in international

migration and a mainstream resurgence of xenophobic rhetoric, the nexus of immigrant populations, sociocultural perceptions, and value of natural spaces in Canada through a broader ecosystem services and relational values lens warrants further investigation.

The research questions were:

1. How do recent immigrants use, perceive, and value nature in Metro Vancouver?
2. What benefits, services, and capabilities do recent immigrants derive from their outdoor experiences in their new host country?
3. What factors impede immigrants' ability to use, access, or benefit from natural spaces in Metro Vancouver?

Chapter 2 reviews the existing related literature. Then, Chapter 3 describes the research methodology. Chapter 4 presents this research's findings, and discusses them relative to existing literature, and explores their implications. Finally, Chapter 5 presents the research's conclusions and recommendations for future research.

## **1.2 Conceptual framework**

Human-Nature relationships are influenced by an individual's experiences and values. Contact and familiarity with natural spaces may affect an individual's concern for the environment, suggesting that interactions with nature shape one's environmental values (Chan et al., 2016; Soga & Gaston, 2016). Perception is a socially constructed and subjective interpretation of reality formed through past experiences, interactions, and social encounters which are influenced by an individual's cultural, political, social, and natural environments (Rishbeth, 2001). Accordingly, individuals from different cultures, ethnic groups, and countries of origin likely differ in their use and perceptions of nature. Furthermore, Fish et al. (2016) notes

that the cultural ecosystem services or the benefits, capabilities, and services that arise from human-nature interactions are fundamentally shaped by an individual's cultural background. Aizlewood et al. (2006) reason that these differences can be explained by distinct cultural norms and values with regard to nature. Hordyk et al. (2015) note that immigrants experiences of natural spaces in their host country may be largely shaped by their unfamiliarity with its ecological, biological, geographic, and climatic conditions. Thus, understanding the interactions and experiences, or lack thereof, that individuals have in and with natural spaces is necessary in identifying and engaging those individuals' environmental values.

Chan et al. (2012) argue that constructing webs of values and ecosystem services is a necessary step in the iterative process of understanding and accordingly, managing social ecological systems. As such, identifying and characterizing different stakeholders' values is vital to devising appropriate methodological approaches for further valuation analyses which can contribute to environmental governance decision-making processes. This research focuses on the process of value and service identification to highlight the relevant beliefs, values, and relationships that recent immigrants have with nature in the Metro Vancouver area.

In considering immigrant relationships to natural spaces in Metro Vancouver, it is essential to investigate the meanings, benefits, and capabilities that arise from recent immigrants' social and ecological interactions in some Canadian natural environments. This can be viewed through the lens of cultural ecosystems services, which highlights the ways nature contributes to the well-being of individuals and communities. Cultural ecosystem services include ideas such as sense of place, personal and collective identities, and social interactions (Chan et al., 2011). A central cultural ecosystem service that shapes social-ecological relationships is a sense of place, which is connected to place theory's conceptions of place attachment, place identity, place dependence,

and place affect. This research helps reveal immigrant social-ecological values in the context of Metro Vancouver through discussion of personal experiences in natural spaces and accordingly, the benefits and attachments that immigrants have with nature in their new homes. Such an analysis contributes to understandings of how new immigrants view outdoor spaces in Canada and provides insight into how those experiences may be better considered in future planning and decision-making agendas.

### **1.2.1 Values as relations**

Tadaki et al (2017) present four core conceptual approaches to environmental values research: the study of values as a magnitude of preference (value of one outcome or object relative to another), values as a measure of contribution towards a goal, values as individual priorities, and values as social-ecological relationships. This research emphasizes the conceptualization of values as the realized and idealized relationships between people and the environments with which they engage.

Research that considers values from a relational perspective centers unique relationships that individuals and communities have with particular ecosystems and their processes (O'Neill et al., 2008). Accordingly, the concept of values as relations goes beyond traditional economic and often instrumental measures of environmental values (Chan et al., 2012). The study of environmental values as relations does not restrict or exclude diverse conceptions of human-nature relations, and thus provides a richer, deeper, and more contextual picture of environmental perceptions, values, and meanings. This methodology avoids superimposing pre-established and pre-hypothesized environmental perceptions and relationships upon individuals and communities (Klain et al., 2014). Thus, it supports more inclusive and democratic power dynamics between

researchers and research communities by avoiding top-down research paradigms (Tadaki et al. 2015). This can help in the appropriate consideration of the perspectives of marginalized communities, whose voices and perceptions can be overlooked or misrepresented because they do not align with mainstream norms and pre-conceptions.

The study of values-as-relations is embodied in the concept and study of relational values. Chan et al. (2016, pp. 1462) define relational values as “preferences, principles and virtues associated with relationships, both interpersonal and as articulated by policies and social norms.” Himes & Muraca (2018) highlight that relational values are not defined by their generation through relational processes but rather that the actual social-ecological relationships are valued in and of themselves. For example, relational values include eudaimonic values. These values are those that contribute to people’s conceptions of a good life, or a life that aligns with individual or communal moral principles (Chan et al., 2018). Chan et al. (2016, pp.1463) stress that, “Many people believe that their cultural identity and well-being derive from their relationships with human and non-human beings, mediated by particular places.” Accordingly, engaging with a particular place in nature or elements of nature can strengthen or embody certain cultural and moral practices. It can also reinforce identities that relate to individual and communal values or visions of what it means to live a good life.

Relational values differ from instrumental values (value of nature for the services it provides) and intrinsic values (the value for nature in and of itself) (Chan et al., 2018). Real-world decision-making contexts can benefit from employing relational values frameworks, as they better reflect the more perceptive and instinctive ways that humans understand and relate to the natural world, that are often not captured by instrumental and intrinsic values (Gould et al., 2018; Levine et al., 2015). Relational values consider deeper conceptions of nature’s contribution to

human well-being including more challenging, intangible benefits such as social connectedness, cultural identities, and sense of place (Russell et al., 2013). Accordingly, understanding these values is useful in addressing decision-making processes and considering heterogeneous values. Despite the utility of considering human-nature relationships through a relational values lens, few empirical studies have yet employed this conceptual framework.

A fundamental characteristic of relational values is their non-substitutability. An ecosystem, organism, or ecological process that is valued only for its instrumental contribution to an individual or community is theoretically substitutable (Chan et al., 2018; Himes & Muraca, 2018). In a purely instrumental relationship (which might be rare), the thing being valued is considered as a means to an end, and anything that can produce that same end would in theory be equally acceptable in the eyes of the individual or community. In contrast, the relational value of a thing means that the relationship itself is valuable, and thus, it is not fully substitutable by another thing, regardless of whether or not that substitute could provide the same ultimate service.

Chan et al. (2018) argue that the consideration of relational values facilitates cross-disciplinary research that advances deeper understandings of social-ecological relationships, and accordingly assists in practical and egalitarian decision-making processes. Disregarding heterogeneity in the social and cultural importance of various ecosystems and their processes can exacerbate social inequalities and marginalization of certain population's perspectives and values (Chan et al., 2012; Poe et al., 2013). Specifically, this can lead to what Turner et al. (2008) call "invisible losses" which include the loss of identity; the loss of self-esteem and feelings of worthiness; and the loss connection to nature and natural environmental cycles; all of which can be tied to certain environments and their components. Turner et al. (2008) speak to these losses

specifically in the context of First Nations communities. I argue that such losses can be applicable in the cases of other marginalized communities, including recent immigrants, whose perceptions and values likely differ from those who have lived in Canada for a longer time. Furthermore, Poe et al. (2013) stresses that neglecting social and cultural features of social-ecological interactions can stimulate conflict, exclusion from environmental governance, and obstruct the creation of trusting relationships.

### **1.2.2 Cultural ecosystem services**

Ecosystem services describes the ways that ecosystems and their interacting components sustain and enrich humans' lives (Daily, 1997). Ecologists utilize this concept to incorporate the benefits derived from ecosystems into decision-making and environmental management processes (Chan et al., 2012; Daily et al. 2009). However, the existing ecosystem services paradigm largely excludes or misrepresents social, cultural, and 'non-use' services, values, and benefits that individuals and communities derive from ecosystems, their elements, and processes.

Many environmental managers and planners attempt to consider 'culture' as a factor in their decision-making processes (Satterfield et al., 2013) and cultural ecosystems services elicitation is one method by which they can achieve this. Chan et al (2011, pp. 206) define cultural services as “ecosystems' contribution to the nonmaterial benefits (e.g., capabilities and experiences) that arise from human-ecosystem relationships.” Cultural ecosystem services consider and situate social and cultural benefits including sense of place, identity, and social interactions within the larger research framework of ecosystem services (Chan et al., 2011; Daniel et al., 2012). Fish et al. (2016, pp. 4) suggest, “the contributions these environmental spaces and cultural practices make to well-being are understood in three key ways: the identities they help frame, the

experiences they help enable and the capabilities they help equip.” This conceptualization of cultural ecosystem services helps actualize cultural processes and preferences in a way that can be utilized in decision making processes. These services can stimulate engagement with public outdoor spaces through the practice of traditions, rituals, and other social gatherings which are often tied to particular spaces such as public parks or greenspaces (Langemeyer et al., 2015).

Unlike traditional ecosystem services frameworks, cultural benefits and services are often difficult, if not impossible and immoral, to quantify or monetize (Chan et al., 2012). One reason for this is that cultural values are often viewed as incommensurable, meaning that individuals believe that certain benefits are not substitutable or subject to trade-offs (Satz et al., 2013). Accordingly, individuals may view participating in a valuation process that entertains such trade-offs as reprehensible (Atran et al., 2007).

Despite the challenges of considering cultural ecosystem services in broader ecosystem services analyses, some studies have used rigorous narrative, geospatial, and or interview based value elicitation methodologies to devise metrics and measurements that convey perceptions of cultural benefits, assets, symbols, beliefs, and or institutions associated with nature or particular ecosystems (Failing et al., 2013; Gould et al., 2015; Klain et al., 2014; Satterfield et al., 2013; Satterfield & Roberts, 2008). Klain et al. (2014) used map-based interviews to analyze the cultural ecosystem services of particular areas to inform marine spatial planning for waters north of British Columbia’s Vancouver Island. This narrative-based and geographically oriented methodology facilitated value articulation and helped stakeholders convey and geolocate their cultural and immaterial values for this particular ecosystem (Klain et al., 2014). This data helped researchers assign relative social and cultural importance to different locations, information that could then be applied in environmental management and policy frameworks. These studies still

encountered challenges devising metrics that holistically represented a cultural value and resistance to assigning measures of relative importance across particular ecosystem services (Failing et al., 2013; Satterfield et al., 2013). However, in some cases the inclusion of these metrics contributed to their consideration in environmental decision making, indicating their utility in more holistic environmental management (Failing et al., 2013; Satterfield & Roberts, 2008). For example, Satterfield & Roberts (2008) highlight the judicial consideration of indigenous Maori spiritual and cultural beliefs and values in the regulation of genetically modified cattle grazing on tribal lands in New Zealand. The country has since integrated cultural ecosystem services into water and land management processes using a Cultural Health Index that applies an interview-based protocol to measure and consider Maori cultural, spiritual, and physical values (Satterfield et al., 2013).

Originally, cultural ecosystem services were primarily conceived as being valued instrumentally for the services that they provided to individuals and communities. However, Chan et al. (2012) reason that some cultural ecosystem services would be better viewed through a relational lens as many of them are non-substitutable. For example, Comberti et al. (2015) argue that the benefits and relationship that Amazonian Indigenous communities have with their Brazil nut harvest is irreplaceable due to its historical significance and cultural importance. By analyzing certain cultural ecosystem services through a relational values lens, one can provide a deeper and more detailed depiction of human-nature relations that stretch beyond simple service provision (Chan et al., 2016; Chan & Satterfield, 2016). Furthermore, more fluid and everchanging cultural services such as the development of social connectedness, the evolution of cultural identities, and the cultivation of sense of place can be supported by the idea of relational values

Many factors contribute to the inadequate consideration of cultural ecosystem services in environmental management decision-making. Many of these services are intangible, making them challenging to measure (Satz et al., 2013). For example, there is no concrete way to measure *certain* improvements in an individual's well-being of engaging with a given ecosystem, as some benefits are intrinsically perceptive and experiential (Kenter et al., 2011). Fish et al. (2016) highlight that cultural benefits may also be mutually reinforcing and lack concrete measurements. Furthermore, Plieninger et al. (2013) note that cultural ecosystem services can often be inconsistent, with the ecosystem feature that benefits one individual not similarly contributing to the well-being of another individual. These contradictory cultural ecosystem services can generate value conflicts. Chan et al. (2016) note such conflicts may be highlighted through the lens of relational values which highlight the social-ecological relationships that underlie the individual and communal values and derived benefits. Despite the challenges of incorporating cultural ecosystem services into traditional environmental management paradigms, consideration of cultural services and benefits are essential to understanding, evaluating, supporting, and maintaining individual and communal relationships with ecosystems (Chan et al., 2012).

A core quality of cultural ecosystem services is that they are a result of human co-production, meaning that they arise from social processes and interactions, and not independently from the ecosystem itself (Reyers et al., 2013). Fish et al. (2016, pp. 211) describe cultural ecosystem services as “relational processes and entities that people actively create and express through interactions with ecosystems.” As such some of nature's cultural services are not merely derived benefits but rather are processes that shape an individual's understandings, identities, and values based on their experiences and interactions with and within natural environments. This

conceptualization of cultural ecosystem services partially aligns with Chan et al.'s (2016) understanding of relational values in that one of nature's services may be helping individuals calibrate their relational values in a particular environmental and cultural context. There is little cultural ecosystems work on how nature changes individuals and community's values, understandings, meanings, and identities. As such, this study's investigation explores the relational, cultural, and social contributions that nature in Metro Vancouver makes to the well-being of the area's immigrant populations.

### **1.2.3 Types of cultural ecosystem services**

Drawing from existing literature on environmental and ecosystem studies including the Millennium Ecosystem Assessment (2005), Chan et al. (2012) identified nine varieties of cultural benefits that arise from ecosystem services: heritage and place values (appreciation of an ecosystem or ecosystem component for its cultural or historical value); activity values (the value of participating in specific activities that are facilitated by natural systems); spiritual values (religious, sacred, or philosophical fulfillment derived from ecosystems); inspiration and educational values (use of nature or ecosystems to inspire creative or intellectual thought); aesthetic values of natural and cultivated landscapes, existence, altruistic, and bequest values (appreciation of the existence of natural objects for their inherent value and their value for current and future persons); contribution to social cohesion values (use of ecosystems for activities that facilitate social interactions and cohesion); option and quasi-option values (the value of information related to delaying a decision as to prevent the irreversible loss of a service and its associated benefits); and cultural identity values (impact of ecosystems on an individual or communities' sense of self). Cultural benefits are not exclusive. One cultural ecosystem

service can provide a range of overlapping and related cultural services. For example, Langemeyer et al.'s (2015) survey on the material and non-material benefits individuals derived from the largest park in Barcelona found that the park provided individuals with overlapping cultural ecosystem services including recreation, tourism, environmental learning, aesthetic appreciation, and place values.

Abson & Termansen (2011) classify cultural ecosystem services, such as sense of place, identity, and freedom, as “conceptual, first-order, held values” or “deeply held first-order preferences that influence subsequent, second-order preferences.” These conceptualizations of first and second order values relate to social values concepts of transcendental and contextual values. Transcendental values are overarching and normative beliefs that supersede specific situations, while contextual values are those that apply to particular contexts (Kenter et al., 2015). Gould et al. (2019) argue that the relationships emphasized in a relational values framework can serve to situate individual and communal transcendental values in specific contexts.

#### **1.2.4 Place theory and place attachment**

Sense of place (place values) and the identities tied to place are one example of cultural ecosystem services that benefit individuals and communities (Abson and Termansen, 2011; Chan et al., 2011; Daniel et al., 2012). Tuan (1974) argues that the concept, meanings, and experience of place are dependent upon the relationship that humans have with a geographic location. Furthermore, he introduces the idea of “topophilia” or the mental, emotional, and cognitive connection between people and their environments (Tuan, 1977). This conceptualization of place situates sense of place as a cultural ecosystem service that should be viewed from a relational

lens. In fact, Tadaki et al. (2017) argues “the concept of relational values is thoroughly place-based,” and thus, corresponds to sense of place literature.

