Finding Home in Nature: Nature's Role in Immigrant Wellbeing
Abstract

It has been observed in the past few years that a large number of migrants have arrived in Europe. The number of international students who come to Sweden each year is one of the most overlooked groups of immigrants. The immigrant students are experiencing difficulties in their health and wellbeing due to new country settlement challenges.

Therefore, this study examines the relationship between immigrant students and their natural environments, focusing in particular on their wellbeing. In order to achieve this objective, a qualitative study of 11 semi structured interviews are conducted on two south Asian groups of immigrants studying in Gothenburg, Sweden.

This study investigates how immigrant students cope with challenges in the host country by utilizing natural places. It also investigates how they can improve their psychological and emotional wellbeing by interacting with nature using biophilia and attention restoration theories.

There are three primary domains in which immigrant students can establish meaningful relationships with nature and enhance their holistic wellbeing, according to the findings of this study. First, they can embrace nature by spending time in natural places every day. Second, they can participate in nature-based recreation that strengthens their connection with nature, helps them get ready for the challenges of living in a new country, and makes them feel healthy overall. Third, the bond they build with nature through daily interactions and outdoor recreation can improve their psychological and emotional wellbeing.

Key Words
Immigrant Students, Outdoor Recreation, Biophilia Hypothesis, Nature Connection, Wellbeing, Attention Restoration Theory (ART)
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1. Introduction

International migrants increased from 2.8 to 3.5% in less than 20 years, according to the United Nations (UN). The most recent migration waives to Europe and the integration of immigrants have become hot topics, not least due to an influx of asylum seekers and refugees. The Nordic countries have accepted more refugees than most European states (Pitkänen, et al., 2017) and they have become more culturally diverse as immigrants come from all over the world. Until 2016, Sweden had experienced an increase of 163,000 immigrants. In the years leading up to 2016, Sweden had experienced an increase of 163,000 immigrants. According to Statista Research Department, the number of immigrants in Sweden decreased to 82,500 in 2020 after the COVID-19 pandemic, and then increased again in 2021 and 2022 (Statista Research Department, 2023).

According to the International Organization for Migration (IOM), 1 billion environmental migrants are expected by 2050, but how many will come depends on both global and local mitigation and settlement strategies (International Organization for Migration, 2019). Researchers argue that migration is predicted to increase due to ecosystem degradation and climate change in the coming decades (Risi, Kihato, Lorenzen, & Frumkin, 2020).

Sweden has received a lot of international students and workers each year from different countries as well as asylum seekers and immigrants (Heikkilä, 2021). The Sweden’s population is affected by the immigrants in a different ways, such as higher education opportunities, foreign businesses growth and refugee settlement. As the number of immigrant’s increases, urban municipalities have pressure to develop more places to settle them (Heino & Jauhiainen, 2020).

In the immigration people adjust to a completely new environment. The new environment are mostly drastic and force the people to forget their past life
and move to a completely new life (Virupaksha, Kumar, & Nirmala, 2014). This adjustment to a new place and new culture is challenging and affects the immigrants' psychological wellbeing negatively (Bhugra & Becker, 2005).

Immigrants face migration challenges and it can worsen their emotional and mental health issues (International Organization for Migration, 2019). Now a days there is a growing awareness that immigrants experience stress and anxiety due to loneliness, separation from family and friends, language barriers, cultural barriers, social status, physical risks and relationships with host societies (for example, racism, xenophobia) (Charles-Rodriguez U., Venegas de la Torre, Hecker, Laing, & Larouche, 2023). Increased stress may result in physical or mental health problems for these populations. When immigrants arrive in Canada, 5.1% immigrants experience emotional or mental health problems. After six months, this number increased to 28.5% (Newbold, 2009). A refugee or immigrant who faces these problems is more likely to be unsatisfied in their process of integration (Robert & Gilkinson, 2012).

The natural environment refers to places where animals and plants can live. Such places range from small urban parks to relatively wild regions (Bratman, et al., 2019). Nature experience related directly with the biophysical processes (e.g., air quality, noise reduction) and also related to the natural processes (e.g., recreation in nature, human interaction) (Charles-Rodriguez U., Venegas de la Torre, Hecker, Laing, & Larouche, 2023).

Natural places such as forests, parks, conservation areas, trails, and gardens have gained increased awareness due to their health and wellbeing benefits (Edge, et al., 2023). The act of walking in the parks, biking through forests, swimming in lakes, or viewing nature helps to strengthen a person's cognitive abilities (Berman, Jonides, & Kaplan, 2008). 'Natural environments' are said to make visitors feel 'at home' by facilitating survival through their pleasant
experiences with landscapes. Therefore, the experience of nature contributes significantly to a person's health and wellbeing, as well as to their cognitive abilities, biological functions, and evolutionary development (Mallgrave, 2013, p. 75).

Natural places provide opportunities for interactions among people from diverse backgrounds, both majorities and minorities (Jay & Schraml, 2009; Stodolska, 2015). The unique physical, social, and psychological characteristics of immigrants contribute to the variety of nature experiences (Buijs, Elands, & Langers, 2009; Leikkilä, Faehnle, & Galanakis, 2013). As a result, cultural and emotional backgrounds have a key role to play in shaping the emotional connection to such places (Curry, Joseph MA, & Slee, 2001; Rishbeth & Powell, 2013). It is often physical and psychological barriers that prevent immigrants from engaging with nature (Jay M., et al., 2012; Kloek M., Buijs, Boersema, & Schouten, 2017). Natural environments are well-known for their positive effects on wellbeing, demonstrating the overall benefits of accessible and inclusive natural spaces (Tedeschi, Heino, J’ams’a, & Klemettil’a, 2022).

### 1.1 Background of the Study

Nature and the human psyche are fundamentally related to human health and the environment. Physical and mental health may be adversely affected by people who are disconnected from nature (Mayer & Frantz, 2004). The concept of nature connectedness refers to people's emotional connection and close relationship with the natural environment (Mayer & Frantz, 2004). Numerous studies have demonstrated the significance of connectedness to nature and a variety of wellbeing measures, in terms of both hedonic (‘feeling good’) as well as eudaimonic (‘functioning well’) indicators of wellbeing (Capaldi, Dopko, & Zelenski, 2014; Howell, Passmore, & Buro, 2013; Nisbet, Zelenski, & Murphy, 2011).
Nature’s effects on wellbeing have undergone significant revisions in recent decades (McMahan & Estes, 2015). It is generally accepted that nature has a positive effect on mental health (Roszak, 1992) significantly reducing stress and anxiety levels. In other words, the feeling of being connected to nature is beneficial to psychological wellbeing (Nisbet, Zelenski, & Murphy, 2011).

A biophilia hypothesis suggests that individuals are intrinsically attracted to nature due to a genetic and evolutionary process and that fulfillment of this need results in wellbeing benefits, such as increased positive affect (Kellert & Wilson, 1993; Wilson, 1984). Humans have an innate tendency to connect with the natural world (Wilson, 1984). The need to connect with nature is considered an adaptive mechanism that enables humans to survive and thrive in their evolutionary past. Biophilia is often referred to as ‘love of nature’ (Wilson, 1993). It continues to play an essential role in human-nature interaction as it enhances wellbeing (Capaldi, Dopko, & Zelenski, 2014).

Attention restoration theory (ART) (Kaplan S., 1995) adds that exposure to nature reduces attentional fatigue, improves cognitive functioning and overall mood. In other words, natural settings have restorative effects to reduce stress and enhance positive emotions, an increase in performance on tasks requiring attention and cognitive processing (Berto, 2014; Kaplan & Kaplan, 1989). Nature offers people the opportunity to relax, forget their worries, and reflect on their lives (Capaldi, Dopko, & Zelenski, 2014). Having access to nature fulfills the need for belonging and restoration on a psychological level (Moreton, Arena, & Tiliopoulos, 2019). As a result, recreational activities that involve contact with nature can enhance a sense of connectedness to nature and wellbeing (Lumber, Richardson, & Sheffield, 2017).

Visiting natural areas promotes relaxation, relieves psychological stress, improves concentration, supports social interaction, promotes a healthy physical lifestyle, increase restoration and reduce stress (Edge, et al., 2023).
The role of natural places positively impacting the health and wellbeing of immigrant populations is receiving increasing scholarly attention (Jay M., et al., 2012; Kloek M., Buijs, Boersema, & Schouten, 2012). Researchers from different European countries (e.g. Germany, Netherlands, and United Kingdom) have found that natural environments serve as valuable and significant source in fostering social relationships among immigrants from different backgrounds. In addition, it assists them in adjusting into a new country. It also helps them establish connections with their surroundings, creating a sense of belonging, and helping them cope with stress (Gentin, et al., 2019; Rishbeth, Blachnicka-Ciacek, & Darling, 2019).