The variety and degree of benefits provided by a particular place are linked to an individual’s sense of place and relatedly to their attachment to a particular place. Hidalgo & Hernandez (2001) describe place attachment as a positive bond people form with specific places with which they tend to preserve close relations. Place attachment is a multifaceted concept (Hidalgo & Hernandez, 2001) influenced by factors including place dependence (an individual’s functional attachment to a particular place and their appreciation of its individuality) (Stokols & Shumacker, 1981); place identity (connection between a place and one’s personal identity) (Hernandez et al., 2007); place affect (an individual’s emotional bonds to a place given his or her unique context) (Kals & Maes, 2002); and place social bonding (attachment to places that facilitate social interactions and bonding) (Scannell & Gifford, 2010).

Some sense of place research conceives of place as a specific geographic location, for example a specific site or neighborhood (Brown et al., 2003; Cresswell, 2004; Gu & Ryan 2008). However, other researchers understand place as areas of experience and meaning (Wilson, 2003) or concentrations of social interactions and practices (Kearns & Gesler, 1998). This research adopts a broad understanding of place to consider the abstract conception of nature or the outdoors in the Metro Vancouver area as a place. This aligns with the understanding of place as a space for which meaning and significance are shaped by cultural, individual, emotional, and social processes (Altman and Low, 1992; Stedman, 2003). As such, places are defined by the social interactions and activities that they host and the meanings that various actors ascribe to those phenomena (Altman & Low, 1992).

Familiarity and duration of time spent interacting with a particular place have been associated with an individual or community's degree of place attachment (Hay, 1998; Hernandez et al., 2007), suggesting that newcomers have a weaker connection to and value about their host country's natural environments. Cultural ecosystems literature has historically categorized place values with heritage values, suggesting that places are generally appreciated for their historical cultural significance (Chan et al., 2012). Leisure literature finds that some immigrant's experiences in their host country's natural environments allowed them to acquire sociocultural capital, make cross-cultural friendships, develop a sense of belonging, and evolve their personal identities (Hordyk et al. 2015; Seedland et al., 2009; Stodolska et al., 2016). These experiences can be viewed as cultural ecosystem services that contribute to the process of acculturation, the changes in cultural patterns of one or both groups of individuals, resulting from repeated cross-cultural contact (Redfield et al., 1936). However, little analysis has been done on how particular natural spaces can deliver a unique set of acculturative services that shape an immigrant's understanding, use, and value of their new host countries outdoor environments.

## **Chapter 2: Literature Overview**

Nature, greenspaces, and parks contribute to people's well-being through multiple pathways including positive effects on their mental, physical, spiritual, emotional, and social well-being. The impact of human-nature interactions demonstrates the range of pathways through which outdoor environments enrich and improve the lives of individuals and communities. Accordingly, these benefits can be conceptualized as ecosystem services. Some of these services, particularly cultural ecosystem services, are significantly influenced by an individual's perceptions, cultural background, and life experiences. Immigrant communities may face certain physical, financial, and sociocultural barriers to using these natural environments, consequently hindering their ability to benefit from them (Boone et al., 2009; Byrne, 2012; Stodolska, 2005). The relationships and relational values that individuals have with particular natural environments contribute to their cultural identity and well-being. As such, the relationships that immigrants form with natural environments in their host countries may provide a unique set of ecosystem services that facilitate these individuals' processes of adaptation and acculturation to their new lives. This would challenge assumptions that an individual's value of and relationship strength to natural spaces are fundamentally linked to familiarity, duration of engagement, and historic place attachment.

### **2.1 Differences in natural space perception**

Many studies demonstrate differences in the ways that various ethnic and racial groups interact with and perceive natural greenspaces (Jay & Schraml, 2009; Rishbeth & Finney, 2006; te Kloeze, 2001; Todorova et al., 2004). An individual's perception is affected by their

experiences, interactions, and sociocultural environments (Rishbeth, 2001). While environmental psychology studies indicate that people generally derive aesthetic pleasure from natural scenery due to its symbolic significance (Kaplan & Kaplan 1989), this field also finds that landscape preferences are shaped by cultural and ethnic differences (Kaplan & Herbert, 1987; Kaplan & Tabolt, 1988; Rohde & Kendle, 1994). For example, a study of older individuals use of an urban park in Chicago found that different ethnic groups demonstrated notable differences in perceptions, use, and ratings of psychological benefits that they derived from park visits (Tinsley et al., 2002). In a survey of landscape preferences in the Netherlands, Buijs et al. (2009) found that immigrants from Islamic countries preferred more manicured and managed landscapes compared to non-urban, wilderness spaces, which were preferred by native Dutch individuals. One explanation for these trends may be the correlation between wilderness spaces, invited risk, and demographic privilege. For example, Braun (2003) highlights how gender, race, and class have long been tied to the pursuit of adventure in wild natural environments. As such, those living privileged lives are more likely to have the means and security take risks than those who live in a state of being at risk.

Migration may significantly impact interactions and perceptions of natural environments. Childhood experiences in nature are significant indicators of adult engagement with natural spaces (Asah et al., 2012; Ward-Thomson et al., 2007). Hordyk et al. (2015) suggests that immigrants' unfamiliarity with their host country's nature shape their experiences in those natural environments. It is unknown how this unfamiliarity influences an individual's appreciation and attachment to certain natural environments, as the outdoor activities in which they engaged in their countries of origin may not translate to their new environmental contexts. However, novel outdoor experiences in new environmental contexts may also give immigrants

the change to form new and potentially strong relational values and place attachments to their host countries natural spaces (Hurly & Walker, 2019).

## **2.2 Patterns of use**

Existing literature suggests that people's cultural backgrounds shape their environmental attitudes and values which influence their natural space use patterns (Buijs et al., 2009; Jay & Schraml, 2009; Johnson et al., 2004; Kloek et al., 2013). Accordingly, immigrant and minority groups can demonstrate unique and socio-culturally specific recreational patterns in accessing and using outdoor spaces. For example, previous studies done in the United States and the Netherlands, countries with large minority populations, find that immigrants visit natural environments less frequently than the general population (Buijs et al., 2009; Johnson-Gaither, 2014).

Research demonstrates that immigrant activities in natural environments often involve a celebration and the sharing of food in the form barbeques, picnics, and produce harvesting (Jay & Schraml, 2009; Rishbeth & Finney, 2006; te Kloeze, 2001). Correspondingly, immigrant use of greenspaces often includes social and collective activities with friends, families, and peers (Jay & Schraml, 2009; Kloek et al., 2013; Ozguner, 2011; Rishbeth & Finney, 2006). A meta-analysis of greenspace use in Northern Europe found that European non-immigrants contrastingly tended to engage in solitary visits to greenspaces and parks (Kloek et al., 2013). The meta-analysis suggested that "immigrants often seemed to perceive greenspace as a domain for social gatherings," (Kloek et al., 2013, pp.125). The group use patterns demonstrated by certain ethnic minorities may be linked to those groups' collectivist and familial cultural orientations (Davis, 2018; Jay & Schraml, 2009; Tinsley et al. 2002).

There is a considerable body of research on the leisure of immigrants and ethnic minorities (Kloetz et al., 2013; Stodolska et al., 2014). However, existing research often fails to recognize the heterogeneity within immigrant communities, meaning that the influence of individual demographic characteristics, sociocultural variables, and immigration pathways on outdoor recreation and leisure may be overlooked (Kloek et al., 2013). Furthermore, uncertainty remains in the driving causal factors that underlie differences in natural environment recreation patterns (Gentin, 2011; Jay & Schraml, 2014). Two theses generated by Washburne (1978), the ethnicity thesis and the marginality thesis, have been presented to explain these differences. The ethnicity thesis postulates that differences in various ethnic group's outdoor recreation patterns result from distinct ethnic and cultural backgrounds and norms (Aizelwood et al., 2006; Jay & Schraml, 2014; Kloek et al. 2013). The marginality thesis suggests that outdoor recreation differences result from socio-economic disadvantage and discrimination (Jay & Schraml, 2014; Kloek et al. 2013). This marginalization of ethnic minorities from outdoor spaces may be compounded by other demographic variables including gender and social class (Floyd et al., 2008; Ho et al., 2005; Shinew et al. 2006). This thesis doesn't wholly contribute to a causal understanding of what drives individual and communal patterns of recreation in immigrant populations. This body of literature continues to require further analysis into these queries and methodological challenges.

### **2.3 Access**

The 2003 paper, 'A Theory of Access,' defines access as "the ability to benefit from things-including material objects, persons, institutions, and symbols," (Ribot & Peluso, 2003, pp. 153). The *ability to benefit* is informed by a bundle of powers consisting of personal characteristics

and social relationships that make up an individual's ability to access to a certain good like outdoor spaces (Ribot & Peluso, 2003). The ability to benefit from certain outdoor spaces can be controlled, facilitated, or symbolically restricted by an individual's access to certain technologies, capital, knowledge, and social identities (Ribot & Peluso, 2003). Thus, an individual's ability to derive certain ecosystems services, cultural and otherwise, from natural environments can be constrained by their social, cultural, and economic conditions (Wieland et al., 2016). Furthermore, access to natural environments shapes an individual's relationship, perception, and meaning of those environments.

Some studies find that immigrant communities demonstrate lower visitation rates to public greenspaces than other demographic groups (Buijs et al., 2009; Byrne, 2012; Johnson-Gaither, 2014). Immigration and its associated circumstantial changes like downward socioeconomic movement and unfamiliarity with a host country's physical and cultural environments may explain these differences in immigrant outdoor space visitation (Stodolska, 2000). This disparity is notable, as Stodolska & Santos (2006) indicate that natural environments like public parks and urban forests are particularly important for immigrants living in minority neighborhoods because they may offer the only low-cost sites for leisure and recreational purposes.

Scholars argue that immigrants may face a range of practical, economic, and sociocultural barriers that preclude their use of natural environments and public outdoor spaces (Aizelwood et al., 2006; Boone et al., 2009; Byrne, 2012; Jay & Schraml, 2009; Rishbeth & Finney, 2006; Stodolska, 2005). Practical barriers such as physical distance from natural spaces, lack of information regarding their locations, poverty, limited transportation, lack of leisure time, and limited knowledge of the local language can hinder immigrant access to and use of natural

spaces (Aizelwood et al., 2006; Byrne, 2012; Jay & Schraml, 2014; Rishbeth & Finney 2006). Byrne (2012) found that Latino residents in Los Angeles did not visit a particular urban national park because the travel distance to access those areas was too great and these individuals often faced time and transportation constraints that prevented them from making the trip. Furthermore, immigrants' outdoor visitation may be influenced by their level of assimilation, lack of leisure companions, and constraints linked to forced relocation (Jay & Schraml, 2014; Rishbeth & Finney, 2006; Stodolska et al., 2011). Immigrant and minority populations may also opt not to use a natural space due to perceived socio-ecological exclusion and cultural politics embodied in the space's structure and institutional history (Boone et al., 2009; Byrne, 2012; Byrne & Wolch, 2009; Stodolska, 2005). For example, some parks or greenspaces are perceived as environments vulnerable to criminal activities, bullying, and or racism (Gobster, 2002; Kessel et al., 2009; Madge, 1997; Stodolska et al., 2009; Tirone, 2010).

These barriers may impede immigrants from deriving benefits including various cultural ecosystem services from natural and outdoor environments. Furthermore, these barriers may prevent immigrants from developing a relationship with their host country's natural environments. Such a lack of sociocultural identification with the environment can be a barrier to social inclusion into the society and community of their new home (Uzzell et al., 2002).

## **2.4 Well-being, cultural ecosystem services, and relational values**

Existing research on ways that nature positively impacts human well-being largely focuses on measurable improvements in physical and mental health (Keniger et al., 2013). Some studies consider nature's less tangible contributions to well-being including cultural ecosystem services like sense of place and cultural identity (Russell et al., 2013). However, many of these

relationships still merit further study. Outdoor recreation, leisure, and their associated benefits have been classified as cultural ecosystem services linked to improved physical and psychological health to cultural ecosystem services (Clark et al., 2014; Komossa et al., 2019). To understand the positive impacts that arise from immigrant interactions with outdoor spaces, one must identify the concrete, experiential, and perceptive ecosystem services that those communities and individuals benefit from through their relationship with outdoor spaces.

## **2.5 Ecosystem services, nature, and adaptation**

Few studies analyze immigrant and minority communities' patterns of outdoor recreation and relationships to natural environments in their host countries through the lens of cultural ecosystem services and relational values. Results from existing environmental psychology and leisure research suggest that immigrant relationships to natural environments in their host countries provide a range of cultural ecosystem services that may help them cope with migration related stressors and adapt to their new natural, social, and cultural environments.

Adaptation refers to “the long-term ways in which people rearrange their lives and settle down to a more-or-less satisfactory experience” (Berry 2006b, pp.52). Positive adaptation can help individuals acclimatize to a new environment (Berry, 2003) and fare better in establishing their lives in a new culture and society. Berry (2006a) understands adaptation as the long-term results of acculturation. Acculturation is defined as “those phenomena which result when groups of individuals having different cultures come into continuous first-hand contact, with subsequent changes in the original culture patterns of either or both groups” (Redfield et al., 1936, pp.149). Barry (2003) argued that assimilation is one of four approaches sometimes used in the acculturation process and is employed when an individual abandons, either by choice of

expectation, his or her original cultural identity and background for that of his or her new host society. Acculturation takes a broader perspective that understands the process of identity reorientation and cultural development as bidirectional, meaning that immigrants take on traits from their host culture in without losing the connection to their original sociocultural identity and traditions (Keefe & Padilla, 1987). Gordon (1964) found that Latino immigrants cited acculturation, changes in Latino cultural patterns from contact with the host population, as a reason for their leisure behavior in natural environments. Accordingly, when analyzing the ways in which natural environments help immigrants adapt to their host countries, acculturation is a more appropriate framework than assimilation, as acculturation leaves space for immigrants using natural places to engage in activities that represent their native and host countries' cultures and norms.

Existing research finds that leisure and recreation activities in outdoor spaces, particularly those with cultural significance, can facilitate and support cross-cultural relationships and understanding (Peters et al., 2009; Rishbeth & Finney, 2006, Seedland, 2009). These types of positive interactions are an essential part of sociocultural adaptation (Masgoret & Ward, 2006). Stodolska & Yi (2003) argue that leisure and recreational activities facilitate the acculturation process and help shape of immigrant identities in their host country. While this work was not limited to outdoor recreation, it is arguable that natural environments can easily host such interactions as they are often free and open to a diverse set of users.

The concept of 'nature acculturation' stresses the significance of active engagement and sociocultural influences in shaping the importance of a particular natural environment for an individual relative to their larger community (Asah, 2012). Tuan (1977) argues that this phenomena manifests in how individuals' perceptions and expectations of particular natural

environments can be shaped by prevailing sociocultural norms and narratives. Furthermore, prevalent cultural narratives and meanings associated with particular settings can produce certain place-specific emotional responses (Rose, 2012). Scholars find that outdoor recreation can help immigrants cope with acculturative stress, stress generated by the physical, mental, and environmental challenges associated with the process of acculturation (Berry, 1998; Stodolska et al., 2016). This literature suggests that outdoor spaces may provide immigrants with a range of ecosystem services that can be characterized as facilitating the acculturation and adaptation process. At this time, I am unaware of any other cultural ecosystem services literature that examines how nature might contribute to immigrant well-being by assisting acculturation.<sup>2</sup>

## **2.6 Nature's contributions to physical health**

Natural spaces provide a range of health benefits including reducing air pollution, moderating temperatures, and encouraging healthy lifestyles by providing areas for recreational activities, social interaction and emotional, spiritual and or therapeutic experiences (Bell et al., 2008; Hartig et al., 2014; Hordyk et al., 2014; Nowak et al., 2006; Russell et al., 2013; Thompson-Coon et al., 2011; Warber et al., 2013; Wolch et al., 2014). For example, access to urban parks have been associated with lower body mass index (BMI) (Stark et al., 2014), increased longevity (Takano et al., 2002), decreased morbidity (Maas et al., 2009), and enhanced stress recovery as measured through decreased heart rate, blood pressure, and other inflammatory markers (Ulrich et al., 1991). Research suggests that the salutary impacts of nature can be even

<sup>2</sup> I completed a literature scan of core cultural ecosystem services publications that described identified categories of cultural ecosystem services and found no articles referring to acculturative services. Additionally, I discussed this body of literature with one of my advisors (K.M.A Chan), a scholar well versed in this literature, and he was also unaware of any papers on describing or highlighting nature's acculturative services.

greater for marginalized and disadvantaged communities (Mitchell & Popham, 2008; Thompson et al., 2012). Taylor et al (2007) argues that a lack of access to natural environments can negatively impact immigrants' physical health and well-being. Studies demonstrate that immigrants experience deteriorations in their mental and physical health tied to post-migration stressors like social isolation and economic instability after moving to Canada (Ali et al., 2004; De Maio & Kemp, 2010; McDonald & Kennedy, 2005; Perez, 2002).

Immigration related stress contributes to many negative health outcomes such as discrimination, isolation, and financial instability due to unemployment. Physical health challenges can provide immigrants with an additional post-migration stressor. As such, access to natural environments that provide various salutary ecosystem services can potentially help maintain their physical health throughout their adaptation process.

## **2.7 Nature's contributions to psychological health and stress**

One leisure study, Stodolska et al. (2016), argues that recreational activities in natural environments support immigrant psychological adaptation to their host countries through the improvement of their emotional and psychological well-being. Scholars argue that natural spaces improve the psychological well-being of ethnic minorities (Peters et al., 2009; Seedland, 2009). Stress hormone reduction (Hunter et al., 2019), energy restoration through psycho-neuro-endocrine pathways (Kaplan, 1995; Ulrich, 1983), and the provisioning of spaces for emotional and spiritual experiences (Warber et al., 2013) may explain these observed improvements in psychological, mental, and emotional health. Larson et al. (2016) find that engaging with proximate urban greenspaces can enhance psychological well-being by providing a sense of

purpose and connection to a larger community. Furthermore, greenspaces have been found to provide a space for aesthetic pleasure, quietude, relaxation, and a sense of gratification (Chiesura, 2004; Herzele & Wiedemann, 2003; Jim & Chen, 2006; Ozuner & Kendle, 2006, Tinsley et al., 2002).

The restorative and salutary benefits of engaging with natural environments may be particularly influential for immigrants facing multiple health stressors including family separation, foreign environments, and linguistic limitations (Stodolska et al., 2011). Immigration related stress contributes to many negative health outcomes such as discrimination, isolation, and financial instability due to unemployment (Pantelidou & Craig, 2006; Pernice & Brook, 1996; Ryan et al., 2006). A study on immigrant health in Canada found that immigration to Canada was linked to increased rates of depression (Ali et al., 2004). As such, the therapeutic functions of nature may help improve immigrant psychological well-being and quality of life in Canada.

## **2.8 Natural environments and social connectedness**

Masgoret & Ward (2006) argue that an essential factor for sociocultural adaptation is positive interactions with the host society, as such interactions facilitate the development and acquisition of expertise of a new sociocultural context. Public and open natural spaces, particularly urban greenspaces, are places that can be used by individuals with heterogeneous social and ethnic backgrounds. As such, these spaces were identified as key locations for multicultural engagement (Glover & Parry, 2007; Peters et al., 2009). Furthermore, some scholars argue that natural spaces not only facilitate social engagement but encourage social integration and cohesion (Peters et al., 2009; Seedland, 2009). Thus, public greenspaces may provide considerable potential for social inclusion among urban settings (Parr, 2007). These

spaces can reduce the risk of conflict and discrimination and facilitate immigrants' acquisition of cross-cultural social capital (Johnston & Shimada, 2004; Warde et al., 2005). Research on nature's ability to support cross-cultural cohesion encouraged some governments to employ public greenspaces as a tool for social integration. For example, the Netherlands created a subsidy designed to encourage inter-ethnic interaction and the development of cross-cultural social ties in public natural spaces (Peters, 2010).

Studies on urban greenspaces find that park use improves residents' relationships to other people and their community (Gomez et al., 2015; Maas et al., 2006). Leisure research indicates that immigrants were able to develop lasting relationships and friendships through cross-cultural engagement in outdoor leisure activities (Rishbeth & Finney, 2006, Seedland et al., 2009). Immigrants can foster a sense of belonging when meeting neighbors and friends in a park setting (Main, 2013). This is a particularly important service in large cities in British Columbia, where immigrants reported the lowest sense of belonging in western Canada (Vancouver Immigration Partnership, 2012). Other research indicates that ethnic groups often self-segregate in outdoor spaces such as parks and urban forests (Gobster, 2002; Stodolska et al., 2016), thus hindering cross cultural engagements. However, even brief and transitory positive interactions in outdoor spaces can serve as opportunities to obtain and observe behavioral patterns that support mutual understanding and reduce discrimination (Jay & Schraml, 2009; Peters et al., 2010).

## **2.9 Place attachment and identities**

Natural spaces can also provide certain cultural ecosystem services including the fostering of place attachment and the evolution of immigrant identities (Jay & Schraml., 2009; Peters et al., 2010; Stodolska et al., 2016). Stodolska et al. (2016) argue that such socialization and identity development

can be essential for immigrant adaptation to a new sociocultural environment. Engaging with natural environments and local parks can increase immigrants' sense of belonging and identification with their host communities (Lovelock et al., 2011). These findings suggest that spending time in nature can provide immigrants a space to explore their personal relationships to new sociocultural environments and their own identities relative to those new environments.

Existing research states that an individual or community's sense of space and the meaning they attribute to that space are rooted in the social interactions and activities in which they engage in that particular environment (Altman & Low, 1992). Swierad & Huang (2018) found greenspace use can be motivated by humans' desire to connect with themselves, their loved ones, and their larger community. Thus, interactions and activities in outdoor spaces could help immigrants develop *place identity* towards particular outdoor environments; generate place affect (emotional bonds to particular places); and support *place social bonding* through informal social encounters (Hernandez et al., 2007; Kals & Maes, 2002; Scannell & Gifford, 2010). These factors facilitate the cultivation of place attachment, which can encourage a desire to protect and care for those spaces (Stedman, 2002).

However, existing leisure literature also finds that some immigrant communities face significant practical or perceived barriers to accessing natural environments (Boone et al., 2009; Byrne, 2012; Jay & Schraml, 2009; Rishbeth & Finney, 2006; Stodolska, 2000; Stodolska, 2005). This lack of access to nature may also shape immigrant identities in that it may reinforce perceived exclusion and feelings of being "other" in their host countries.

## **2.10 Canadian context**

Few studies analyze newcomers' relationships to outdoor spaces in a Canadian context. Hordyk et al. (2015) and Hurly & Walker (2019) are two exceptions. Hordyk et al. (2015)

investigated the positive effects of engagement with natural environments on immigrant well-being. They studied 7 immigrant families with children in Montreal and analyzed how outdoor spaces positively contributed to their health. They found that immigrant families viewed urban parks as ideal environments for family leisure and engagement with host community members through recreation and participation in local pro-environmental activities. Their paper concluded that these immigrant families viewed nature as a free resource that positively impacted three social health determinants, namely housing, psychological stress, and social cohesion. Participants faced some challenges in accessing certain greenspaces including access fees, distance, and transportation costs. Although this paper analyzed certain ecosystem services that Canadian greenspaces provided to immigrants, it was largely health-oriented. Thus, it did not examine the role that those services played in shaping immigrant relationships to nature in Canada and the deeper meanings and values that developed from those relationships. Analysis of the immigrant populations' relationships with Canada's natural environments and the meanings, values, identities, and norms associated with those relationships warrant further study.

Hurly & Walker (2019) studied 4 refugees' experiences of an organized winter camping retreat in Alberta and analyzed impact of that outdoor leisure experience on their psychological well-being. The study found that their participants welcomed the opportunity to engage in a novel outdoor experience where they were able to learn new skills and attempt new leisure activities. The participants expressed feelings of relaxation, empowerment, and a sense of belonging in reference to this retreat. Furthermore, they recognized the contributions made by social services and park agencies in welcoming them into Canadian society and teaching them some outdoor cultural practices. This study adds to an understanding of outdoor recreation's contributions to refugee psychological and acculturative well-being and the important role that

organizations can play in facilitating these experiences. However, Hurly & Walker (2019) focus on a specific one-time outdoor experience for refugees to Canada, rather than analyzing immigrant's long-term and routine engagements with natural spaces in their host communities. In analyzing newcomers' relationships to nature in their host communities and how those relationships impact their overall well-being, it is important to understand their perceptions, experiences, and values of the outdoor spaces with which they engage most frequently.

## **Chapter 3: Methodology**

This chapter begins by describing this research’s communities, organizations, and study sites where this study was conducted. Subsequently, I review the participant recruitment process and describe my data collection methods. I then discuss my data analysis process, including relevant ethical considerations. I conclude by acknowledging the methodological challenges I confronted throughout the study.

### **3.1 Research site**

My project took place in communities across the Metro Vancouver Area in British Columbia, which comprises 21 municipalities and has a population of 2,463,431 residents (Statistics Canada, 2017b). Recent immigrants, those Statistics Canada describes as having moved to Canada 5 years prior to the date of data collection, make up approximately 5.8% of Metro Vancouver’s population, an estimated 142,535 people (Statistics Canada, 2017b). In 2016, 6.5% of recent immigrants were refugees, 63% were economic immigrants,<sup>3</sup> 30% were family sponsored immigrants, and 0.5% migrated under an alternative immigrant category (New to BC, 2018).<sup>4</sup> The median total income of recent immigrant adults in Metro Vancouver in 2015 was \$C19,625 (New to BC, 2018), well below the Canadian poverty line of \$C37,542 for a family of

<sup>3</sup> Immigrants who have been accepted into Canada based on their ability to contribute to the Canadian “economy through their ability to meet labour market needs, to own and manage or to build a business, to make a substantial investment, to create their own employment or to meet specific provincial or territorial labour market needs,” (Statistics Canada, 2019 ).

<sup>4</sup> “Immigrants includes persons who are, or who have ever been, landed immigrants or permanent residents. In the 2016 Census of Population, ‘Immigrants’ includes immigrants who landed in Canada on or prior to May 10, 2016,” (New to BC, 2018).

two adults and two children (Statistics Canada, 2015). Furthermore, recent immigrant's median total income was only 60% of the median income of all Metro Vancouver residents in the same year (\$C32,612) (Statistics Canada, 2017b). The 2016 Census reported the country profiles of recent immigrants to the Metro Vancouver area, finding that the top five countries of origin were China, India, the Philippines, Iran and South Korea (Statistics Canada, 2017a). Accordingly, the reported top five non-official languages spoken in the home by recent immigrants to Metro Vancouver were Mandarin (18.9%), Punjabi (9.1%), Tagalog (5.5%), Farsi (4.9%), and Cantonese (4.3%) (New to BC, 2018).

Metro Vancouver has many green and 'blue' spaces including public parks, beaches, community gardens, urban forests, street trees, and private yard areas. Participants in my project lived in three municipalities of Metro Vancouver: Burnaby, North Vancouver, and the City of Vancouver. These areas house 152, 141, and 240 parks respectively (City of Burnaby, 2020; City of North Vancouver, 2019; City of Vancouver, 2020). This count does not include informal greenspaces like areas with urban canopy cover, community gardens, and private yards. In 2010, the City of Vancouver announced its Greenest City Action Plan, a 10-goal plan to make Vancouver the 'greenest city' by 2020 (Greenest City, 2012). One central target of the plan was to ensure that all Vancouver residents live within a 400-meter radius of a park, green way or otherwise identified greenspace (Greenest City, 2012). A 2014 follow up study found that 92.7% of Vancouver residents met this standard (Greenest City, 2012). Comparable spatial analyses of park and greenspace access were not available for the Metro Vancouver area, nor the cities of Burnaby and North Vancouver.

### **3.2 Participant recruitment**

I utilized a purposive sampling method in order to collect data appropriate to the identified research questions. Participants needed to meet predetermined inclusion criteria of including being over the age of 18 and having moved to Canada in the past five years. I did not require nor ask my participants to divulge their permanent residency nor citizenship status, as doing so may have prevented some particularly vulnerable and marginalized individuals from participating in this study. Keeping this research's inclusion criteria broad prevented the exclusion of any unique recent immigrant experiences, allowing for the data to better reflect the diversity of Metro Vancouver's immigrant population. Additionally, this research aimed to highlight the process of migration and its impacts on interviewee perceptions. Targeting recent immigrant adults, as opposed to immigrants who have lived in Canada for longer periods of time, helped highlight the impacts of migration on interactions and perceptions of greenspace.

Multiple methodologies were used to recruit research participants. I worked with local organizations, namely the Strathcona Community Centre, Burnaby Neighbourhood House, North Shore Immigrant Inclusion Partnership, and Burnaby Intercultural Planning Table, who had pre-existing connections with Metro Vancouver's immigrant populations. These organizations' staff helped recruit participants through oral announcements at their regular programming, pamphlet dissemination, and poster hanging in their organizations' centers. It must be acknowledged that this recruitment approach did likely influenced the make-up of this study's sample, as newcomers that use the aforementioned organizations often require social services and support due to factors including limited financial stability, linguistic limitations, lack of childcare, unemployment, and limited education. Recruitment materials did advertise that participation in the study included a grocery store gift card, which may have been a more powerful incentive for

less financially well-off immigrants. As such, the individuals recruited for this study likely oversampled more vulnerable and underprivileged immigrants to the Metro Vancouver area. Furthermore, individuals with other demographic characteristics including mothers seeking child support and refugees who often require more social services from immigrant-oriented organizations might be more likely to be exposed to recruitment materials.

Thirty individuals indicated their interest in participating in this study via email or telephone. Of those 30, 27 were included in the final data set. Interviewees' data were excluded from the final study for three reasons: in one case the interview recording device malfunctioned during the interview, in another interviewee decided to rescind her data due to fear of retaliation from dangerous groups that threatened her life in her home country, and in the third the interviewee revealed that she had moved to Canada more than five years ago, making her unqualified to participate in the final study.

Interviewees were able to choose the language in which they were interviewed. Participants were interviewed in English (8), Arabic (10), Spanish (2), and Cantonese (7). The decision to conduct interviews in multiple languages was intended to boost the legitimacy and the validity of this research (it also introduced complications—see 3.3 below). The Tri-Council Policy Statement (TCPS2, 2014, pp. 50) writes that “researchers shall not exclude individuals from the opportunity to participate in research on the basis of attributes such as culture, language ... linguistic proficiency, gender or age, unless there is valid reason for the exclusion.” Exclusion of a population due to their linguistic capabilities would result in limited representation of the diversity of immigrant experiences in Metro Vancouver. Furthermore, excluding certain immigrant populations due to their inability to speak English could severely bias the participant sample population and threaten the study result's validity. Scholars recognize limited knowledge

of local languages as a barrier to immigrant population's use and access of greenspace (Aizelwood et al., 2006; Byrne, 2012; Rishbeth & Finney, 2006). Excluding research participants from this study for similar linguistic impediments would be a double inequity.

The mother tongues of the 8 participants who chose to be interviewed in English included Spanish (2), Tigrinya (1), Farsi (3), Kurdish (1), Arabic (1), and Dari (1). The project purposefully sought to have a diverse sample to attempt to collect a range of immigrant perspectives broader than a single ethnic group.

### **3.3 Data collection**

My research paradigm is rooted in pragmatism, meaning that I chose the research design and approach that aligns with my research questions and context (Ritchie & Lewis, 2003). Seale et al. (2004) argue that a pragmatic research philosophy encourages researchers to consider the appropriateness of every research decision they make, which is imperative when working with vulnerable communities like new immigrants.

This study used semi-structured qualitative interviews and a background demographic survey to collect data. A qualitative methodological approach was appropriate because it seeks to “study things in their natural settings, attempting to make sense of, or interpret, phenomena in terms of the meanings people bring to them,” (Denzin & Lincoln, 2011). Furthermore, the study of environmental values (particularly relational ones) and cultural ecosystems services are firmly rooted in human experience and perception. Willis (2015) emphasizes that understanding cultural services requires the elicitation of personal emotions, perceptions, and meanings evoked by particular ecosystems and ecosystem processes. While multi-lingual semi-structured qualitative interviews were an appropriate approach for this research, reliance on translators for data

collection creates the risk that the nuances and meanings conveyed in respondents' answers could be lost through the process of interpretation and translation. This risk is especially pertinent given this study's emphasis on meanings, understandings, and perceptions of individuals' experiences.

### **3.4 Semi-structured qualitative interviews**

I utilized semi-structured qualitative interviews because they allowed me to directly capture recent immigrant personal experiences, perceptions, and attitudes of or about nature in Metro Vancouver. As Gill et al. (2008, pp. 292) states, research interviews “explore the views, experiences, beliefs and/or motivations of individuals on specific matters... Qualitative methods, such as interviews, are believed to provide a 'deeper' understanding of social phenomena than would be obtained from purely quantitative methods, such as questionnaires.”