For immigrants, natural places provide enjoyable and restorative respites from their daily routines (Rishbeth & Finney, 2006). It is possible for immigrants to escape the daily challenges of their lives by taking time out to enjoy nature and relax. It is especially beneficial for immigrants who have suffered from war, conflict, and trauma (Tedeschi, Heino, J’ams’a, & Klemettil’a, 2022). Others have found that natural areas are good places for recreation, such as BBQs, walking, and hiking, which allow them to release stress and support their psychological adaptation to a new environment (Edge, et al., 2023).

Leikkilan et al. (2013) and Peters et al. (2010) also show that migrant communities can gain a deeper understanding of local customs by taking part in activities in natural settings. This helps them learn about broader cultural meanings in the host country and 'find their place within place' as they settle and try to integrate. Creating memories and traditions with family and friends in natural areas through shared attachment to those places may help immigrants cope with settlement stressors and challenges as well as increase a sense of belonging (Lovelock, Lovelock, Jellum, & Carr, 2011).

Natural environments are also positively associated with psychological and emotional wellbeing (Huynh & Torquati, 2019). Both direct and indirect
contact with nature, such as view from the window are associated with individual wellbeing (Pitkänen, et al., 2017). People often turn to nature for relief during times of stress. The growing number of studies that demonstrate the health benefits of nature-based coping strategies is evidence that nature-based coping strategies are beneficial (den Berg, Maas, Verheij, & Groenewegen, 2010). Natural exposure has been found to be beneficial for restoring stress and attention fatigue in numerous studies (Hartig, Evans, Jamner, & Davis, 2003; Ulrich, Simons, Losito, & Fiorito, 1991). As a result of having fewer opportunities to utilize nature-based coping strategies, people living in areas with a lack of natural space may be more prone to the negative effects of stress (Kaplan & Kaplan, 1989). Living in a natural environment may also contribute to better health and wellbeing by mediating the effects of stressful situations (den Berg, Maas, Verheij, & Groenewegen, 2010).

1.2 Knowledge Gap

Several studies have demonstrated that participation in natural public spaces is associated with adaptation, sense of place, place bonding and integration (Abramovic, Turner, & Hope, 2019; Kale, 2019; Lovelock, Lovelock, Jellum, & Carr, 2011). The use of natural settings for recreation (Barona, 2017) or immigrants in public spaces (Egoz & Nardi, 2017) have been examined in some reviews, as well as their scope being restricted to specific regions or demographics (Gentin, et al., 2019). Natural environments, however, are not fully examined in terms of their role in immigrants' wellbeing.

Literature suggests that immigrants from non-European countries are less likely to participate in nature recreation and their relationship with and engagement with nature differs from that of the majority of the native population (Pitkänen, et al., 2017). The natural environment is more often used for social gatherings by immigrants of Asian and African origin than the majority population, for recreational activities, as well as meal sharing.
A number of ethnic minorities also prefer well-maintained natural environments versus wild environments, according to research (Kloek M., Buijs, Boersema, & Schouten, 2017). However, there is still a lack of understanding of how immigrants connect with a nature of their host country and how this translates into their overall wellbeing.

In other words, we know that people's time spent in nature may affect their psychological wellbeing, but little attention has been paid to the benefits of nature as a source of wellbeing in migrant communities. Research on the psychological benefits of being connected to nature for migrant communities is limited.

There is an increasing interest in the topic of immigrants and their connection to natural places in the European Union as well as in the United States (Kloek M., Buijs, Boersema, & Schouten, 2013). Especially after COVID-19 pandemic communities around the world are calling for a green recovery and are increasing focus on designing natural places and nature-based solutions that are sustainable (Sharifi, Levin, Stone, & Nygaard, 2021; Grant, Millward, Edge, Roman, & Teelucksingh, 2022). There is still, little research done in the European context on this topic (Kloek et al., 2013), and in particular from the Scandinavian perspective.

1.3 Aims and Objectives

The relationship between nature and wellbeing is closely related, but it is not always straightforward (Buckley, et al., 2019). Nature can provide many wellbeing benefits. However, the benefits are not always immediately apparent.

International students, when moving to another country, face numerous challenges. They have always been ignored, unnoticed, and unrepresented group in the immigrant population. For example, financial issues and mental
fatigue are common concerns due to overabundance of information and cultural shock. Homelessness and isolation can cause severe emotional suffering, including depression, as a result of cultural differences and moral inconsistencies. Being uncertain about the future status of crises in a host country can also lead to emotional stress and frustration. Therefore, many migrant students suffer adversely in terms of their health and wellbeing (Mori, 2000).

Hence, this thesis seeks to explore how students connect to local nature and how those connections influence their wellbeing through their interactions with natural places in Gothenburg, Sweden. This thesis will address its main purpose by addressing the following research questions:

RQ 1. How do immigrant students bond with local natural places?

RQ 2. What is the role of bonds with natural places in wellbeing of immigrant students?

These research questions are significant in relation to immigrant’s students bond with the natural places and their wellbeing. These are important to understand that how students make connection with the local natural places and how these bonds are affected by their backgrounds, identities, and social relationships and helps them to improve their psychological and emotional wellbeing in the host country.

1.4 Contribution to Tourism and Sustainability

In this thesis, the Attention Restoration Theory (ART) is applied. Biophilia, nature connection, and wellbeing will be explored through the lens of ART in this research. This study will therefore provide an overview of people's interactions with the natural environment and their impacts on wellbeing and
by unifying these elements of ART, this study will contribute to tourism and sustainability.

As a result of the findings of this study, the tourism and wellbeing sectors will be able to better support the health and wellbeing of immigrant students. For our body, mind, and spirit to be in harmony with one another, they need to be in a harmonious relationship (da Costa Guerra, Trentin, & Vila Chã, 2022). Nature interaction is the only way to promote wellbeing, which is why tourism must integrate such opportunities into its offerings. Nowadays, people are becoming more aware of the importance of remaining healthy physically, socially, and psychologically (Clissold, Westoby, McNamara, & Fleming, 2022). This is the reason why people travel long distances in order to achieve wellness, happiness, and mental health. The topic became popular as a way to highlight the importance of humans reconnecting with nature in the wake of the COVID-19 pandemic, rapid urbanization, and environmental crisis (Morse, Gladkikh, Hackenburg, & Gould, 2020; Clissold, Westoby, McNamara, & Fleming, 2022). The results of this study will not only contribute to tourism studies to promote wellbeing, but also strengthen the human-nature connection. This will also increase awareness of the importance of conserving natural areas.

The tourism industry has formerly been viewed as a lucrative form of recreation (Buckley, 2020). Nature based recreation in the parks, lakes, forests etc. helps to improve the mental health of immigrant’s students. Stress, depression and anxiety can be alleviated by the nature and green spaces (Hartig, Korpela, Evans, & Gärling, 1997). The benefits of nature and parks to mental health as well as economic growth are well documented. Consequently, the findings of this study can contribute to sustainable tourism because they provide comprehensive insight into how natural environments can benefit the economy and wellbeing. This is done by conserving pristine areas associated
with health and wellbeing. Sustainable development goals can motivate tourism destinations to reposition, consolidate, and renew themselves so that they can grow and recover (e.g. Goal 3, Health and Wellbeing for all, Goal 11, Sustainable urban environments and Communities, Goal 12, Responsible consumption of nature resources and production, Goal 15, Conservation of natural areas and biodiversity and Goal 17, Partnerships to achieve the SDGs). For example, Tourismo de Portugal (2017) is one of the key outcomes of the Portuguese Tourism Strategic Plan (da Costa Guerra, Trentin, & Vila Chã, 2022) to achieve sustainable tourism goals in Portugal.

Additionally, this study will contribute to tourism policies and planning strategies. For policymakers to make informed decisions about how to preserve and promote natural spaces, it is paramount to recognize the intrinsic connection between nature, wellbeing, and tourism. Furthermore, the destination design will provide immigrants with opportunities to engage in meaningful and restorative nature experiences. Through understanding the complex interactions between the natural environment, wellbeing, and immigrant communities, this research will enhance the students' nature experience and promote sustainable wellbeing practices (da Costa Guerra, Trentin, & Vila Chã, 2022).

1.4 Disposition

The thesis is organized into six chapters, each containing fundamental information relevant to the study's purpose. The background of the topic is described in Chapter 1. Identifying the gaps in existing research helps to design the research questions. Chapter 2 explains the previous research on this specific topic regarding Recreation in Natural Places, Outdoor Recreational preferences among immigrants, the benefits of Outdoor Recreation for immigrants, the connection between immigrants and nature and their wellbeing, and the importance of nature's bond. Chapter 3 based on theoretical
framework of this research which includes the following concepts of Biophilia hypothesis, wellbeing, and Attention Restoration theory, which describes the nature’s restoration. Chapter 4 describes the research methodology and approach. There will be subcategories that further analyse the motivation for the research approach, the philosophical stance, the data collection process, the coding process, the limitations of the study, and the ethical implications. Results and discussion will be presented in Chapter 5. Chapter 6 will conclude the discussion. Moreover, a discussion of future research and limitations of this research will be presented in this chapter.
2 Literature Review

Literature review aims to provide a comprehensive overview of current studies regarding outdoor recreation based on nature and immigrants' wellbeing. The topic of wellbeing has been extensively studied across a variety of scientific fields, yet it is still underrepresented in studies focused on migration issues. This literature review provides an overview of current trends and recent discussions regarding ways to understand and utilize immigrants' wellbeing. A review of previous scholarly literature is conducted in the following areas: outdoor recreation in natural places, outdoor recreational preferences among immigrants, outdoor recreation benefits for immigrants, nature connection and wellbeing, and nature's holistic impact on immigrants' wellbeing. Finally, this literature review examines the relationship between immigrants' psychological wellbeing and their connection to nature. Specifically, the study explores how nature can support immigrants and how nature-based activities can enhance their wellbeing. Research on immigrants, nature, and wellbeing has provided an understanding of these issues, which is relevant to this thesis.

2.1 Outdoor Recreation in Natural places

The relationship between the natural environment and the place is perhaps the least understood part of recreational environments. There is however an interesting connection between the two, since it shifts from identifying natural areas as 'empty spaces' to a concept of 'places' that have significance and meaning (Hansen, 2021). The places visited during recreation activities often involve elements of personal preference and result in associations, memories, achievements, and lasting images (Hammitt, Backlund, & Bixler, 2006). These experiences often culminate in affectionate experiences that promote bonding with these places (Hammitt, Backlund, & Bixler, 2006). Many major achievements, such as the first deer shot and the first raft trip down a wild river, create lasting memories that can be associated with the place where they
were first achieved. A person's familiarity with their favorite recreation place can be associated with an emotional attachment, resulting in a psychological connection between the place and the person (Hammit, Backlund, & Bixler, 2006). This connection is often so strong that the person will continue to return to the place over and over again to recreate the same experience. This creates a sense of comfort and belonging.

In terms of association with belongingness to a place, people feel more connected and feel like they are part of the natural environment (Mesch & Manor, 1998; Milligan M., 1998). Moreover, place belongingness may also be characterized by a spiritual connection to social and physical environments shared by individuals, such as leisure or other recreationists (Proshansky, Fabian, & Kaminoff, 1983). As a result of interactions between place and people, feelings of belongingness are connected with aspects of place connectivity and affiliation. These aspects may develop into a sense of belonging to the environment or to other people through close bonds with the environment. The authors Kaplan and Kaplan (1989) argue that preferences can be strongly influenced by direct experience and knowledge of the place (i.e. familiarity) (p. 85). Despite the fact that different groups of people may have similar landscape preferences, some groups may have a stronger emotional connection, which transforms preferences into appreciations of the landscape. As well as appreciating the place, people may also feel that the place belongs to them, or conversely that they belong to that natural environment.

This connection between place and natural environment is particularly relevant to understanding how 'caring about places is important and different from caring about resources' (Kruger & Williams, 2007). The issue has received considerable attention in the literature on outdoor recreation, and there is even discussion of 'place-based' recreation management, which emphasizes understanding and managing the close relationship between
recreational visitors and the physical environment in which they engage and interact (Farnum, Hall, & Kruger, 2005; Kruger, Hall, & Stiefel, 2008).

Kaltenborn (1998), as well as Kyle and Chick (2007), for example, demonstrate how recreational visitors develop a special relationship with certain places in nature. Not only they are able to appreciate and treat the environments in which these feelings are evoked differently, but they also treat them according to the depth of that feeling (Hansen, 2021). The repeated experience of the same place may lead to a sense of stewardship towards the place, as well as a sense of caring for the place.

When visitors are passionate about the same outdoor recreational activities, such as white-water rafting and rock climbing. By doing so, they can establish stronger connections to each other and to the places they come to know, use, and enjoy together. People meet and reunite in these locations over time, and so people and places become intertwined. Such relationships foster a sense of belonging to the surrounding environment and a connection to nature, which can lead to a more meaningful and memorable recreational experience (Kruger, Hall, & Stiefel, 2008).

Numerous studies have also shown a positive connection between recreational participation in families and various family health outcomes (Freeman & Zabriskie, 2003; Kelly, 1997; Shaw, 1992; Zabriskie, 2001). Recreation in a natural environment provides a positive environment in which children are able to grow in all facets, including social, physical, and recreational growth. The literature shows that outdoor recreation participation contributes significantly to family cohesion, strengthens family relations, improves family quality, and, in particular, nurtures youth development (Holman & Epperson, 1984; Huff, Widmer, & McCoy, 2003; Scholl, McAvoy, Rynders, & Smith, 2003). By participating in recreational activities such as camping, hiking, and backpacking in a natural environment, children are able to acquire additional
survival skills in nature (Lee, 2010). In this scenario, skills learned can be transferred to family life. Moreover, young people who participate in outdoor recreational activities as a child may develop a lifelong interest and involvement in outdoor recreation (Lee, 2010).

In relation to outdoor recreation in natural environments, Sweden's governmental investigations in the 1930s and 1960s emphasized the importance of access to nature and access to recreational facilities close to homes (Sandell & Sörlin, 2000). During the 1960s and 1970s, Swedish authorities and local communities acquired land for outdoor recreation facilities, mostly near urban areas. The investments were made in spite of the fact that in Sweden people have a 'Right of Public Access' to nature for outdoor recreation (Gössling & Hultman, 2006). People from other parts of Europe often consider Sweden and other northern European countries to have rich natural environments (Gössling & Hultman, 2006). As an example, more than 50% of the Swedish population has access to a nature area within 5 kilometres (Lundmark & Müller, 2010). As a result of urbanization, people are increasingly separated from nature, thus the importance of accessible nature for outdoor recreation has increased in Sweden (Ezebilo, Boman, Mattsson, Lindhagen, & Mbongo, 2013). This illustrates the importance of accessible nature areas for outdoor recreation and the importance of protecting these spaces from urbanization.

According to earlier outdoor recreation research, nature areas were often quantified as accessible acreage per capita (Ezebilo, Boman, Mattsson, Lindhagen, & Mbongo, 2013). In later Scandinavian studies, it has been demonstrated that the barriers to accessing nature are rather the distance to the nature and not the size of the nature (Ezebilo, Boman, Mattsson, Lindhagen, & Mbongo, 2013). According to Hörnsten and Fredman (2000), Swedish residents are willing to pay more in order to avoid an increase in the distance to recreational forests. Other countries have also reported similar results.
According to Tyrväinen (1998), residents in Joensuu in Finland are willing to pay for green urban areas, and Salvador del Saz Salazar and Leandro García Menéndez (2007) found that residents of Valencia, Spain were more likely to be willing to pay for an urban park than those who lived further away. People who reside near a recreational place are more likely to use nature for outdoor recreation more frequently than those who reside further away (Ward and Beal Citation 2000). In a Finnish study, (Neuvonen, Sievänen, Tönnes, & Koskela, 2007) found that people living in Helsinki a short distance from green recreation areas suitable for outdoor recreation were more likely to participate in close-to-home activities. In St Louis and Savannah in the US, it is found that residents who lived closer to a green area used it more frequently than those who lived farther away (Hoehner, Brennan Ramirez, Elliott, Handy, & Brownson, 2005). These studies indicate that living near natural places can lead to greater participation in recreational activities.