A semi-structured interview format facilitated an open and flexible dialogue that enabled deeper investigation of interesting statements, and space for the participants to express their own concerns and interests, while still adhering to a basic interview guideline that could be administered to all participants (Galletta, 2012; Gill et al., 2008; Patton 2002). However, it again must be acknowledged that the multi-lingual format of these interviews and the reliance on translators did limit dialogue flow. Swierad & Huang (2018) used this methodology, though all their interviews were conducted in English, and employed open questions on individual perceptions on city parks to develop a rapport between the respondents and the research team to reveal participants deeper reflections on their emotions, values, and beliefs relative to these specific spaces. I attempted to use a similar methodology but again I chose to conduct interviews in multiple languages, which complicated the ease and clarity of data collection. However, the

advantages to conducting interviews in multiple languages outweighed the limitations produced by potential translation shortcomings. My project aimed to build its findings on the voices and concerns of Metro Vancouver's immigrant populations. Thus, having a more flexible interview structure that was not fully tethered to preconceived theories or ideas of immigrant relationships with Metro Vancouver's natural environments was essential.

Participants were asked to describe a range of personal experiences with natural spaces in Metro Vancouver. These included questions about the outdoor spaces the participants used most frequently, spaces they felt represented Nature in Canada or in Metro Vancouver, and the outdoor space they had most recently visited. For each of these places, participants were asked to describe their experiences, including details regarding visit duration, frequency, activities, individuals involved, and felt emotions. Asah et al. (2012) and Ward-Thomson et al. (2007) note that childhood experiences in nature are significant indicators of adult behavior and engagement with natural spaces. Building on this insight, participants were also asked to describe their outdoor experiences in their country of origin. This provided participants with an avenue to compare their experiences in Canada and their home countries, both relating to outdoor spaces and more general concerns. Additionally, this part of the interview often served as an opening for a discussion of the migration-related challenges and the struggles that newcomers face once they settle in Canada. (See Appendix 1 for interview guide).

Interviews were conducted over a 5-week period, between August 29, 2019 and October 4, 2019. I met with all of the translators prior to the interviews to review the consent documents and questions that would be posed to research participants. This process was especially valuable because it allowed me to ensure that the translators and I had a shared understanding of the aim

and nuances of the research questions. Additionally, it provided the opportunity to flag words or terms that would be difficult to translate or may cause confusion among research participants. For example, the term ‘nature’, could be interpreted both as referring to outdoor, non-human dominated spaces or as the disposition or temperament of a given person, place, or thing. I attempted to allay and reduce these potential linguistic inconsistencies and misinterpretations by training translators prior to the interviews, encouraging participants to ask questions regarding the question or word connotations, and using a wide range of examples to explain key words. For example, when we talked about nature, I would use multiple words and examples to describe and explain this single concept including the outdoors, nature, places like parks, beaches, forests, and jungles. In doing so, I hoped to give participants a range of examples to help participants conceptualize natural environments and or nature relative to the interview questions.

Prior to all interviews, a consent form (written in English) was reviewed in the participant’s preferred language by the interviewer, with the aid of a translator when necessary. Details related to participant consent are discussed later in the section labeled ethical considerations. After receiving informed consent from participants, the interviews were audio recorded using a digital MP3 recorder. On average, interviews lasted one hour. I conducted all of the interviews in English and used the aid of pre-trained, in-person translators for participants whose preferred language was Arabic, Cantonese, or Spanish (See the interview language break down in Table 3.1). I then transcribed all of the interviews. Due to a perceived lack of precision in the in-person translation of the Cantonese language interviews, bilingual translators aided in the transcription these interviews to ensure linguistic accuracy.

<b>Language of interview</b>	<b>Number of participants</b>
Cantonese	7
English	8
<i>Spanish</i>	1
<i>Arabic</i>	1
<i>Farsi</i>	3
<i>Kurdish</i>	1
<i>Dari</i>	1
<i>Tigrinya</i>	1
Spanish	2
Arabic	10

**Table 3.1 Language of interview: The number of participants that were interviewed in the specified languages and the native languages of those who were interviewed in English in Chapter 3**

**3.5 Background on participants**

Participants were also asked oral survey questions, some of which were administered pre interview and some of which were asked post interview (see Appendix 2). The survey questions were segregated to prevent questions asked prior to the interview from influencing the participants’ answers throughout the remainder of the interview. As such, basic demographic questions including gender identity, age, income range, primary language, and marriage status were asked after the interview had been completed. In contrast, questions that prompted

participants to focus on their immigrant identities and outdoor experiences, such as country of origin, length of time in Canada, and frequency of outdoor experiences were asked prior to the interview. The background survey provided consistent and quantifiable information that was further explored and contextualized throughout the semi-structured interviews.

### **3.6 Data analysis**

All interviews were transcribed and uploaded into QSR NVivo, a qualitative data analysis software tool that helps catalogue, organize, and illustrate trends in non-numerical data (NVivo, 2018). Data analysis for this research was an iterative process with multiple stages of coding to refine, readjust, and recode interview transcripts to better summarize, sort, and condense the data to help researchers identify themes (Charmaz, 2006). A preliminary review on the interview transcripts coded the data using structural coding, an approach that catalogues data relative to the project's research questions (Saldana, 2009). These structural codes were instrumental in cataloguing, comparing, and quantifying some basic themes across interviews including barriers to natural spaces, frequency of outdoor experiences, and outdoor activity types. This initial review also helped refamiliarize me with the data and shaped the approach used for later rounds of coding. Multiple subsequent rounds of coding employed an initial coding format, through which iterative rounds of inductive coding produced a series of codes that were then systematically categorized into larger themes (Saldana, 2009). The process of initial coding produced a set of codes that had not been captured through structural coding.

### **3.7 Ethical considerations**

This project, entitled “Immigrants and Nature,” received ethics approval under the University of British Columbia’s Behavioral Ethical Review Board. I was named as the student investigator of this project. All participant recruitment materials gave an overview of the research project and identified researchers as being solely affiliated with the University of British Columbia.

Prior to the interviews, I met with the translators who helped me conduct non-English interviews. The translators signed non-disclosure forms to protect the identities and information that research participants might share throughout the course of the interviews. At these meetings, I reviewed the participant consent form and interview schedules with the translators, to ensure shared understanding of research aims and codes of conduct. Specifically, I asked the translators, all of whom had prior experience working with immigrant and refugee communities, to help flag certain words that could prompt emotional discomfort for some research participants. For example, one question initially asked, “How would you feel if this outdoor space was destroyed?” The Arabic translator noted that the word destroy was triggering for many refugees from Syria or Iraq who had experienced the destruction of their homes during wartime. Consequently, the question’s wording was adjusted to ask, “How would you feel if this outdoor space was closed?” Additionally, when reviewing the participant consent form with the translators, I highlighted the importance of participant comfort throughout the interview process.

Creswell (2014) notes that it is imperative that all interviewers meticulously review the provided consent document with each individual study participant to ensure transparency and mutual understanding of the implications of taking part in the study. Accordingly, prior to any data collection, all study participants were given a copy of the consent document and the

information provided in that document was reviewed with them in their preferred language. Aside from one individual who requested that her data be removed from the study after her interview was completed, the participants did not overtly express any concerns with their role in this study. Respondents were assured that their identity and participation in the study would be kept confidential. They were also reminded that there were no right or wrong answers to any of the questions and that the study was solely interested in their personal perceptions and experiences. They were told that the data collected in the study would be published in a graduate thesis and potentially in additional academic publications. Furthermore, they were told that the study's results would be shared with local immigration partnerships, community centers, and park boards to help identify and potentially address participant identified issues or concerns. However, participants were reassured that any and all information shared throughout the oral survey and interview process would be kept anonymous. Finally, research participants were informed that they could refuse to answer specific questions, the interview could be ended at any time, and their data could be removed from the study if they notified the researcher within 30 days of the interview date. A signed consent form was collected from all research participants prior to commencing the interviews. A \$25 grocery gift card, to the individual's preferred grocery store, was provided to acknowledge the time research participants devoted to the study. Participants were assured that should they choose to end the interview or remove their data from the study, they would not forfeit the gift card.

### **3.8 Reflexivity and positionality**

The way that researchers approach and interpret their research is fundamentally shaped by their positionality, which includes factors that shape an individual's identity including their

gender, ethnicity, social class, lived experiences, and research ontologies (Dean, 2017). Thus, it is essential that researchers understand their personal relationship to their research question and project in order to recognize the impact that their positionality has on how they view, conduct, interpret, and analyze their research and data. Dean (2017, pp.8) defines reflexivity as,

*“the way we analyse our positionality, the conditions of a given social situation. This is both our position in social structures and institutions, and the thinking through of how such a position arises, and the forces that can stabilise and distort that position.”*

Accordingly, it was essential that I remained aware of my own positionality relative to the project and participants throughout the course of my research. I worked to achieve this by keeping a field journal which contained memos of my personal experiences and thoughts throughout the data collection process. This practice helped me remain aware of my positionality relative to my participants.

I am a young, mixed race, American student from an upper-middle class family, who has had the opportunity to travel to beautiful natural spaces and parks around the world. Thus, I acknowledge that I came to this research from a place of privilege and a pre-existing positive relationship with nature and outdoor spaces. Additionally, though I am not a permanent resident nor citizen of Canada, English is my native language, which significantly facilitates the process of navigating the physical, financial, and cultural landscapes of a country that is not my own. I also do not have an accent that “others” me (Podberesky et al., 1990). As an American, I was raised in a culture and household in which my education and occupational ambitions were valued and encouraged, without pressure or expectation to prioritize matrimony or motherhood.

I have also experienced sexism and racism living in a society whose social norms and institutions developed from a patriarchal-Anglo-Christian paradigm. I grew up in the American

south and my father is of Japanese heritage. As such, there were times when my family was refused service at gas stations or referred to using derogatory terms including “Jap” or “Chink.” Furthermore, my father’s parents moved to the United States in the wake of World War II and the US internment of Ethnic Japanese residents. Both my grandparents and later my father faced severe racism including having their neighbors shoot guns at their home. My grandparents were not even legally able to apply for US citizenship until 1965. In fact, they did not secure American citizenship until the late 1990s when anti-immigrant rhetoric made them apply out of fear for their safety living in the US without official citizenship status. These experiences resulted in a familial and inter-generational paradigm of being “other.” This heightened my awareness to the challenges and stigma facing immigrant communities moving to western nations like the United States or Canada.

My family also highly values nature and outdoor experiences. Accordingly, I have had the opportunity to visit and travel to parks, beaches, forests, mountains, and jungles around the world, where I got to participate in a range of activities including hiking, camping, snorkeling, surfing, and skiing. I have a deeply positive relationship with the “natural” world and make spending time outdoors a priority, as I feel that it benefits my mental, spiritual, physical, and emotional health. As such, I acknowledge that my positionality and pre-existing perspectives on outdoor experiences may partly shape my analysis of the interview data.

Bernard (2011) emphasizes the importance of establishing trust with research participants when conducting qualitative interviews. Kvale (1996) highlights that gaining such trust or ‘rapport’ means that interviewees feel comfortable with the interviewer and in the environment in which they are being interviewed. I allowed interviewees to select the location for our interview and the language in which the interview was conducted to help create a comfortable

environment to encourage trust and open conversation. I felt that the interviews were generally friendly and reciprocal, in that many respondents engaged me in relaxed conversation aside from the core interview questions. As such, I perceived that I was able to promptly establish a rapport with research participants. This approach seemed to be largely successful as participants and translators gave me repeated feedback thanking me for making them feel comfortable and listening to their stories. Furthermore, over the course of the interviews, participants seemed to feel comfortable crying in front of me, sharing intimate details about their legal status, past traumatic experiences, and mental health struggles. However, I must acknowledge that many of these interviews were conducted in languages outside of my linguistic capabilities. My inability to directly perceive some of my participants answers and complete reliance on my translators was slightly uncomfortable for me as a researcher. This discomfort particularly notable when I perceived that the Cantonese language translated was truncating participant's responses despite repeated coaching. I attempted to remedy this challenge by engaging a secondary translator to transcribe the interviews' audio recordings.

The largest challenge that I faced relative to my own positionality throughout the process of data collection involved the participants' ages, children, and level of education. Some of the participants, particularly those from Iraq and Syria, were my age or younger. Furthermore, these individuals were all married and had multiple children. Additionally, many research participants had less than a high school level education, with some having less than a grade six education. In all of these cases, I had to consciously subdue expressions of pity or shock which would have been rooted in my own sociocultural norms and privilege. These expressions would have altered the research environment and ultimately created or emboldened a feeling of social hierarchy, which could have hindered productive and open conversation.

### **3.9 Methodological challenges and limitations**

The results of this research project are not generalizable to nor representative of *the* immigrant experience of Canadian nature. All research recruitment materials called for participants that met two broad qualifications: being over the age of 18 and having moved to Canada in the past 5 years. In spite of this, all of my research participants were women and 64% of them were refugees. Furthermore, the ethnic and linguistic profiles of participants do not reflect the trends of the larger Metro Vancouver recent immigrant population profiles. Accordingly, the results and experiences described in this study do not fully represent the larger Metro Vancouver recent immigrant population.

This project's interviews were conducted in multiple languages, which I felt increased the legitimacy and the validity of this research. However, one challenge to this multilingual approach is the need to translate interview questions and transcripts, as well as train research translators to conduct and transcribe interviews. Studies demonstrate that the use of translators can impact participant responses and the "trustworthiness" of study results (Larkin et al., 2007; Temple, 2002). This was a particularly poignant concern for this study, as the research questions centered ideas of perceptive experiences, meanings, and imagined identities, all of which are complex concepts to convey, interpret, and translate through a language barrier. Squires (2009) argues that cross-language qualitative researchers can apply certain methods to systematically address translation errors. I recruited translators with a high level of language competence and experience to reduce translations related errors (Jandt, 2003). I recognize that translation may result in changes in language, specifically when a literal translation does not reflect the

conceptual meaning of a statement. Thus, in training translators, I emphasized the importance of prioritizing conceptual equivalence in translation.

I do not speak the languages for which I hired translators. Therefore, I was unable to verify the proficiency of the oral translations. This was specifically a challenge with the interviews that were conducted in Cantonese. During those interviews, I noted that the translations that the translator was verbalizing to me did not seem to match the length and complexity of the statements that participants were saying in Cantonese. I reminded the translator between interviews that I wanted her to provide me as close a translation of everything that participants said. However, I felt that she continued to abbreviate and simplify participant statements. All of these interviews were audio recorded. Thus, after the interviews were complete, I hired a secondary Cantonese translator to listen to the audio files of the Cantonese interviews and transcribe them in English, including both their interpretation of the participants' words and the original translator's translations. This secondary translation provided a more nuanced, complex, and rich transcript that I believe better represented the thoughts and beliefs of the participants.

## **Chapter 4: Results and discussion**

I will present participants' experiences, perceptions, and engagements with outdoor spaces in Canada and how those encounters shaped their understanding of and relationship to Canada and becoming a member of Canadian society. Spending time in regional natural environments contributed to participants' well-being in many ways. Participants derived many benefits from their experiences in local outdoor spaces including recreational activity, social opportunities, and improvements in their mental and emotion health. Their statements seemed to indicate that outdoor environments were unique spaces that facilitated the development of place attachment, increased a sense of belonging, and supported the evolution of individual and communal sociocultural identities in a new environment. Participants' values about and understanding of outdoor spaces in their host communities were largely relational. They interpreted, perceived, and imagined nature in Metro Vancouver as representative of Canada itself. By building relationships in and to Canadian nature they felt they were learning to become part of Canada and Canadian society.

In this chapter, I will present my findings and discuss them relative to the existing literature. I begin by giving the participants' background, including basic demographic information such as age, country of origin, immigration category, time in Canada, education, number of children, and income. I then present participants' pre- and post-migration patterns of outdoor space visitation, including their visitation frequency and the types of outdoor activities in which they participated. Next, I consider the role that outdoor spaces play in the research participants' lives, specifically analyzing the ways in which these spaces aid them in the acculturation, socialization, and adaptation process in Canada. This analysis applies a relational values and cultural ecosystems services lens to understand how outdoor spaces in Canada contributed to or diminished research

participants' well-being and correspondingly the relationships and values that arise from those services and outdoor experiences.

#### **4.1 Background on participants**

I begin by describing the background of this study's participants. This includes basic demographic data, as well as more perceptive data on participant experiences and activities outdoors both in their countries of origin and in Canada. I use interview quotations to support these basic survey findings using the participants' own words. This data helps contextualize the research and facilitates the understanding of the experiences, perceptions, and meanings expressed by participants in the semi-structured qualitative interviews.

The research recruitment materials had few qualifications for applicable study participants, with the only restrictions being that individuals had to be adults who had moved to Canada in the last 5 years. The population that responded with interest in participating in the study was not as diverse as these light population restrictions might suggest. Thirty individuals indicated an interest in participating in the study, 27 were included in the final data set.

Table 4.1 illustrates that all 27 participants were women between the ages of 19 and 61, who had lived in Canada between 7.5 months and five years. Nine originated from Syria, seven from China, three from Iran, three from Iraq, two from Colombia, and one each from Eritrea, Honduras, Afghanistan. Eighteen participants immigrated to Canada as refugees, three as skilled workers, two as skilled worker spousal applicants, one as a student visa spousal applicant, and three did not know their immigration category. The participants were not asked to share their permanent residency nor citizenship status.

When asked their reason for moving to Canada the participants listed reasons including war, China's one child policy, political and economic instability, family reunification, and

economic and academic opportunities. Additionally, two participants cited environment and weather as a reason for choosing to move to Canada. For example, one woman said that she liked Canada because it had a cleaner outdoor environment and better weather than her home in China, saying,

*“I moved because I like Canada mostly because of its nice weather and fresh air. One of the other reasons why I immigrated here is because I would like my children to be educated in a Western way. But, also, like I just said, I really love the environment here.”*

*(Participant 4)*

It is possible that this respondent’s answer was partially shaped by her interpretation of environment, as this word can mean one’s surroundings including built environment and socio-cultural dimensions. However, as this quote evolved from a discussion of fresh air, lack of pollution, nice weather, and clear skies. Accordingly, I think it is fair to conclude that this woman was considering Metro Vancouver’s clean outdoor environment, relative to China, during this portion of her interview. Similarly, one immigrant family in Hordyk et al.’s (2015) study stated that one reason they moved to Canada was to access the country’s wilderness spaces. This is of note because it highlights that some facets of natural spaces in Canada were perceived as a defining characteristic of the country and influenced some immigrants’ decision to migrate. This likely shapes their perceptions, experiences, and relationship to their host country’s nature both in a physical and metaphorical sense.

Participant Number	Age	Country of Origin	Time living in Canada	Immigration Category
1	36	Iran	10 months	Skilled Worker (secondary)
2	44	Iran	9 months	Skilled Worker
3	33	China	4 years	Skilled Worker (secondary)
4	39	China	5 years	Refugee
5	36	China	4 years	Unknown
6	41	Syria	3.5 years	Refugee
7	25	Syria	3 years	Refugee
8	41	China	5 years	Refugee
9	24	Syria	4 years	Refugee
10	27	Syria	4 years	Refugee
11	55	Iraq	5 years	Skilled Worker
12	37	Syria	3.5 years	Refugee
13	40	China	4 years	Refugee
14	42	Iraq	3 years 5 months	Refugee
15	44	Syria	3.5 years	Refugee
16	43	Syria	3.5 years	Refugee
17	19	Syria	3.5 years	Refugee
18	44	Iran	1 year	Skilled Worker
19	43	China	5 years	Unknown
20	46	China	4 years	Refugee
21	40	Colombia	7.5 months	Student Visa (secondary)
22	28	Eritrea	3 years 2 months	Refugee
23	40	Colombia	1 year 2 months	Refugee
24	36	Honduras	2 years	Unknown
25	31	Syria	2 years	Refugee
26	39	Afghanistan	3 years	Refugee
27	Declined to answer	Iraq	2 years	Refugee

**Table 4.1 Study participant profiles: A description of individual participants including their age, country of origin, time since they moved to Canada, and the category under which they immigrated in Chapter 4**

Research participants had a broad range of educational experience with some women having only a primary school education and others having post-secondary diplomas and graduate degrees (Table 4.2). Of the 27 participants 24 were mothers, with between one and six children

(Table 4.3). Twenty of the participants were not employed and of the seven who did have jobs, all had only a part time job. Only one participant had an individual income over \$C20,000 a year and no participant had an annual family household income above \$C59,000 (Table 4.4). At least ten (probably more) of the participants lived in families that made annual household incomes below the Canadian poverty line of \$C37,542 for a family of two adults and two children (Statistics Canada, 2015). Thus, many of the participants were living in large families with limited financial stability.

<b>Highest Level of Schooling</b>	<b>Number of participants</b>
Less than high school	9
High School	6
Bachelors	6
Graduate Degree	7

**Table 4.2 Participant education levels in Chapter**

Children	Number of participants
0	3
1	4 (1)
2	7 (2)
3	7 (2.3)
4	5 (3.6)
6	2 (4)

**Table 4.3 Number of children in Chapter 4: The total number of children had by individual participants. The number in parentheses represent the mean number of dependent children had by participants in that total number of children category. He number of dependent children is highlighted because it indicates whether the participant is actively supporting and caring for children at the time of this study.**

<b>Participant #</b>	<b>Employed</b>	<b>Annual individual income</b>	<b>Annual household income</b>
1	No	Under \$19,999	\$20,000-59,000
2	Yes (Part time)	\$20,000-59,000	\$20,000-59,000
3	No	Under \$19,999	\$20,000-59,000
4	No	Under \$19,999	\$20,000-59,000
5	Yes	Under \$19,999	\$20,000-59,000
6	No	Under \$19,999	\$20,000-59,000
7	No	Under \$19,999	\$20,000-59,000
8	Yes (Part time)	Under \$19,999	\$20,000-59,000
9	No	Under \$19,999	\$20,000-59,000
10	No	Under \$19,999	\$20,000-59,000
11	Yes (Part time)	Under \$19,999	\$20,000-59,000
12	No	Under \$19,999	\$20,000-59,000
13	No	Under \$19,999	\$20,000-59,000
14	No	Under \$19,999	\$20,000-59,000
15	Yes	Under \$19,999	\$20,000-59,000
16	No	Under \$19,999	\$20,000-59,000
17	Yes (Part time)	Under \$19,999	Under \$19,999
18	No	Under \$19,999	Under \$19,999
19	No	Under \$19,999	Under \$19,999
20	No	Under \$19,999	Under \$19,999
21	Yes (Part time)	Under \$19,999	Under \$19,999
22	No	Under \$19,999	Under \$19,999
23	Yes (Part time)	Under \$19,999	Under \$19,999
24	No	Under \$19,999	Under \$19,999
25	No	Under \$19,999	Under \$19,999
26	Yes (Part time)	Under \$19,999	\$20,000-59,000
27	No	Under \$19,999	Under \$19,999

**Table 4.4 Participant employment status and income in Chapter 4**

## **4.2 Participation in outdoor experiences**

My participants displayed individual heterogeneity in their use patterns of natural environments. This heterogeneity likely reflects differences in individual experiences, preferences, and background demographic characteristics, which all contribute to how

individuals behave and perceive particular environments. For example, only one participant spent most of her time outdoors in a community garden. This recreation pattern was heavily influenced by her desire to continue the agricultural practices in which she engaged in her country of origin. Other participants used outdoor spaces in the Metro Vancouver area to engage in new activities like camping or skiing. In the following sections, this thesis engages with some characteristics that may explain certain individual and collective outdoor space use patterns. However, no conclusions about causation can be drawn from this particular study and further study is necessary to address the heterogeneity of immigrant use of natural environments.

Participants were asked how frequently they spent time outdoors on an average week after moving to Canada. Approximately 48% ( $n=13$ ) of the respondents spent time in outdoor spaces every day and over 96% ( $n=26$ ) did so at least once a week (Table 4.5). When asked how often she spent time outside one participant said,

*“You know from the time I came here, maybe I can say every day... Yeah, every single day, especially we had a great summer. And yeah, the weather was so good, so I did it like every day. But even now, that at the same time I am doing some part time job and going back to school, still every day. I have like 45 minutes walking around the area I live. And on the weekend, I usually go to like the to see the oceans and the like parks in Canada.” ( Participant 2)*

These results indicate that some recent immigrants, such as those represented in this research, are frequent users of Metro Vancouver outdoor spaces. Furthermore, they suggest that these research participants were able to access and use at least some type of natural environment in the Metro Vancouver area on a regular basis. While this basic finding seems to challenge claims that immigrant and ethnically diverse populations use some natural environments less frequently than

their white and native-born counterparts (Jay & Schraml, 2014; Johnson-Gaither, 2014; Kloek et al., 2015), it does not emphasize the kind of outdoor spaces that this study's participants were using. For example, Johnson-Gaither (2014) focused on immigrants' infrequent use of more remote wilderness areas. The outdoor places that this study's participants visited most often were urban or semi-urban parks, beaches, and forests, rather than less proximate wilderness spaces. However, Jay & Schraml (2014) also found that individuals with a migrant background were less likely to use urban forests in Germany than their counterparts with no history of migration. This study's results seem to contradict supposed blanket underrepresentation of immigrants in outdoor environments. Although the new immigrants in this study used natural environments often, their use of these spaces must be understood in tandem with the caveat that the type of outdoor spaces they accessed were often limited in variety and proximity. These use patterns seem to better align with findings presented in Kloek et al.'s (2015) analysis of immigrant urban and non-urban outdoor recreation in the Netherlands, that finds that immigrants used urban natural environments more frequently and non-urban outdoor spaces less frequently than their non-immigrant counterparts.

<b>Frequency of outdoor experiences</b>	<b>Number of participants</b>
Daily	13
A few times a week	6
Once a week	7
Monthly	1

**Table 4.5 Participant frequency of outdoor experiences in Chapter 4**

Twenty-one research participants stated that after moving to Canada, they changed their frequency of outdoor space use, with 20 of those 21 having increased the frequency of the time they spent outdoors (Table 4.6). One woman stated,

*“Definitely I like it (time spent outdoors) because .... actually, I am a lazy person. I usually don’t go for a walk. But from the time I came here, I am saying that, because the outdoor environment makes me want to go outside.” (Participant 2)*

This participant’s statement suggests that the quality of the outdoor spaces in Metro Vancouver encouraged her to increase the frequency of her outdoor excursions. Other variables including a lack of pollution, social norms, and safety likely also influenced the observed trends in increased outdoor space use. For example, many women who moved to Metro Vancouver noted that they were able to use public spaces without fear of becoming the victim of bombings, kidnappings, or assaults. Many respondents from urban areas in China noted that outdoor space use and park visitation was not a common past time, except for elderly individuals. They explained that the outdoor spaces were often very polluted and when people had free time they would instead choose to go shopping or engage in indoor recreational activities.

The lone participant who experienced a decrease in the frequency of time she spent outdoors had previously worked on a farm in her home country of Eritrea. After moving to Canada, she no longer worked in the agricultural sector, which consequently decreased the amount of time she spent outside. The six participants who did not experience a change in the frequency of their outdoor experiences already spent time outside daily in their countries of origin, often due to their previous residence in more agricultural environments, though not all of these women engaged in the practice of farming. These women continued to spend time outside

daily after moving to the Metro Vancouver area, though only one continued to use her time in natural environments to cultivate and grow plants.

<b>Change in outdoor activity frequency pre and post migration</b>	<b>Number of Participants</b>
<i>Yes, increased</i> )	20
<i>Yes, decreased</i>	1
<i>No</i>	6

**Table 4.6 Change in outdoor experience frequency pre and post migration in Chapter 4**

#### **4.2.1 Activity type**

Research participants engaged in a wide variety of activities when they spent time outdoors (Table 4.7). However, the activities that participants engaged in most frequently were walking, bringing children to the park, and having weekend family outings to the park or beach, often with food. These findings reflect those found in past studies (Jay & Schraml, 2009; Ozguner, 2011; Rishbeth & Finney, 2006).

Activity	Number of Participants
Walking/Jogging/Running	20
Socializing: celebrations, special occasions with friends and family	18
Activities with food: picnics, potlucks, etc.	17
Playing with children	16
Sitting	11
Sightseeing	9
Supervising children	8
Sports/Games	8
Swimming	6
Hiking	4
Biking	4
People watching	4
Reading	3
Singing and Dancing	3
Gardening	2
Camping	1
Skiing	1

**Table 4.7 Number of participants that engaged in various outdoor activities in Chapter 4**

Although the majority of participants increased the frequency of their outdoor space use post migration, change in respondents' outdoor activity type post migration was less uniform (Table 4.8). 14 participants said that they changed the type of outdoor activities they engaged in after moving to Canada. For example, one respondent described her family's opportunity to try skiing for the first time. She said,

*“I really enjoyed everything, especially watching my kids skiing. I did not bring proper clothes, but I would have loved to ski. It was a really different feeling because I have never experienced anything like that in Iraq or where I lived. There was never snow and hills and all of this is a new experience.” (Participant 14)*

Moving to a new country may offer immigrants the opportunity to engage in a range of activities in which they were unable to participate in their countries of origin (Hurly & Walker, 2019; Stodolska & Alexandris, 2004). Furthermore, engaging in new activities associated with the host

country’s culture may represent one way that immigrants work to acculturate and familiarize themselves with their new home and community (Hurly & Walker, 2019; Rishbeth & Finney, 2006).

Thirteen participants continued to engage in the same outdoor activities that they did in their countries of origin. In many cases, these participants noted that their outdoor experiences represented an opportunity to recreate and or maintain their traditions and practices.

For example, when asked about the activities she participated in when she went outside in her country of origin, one woman said,

*“So, it’s really similar to what we do here (Canada). We went with our parents, my parents and played at the park with our relatives.” (Participant 9)*

Some studies indicate that immigrants participate in outdoor activities that help them reconnect with their home countries and give rise to feelings of nostalgia (Hurly & Walker, 2019; Lovelock et al., 2011; Rishbeth & Finney, 2006). For example, Brook (2003) argues that some migrants design gardens that not only remind them of home, but also facilitate the establishment of a similar relationship to their new place. This study’s findings seem to support this theory.

<b>Change in outdoor space use pre and post migration</b>	<b>Number of Participants</b>
Change in activity type	
<i>Yes, changed</i>	14
<i>No, remained the same</i>	13

**Table 4.8 Change in outdoor activity type pre and post migration in Chapter 4**

#### 4.2.2 Solo vs. group activities

Of the 27 participants, 24 indicated that their routine visits to outdoor spaces were not solitary. These findings align with existing research on immigrant recreation patterns in outdoor spaces in various Western European countries and Turkey (Jay & Sharml, 2009; Kloek et al., 2013; Ozguner, 2011; Rishbeth & Finney, 2006). Twenty-two participants indicated that they most frequently spent time in outdoor spaces with children, either their own children or those of a close relative. Participants frequently stated that spending time outdoors was crucial for their children's health and well-being. One mother said,

*“OH, outside is very important. The only thing, you can use to keep the kids busy. It (the outdoors) is good because of the air, good for the body, and good for exercise. If we are only inside, that's bad.” (Participant 20)*

Another mother saw gardening outside with her children on a weekly basis as an educational opportunity to teach them about their health and the work that goes into food production.

*“Nowadays, many kids have no idea where the food is coming from. By helping me do the gardening, my kids start to understand the whole process of growing food. For example, they are amazed by how the rice transforms, from tiny seeds from rice crops... I also let my kids know that growing food is not easy at all. It helps them treasure the food more and not waste them.” (Participant 8)*

Hordyk et al.'s (2015) study on outdoor recreation of immigrant families in Montreal also noted that parents stressed that natural spaces were vital and affordable resources that supported both child and parental development, well-being, and socialization. These findings suggest that some Canadian newcomers are utilizing outdoor environments and greenspaces as tools to support their children and themselves.

### 4.3 Connecting to the conceptual framework

This study's respondents assigned a deeper meaning and value to the outdoor spaces they used than merely locations to visit for recreation and leisure. The research participants recognized these natural environments as providing a range of cultural ecosystem services including a place for recreation, social interactions, and connection to their new host country and community. They linked outdoor experiences to deeply held values of family; safety; community; healing; home; and escape from physical, mental, and emotional stressors. Respondents' values of outdoor spaces were inherently relational as they linked Canadian natural environments to larger sociocultural norms, values, and meanings (Chan et al., 2018). Furthermore, when asked, all 27 research participants stated that it would be terrible if they were unable to spend time in the Canadian natural environments they frequented. One woman stated,

*“Without this it is going to be a kind of disaster, as dramatic as this sounds, it's going to be a disaster. It's the place where I breathe. No parks, you just feel like your life is all about work and all indoors and you are not connecting with the nature ... I need this.”*

*(Participant 17)*

Several statements like this suggest that to many of these recent immigrants, the Canadian outdoor spaces they use are irreplaceable and non-substitutable, a fundamental characteristic of relational values (Chan et al., 2016). The statements from participants reinforcing these elements validated the relational values framework as appropriate to understand and characterize their experiences of parks and nature in their new home.