2.1.1 Outdoor Recreational Preferences among Immigrants

Numerous studies have been conducted in North America and Europe regarding immigrants' preferences for outdoor recreation. According to the studies mostly ethnic minorities participate less in recreational activities than the local majority, and also outdoor recreational activities are different among those ethnic groups (Aizlewood, Bevelander, & Pendakur, 2006; Jay & Schraml, 2013; Kloek M., Buijs, Boersema, & Schouten, 2015; Lovelock, Lovelock, Jellum, & Carr, 2011). This shows that immigrants visit natural places less frequently than non-immigrants. Research has shown that immigrants mostly enjoy outdoor recreation in urban areas close to their homes, and they view nature as a place for gathering with friends rather than recreation (Kloek M., Buijs, Boersema, & Schouten, 2015). Immigrants enjoy picnics, BBQs, and picking fruit and berries as recreational activities. Unlike native West-Europeans, immigrants from non-Western backgrounds display different behavior patterns (Jay & Schraml, 2009).
According to another study outdoor recreation preferences vary among different ethnic groups in the United States. Studies have shown that non-immigrants have different preferences for nature-based recreation, including spending more time in nature, participating in physical activities, visiting nearby places, engaging in physical activities, and making the most of those services (Krymkowski, Manning, & Valliere, 2014). Also, immigrants are more likely to visit outdoor areas in group forms than non-immigrants (Kloek M., Buijs, Boersema, & Schouten, 2015). Because of limited information, time, and transportation, adverse weather, discrimination, and insufficient facilities, immigrants may experience a variety of barriers to outdoor recreation (Rishbeth & Finney, 2006).

A study by Lovelock et al. (2011) revealed that ethnic minority groups and immigrants often prefer family-oriented recreation activities in local urban settings. According to Kloek et al. (2017), ethnicity can influence outdoor recreational behaviors, resulting in some groups participating in activities that are tied to their cultural identity, such as picnics and barbecues. Group outings with cultural and religious significance were particularly important to those of Turkish descent. When it came to outdoor activities, Chinese immigrants were less influenced by their ethnicity. Sometimes, recreational preferences are also affected by immigrants' choice and background of the gender. Thus, outdoor recreational activities are affected by a variety of factors, including personal preference, culture, and religion.

It has been noted that immigrants differ with respect to their outdoor activities, size of groups, and settings, including Asians, Caucasians, Hispanics, and African Americans (Jay & Schraml, 2013). For example, some visit parks less frequently than others in both the United States and Europe, according to the research. Among immigrants from Eastern Europe, Balkan countries, and the former Soviet Union, Jay & Schraml (2009) found that those people visit forests mostly in smaller groups. It has been shown in studies conducted in
Denmark and the United Kingdom that non-western immigrants as well as black and minority ethnic groups do not engage in outdoor activities more as compare to non-migrants and whites do. This may be due to their culture difference according to the researchers. A growing amount of research has been conducted on cultural aspects of parks and outdoor recreation. Generally, recreation refers to cultural, recreational, and sports activities, as well as the environment in which these activities take place, i.e. parks and theatres. Literature suggests that leisure and recreational activities play a pivotal role in fostering immigrants’ integration into their host societies (Stack & Iwasaki, 2009; te Kloeze, 2011). It is frequently viewed as a pool of resources and recreation limitations are seen as potential sources of discrimination (Juniu, 2017; Kivijärvi, 2013; Stodolska, 1998). Migrants' recreational choices in host societies can be influenced by their ethnic background (Stodolska & Yi, 2003; F. Floyd, 2017) as well as their identity (Stodolska & Santos, 2006).

Participation in recreational activities can also build bridges between immigrants and host communities and promote cultural understanding (Stodolska, 2015). Recreational activities provide immigrants with opportunities to learn about their host society as well as enable them to form and strengthen relationships with people outside or within their community groups. By observing how people spend their recreation time and celebrate holidays, or by interacting more intimately with the mainstream, immigrants can acquire a more thorough understanding of their new country's history and culture and begin the complex process of cultural change (Peters, 2010).

A study conducted by Lovelock and Lovelock (2011) examined immigrants' perceptions of nature in New Zealand. Chinese, Korean, Indian, Japanese, and Indonesian immigrants reported lower social status when living in natural environments. A primitive or uncivilized environment was responsible for this. As a result, their perceptions influenced their choice of natural environments and places in which they preferred to spend time.
Similarly, the perception of landscapes and nature influenced immigrants' participation in outdoor recreation in Europe, as well. Researchers (Buijs, Elands, & Langers, 2009) conducted a quantitative study to investigate the differences between immigrants from Turkey and Morocco in their perceptions of nature and landscape preferences. Compared to native Dutch people, immigrants perceive nature in substantial ways. A majority of immigrants viewed nature primarily as functional or utilitarian and preferred urban landscapes. As a result, immigrants' diverse cultural background and experiences influence how they perceive nature and how they engage in outdoor recreation.

Moreover, a recent German case study revealed that Turkish immigrants had a practical view of nature as compared to the native population (Jay & Schraml, 2009). Kloek et al. (2013) proposed two key factors that contribute to these preferences. First, religious influences, particularly Islam, depict nature as well-ordered and devoid of chaos, leading to practical interpretations. Secondly, geography plays a role, as many first-generation Moroccans and Turks grew up in rural, well-organized villages where they viewed the natural world as functional instead of visually appealing. Kloek et al. (2017) conducted a study in the Netherlands to explore variations in how young adult immigrants and non-immigrants value and understand nature. Their research included surveys and group interviews with Chinese, Turkish, and non-immigrant Dutch backgrounds. The study highlighted that diverse cultural backgrounds influence how people perceive and value nature, resulting in differing perspectives among ethnic groups. Overall, this study provides valuable insight into how immigrant’s cultural values can influence their interactions with nature.
2.1.2 Outdoor Recreation Benefits on Immigrants Wellbeing

Recreation, whether formal or informal, whether carried out alone or with others, is an important part of stress management and can have a profound impact on both emotional and psychological wellbeing (Iwasaki, 2001). Immigrants may benefit especially from recreation activities, since their lives are in transition and they are dealing with many stressors on a daily basis. Migration research in the fields of medicine and psychology has demonstrated the detrimental effects of migration-related stress on the mental and physical health of immigrants (Crooks, Hynie, Killian, Giesbrecht, & Castleden, 2011).

Recreational activities can enhance the mental wellbeing, but doing so in a natural environment may have additional benefits. For instance, walking, especially in urban parks, increased positive effects and reduced negative effects among individuals; the reason for this is that walking in an urban park is more likely to be beneficial than running on a treadmill at home (Pasanen, Tyrväinen, & Korpela, 2014). Thus, recreation is a means of releasing tension in a stressful situation.

Hiking offers a multitude of benefits, including access to captivating landscapes, a close relationship with nature's sensory elements, health advantages through physical activity in unpolluted environments, opportunities for education and heritage exploration, a sense of adventure depending on the trail's difficulty, a chance to slow down and enjoy the environment, a quest for solitude or togetherness, and a pursuit of spiritual integration with nature (Rodrigues, Kastenholz, & Rodrigues, 2010). A nature walk can be a form of escape and compensation that enhances one's overall wellbeing (Rodrigues, Kastenholz, & Rodrigues, 2010). Many studies have shown that spending time in natural settings exposes individuals to fresh air and daylight, which contributes to improved health (Mitten, Overholt, Haynes, & Damore, 2016). Natural environments promote a healthy lifestyle,
encourage physical activity, and facilitate social interactions that enhance wellbeing (Twohig-Bennett & Jones, 2018). According to the "old friends" hypothesis, exposure to microbes in natural environments can regulate immune responses and inflammation (Rook, 2013).

A study by (Buchecker & Degenhardt, 2015) suggests that outdoor recreation at nearby places helps immigrants to deal with stress, anxiety, and emotional fatigue due to their jobs and other matters and ultimately improve their health and wellbeing. Natural outdoor settings enhance vitality, increase satisfaction, enjoyment, reduce negative emotions, and decrease fatigue through physical activity (Thompson Coon, et al., 2011).

There has been little research on this topic of outdoor recreation in the context of Swedish immigrants. This approach, however, has received little attention from scholars. According to (Pitkänen, et al., 2017), these nature-based recreation helps the immigrants to settle in the host countries and also helps them to interact with the locals and enhance the sense of connection to their natural surroundings (Gentin, 2011; Stodolska, Peters, & Horolets, 2017). Additionally, Also, Gentin (2011) suggests that socializing in green urban spaces and participating in outdoor recreational activities can promote cultural exchange between different ethnic groups. Having a positive interaction with people from different backgrounds can reduce conflicts, ignorance, avoidance behaviors, and distances. According to Kloek et al.'s (2017) study, natural, green places provided a sense of freedom for young immigrants in the Netherlands to express themselves and interact with one another. They found that natural places provided a relaxing environment from their hectic and demanding daily life. Therefore, some empirical studies use recreational activities as indicators of dealing with stress (Kim, 2000).