All 27 research participants stated that their outdoor experiences were an essential part of their lives in Canada and stressed they believed their well-being and quality of life would diminish without their time spent in nature. However, only two of the participants felt deeply attached to a specific geographic natural locale. When asked what they would do if they were unable to use outdoor space that they visited most frequently, participants generally answered that they would be sad but that they would just go to another outdoor space instead. For example, one woman stated

*“I would be frustrated. Where would I go? But in Canada we are very lucky because there are a lot of choices so if I can’t go to that park, I could probably find another one.”*

*(Participant 27)*

This finding diverges from *some* place theory and relational values literature that situates concepts of place attachment, place identity, and cultural ecosystem services to specific localities (Brown et al., 2015; Brown et al., 2003; Cresswell, 2004; Satterfield et al., 2013; Tuan, 1974). However, the respondents’ connections to Metro Vancouver’s outdoor spaces as a whole, aligns with a conception of place as spaces that host particular experiences and hold particular meanings to an individual or group (Kearns & Gesler, 1998; Wilson, 2003). Accordingly, I argue that the lack of attachment to a particular geographic location does not diminish the strength and significance of the relationships that the study’s participants had to their broader conceptualization of Canadian nature.

In addition to the newness of these relationships, one reason that this study’s participants may exhibit weaker attachments with specific geographic locations might be due to their status as immigrants and refugees. One of the professional translators that helped with the Arabic

language interviews noted that many individuals she works with refrain from becoming attached to places due to the trauma that they experienced in their home countries. For example, some participants stated that the outdoor spaces they used to go to in their home countries no longer existed due to the ravages of war and conflict. Accordingly, some of this study's participants seemed to conceptualize Canadian nature as a space or object of value in and of itself, rather than a specific location.

#### **4.4 Nature as a conduit to Canadian-ness, citizenship, acculturation, and integration**

The research participants in this study described cultivating a unique relationship with nature in Metro Vancouver, which they linked to the development of a relationship with Canada, Canadian culture, and Canadian people. Research participants attributed a deeper meaning to their encounters with nature in their host communities, describing it as a conduit to becoming Canadian and part of Canadian society. The following results elaborate the ways that the recent immigrants in this study perceived their engagement with the outdoors in the Metro Vancouver area as facilitating their process of understanding, acculturating, and adapting to Canadian society.

##### **4.4.1 Canada is nature and nature is Canada**

This study's qualitative interview was worded in a way that did not define nor restrict participants' conceptions of nature or outdoor experiences. This slightly ambiguous approach allowed participants to express their personal perceptions and definitions of nature in Canada, helping reveal participants' deeper understandings, meanings, and conceptualizations of outdoor

spaces in their host country's natural spaces. Furthermore, it illuminated dimensions of how participants related to and valued the Metro Vancouver area's nature and outdoor spaces.

Several participants equated nature in Canada to Canadian society, people, culture, and Canada itself. This idea that the outdoor spaces in Canada with which my participants engaged was an embodiment of the country was expressed in a few ways. For example, when talking about her experience in Metro Vancouver's outdoor spaces, one participant said that she spent almost all of her time in these spaces because,

*“In Vancouver, you can see everywhere is a park. .... so, I would think, when I live in Vancouver, I sometimes think I live in a park.” (Participant 3)*

Another sentiment expressed by a few participants was the view that nature in Canada reflects Canadian people.

*“I see Canada as a beautiful nature, people are kind, they are not racist, so I love the nature of Canada and the way I see it, is that the outside nature reflects the nature.” (Participant 27)*

These statements suggest that relationships to Canadian natural environments have a deeper metaphorical significance to these research participants and may represent or reflect their relationship to Canada itself.

In comparing their outdoor experiences in the Metro Vancouver area to those in their home country, some participants noted that their experiences in Canada revealed the country's culture and social norms. This finding underscores that many participants value Metro Vancouver's natural environments in a relational way as they feel that their relationship with these spaces reflect and embody certain preferences, virtues, and norms (Chan et al., 2016).

Participants felt that their outdoor experiences and habits in Canada reflected what they viewed as defining characteristics of the country itself through things like safety from war, pollution, and sexism. This was best expressed by some participants from middle eastern nations who stated that the outdoors gave them a new sense of independence and freedom from a patriarchal social structure. For example, one woman said,

*“When I go for walk, the first thing is it is clean and there are less people and I mentioned, there is blue sky. And the main thing that I usually think is that people are free. Yes, Freedom ... I remember that my daughter loved to bicycle. And she had a bicycle when she was in Iran. And for us, her father and me and our family, there was no problem for our daughter to go bicycling. We had a park in Iran, near to us, and my daughter used to go there, and I remember that one time I came back and she was crying. And she said she would never go again for bicycling because some people told her that, “Oh it’s not good for a girl to bicycle in public.” And here, when I see people are free to do anything that they want, anything logical. They are free to play football, to bicycle ... it’s amazing.” (Participant 11)*

The metro Vancouver area’s outdoor spaces provided a place to engage in certain recreational activities for some participants, but also represented Canada’s value of independence, freedom, and gender equality. This same idea was echoed by another participant who said,

*“We didn’t have such an experience back home. First of all, in Iran, if you want to go for walking you have to cover up...even like in summer, it’s really so difficult for women to go outside, you know to have like some activity. Even for something very simple, like*

*walking, you can't do it because it is so hot, the weather is so hot, and you have to fully cover up.” (Participant 2).*

Hurly & Walker (2019) reported similar findings with one refugee woman expressed that going on a camping retreat in Alberta gave her a chance to exercise her independence and freedom from her culture's strict familial oversight. Stodolska et al. (2017) found that visits to natural environments can increase immigrants' knowledge and understanding of their host country's sociocultural norms, practices, values, and attitudes towards nature. Thus, recent immigrants may not only view some Canadian outdoor spaces as representing Canadian norms and values but may also help them understand and acculturate to those norms and values.

These participants' shared conception of Metro Vancouver's outdoor spaces as a representation of Canada itself helps frame the remainder of this study's findings. The participants seem to suggest that they view their relationship and engagement with nature in their new homes as a partial representation of their relationship to Canada itself. This is summarized through one participant's statement that suggests that getting to know nature in the Metro Vancouver area was a way of getting to know Canada.

*“Canada is this beautiful nature, the land is amazing, and God has blessed us with this land, why don't we go and explore it. If you don't go to parks or nature... you are missing out on knowing this country. In Canada, because God has blessed us with this beautiful land, beautiful people, we have to explore it, we have to know it.” (Participant 17)*

In the following sections discussion of the benefits, services, and experiences that this study's participants had with and in Metro Vancouver's outdoor spaces should be contextualized with the understanding that they view these spaces as symbol of the country itself.

## **4.5 Spending time in Canadian outdoors as therapy**

Many studies recognize contact with nature and spending time outside as having multiple physical, mental, spiritual and emotional health benefits for humans (Bell et al., 2008; Hartig et al., 2014; Peters et al., 2009; Seedland, 2009; Stodolska et al., 2016). This study's findings support these ideas with research participants noting that outdoor places in the Metro Vancouver area were unique, therapeutic spaces that performed a range of services that contributed to their overall well-being. I argue that access to such a space facilitates recent immigrants' ability to cope with the many challenges they encounter throughout the migration and adaptation process.

### **4.5.1 Challenges faced by immigrants and refugees**

Immigrants, particularly those living on a limited income, face a bevy of challenges after migrating to a new country including discrimination, isolation, and unemployment (Pantelidou & Craig, 2006; Pernice & Brook, 1996; Ryan et al., 2006). These struggles contribute to the deterioration of immigrant mental and physical health after moving to Canada (Ali et al., 2004; De Maio & Kemp, 2010; McDonald & Kennedy, 2005; Perez, 2002). Research participants in my study alluded to facing multiple struggles including feelings of racial and ethnic discrimination, isolation, financial challenges, difficulty finding employment, challenges learning English, navigating government paperwork and appointments, and managing feelings of depression linked to the migration and adaptation process. One woman described the many challenges, saying,

*“And you asked about stressful things, it was finding job, finding home without credit, and making everything about your home, buying stuff, learning about the culture. And when I work, I had some experience about racism. It was very hard for me because we*

*came here for good life. We had, actually, it was you needed to provide a lot of documents to the government...For example, people will say "I don't want to speak with you, you're Iranian." (Participant 1)*

Approximately 67% of my research participants migrated to Canada as refugees. Canada recognizes refugees under the definition set forth by the United Nations Refugee Agency (UNHCR). These are individuals who

*"owing to well-founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group or political opinion, is outside the country of his nationality and is unable or, owing to such fear, is unwilling to avail himself of the protection of that country or who, not having a nationality and being outside the country of his former habitual residence as a result of such events, is unable or, owing to such fear, is unwilling to return to it" (UNHCR, 1951).*

Refugees face many of the same migration and settlement related struggles as immigrants. However, refugees can experience higher levels of post-traumatic stress disorder, anxiety, depression, and sensitivity to post-migration stressors than immigrants (Silove et al., 1998) often due to the forced nature of their relocation and past exposure to violent environments. These struggles can make adapting and acculturating to a new host country even more challenging. Many refugees leave their home countries to flee war and other dangerous situations. For example, one woman alluded to the violence that characterized the outdoors in her home country and juxtaposed those to Metro Vancouver's outdoor spaces. Although she did not directly state the impact that her previous environment had on her, it is clear that she previously lived in a very dangerous and hostile place. She said,

*“It is a different feeling than in my home country. If I go out when I am at home, I am scared that there will be bombing or assassination or something. This survival mode, scared mode.” (Participant 14)*

In addition to experiencing violence or persecution in their home countries, many research participants who moved to Canada under refugee status alluded to struggling with ongoing trauma and depression. This was evident in the account of one participant who came to Canada as a refugee because her life was in danger. She said,

*“I suffer from anxiety. So, if I am in the park and I feel like somebody is behind me, I feel like I can run, and I can escape...I just look around and I don't see cars and I can think, turn around, go backwards and say, I am in Canada, it's not going to happen here.” (Participant 23)*

This participant went on to say that she needed to spend time in outdoor spaces in Metro Vancouver for the sake of her mental health as the park represented a space where if she was threatened, she would be able to run and escape. These experiences highlight the complexity of emotions, meanings, and services that some research participants, particularly refugees, tied to their time spent in Metro Vancouver's natural environments. Furthermore, these statements highlight the physical, emotional, and mental challenges that many of my research participants dealt with on a daily basis and suggests that spending time in Metro Vancouver's natural environments could potentially provide services to help them cope with these stressors. However, it must be acknowledged that accessing and using natural spaces cannot replace or substitute other social support, services, and resources that many refugees and immigrants need in their transition to living in Canada.

#### 4.5.2 A therapeutic space

Hordyk et al. (2014) found that engagement with nature can simulate the child-caregiver attachment relationship, making natural environments feel like safe, nurturing, and emotionally regulating places. As such, natural environments can potentially be conceptualized as therapeutic spaces. My study's research participants associated their outdoor experiences with positive emotions such as relaxation or happiness. In many cases, participants would state that spending time outdoors actively improved their mood and emotions. One woman said,

*“Before, I feel a little bit mad, and feel tired, when I go to park and finish walk and then go home you feel better, the movement, and the emotions and then you feel better.”*

*(Participant 5).*

Another woman said,

*“Of course, if you stay in the home you feel...not feeling good, upset, down. It's not the best feeling. Me, especially, I like nature, I like to go out. And when I go, I feel better and interesting and enjoying.”* (Participant 6).

A third participant added,

*“Everywhere in Canada is nice. Every time when you go outside you will be happy. Every time you are inside you get depressed and going outside, it always lifts your mood.”* (Participant 27)

Participants attributed a positive change in their emotions to many things including engaging in exercise, enjoying a place for their children to play, spending special times with family and friends, escaping their home environments and routines, contemplating past and future events, and engaging in self-care activities.

Seven participants spoke about using outdoor spaces to engage in exercise such as walking, running, or biking. They said that outdoor exercise contributed to their positive affect.

One participant said,

*“Oh, and when I go out, besides I have some exercise, you know from biking or walking. It also, it can also heighten my mood. It’s better for me for my mood, you know? I feel better.” (Participant 18)*

Respondents also said outdoor exercise made them feel like they were doing something good for their health and their bodies. This contributed to the positive emotions they associated with their outdoor experiences in Canada. One woman said,

*“I try to think about my health, and I know when I go, maybe, the first few minutes, I don’t want to walk and I think, why did I come again. But after a few minutes, I know there is some change in physiology and maybe hormones. And I feel better and I like that because when I come back after walking, I think I did a useful thing for myself. You can go outside for example run, swim, mountain climbing, all of them have positive effects on your mind, mood, and all of these things.” (Participant 11)*

Physical activity can positively impact an individual’s emotions (Kanning & Schlicht, 2010).

Research indicates that exercising outdoors has additional positive impacts on mental and physical wellbeing beyond those associated with indoor exercise, though the methodological rigor of this research has been questioned (Thompson-Coon et al., 2011). My study’s research participants viewed Metro Vancouver’s natural environments as the primary location where they were able to exercise, as opposed to an indoor gym or community center. This suggests that outdoor spaces serve as identified places for physical exercise and provide the cultural ecosystem service of recreational space. However, the fact that many public parks and beaches are free may

also be a factor driving this preference as most of my research participants had restricted household incomes.

Approximately 89% (24 of 27) of the research participants were mothers (Table 4.3). Seventeen participants specifically mentioned that the positive emotions they derived from their time spent outdoors was related to their children's experiences. Eight women stated that spending time outside was essential to the health and well-being of their children. One woman said,

*“The park is important because it’s a place for socializing (for my kids). They learn from very small. They learn to share. They learn to share with other children and to socialize from when they are really little. They make new friends. It’s very important for them.”*

*(Participant 21)*

Furthermore, 16 participants verbally linked their own happiness and well-being to that of their children, saying things like,

*“I am happy when she is happy.” (Participant 3)*

and

*“Mom enjoys the most when my kids are enjoying, because at home they are all locked in.... I am very happy and relieved that my kids are going out and going.” (Participant*

*15)*

These statements suggest that for many participants outdoor visits are partially, if not wholly, motivated by the desires and well-being of their children. In a study of cross-cultural engagement of outdoor environments, Seedland et al. (2009) find that outdoor contacts are a core way to bridge the peer group divide between immigrant and native-born school children. This supports the idea that that outdoor environments and their related activities are key areas for children to

socialize, making such locations desirable for mothers looking to support their children. Furthermore, in their study of refugees to Canada engaging in a winter camping retreat, Hurly & Walker (2019, pp. 269) argued that, “For these mothers, their children’s embrace of new activities appeared to represent acceptance and belongingness in their adopted home.” This suggests that mothers may encourage engagement in new outdoor activities unique to their host country to support their child’s transition and acculturation into a new national and sociocultural environment.

These participants’ identities as mothers likely also fundamentally shapes their understandings, relationships, and identities tied to outdoor environments in the Metro Vancouver area. Many of these women’s perception of their host country’s outdoor spaces seem to be mediated by their children’s experiences. This is highlighted by their connection of their own emotional experience to that of their offspring and speaks to their personal responsibilities and identities as mothers who must keep their children healthy, safe, and active. From a relational values perspective, these findings suggest that some of the services these mothers derived from Metro Vancouver’s natural environments and their attachment and value of those particular spaces were rooted in their personal values and identities as maternal caretakers. I am currently unaware of other literature that explores how a maternal identity influences an individual’s environmental relational values, cultural ecosystem services, and place attachment, and further analysis into the relationship between these concepts is necessary.

Many of the mothers in my study stated that they were able to relax and socialize with friends or strangers in natural spaces while their children were playing. One mother said

*“When my kids went to the park after school, I was chatting with other parents. I like it because I get to communicate with others, meet more people and gain more information. It’s good for me.” (Participant 19)*

Stodolska et al. (2017) find that cross-cultural interactions in natural spaces are often facilitated by conversation hooks, specifically conversation topics regarding children. Accordingly, natural environmental settings that facilitate cross-cultural engagement of children can also support the socialization of parents. Participants indicated that Metro Vancouver’s natural spaces supported both parents and children by serving as spaces for recreation, relaxation, and socialization.

All of the participants also identified at least some of their visits to outdoor spaces in their host communities as special occasions to socialize and spend time with family and friends. These occasions ranged from daily visits to the playground with children and friends to weekend family picnics to large holiday festivities with music and dancing. One participant described such an occasion saying,

*“There is a small park and I spend time with my friends there. My friends and I go have picnics there and we eat. We have a potluck, picnic, especially in the summer. Of course, mingling and seeing friends and family it was amazing, it is always amazing. And also, the kids bond with the families and spend time together. The park is where we do this. This makes you refreshed, seeing people, and talking, and changing, and sharing food and all this.” (Participant 27)*

This practice of using outdoor spaces to interact with one’s established social network is reflected in existing literature which finds that immigrant communities often use greenspaces and parks in groups for celebrations or outings often involving food (Jay & Schraml, 2009; Rishbeth & Finney, 2006; te Kloetze, 2001). Stodolska et al. (2017) found that visits to outdoor spaces

helped immigrant families and friends establish traditions and build memories, which increased their place attachment. Furthermore, many immigrants stated that natural environments felt like “home,” a space where they could spend time with family and feel comfortable in their new host country (Stodolska et al., 2017). Places are often understood relative to the activities and social interactions that they host, and the meanings attached to those happenings (Altman & Low, 1992). As such, the participants in my study seemed to associate natural environments in Canada with family time and family values. Many participants stressed the cultural importance of families spending time together. From a relational values perspective, these research participants value of Metro Vancouver’s outdoor spaces seems to be characterized by its provision of a unique and affordable space to enjoy special family leisure time.