Outdoor recreational experiences have numerous physical and mental health benefits, according to a literature review on wellbeing and outdoor recreation.
It is particularly beneficial for immigrants to interact with nature. It is also possible that immigrants may lack some essential elements of the nature which helps them in their health and quality of life due to less participation in the outdoor activities than local swedes. Because such outdoor activities are healthy and sustainable source of life for immigrants.

2.2 Harmonizing With Nature: The Nexus of Nature Connection and Wellbeing

This section provides insight into the profound relationship between nature's connection and overall wellbeing. It is, however, important to understand how nature is defined by different disciplines before exploring the connection between nature and human wellbeing. The concept of 'nature' is fundamental to science and has been viewed as having a significant and profound connection to the lives of humans. Although nature conservation has emerged as a significant societal issue, the concept of nature remains devoid of definition. Throughout its history, this term appears to have acquired a variety of unique as well as contradictory meanings (Ducarme & Couvet, 2020).

The origins of the English term "nature" can be traced back to the Latin natura and the Ancient Greek phusis (φύσις). The term "phusis" originates from the Indo-European root bhū, which originally signified "to grow," particularly in reference to vegetation (Naddaf, 2005, p. 168). Many Asian languages are also recognizable as Indo-European languages and share similar philosophical concepts of nature with Ancient Indian philosophy. As an illustration, both the Pāli word sabhava and the Sanskrit word svabhāva contain the same Indo-European root bhū-, that indicates the intrinsic characteristics of a living thing. The entire process of a thing’s evolution from birth to maturity is referred to the Ancient Greek action (Naddaf, 2005, p. 3).

Greek phusis meanings vary among premodern, modern, and current commentators, depending on author, philosophical perspective, texts
investigated, and approach (philological, philosophical, etc.) (Droz, et al., 2022). The Greek word nature (phusis) means “vegetal growth” and “spontaneous creation of things” (Droz, et al., 2022). The dichotomy between “nature” and “technie” and “natural” and “artificial” provided by Aristotle greatly affected Western notion of “nature”. Ancient Greeks believed humans a part of nature (phusis) despite the lack of a single unified idea (Droz, et al., 2022).

Cicero translated phusis into natura, derived from the Latin word nascor “to be born”, “to live”. Cicero, motivated by Aristotle's natural and artificial dichotomy, may have proposed a separation between “nature” and “culture” (Ducarme & Couvet, 2020). The term natura has Greek and Latin origins and means dynamic. Under Christian doctrine, natura became related with “creation” (creatio).

In modern languages, nature has four basic definitions due to its plural history (Ducarme & Couvet, 2020): 1) “The entirety of material reality, unaffected by human activity and history”. 2) “The universe is the source and result of material phenomena, including human beings and their bodies”. 3) “The crucial force behind life and change”. 4) “The essence, inner quality, and particular physical properties of an object, living or inert.” Thus, nature has several meanings in English and other European languages. Partly reflecting definition (1), the narrow interpretation of "nature" used in natural sciences, engineering, economics, and policymaking generally reflects the contrasts (natural/artificial, nature/culture, human/nature) that separate humans and their actions from real life. Environmental policies expanded this restricted notion to include biodiversity, environment, and non-human life forms. “Act #ForNature” inspires visions of green forests, clear rivers and lakes, and majestic animals that need protection from human activity. Unlike the definitions above, this "nature" exclusively includes non-human life forms and
ecosystems, frequently emphasizing on biodiversity that lives independently of urbanization and farming.

The International Union for Conservation of Nature (IUCN) protected area categories, initially developed in 1994 and amended in 2008, are one of the few significant environmental conservation efforts that consider biodiversity (IUCN, 2008). The IUCN categories involve nature depictions. For instance, the first type (“strict nature reserve”) leaves its territories to nature. Category II (“national park”) protects “functioning ecosystems”. Category III (“natural monument”) includes areas of extraordinary visual interest for humans, treating natural elements like human accomplishments. Such conservation is unchanged and fixist, aiming to pass on such features to future generations in the same state. Category IV (“Habitat/Species Management Area”) emphasizes prominent species as nature's representations, requiring active intervention (e.g., predator and pest control, translocation, demographic management) (Ducarme, Luque, & Courchamp, 2013). Thus this conservation framework suggests that humans are a part of nature, and their activities are valuable objects of preservation.

Relating to the underlying idea of nature, the concept of nature connection is an emotional, cognitive, or experiential connection with the natural places (Nisbet, Zelenski, & Murphy, 2011, p. 304). According to Hinds and Sparks (2009), nature contact increases one's sense of connection to the natural environment, and time spent in nature is correlated with a sense of belonging to the natural world. Nature's connection has been found to be strongly associated with life satisfaction, psychological wellbeing, positive and negative emotions, creative, innovative thinking (Leong, Fidscher & McClure, 2014), and pro-environmental behavior (Hedlund-de Witt, 2013).

Research also shows that humans dependence on natural resources increase the physiological, emotional, psychological, and spiritual health that cannot be
fulfilled by other sources. Therefore, any form of nature connection, whether *incidental* (such as walking around the neighbourhood), *direct* (such as visiting natural places), or *indirect* (such as watching/listening to nature television/radio) has beneficial effects on health and wellbeing and much effective in health promotion intervention (Clissold, Westoby, McNamara, & Fleming, 2022).

Research on health and wellbeing has traditionally focused on the visual sensory experience of nature. Much of the early research was conducted in laboratories where subjects were exposed to visual stimuli (Herzog, Maguire, & Nebel, 2003; Staats, Kieviet, & Hartig, 2003). In recent studies regarding nature and human health, soundscapes (Farina, 2013), olfactory experiences, and tactile experiences have been investigated (Hordyk, Hanley, & Richard, 2015).

For instance, viewing nature has a variety of health benefits, including reduced anxiety and stress, shorter hospital stays, a reduced heart rate, and improved focus. According to studies, landscapes are classified as either urban or natural, but it is not clear which visual elements are responsible for these benefits. There may be a combination of elements in a scene or specific elements on their own. Natural colours such as blues and greens, on the other hand, are calming and preferred, whereas urban grey colours can evoke feelings of aggression and dominance (Franco, Shanahan, & Fuller, 2017).

Nature sounds, such as wind, water, and animal sounds, are valuable sources of information and are preferred over human-made sounds. Bird sounds are often considered restorative by people, while water sounds are considered relaxing by others. There is evidence that these sounds may be beneficial in restoring and reducing stress based on the preference for these sounds (Franco, Shanahan, & Fuller, 2017). In the same way, natural odours, such as flowers, cut grass, and damp earth, can arouse pleasant feelings and feelings of
happiness. There are a variety of benefits associated with these scents, including the ability to evoke calmness and improve mood, both directly and indirectly.

A great way to experience touch in nature is to pet an animal. In addition, it enhances feelings of relaxation and comfort, and improves social behavior. Forest schools, for example, provide children with hands-on nature experiences where they learn and play outdoors in a natural setting. There are numerous benefits associated with forest schools, including increased confidence, social skills, language and communication, motivation, concentration, and physical fitness. Additionally, children tend to develop their physical abilities more effectively in forest settings compared to traditional playgrounds (Franco, Shanahan, & Fuller, 2017). These research efforts have highlighted the holistic nature of nature's effects on human health, not simply its visual aspects. Furthermore, these studies highlighted the importance of sensory integration when studying nature's effects on human.

However, Knez and Eliasson (2017) have found that people experience a high level of wellbeing when visiting favourite natural places, suggesting that psychological mechanisms of people-place bonding may contribute to the go-greener-feel-better relationship (Knez, et al., 2018). This suggests that both rural and urban settings benefit from nature promote human wellbeing.

It was first described by Roszak (1992) that Ecopsychology focuses on the interaction between psychological wellbeing and nature's connection. As many therapeutic approaches agree that experiencing nature connectedness positively affects psychological health, ecology and psychology should be studied together. In accordance with Ecopsychology, people may be psychologically healthy if they feel deeply connected to a larger system that they are a part of. Thus, Ecopsychology emphasizes the importance of
understanding the connection between human psychological wellbeing and the natural world.