Twenty-five research participants identified spending time outdoors as an opportunity to leave their homes and take a break from their daily, often stressful routines. Participants would state that they felt relaxed and refreshed after having spent time outdoors. One participant said,

*“Because you know if I just stay in my home, I lose my mind. I just miss my mother. I’ll sit and ask, “Why am I here?” I’ll feel boring. So, when I go outside and I walk with my friend, everything is different. I am happy, I can speak everything that I need with my friends. I can breathe fresh air. I leave my house. I can be relaxed. I feel comfortable.”*

*(Participant 25)*

After describing the challenges that she faced after moving to Canada, another participant described her outdoor experiences saying,

*“So, preparing to go out, I start to feel better, to feel good, and share. I prepare small nice snacks, and we go, and we get refreshed. I re-energize and God gives me power and more energy to go back and continue what I am doing.” (Participant 16)*

These respondents' experiences mirror Stodolska et al.'s (2017) findings that time spent in natural spaces helped immigrants reduce their acculturative stress. The immigrant families in Hordyk et al.'s (2015) study similarly used proximate outdoor spaces like parks to "cope with the living conditions" of their small and confining apartments. The families in that study would say that these visits to the park helped them "turn things around" and reinvigorated them to carry on. Likewise, participants in my study identified natural environments in the Metro Vancouver area as unique spaces, different from their home environments, that represented a respite from the challenges and struggles they faced at home, work, and school. These findings align with research demonstrating how natural environments provide therapeutic and restorative psychological, mental, and emotional services by providing a safe space where immigrants can go to forget their struggles (Main, 2013; Rishbeth & Finney, 2006). Many of my research participants viewed the parks, beaches, and forests they visited as spaces that provided essential and often unique services like offering an escape where they could go to relax and recuperate from stressful home environments and schedules. The connection between natural environments and resilience in the face of immigration related stressors suggests that immigrants may exhibit place dependence, functional attachment to a particular place and its related services (Stokols & Shumacker, 1981), on their host country's outdoor spaces.

Canadian nature and outdoors also helped research participants cope with the challenges of moving to a new country by serving as a safe space where they could go to reflect on past events and plan for their future. Some participants talked about being able to express their feelings of mourning and nostalgia during their experiences in nature. One woman said,

*“I don’t know. If I keep a lot of things in my heart, sometimes I can’t breathe if I keep everything inside. When I cry, when I am sitting in front of the beach, I cried and after that, I feel, now I am good. You know when you feel, you know, everything, children, and you miss family and you have lots of things. Canada, it’s a lot is different here. In my country we have big family and if you have to go to the doctor or something, you can leave the children with the aunt or grandma. Here it is very difficult because you have to work and if you go outside like to an appointment you have to take the children with you. The beach is quiet. But when I go to the beach and sometimes, I walk alone beside the beach, I feel comfortable. I cry.” (Participant 7)*

Routledge et al. (2013) argue that nostalgia can serve as a psychological health resource and promote adaptive psychological functioning, particularly among individuals susceptible to poor mental health. They found that nostalgia could heighten positive affect, increase self-esteem, elevate social connectedness, and provide existential meaning by helping individuals recall treasured people, places, and events (Routledge et al., 2013). Participant 7’s statement seems to confirm that actively engaging with her nostalgia and connection to her home country and family helped her cope by allowing her to confront her feelings of displacement and loss. Her experience was similar to one refugee in Hurly & Walker’s (2019) study who indicated that spending time in a Canadian forest initially triggered traumatic memories of his home country. However, that same refugee noted that he was “determined to put the painful past behind him and to create new and positive associations with the landscape in Canada,” (Hurly & Walker, 2019). These findings suggest that natural spaces can serve as safe environments where immigrants and refugees can confront nostalgia and potentially painful memories of home and reframe them in a positive way. There is a significant body of research that finds that

greenspaces and natural environments can provoke memories of immigrants' countries or origin, foster nostalgia, and serve as spaces where they could reconnect with their past (Hurlly & Walker, 2019; Jay & Schraml, 2009; Lovelock et al., 2011; Rishbeth & Finney 2006). Thus, existing research and my study's participants seem to identify natural environments as key spaces to activating one's nostalgia and potentially benefiting from that engagement.

Other participants talked about using their time outdoors to contemplate their future. One participant said

*"We need some place to be alone, to hear the sound of wind, to think about something about or life, our future, and to plan something." (Participant 3)*

This statement identifies outdoor environments as spaces that facilitate quiet time for contemplation and future planning. Future mindedness, hope, and optimism for the future are associated with positive psychology, the science of the elements of a good life (Seligman et al., 2000). The research participants identified outdoor environments as being spaces that facilitated future planning practices, which are associated with efforts to build a better life. Such activities can also activate or shape an individual's eudaimonic values, those that contribute to people's conceptions of a good life, in their new sociocultural context (Chan et al., 2018). Accordingly, natural environments are not only providing some research participants with a quiet place to think but also hosting behaviors that facilitate and support positive psychological practices that work towards establishing a good life in their new home.

While all of the research participants used outdoor spaces in ways that they acknowledged improved their mental and psychological health, only seven directly spoke to their time spent outdoors as a practice of self-care. One participant said,

*“You know before going and spending time outside there is always something missing. You always want to go take a break. You always want to go sit there and have time for yourself. And after, you just feel like you’ve cleared your mind, you feel like you have time for yourself today. I feel like I’ve accomplished something.” (Participant 17)*

This sentiment was echoed by another woman who said,

*“’Cause in Canada it is good to go outside, you know to see a lot of people, new things. When you go outdoors you know everything, you can take time for yourself. When you have time for yourself you can take care of your children, because if you don’t take care of yourself how can you care for your children. So, it’s important. When I give time to myself, I am happy.” (Participant 22)*

These quotes suggest that these participants were actively using their time spent outdoors in Metro Vancouver’s nature to manage their mental and emotional health. The immigrants in Hordyk et al. (2015) similarly acted as “agents of change in their own health” by using time spent in outdoor spaces to manage and support their own mental and physical health.

#### **4.6 Canadian nature as a conduit to citizenship**

Engagement with outdoor spaces in Metro Vancouver not only served as a coping mechanism that helped participants persist through the challenging migration process, but also facilitated the process of acculturation, socialization, and adaptation to Canada, Canadian culture, and society. In many cases, participants viewed interacting with Metro Vancouver’s outdoor spaces and nature as part of the process of coming to feel Canadian themselves. These findings suggest immigrants, refugees, and other newcomers derive a unique subset of cultural

ecosystem services from their host country's natural environments that could be categorized as acculturative services.

Many participants expressed an interest in exploring new outdoor places and viewed this exploration process and engagement with nature in their new home communities as a way of coming to "know" and become close to their host country and community. One woman spoke about wanting to visit more outdoor spaces in the Vancouver area to get to know her new country and establish her new life in Canada. She said,

*"I really want to go out and discover these new outdoor places because it is a new life for me here now. Knowing that I will live the rest of my life here with my children, I would really like to know and discover a lot of these outdoor things that I hear that Canada has. It is part of our new life."* (Participant 24)

Participants not only expressed an interest in exploring nature in Canada as a way to familiarize themselves with the country, but they also stressed that these outings made them feel more connected with their new country and society. This is most clearly exemplified in the following three statements made by participants.

*"I am coming to love Canada and know Canada and fit in. Spending time outdoors is a way of coming to feel like I am part of this new country and new community."*  
(Participant 14)

*"It (time spent in Canadian nature) makes me like the country more. It makes it easier to adapt, to fit, and to live within Canada."* (Participant 12)

*“Spending time in the park is important because it empowers me to go out, to continue to learn, to go have school, to go meet people, to live better. It supports me in succeeding and moving on and gaining knowledge and things.” (Participant 9)*

Similarly, refugees that participated in a winter camping excursion in Alberta, Canada said that the time they spent in the Canadian wilderness reinforced their belief that they could successfully settle and adapt to Canada (Hurly & Walker, 2019).

Participants also linked the Metro Vancouver area’s outdoor spaces to their relationship with Canadian people and communities. Multiple participants identified outdoor spaces in Canada as places that facilitated socialization and relationship building with other Canadians. After lamenting that she felt lonely after having moved to Canada, one woman said that spending time at the park with her daughter helped her make friends. She said,

*“It has quite a critical role for me because park is not only a place, It’s the place I can meet people and make friends with people.” (Participant 3)*

Another participant, who was a member of a community gardening program, said that spending time in the garden helped her make friends and feel like she belonged in Canada. She said,

*“The community garden gives me a sense of belonging. It feels like we are a big family. I think going to the garden gives me a feeling that Canadians are united, because they will know each other better by working together. People will strive and fight for the same goal. Gardens make you build better relationships with your neighbors.” (Participant 8)*

These statements reflect previous research indicating that outdoor natural environments can facilitate cross-cultural social engagement (Glover & Parry, 2007; Hurly & Walker, 2019; Peters et al., 2009; Rishbeth & Finney, 2006). Seedland et al.’s (2009) work indicates that outdoor environments were key locations for children to develop cross-cultural friendships. My findings

suggest that natural environments are spaces that may serve a similar function for adult immigrants. Furthermore, Participant 8's remark suggests that engaging in certain collective outdoor activities through existing organizations, groups, or institutions may be particularly affective in fostering a sense of community and belonging. Shinew, Glover, & Parry (2004) likewise found that cross-cultural interactions in community gardens supported sociocultural learning and community building.

These immigrants' values about nature in Metro Vancouver were fundamentally shaped by their imagination of the place as a notion of Canada and Canadian identity, as indicated by their equation of the country and its outdoor spaces. Respondents' values of outdoor spaces not only linked Canadian natural environments to larger sociocultural norms, values, and meanings (Chan et al., 2018), but these spaces provided unique acculturative services that facilitated the development of their personal morals, values, and identities. This study highlights how nature can change or facilitate the evolution of one's notion of self, place, and socio-cultural understandings, morals, and relationships. Nature's role in immigrants' recalibration of their relational values in their host country may be supported by Buijs et al. (2009)'s finding that nature helped second generation Islamic immigrants acculturate to the Netherlands as they incorporated some of the native Dutch's landscape preferences and cultural outdoor recreation patterns. These changes seemed to represent an outdoor place playing an active role in helping new immigrants recalibrate their place-based relational values and develop an understanding of who they are in their new environmental context.

#### **4.7 Barriers to access**

The outdoor spaces that participants used most frequently were parks and beaches close to their homes. These results suggest that although research participants frequently engaged with outdoor spaces in the Metro Vancouver area and accordingly had access to nature, the range and variety of outdoor places they visited was limited. Participants were asked if there were any outdoor spaces in Canada that they would like to visit but had not had the opportunity to yet and why they believed they had been unable to visit that space. The most common barriers of access to certain outdoor spaces that the respondents identified included a lack of transportation, limited financial resources, constraints on leisure time, and a lack of knowledge of the area and language. These findings reflect those found in other studies (Aizelwood et al., 2006; Byrne, 2012; Rishbeth & Finney, 2006). Thus, accessibility to certain nature and outdoor spaces in Metro Vancouver remains a challenge faced by the recent immigrants in this study. The identified barriers indicate that this study's participants lacked certain social, political, or economic structural and relational powers that would help them to fully benefit from or access certain natural spaces in Canada. This helps account for the limited range and diversity in outdoor spaces they used. It must be noted that many of these barriers including access to transportation or expendable capital are tied to the predominately low- socio-economic status of my participants. However, other barriers including access to information and ethnically exclusionary structures, rules, or actions were more tightly tied to my participants' status as newcomers to Canada.

One key access mechanism described in Ribot & Peluso (2003) is access to knowledge, which reflects one's learned information, practices, skills, ideologies, and perceptions, all of which influence that individual's ability to access a certain good (Ribot & Peluso, 2003, pp. 168-

169). The lack of this access mechanism among research participants was particularly notable. For example, participants made statements like,

*“I don’t know particular places and names. I know that people are going out and sharing. I’m sure there are more places I would like to go; I just don’t know their names or locations.” (Participant 16)*

*“So, I love to know about my place here. I am not familiar with places here. I only know these downtown places, you know? Beyond my living area... you know I love to know more about here because I am going to live here...so I am trying to become friends with it. I just, I don’t know where to go.” (Participant 18)*

*“Not being informed is to me... I have tried to install some applications on my phone to know about events and places, but it seems like they are not accurate. I cannot find what is happening or where to go, or I will notice things too late.” (Participant 1)*

These statements highlight the role that local mentors and institutions could play in communicating and facilitating information translation and access to help immigrants learn about and locate various outdoor spaces. This aligns with the study done in Montreal by Hordyk et al. (2015), which found that the aid of a third party like a community organization was key in facilitating interactions with nature for immigrant families. These third parties served to advise families on proper outdoor attire, answer questions about the safety and features of the host country’s natural environments and provide basic guidance on locating and visiting specific outdoor spaces.

Three women in the study referenced experiencing racism, ethnic discrimination, and segregation in certain Metro Vancouver Parks that prevented them from returning to those particular spaces. For example, one woman talked about experiencing discrimination in the park due to her hijab, which can be understood as a marker of “difference” and otherness that influences how an individual is perceived and how they interpret their own experiences. She said,

*“And there was a lady with a big dog that almost attacked me. And the lady said the dog did this because I was wearing a veil. And I was like, “Really, the dog does not like my head cover? Really?” So, I stopped going because I am traumatized. It was scary.”*

*(Participant 16)*

Other women noted more subtle forms of ethnic exclusion that manifested through park structure and rules. For example, one respondent noted that she was unable to use public beaches because there were no times offered where beaches were ‘women and children only’ and her religion prevents her from swimming in the company of men. Another participant noted park rules against music that made her family feel unwelcome.

*“Unfortunately, here if you are doing a BBQ in the park you cannot put the music out loud. They call the police for the music. It’s horrible. There are young people smoking marijuana and there are kids in the park. And then if you play music, something that is actually healthy and the kids can dance, and they don’t allow us to do that. It’s like they don’t want us there.”* (Participant 23)

Similar occurrences were recorded in other studies in which immigrants or ethnic minorities avoided using certain outdoor spaces due to experienced racism or perceived exclusion communicated through the park’s institutional rules, structure, and or history (Boone et al., 2009;

Byrne, 2012; Byrne & Wolch, 2009; Davis, 2018; Stodolska, 2005). These women's experiences seem to support Jacqueline Scott's argument that at least some outdoor spaces in Canada can be perceived as 'white space' (Brean, 2018) and suggests that institutional structure and programming in Metro Vancouver's natural environments are not wholly representative of their diverse users' preferences. Furthermore, if outdoor environments are designed and managed in a way that makes immigrant and minority communities feel unwelcome, they may be precluded from using and potentially benefiting from other services that those spaces provide.

This study's participants expressed that Metro Vancouver's natural environments represented Canada as a whole. Furthermore, some respondents experienced a degree of exclusion from these spaces due to a lack of resources, information, or sociocultural status or affiliation. In concert, these two perceptions convey that some immigrants' in-access or marginalization from certain natural environments in the Metro Vancouver area might also be perceived as exclusion from Canadian society. For example, participant 23 who expressed frustration from rules against music in the park said,

*"In Canada, it's like the way they leave the parks. It's like they want us to be separate. There's like a halo around them. Like they don't want us here. It's really like a racism thing." (Participant 23)*

Although most of my research participants did not share similar experiences of racism, the accounts by these three women suggest a more diverse collection of perspectives in the design and management of Metro Vancouver's public natural environments could be beneficial in representing the preferences and practices of the area's diverse population. For example, communication of recommendations such as lightening restrictions on music in certain outdoor spaces or setting aside women and children only times at certain beaches, might be better

facilitated through the creation of partnerships between immigrant-oriented organizations and local park boards.