Wellbeing is directly linked to Ecopsychology (Martyn & Brymer, 2014; Roszak, 1992). While rural areas may suffer from a lack of opportunities and poor living conditions, there is a significant amount of evidence that nature contributes to psychological wellbeing (Brymer, Crabtree, & King, 2020; Choe, Jorgensen, & Sheffield, 2019; Martyn & Brymer, 2014; Pritchard, Richardson, Sheffield, & McEwan, 2020; Rantala & Puhakka, 2019; Sia, et al., 2020; Zhang, Howell, & Iyer, 2014). Nature is generally considered to be a place of retreat, because most people see it as a place of acceptance, safety, and support, which increases their psychological wellbeing (Brymer, Crabtree, & King, 2020). The authors (Choe, Jorgensen, & Sheffield, 2019) developed a mindfulness program featuring 122 participants who engaged in either nature or a control group for three weeks. A group of nature participants in this study occupied rooms decorated with trees, creepers, and images of nature, while a control group occupied a room with white walls or an image of an urban environment. Natural settings are more effective for mindfulness and wellbeing programs, according to the researchers. Additionally, even though the study took place over a week ago, those living in natural environments showed improvement.

In spite of this, nature-related positive experiences can enhance participants' wellbeing over a period of one week, such as seeing a squirrel in a park, a flower on a wall, or a view of the sky. Participants reported a further increase in wellbeing following one month of participation (Kasap, Ağzitemiz, & Ünal, 2021). A therapeutic horticulture program based on nature was implemented by Sia et al. (2020) for both young and elderly people. During the workshop, pea sprouts were grown, planters were established, vegetables were grown in different ways, and sun-catchers and leaf sketches were created. Each session included a sensory exercise (touching, seeing, smelling, etc.). The results
showed that participants reported a greater level of psychological health, a reduction in anxiety levels, and a better level of sleep. It is also found that young people are able to relax and escape daily stress by spending time in nature (Rantala & Puhakka, 2019).

Research has shown that staying in nature for a longer period of time (such as overnight) is associated with higher psychological wellbeing (Puhakka, Pitkänen, & Siikamäki, 2016). The effects of walking outside in nature are positive, relaxing, and fascinating, and they decrease negative affect (Nisbet, Zelenski, & Murphy, 2011). Those who walk in nature feel a connection to nature, and this connection can have a positive impact on their health. Thus, studies confirm that being outside in a natural environment fulfils people's needs for direct encounters with a natural environment; and cognitive and emotional experiences are associated with having beneficial effects on their wellbeing (Garza-Terán, Tapia-Fonllem, Fraijo-Sing, Borbón-Mendivil, & Poggio, 2022).

Researchers suggest that nature play a protective role in mental health disorders such as depression and anxiety (Kasap, Ağzitemiz, & Ünal, 2021). Contact with nature has significant health benefits, especially in the treatment of depression (Townsend, 2006). Pun et al. (2018) reported that engaging in nature was significantly associated with lower anxiety and depression symptoms as well as self-perceived stress. The Covid-19 pandemic found that higher levels of lockdown were associated with higher levels of symptoms of mental health disorders. Having a connection to nature, especially when under strict lockdown, assisted people in coping with the stress provided by the lockdown (Kasap, Ağzitemiz, & Ünal, 2021). This increase the importance of nature’s benefits for mental health and wellbeing.

In response to nature's restorative power, exposure to nature leads to stress recovery and happiness (Michels, Witte, Bisceglie, Seynhaeve, &
Vandebuerie, 2021). Those who experienced online experiences with a nature view reported increased positive affect and a reduction in negative mood states (Reese, Kohler, & Menzel, 2021). Nature can restore individual emotions and attention (Berto, 2014). Nature experiences, regardless of whether they are virtual, increase physiological and psychological wellbeing (Reese, Kohler, & Menzel, 2021).

The benefits of nature connection to mental wellbeing have been particularly well documented. There is well documented evidence that nature contributes to *hedonic wellbeing*, which is a subjective *emotional state* or *feeling good* (Keyes & Annas, 2009) (Direct contact with nature enhance positive moods, reduce mental fatigue, reduce stress and reduce depression and aggression).

By just looking at a natural landscape, one can feel restored and recharged. A strong connectedness to nature is associated with increase positive outcomes of happiness and satisfaction with life (Clissold, Westoby, McNamara, & Fleming, 2022).

Thus, these nature's influence on health and wellbeing relates to the *eudaimonic* and *psychological wellbeing* (Keyes & Annas, 2009). It has also been documented that visiting nature may lead to a greater sense of mental clarity (e.g., improved perception and clarity of thought or outlook, or a more positive worldview). In addition to providing an objective viewpoint, nature can also help individuals find inner peace, gratitude, and humility, and transcend personal problems. This is how eudaimonic wellbeing is related to spirituality. Studies have shown that nature experiences can provide spiritual inspiration, growth, and fulfillment (Clissold, Westoby, McNamara, & Fleming, 2022). Thus, people who are more connected to nature or have contact with nature tend to adopt pro environmental attitudes and behaviors, which not only benefits the natural world (i.e., nature wellbeing), but also improves their emotional wellbeing (Mackay & Schmitt, 2019).
Thus by concluding this section it is suggested that the natural environment can provide a wide range of health and wellbeing benefits. This is even if the interaction with nature is infrequent or brief. Exposure to nature has been shown to lead to a positive mood (Nisbet, Zelenski, & Murphy, 2011) and beautiful nature images have been shown to promote social values and compassion (Weinstein, Przybylski, & Ryan, 2009). Visiting natural settings and spending time outdoors can benefit individuals' health and wellbeing. Nature can fulfil this need and promote wellbeing, whereas nature deprivation may contribute to a decline in health functions (Zelenski & Nisbet, 2014).

2.3 Role of Nature’s Bond in Immigrants Wellbeing: A Holistic Approach

There is a strong bond between natural environments and immigrants' wellbeing (Charles-Rodriguez U., Venegas de la Torre, Hecker, Laing, & Larouche, 2023). Participating in natural settings is fundamentally an embodied experience (Lovelock, Lovelock, Jellum, & Carr, 2011), involving both physical movement and sensory perception. Newcomers may find these physical experiences essential to discovering the pleasures of city life, as well as creating restorative habits (Rishbeth & Powell, 2013).

Research has consistently found that natural environments are an ideal environment to restorative experiences and positive emotions (Stodolska, Peters, & Horolets, 2017; Rishbeth & Powell, 2013; Hurly & Walker, 2019). A natural environment is often described as a place of retreat (Peters, Elands, & Buijs, 2010), relaxation and stress reduction (Gentin, et al., 2019). Stodolska et al. (2017) proposed that natural environments can minimize adaptation stress in new immigrants. Natural places are excellent places for recreation, where positive emotions can be experienced, including joy, peace, safety, and belonging (Kloek M., Buijs, Boersema, & Schouten, 2015; Peters, Elands, & Buijs, 2010). The study by Hordyk et al. (2015) found that nature might serve as a 'container' for children to express difficult emotions, a place where
children could relax both physically and emotionally, and a place where they could form attachments to plants and animals.

In parallel, Jay et al. (2012) define immigrants' usage of nature as having twofold functions: first, as a place for social gatherings, both with friends and family, as well as a place for meeting new people. The second aspect has to do with food, such as barbecues, picnics, or the picking of fruits. This two-fold utilization is not problematic as long as both contribute to the bonding with the nature. This recreation understanding is quite opposite to western conceptions and concepts of integrating the natural world. However, this does not mean that immigrants do not appreciate nature and its beauty they simply value it differently from people born in the west.

Nature-based recreational activities foster psychological adaptations, and to a lesser extent, sociocultural adaptations. For example a study conducted by (Stodolska, Peters, & Horolets, 2017) investigated the connection between immigrants' adaptation and their engagement in recreational activities in natural settings. Seventy immigrants from various ethnic backgrounds from the United States, the Netherlands, Germany, and Poland participated in the research. The study encompassed participants aged 18 to 76 years, yielding insights into the advantages of nature interaction for immigrants, categorized into psychological and socio-cultural adaptation. Immigrants experienced improved psychological and emotional wellbeing through nature-based activities, reducing stress and connecting them to their home country's environment. Visits to natural settings elicited positive emotions, fostering attachment to the local environment. Further, nature visits carried out with families and friends strengthened social ties, built memories and increased the people's attachment to the environment (p. 481).

As immigrants adapt to their new cultural environment, they acquire culturally relevant skills and knowledge, and interact with people from diverse ethnic
and racial backgrounds. Visits to natural environments helped immigrants learn more about the local culture. Latino immigrants, for example, value family-centered activities while Americans value individualism. Attending local parks allowed participants to appreciate nature and the organized recreational activities in their communities. Some participants experienced homesickness due to differences between their host countries and countries of origin, as they felt unwelcome in their new surroundings (Stodolska, Peters, & Horolets, 2017, pp. 481-482).

In conclusion, Stodolska et al. (2017) revealed that nature plays an important role in the adaptation process of immigrants to their new host country. Particularly psychological adaptation was enhanced by spending time in natural environments. Recreational activities in nature enhanced the psychological and mental health of participants (Stodolska, Peters, & Horolets, 2017, pp. 485-489).

In this way, recreational activities in a calming and relaxing environment improve mental health and wellbeing among immigrants, fostering psychological adjustment in a new country (Main, 2013; Rishbeth & Finney, 2006, p. 286). The restorative functions of nature helps immigrants to overcome the daily life challenges and hardships in a new country, homesickness, and the constraints of a foreign language (Stodolska, Shinew, Acevedo, & Izenstark, 2011). Therefore it is important to consider that nature and its surroundings play a significant role in improving the quality of life for immigrants, regardless of their background, since immigration is a challenging process which contributes to depression, anxiety, and suicidal thoughts. In this way, nature-based recreational activities strengthen the bond between immigrants and nature.

By establishing new memories and traditions through outdoor recreation, young people can reduce psychological stressors and challenges associated
with the process of settling and establishing bonds with the local natural landscapes. It can improve immigrants' sense of belonging (Stodolska, Peters, & Horolets, 2017). Sense of belonging is an emotional bond between an individual and a place; it refers to the subjective, emotional, experiential, and affective aspects of a person's relationship with a place (Tedeschi, Heino, Jámš-a, & Klemetti’-a, 2022). According to Jay and Schraml (2009), immigrants have an emotional bond with nature. They noted that ‘individuals develop symbolic attachments and emotional ties to urban forests as a result of belonging, which helps them settle into the host country (Gentin, et al., 2019). In addition, individual participation in "appreciative outdoor activities is associated with a stronger connection to nature and higher psychological wellbeing" (Wolsko & Lindberg, 2013, p. 88). People who feel strongly connected to nature are likely to spend more time in nature, which has potential health benefits (Hamann & Ivztana, 2016).

Bond with the nature appears to have a number of benefits. Natural places can provide a stimulating and pleasurable retreat from everyday life (Edge, et al., 2023). This can provide migrants with an opportunity to temporarily forget their troubles and relax into the sounds of peace, play, quiet, or nature, especially for survivors of war, conflict, or trauma (Leikkilä, Faehnle, & Galanakis, 2013). A review by Hordyk and colleagues reveals that natural places can reduce stress, calm the nervous system, and restore attention by relaxing stressed minds (Edge, et al., 2023). Additionally, time spent in natural places reduce acculturation stress, thus supporting psychological adaptation to migration and resettlement (Stodolska, Peters, & Horolets, 2017). However, other studies have revealed that the benefits of natural places are not necessarily inherent or universal as perceptions, experiences, and/or feelings of comfort differ among immigrant and non-immigrant populations (Agyeman & Erickson, 2012; Milligan & Bingley, 2007).
Natural places also support immigrant wellbeing by fostering connections to place, nature, and life in Canada as well as reminders of one's country of origin (Edge, et al., 2023). According to (Leikkilä, Faehnle, & Galanakis, 2013) urban forests can contribute to a person’s sense of identity and help them cope with the change of living in a host country. This is done by providing a connection to familiar landscapes, memories or positive experiences from the home country. In addition, other researchers have examined how physical activities or memories that are stimulated by nature (e.g., water, forests, parks, plants, etc.) contribute to bridging the gap between the host and home country (Hordyk, Hanley, & Richard, 2015; Rishbeth & Finney, 2006).

Researchers have also studied the effects of nature connection on various factors such as wellbeing, restoration, stress, and fatigue. Thus, Kasap et al. (2021) argue that nature as a whole has enormous effects on human cognition, including improvements to wellness, stress, and anxiety (Garza-Terán, Tapia-Fonlle, Fraijo-Sing, Borbón-Mendívil, & Poggio, 2022). As per Izenstark et al. (2021), being in a natural environment provides emotional wellbeing benefits to both adults and children. For instance, (Hordyk, Hanley, & Richard, 2015) examined the importance of urban greenspaces for immigrants' emotional and physical wellbeing. The research involved seven immigrant families with ten adults and thirteen children using a hermeneutic phenomenological approach. Three key findings were revealed by the study:

In the first instance, urban green spaces offered the participants a respite from living in apartments of lower quality than they were used to in their home countries. Both parents and children were able to enjoy these green spaces and participate in nature based activities, thus providing relief from living conditions that were inadequate (Hordyk, Hanley, & Richard, 2015, pp. 74-80).
Second, nature served as a platform for the development of social capital and social cohesion. A green space in an urban area facilitates informal gatherings between neighbours and friends, thus strengthening social bonds. A sense of belonging, pride, and attachment to the community was fostered by participation in activities involving calculated risks and nature conservation activities (Hordyk, Hanley, & Richard, 2015, pp. 80-81).

Third, nature served as a stress buffer, particularly for participants who were facing language, cultural, social, and political challenges during their integration process. As a result, the findings suggest that nature experiences, whether planned or spontaneous, played a significant role in providing relaxation, moments of happiness, and a respite from psychological stress, ultimately contributing to the participants' emotional wellbeing (Hordyk, Hanley, & Richard, 2015, p. 81).

Studies have shown that natural environments have a variety of health benefits, including mental wellbeing, cognitive functioning, physical wellbeing, physiological function, social wellbeing, and spiritual development (Puhakka, Pitkänen, & Siikamäki, 2016; Thomsen, Powell, & Monz, 2018; Twohig-Bennett & Jones, 2018). In order to benefit from nature's health benefits, immigrants should have access to the natural environment (Gentin, et al., 2019). Health and wellbeing are often considered key indicators of integration since they are components of being actively involved in a new society (Gentin, et al., 2019). The importance of nature in immigrant wellbeing was also emphasized in many of the reviewed papers (Curry, Joseph MA, & Slee, 2001; Kloek M., Buijs, Boersema, & Schouten, 2017; Leikkilä, Faehnle, & Galanakis, 2013; Rishbeth & Finney, 2006; Stodolska, Peters, & Horolets, 2017). There is still a limited research on the role of nature and the nature-health nexus, and on how nature-based activities can improve immigrant health and wellbeing in a host country.
2.4 Literature Review Summary

According to a review of existing literature, limited research has been conducted on Swedish immigrants' nature connections and outdoor recreational preferences. It is even more important to understand how nature-based activities benefit immigrants and how they enhance their wellbeing. Black minority groups have been the primary focus of research in this area in North America, Canada. Immigrants' integration is a common topic of study when addressing this topic specifically. Through recreational preferences, how Swedish immigrants engage (or don't engage) in outdoor recreational activities, and how this interaction of nature improves their health and wellbeing, this thesis project fills a research gap in understanding Swedish immigrants' interactions with nature in their daily lives.
3. Conceptual Framework

This thesis explores how immigrant students bond to local natural places and what is the role of bonds with natural places in their wellbeing. In order to answer these research questions, this chapter draws upon key concepts like Biophilia, wellbeing, and nature connection, all of which are intricately interwoven within the foundational framework of Attention Restoration Theory (ART). The chapter begins with an exploration of the deep-seated biophilic connection to nature, elucidating how this inherent affiliation and nature connection synergistically promote overall wellbeing. The concepts are then intricately interwoven and discussed within the holistic perspective of ART. Therefore, the researcher has chosen this approach to connect these unifying elements under the ART umbrella.

3.1 Biophilia Hypothesis: Innate Connection to Nature

The word biophilia is derived from two ancient Greek words, bio and philia, meaning "love of life" (Barbiero & Berto, 2021). The first step to understanding life is to understand what it means. Living and non-living worlds are both recognized by humans as being alive. Thus, biophilia is the love of living things (life) combined with an appreciation of nature (life) (Barbiero & Berto, 2021).