Presently, Metro Vancouver's park boards, commissions, and planning groups lack ethnic diversity (City of Burnaby, 2020; City of North Vancouver, 2019; City of Vancouver, 2020). This lack of diverse cultural representation may explain why some of my study's participants outdoor space preferences are not embodied in the structure and programming of Metro Vancouver's public natural environments. If outdoor spaces are perceived as being designed for other sociodemographic groups, immigrants and ethnic minorities may choose not to engage with those places. A lack of engagement with natural spaces in their host countries may diminish an individual or community's concern for a particular environment and preclude the development of a positive relationship and relational values towards that environment (Chan et al., 2016). Lack of access to or perceived exclusion from certain outdoor places could prevent immigrants from benefiting from particular cultural ecosystem services that these spaces provide including socialization, recreation, a sense of place identity, place attachment, and other contributions that improve well-being and positive adaptation. Facilitating the cultivation of place attachment and fostering immigrant socio-ecological relationships with a host country's natural spaces could not only aid these communities in their acculturation and adaptation process, but also help engage them in pro-environmental behaviors that protect and sustain local nature (Stedman, 2002). Thus, it is important to consider the existing relationship that immigrants have with the outdoors in their new home environments and translate some of their preferences and needs in these space's design and programming. This research represents an initial step in the process of understanding and characterizing immigrant relationships to nature in their host countries.

#### **4.7.1 Access and use of non-urban natural environments**

My study's participants generally visited proximate urban natural environments. This mirrors Kloek et al.'s (2013) findings that immigrants most frequently used close urban greenspaces and were largely under-represented in non-urban greenspace use. This under-representation may be due previously mentioned barriers of access including lack of transportation to more remote areas, lack of knowledge of particular wilderness areas, and lack of expendable income to support such outings (Aizelwood et al., 2006; Byrne, 2012). However, in line with Washburne's (1978) ethnicity thesis, my participants' use of urban natural environments over non-urban ones may potentially be an expression of preference for proximate urban natural environments over wilderness areas. When my study's participants had particular outdoor spaces that they desired to visit, their most frequent answers were more managed natural environments proximate to urban centers like parks in Victoria, BC or the Capilano Suspension Bridge in North Vancouver. This may be due to the higher visibility and advertisement of more-managed places, which makes them better known to immigrant populations. However, Bujis et al., (2009) also found that immigrants expressed a lower preference for non-urban wilderness and unmanaged landscapes relative to more urban managed outdoor spaces. Thus, it is conceivable that immigrants' urban versus non-urban natural environment use patterns are partially an expression of preference.

These findings seem to contradict the results of the 2018 Canadian Environics Survey which indicated that compared to their white counterparts, people of color spent 3 more hours a week participating in outdoor activities and were more likely to engage in climbing and snow sports, which are generally wilderness-oriented pastimes (Environics Research, 2018). However, these results did not focus on immigrant populations and did not account for issues of socio-economic status. As posited by Washburne's (1978) marginality thesis, outdoor recreation patterns may be

largely shaped by an individual's experiences of discrimination and disadvantage. My study's participants had additional demographic characteristics and embodied identities, including their lower socio-economic status, gender, and immigrant identities, that influenced their desire and ability to access more remote natural environments. For example, Lovelock (2011) found that women often self-excluded from certain regional and national nature parks in New Zealand because they perceived an unacceptable level of danger or threat of using those spaces. This connects to Braun's (2003) argument that ties wilderness areas to invited risk and argues that individuals with disadvantaged embodied identities may be less likely to engage in such chosen risk. Further research into differences in Canadian immigrants use of urban versus non-urban natural environments is warranted to determine the driving factors behind potential differences in outdoor space visitation and preference.

Some of my study's participants did recall visits to more remote wilderness areas in Canada. For example, one woman went camping on Vancouver Island and another went hiking on the outskirts of Whistler. It is thus unclear if the overall pattern in this study's participants' park use reflects their inability to access more remote wilderness areas or preference for more managed urban outdoor environments. Those who did visit more remote wilderness areas did so through organizations and friends who led and arranged those visits. This aligns with Hordyk et al.'s (2015) findings that demonstrated the importance of host society members and organizations in facilitating and organizing particular outdoor excursions. There are some organizations in the Metro Vancouver area that facilitate and organize outdoor excursions for immigrants to more remote wilderness areas. One example is a new program being launched by the West Vancouver Community Center based on a pilot program conducted by Pathways to Prosperity in Montreal (Bessai & Mulholland, 2018). This program plans to organize wilderness

camping trips and retreats for newcomers to West Vancouver to promote outdoor understanding, engagement, and community building. The expansion of such programs could decrease barriers that newcomers face in accessing more remote and wild Canadian natural environments. Furthermore, Hurly & Walker (2019) suggest that these types of wilderness outdoor recreation programs could be instrumental in immigrant and refugee communities' adaptation and acculturation to Canada.

Canada's colonial national identity is historically linked to a survivalist mentality against Canada's more rugged landscapes (Kaufmann & Zimmer, 2004) and the country's indigenous populations have always had a close relationship with wild areas (Joseph, 2015). Today, approximately 7 in 10 Canadians participate in wilderness activities, indicating a deep connection between the Canadian population and wilderness spaces (Statistics Canada, 2018). However, recreation in Canadian wilderness spaces has long been criticized for racism (Mackey, 2000) and classism (Walker & Kiecolt, 1995). During the qualitative interviews, the participants were asked to describe and name a place that they felt represented nature in Canada. The most frequent answers were proximate and or urban green and blue spaces including Stanley Park, English Bay, and Kitsilano Beach. Thus, it is an interesting caveat that the participants in my study viewed engaging with urban natural environments, often managed parks and beaches, as a means of cultivating or partially adopting a Canadian identity. The reality is that accessing many wilderness areas such as those in provincial and national parks often requires a vehicle and or sporting equipment that were likely unaffordable to this study's participants. There are proximate wilderness areas like Lynn Canon Park and Lighthouse Park that are free and accessible via public transit. However, this study's respondents displayed limited knowledge of these areas and recreational opportunities. The natural environments that they viewed as representative of nature

in Canada would not necessarily align with those imagined by the general Canadian-born population. However, participants still benefited from the Metro Vancouver outdoor spaces that they did use and gained particular cultural ecosystem services that helped them adapt to a new society and cope with migration related stressors.

## **Chapter 5: Conclusions and recommendations**

This study used 27 semi-structured interviews with recent immigrants to Metro Vancouver to examine their access, use, perception, and value of natural environments in Canada. Results indicated that participants frequently accessed and used outdoor spaces in the Metro Vancouver area, particularly urban parks and beaches proximate to their places of residence. They participated in a range of activities in these spaces, however, group outings involving food, family, and child recreation were the most frequently cited pastimes. Some research participants faced barriers to accessing particular natural environments including limited transportation, lack of expendable income, inadequate knowledge of particular outdoor areas, and perceived racial and ethnic exclusion. Overall, participants viewed the Metro Vancouver area's outdoor spaces as providing them with a range of services that facilitated their adaptation and acculturation to Canada and Canadian society. This represents a unique category of cultural ecosystem service that newcomers like immigrants and refugees may derive from interactions with natural environments in their host countries.

### **5.1 Limitations**

This study attempted to characterize the relationships that recent immigrants had with natural environments in Metro Vancouver by exploring their access, use, and value of those spaces. However, some limitations must be acknowledged if further studies were to develop work based on these findings. The study's 27 participants are not representative of the larger Metro Vancouver recent immigrant population. Accordingly, their experiences, values, and perceptions do not necessarily reflect those of the larger immigrant community. My research participants' other demographic classifications may significantly impact their use, perceptions, and

relationships with outdoor spaces. Studies find that environmental values, meanings, and preferences vary in accordance to an individual's socio-economic status, age, and gender (Buijs et al., 2009; Fernandez et al., 2015). For example, all of my research participants were women. Some research indicates that women find urban parks to be safe, socially intimate environments (Krenichyn, 2004), while other studies suggest that women, especially ethnic minorities, are frightened to be alone in parks (Gregory, 1988). Accordingly, my participants' shared experiences and values could potentially be more reflective of their gender identity than their immigrant status. However, their view that natural spaces were a pathway to acculturating and adapting to Canada can be directly linked to their immigration status.

My respondents represented the individuals that were interested in participating in this study, that wanted to talk about their relationships with Metro Vancouver's outdoor spaces, and who had the time to do so. My sample was likely influenced by a strong self-selection effect and resulted in a group of respondents that lacked immigrants who were male, fully employed, and economically well-off. While this limits my result's generalizability, it also amplifies the voices of particularly marginalized individuals within the immigrant community. Thus, I feel that this study's participants represent an important user group of natural environments in the Metro Vancouver area. These findings offer a rich qualitative examination of particular individuals' relationships with nature in their host communities and offers a starting point for further inquiry based on some recent immigrants' experiences.

Finally, Metro Vancouver is a unique metropolitan area with an abundance of available natural environments (Greenest City, 2012) and a fairly moderate climate. This may have impacted the observed relationships that my participants had to outdoor spaces in their new host

communities. This could potentially limit the generalizability of this study's results as outdoor environments in other areas with large newcomer populations may have less hospitable and attractive nature spaces. For example, Aizelwood et al. (2006) found that immigrant outdoor recreation was higher in Canada than in the Netherlands. However, in a study of the role of outdoor recreation on immigrant adaptation to their host countries, Stodolska et al. (2017) indicated that immigrants to the United States, the Netherlands, Germany, and Poland all experienced some acculturative services through the use of natural spaces in their new home communities. Accordingly, although Metro Vancouver's unique study environment may have augmented immigrant use of outdoor spaces, the acculturative relationship and services provided by nature seem to arise in other municipal and national contexts.

## **5.2 Future directions**

Future research can use this study's findings to develop a more systematic and structured survey that can be disseminated to a broader and more representative immigrant population in the Metro Vancouver area. Such a survey help describe the use patterns, preferences, and barriers to access experienced by Metro Vancouver's entire immigrant population. Additional research of the causal factors influencing differences in outdoor space use and perception in and within immigrant communities would also facilitate a better understanding the heterogeneity of relationships that immigrant individuals and communities have with nature in their host countries. Furthermore, a comparison of immigrant and other Canadian communities' use, value, and relationships to outdoor spaces in Canada could shed further light on which Canadian residents use which natural spaces and could help account for how other socio-demographic variables impact engagement with natural environments. These analyses could be useful to

regional environmental managers attempting to make public outdoor space's planning, structure, and programming more equitably beneficial and accessible.

Another area for future inquiry is understanding how to better bridge the gap between immigrant value of their host country's outdoor spaces and engaging those populations in environmental protection initiatives. Existing research demonstrates that place attachment and relational values can encourage pro-environmental behavior and ecological stewardship activities (Chan et al., 2016). While the work in this thesis does not analyze immigrant engagement in pro-environmental behavior and stewardship activities, I argue that understanding some recent immigrants' relational values to their host country's natural spaces represent fertile ground upon which further analysis can be developed. Studies have found evidence of this with some immigrants participating in local environmental practices to protect shared outdoor spaces as a means of acculturation and socialization with their host communities (Hordyk et al., 2015; Carter et al., 2013). However, analysis into how to systematically or institutionally leverage and magnify immigrants in pro-environmental behavior at scale is still warranted. Furthermore, research into understanding acculturation through leisure in natural spaces as a process and identifying opportunities to prime and encourage pro-environmental behaviors through that process would be valuable.

### **5.3 Conclusion**

Understanding how particular communities benefit from and relate to their natural environments is essential to inclusively creating and managing those spaces. This study found that 27 recent immigrants to Metro Vancouver frequently used Canadian natural environments. Furthermore, they gained many unique therapeutic and acculturative services from these spaces

that supported them in their post-migration adaptation process. To these participants, Canadian outdoor places were unique embodied spaces where they could socialize, relax, and learn about their new country and host society. In many cases, their time spent outdoors helped them develop and cultivate an attachment to Canada and Canadians, whilst also creating a space where they could develop a sense of belonging and new sociocultural identity. These immigrants viewed their experiences in Canadian natural places as a conduit to helping them develop new socio-cultural practices, beliefs, and identities in their new home. Accordingly, some of the place-based cultural services nature provided these immigrants facilitated the calibration of their relational values during a time of transition. This finding may not only help better understand immigrant-nature experiences and relationships, but also highlights the role that nature or particular natural spaces can play in helping individuals and communities evolve and reevaluate their relational values over time.

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## Appendices

### Appendix A

#### Interview Schedule

1. Can you describe nature to me and a place that represents that to you in your home country?
2. Did you spend time in these places?
  1. If yes,
    - a. How much time and how often?
    - b. What did you do when you during these experiences?
    - c. What did you like/dislike about these experiences/spaces?
    - d. How did you feel during these experiences?
  2. If no, why not? (Did you not want to? Did you not have time to?)
3. Can you describe nature to me and a place that represents that to you in Canada?
4. Do you spend time in these places?
  1. If yes,
    - a. How much time and how often?
    - b. What did you do when you during these experiences?
    - c. What did you like/dislike about these experiences/spaces?
    - d. How did you feel during these experiences?
  2. If no, why not? (Do you not want to? Do you not have time to?)
5. Are there outdoor places in Canada where you like to spend time?
  1. If yes,
    - a. How much time and how often?
    - b. What did you do when you during these experiences?
    - c. What did you like/dislike about these experiences/spaces?
    - d. How did you feel during these experiences?
  2. If no, why not?
6. Are there outdoor places in Canada that you would like to spend time in but have not been able to?
  - a. If yes
    - i. Can you tell me why you have not been able to go to this place(s)?
    - ii. Is there anything that could change that would allow you to spend time in this place(s)?
7. Prior to the interview, ask people to take a picture on their phones (since most people these days have smartphones...I don't think this will exclude anyone) of an outdoor space or nature where they spent time in the week prior to our interview.
  - a. Can you show me the picture that you took?
  - b. Can you describe this place to me?
  - c. Why did you choose to take a picture of this place?
  - d. How do you feel about this place? How do you feel when you are in this place?
  - e. (If they like the place): Do you get to go to this place as often as you like? Are there things that prevent you from going to this place as often as you would like?

## **Appendix B**

### **Background Survey**

#### Pre Interview

1. Where is home (Country of origin)?
2. Where was home located?
  - a. Rural not agricultural
  - b. Rural agricultural
  - c. Suburban
  - d. Urban
3. How long have you been living in Canada?
4. What are your main reasons for coming to Canada?
5. How often do you spend time outdoors?
  - a. Daily
  - b. A few times a week
  - c. Weekly
  - d. A few times a month
  - e. Monthly
  - f. Less than once a month

#### Post Interview

1. Name
2. Sex
  1. Female
  2. Male
  3. Gender diverse
  4. Prefer not to answer
3. Month and year of birth
4. Religion
5. Race
6. Primary spoken language at home
7. Any other languages spoken at home?
8. Highest level of educational achievement?
  1. No certificate, diploma, or degree
  2. Secondary (high) school diploma or equivalency certificate
  3. Apprenticeship or trades certificate or diploma
  4. College, CEGEP or other non-university certificate or diploma
  5. University certificate or diploma below bachelor level
  6. University certificate, diploma or degree at bachelor level
  7. Graduate degree
9. Under what category did you immigrate?

1. Economic immigrant (principal or secondary applicant?)
  2. Worker Programs (principal or secondary applicant?)
  3. Skilled workers (principal or secondary applicant?)
  4. Skilled trades workers (principal or secondary applicant?)
  5. Canadian experience class (principal or secondary applicant?)
  6. Caregivers (principal or secondary applicant?)
  7. Business Programs (principal or secondary applicant?)
  8. Entrepreneurs (principal or secondary applicant?)
  9. Investors (principal or secondary applicant?)
  10. Self-employed (principal or secondary applicant?)
  11. Provincial and territorial nominees (principal or secondary applicant?)
  12. Refugees
  13. Resettled Refugees
  14. Other
10. Are you on income assistance program?
11. Are you currently employed?
- a. If yes, what is your job(s)?
12. Do you work: full time, part time, temporary, multiple jobs?
13. What is your marital status?
- a. Married
  - b. Living common law
  - c. Never married
  - d. Separated
  - e. Divorced
  - f. Widowed
14. Do you have any children?
- a. If yes, how many and what are their dates of birth?
15. What is your own total annual income before taxes?
- a. Under \$10,000
  - b. \$10,000-39,999
  - c. \$40,000-59,999
  - d. \$60,000-79,999
  - e. \$80,000-99,999
  - f. Over \$100,000
16. What is your family's total annual income?
- a. Under \$10,000
  - b. \$10,000-39,999
  - c. \$40,000-59,999
  - d. \$60,000-79,999
  - e. \$80,000-99,999
  - f. Over \$100,000
17. Do you have any health conditions that would prevent you from going outdoors?