3.1.1 Biophilia: A Biological Overview

The concept of biophilia was introduced by Erich Fromm in 1973, defining it as "a fascination with life and living things" (Fromm, 1973, p. 406). For Fromm, biological anthropology implies a continuous desire to grow no matter whether humans, plants, ideas, or social groups are involved (Fromm, 1973, p. 406). An appreciation for nature and for humanity are both included in the term. Fromm (1964; 1973) introduced the concept of biophilia as a way to describe life's tendency to preserve and fight death.
According to Tidball (2012), the biophilia hypothesis consists of two components. The first thing to note is that *humans possess a profound affinity for other living organisms that is rooted in our biology* (p. 6). Using biological evolution and adaptive evolution within the context of our ancestral environments (Gaekwad, Moslehi, Roös, & Walker, 2022), it has been proposed that people and nature may have a biological connection (Kellert & Wilson, 1993) as part of the biophilia hypothesis.

Because human evolution occurred exclusively in a natural environment, it has been hypothesized that human beings have biologically based biophilic tendencies (Kellert & Wilson, 1993) or are biologically prepared for such tendencies (Seligman, 1971; Dunlap & Stephens, 2014). Therefore, as humans evolved in nature, they are naturally inclined to connect with and appreciate nature. Ryan Gunderson (2014) argues that Fromm's interpretation of biophilia refers to love for the natural world. Gunderson explains it as (1) care about its growth and prosperity, (2) the ability to respond to and meet its needs, (3) respect for Nature's autonomy and independence, and (4) knowledge of the natural world without dominating it. According to this perspective, human-nature relationships are harmonious and non-exploitative. (Barbiero & Berto, 2021).

### 3.1.2 Biophilia: An Evolutionary Overview

Using Wilson's definition of biophilia (2002, p. 134), it describes people's fascination with life and lifelike forms, as well as their emotional identification with them. *Affiliation and fascination* are the two basic concepts of biophilia. Consequently, nature induces human attention in an effortless or involuntary manner. Kaplan (1995) adds that in natural settings, people are able to rest and recover from mental fatigue through involuntary attention (Barbiero & Berto, 2021). Thus, nature can rejuvenate and refresh the mind to restore cognitive resources and relieve mental fatigue.
The relationship between individuals and specific life species is characterized by a sense of affiliation with nature according to Wilson (2002, p. 134). Having a sense of affiliation involves feeling empathy for other creatures and responding to their concerns as if they were our own (Barbiero & Berto, 2021). Empathy occurs when an individual understands what another person is experiencing in a particular situation, or what they would normally expect to experience (Di Fabio & Kenny, 2021). This results in empathy for nature as a result of affiliation with it. There is an abundance of empathy-building opportunities in nature that can be helpful in reducing stress (Barbiero & Berto, 2021). Contact with local nature therefore promotes a faster recovery from stress (Ulrich, 1984).

Biophilia sets of rules for governing a person’s feelings and behaviours in relation to nature. Various aspects of the natural world can arouse human interest, evoke fear, or leave them indifferent (Kellert & Wilson, 1993, p. 31). Humans and nature share a close connection that evolves over time as they learn and experience different aspects of the world. This connection isn't an innate instinct but rather develops as humans explore and learn about their natural environment (Barbiero & Berto, 2021). Therefore, biophilia has become an integral part of human nature over the course of evolution, resulting from the convergence of culture and genes (Wilson, 1993). As a result, humans who are able to develop emotional attachments to their natural surroundings are more likely to be physically fit (Kellert, 1997). The presence of a healthy, safe, and natural environment is essential for the reduction of stress and the promotion of cognitive recovery (Berto, 2014). In evolutionary terms, the ability to quickly recover from mental fatigue could have been a significant advantage (Kaplan & Kaplan, 1989).
3.1.3 Biophilia: An Eco-psychological Overview

The relationship between the biophilia hypothesis and Ecopsychology is shown by Roszak et al. (1995):

“Psychologists and therapists may view Ecopsychology as a commitment to the belief that the biophilia hypothesis will prove true and, in turn, be integrated into the notion of mental health”
(Roszak, Gomes, & Kanner, 1995, p. 4).

Ecopsychology supports the biophilia hypothesis by examining how humans respond emotionally to natural scenes and elements, such as trees and plants. There is extensive research that consistently demonstrates that natural elements (plants, trees, and flowers) can be used by humans to (a) evoke aesthetic appreciation and (b) reduce stress and rejuvenate compared to urban or man-made settings (Ulrich, 1984; Ulrich, Simons, Losito, & Fiorito, 1991; Ulrich, 1993; Hartig, Kaiser, & Bowler, 2001). Roger Ulrich (1993) first associated these findings with the biophilia hypothesis. According to biophilia, these effects are likely the result of our evolutionary history in natural vegetated landscapes, where nature served as a primary source of food (e.g., fruit and nuts) and protection. It is believed that early humans were guided by preferences for these elements. According to this analysis, a green environment (as a source of food and protection) reduces stress resulting from food scarcity or insecure conditions (e.g., predator threats). Thus, the individuals who retained these genetic responses have a better chance of surviving than those who did not (Joye & Block, 2011).

A number of ancient Egyptian nobility residences, Persian settlements, and medieval Chinese villages displayed extensive and elaborate gardens, illustrating the effort made to maintain a contact with nature (Ulrich, 1993). During the past two centuries, there has been a growing belief that exposure to nature fosters psychological wellbeing, reduces stress associated with
modern living, and promotes physical wellbeing. This belief has led to the provision of parks and the preservation of nature reserves (Ulrich, 1993). These places are not only available, but they are also heavily used. In fact, many people visit national parks in order to enjoy the natural environment. People travel long distances to stroll along the seashore, and the wealthy choose to live in homes situated on prominences above the water or surrounded by parks. As a result of their affiliation with nature, humans are also able to express their enjoyment when interacting with or viewing other species. As an example, children and adults visit zoos in greater numbers than attend major sporting events combined in the United States and Canada (Wilson, 1993). In this sense, this enduring relationship with nature highlights the importance of nature in promoting both psychological and physical wellbeing.

3.1.4 Summary of the Overview

In Fromm and Wilson, two opposing viewpoints on biophilia are defined as a conceptual framework for biophilia hypothesis. Wilson and Fromm both endorse the concept of biophilia, which encourages harmony between humans and the natural environment (Barbiero & Berto, 2021; Wilson, 1984; 1993). By taking this perspective into account, my research investigates how immigrants develop connections to nature based on their varying cultural backgrounds. There is, however, a difference between the two perspectives on biophilia. In Fromm's view, biophilia is more likely to result from social and environmental factors than from humanity as a whole. According to Wilson, biophilia is a characteristic of humans as a species as opposed to humans as a whole. In Wilson's view, biophilia is characterized by biological fascination and affiliation (Wilson, 1993). The evolutionary nature of Wilson's definition suggests that humans are inherently attracted to nature because they evolved with nature and depend on it to survive.
Fromm defines nature more socially-psychologically by stating that the way people experience nature and the factors that influence their social and cultural backgrounds influence their affection for it. Therefore, certain natural environments were probably vital for human survival over the course of evolution. Natural selection favoured these settings as a result of positive responses. It is believed that biological learning plays an important role in promoting adaptive behaviors, enhancing higher cognitive functions, as well as restoring stress levels, according to Ulrich (1993).

From a biological, evolutionary, and ecological perspective, the biophilia hypothesis suggests human beings are inherently connected to nature. According to Erich Fromm, Biophilia emphasizes the harmonious relationship between humans and nature, whereas E.O Wilson described it as a love for life and affiliation with nature. Natural environments are thus considered from an evolutionary perspective to reduce stress and improve mental health. According to Ecopsychology, humans can lower stress levels by appreciating nature and natural resources. Since ancient times, the human nature bond has been essential for cultivating psychological and physical wellbeing.

3.1.5 Biophilia Hypothesis in a Research Framework

Using the biophilia hypothesis of Erich Fromm and E.O Wilson, this study explores the complex relationships between immigrant’s students and local natural places. Fromm's social-psychological perspective describes how individuals develop a connection to nature as a result of their environment and social circumstances. For this research to be successful, it will be helpful to understand how immigrants engage with nature based on their ethnic backgrounds and experiences. As Wilson argues in evolutionary history, humans are naturally drawn to nature, thus it is important to analyse how natural inclinations towards nature affect the health of immigrants students. Biophilia and immigrants' students' relationship with the natural world can be
explained from both perspectives. Researchers will be able to gain a deeper understanding of immigrant students' inclination to nature based on the evolutionary and biological tendencies they possess. The biophilia framework can help to understand the complex relationship between immigrants and nature, as well as its impact on their wellbeing.

### 3.2 Wellbeing Concept

Ed Diener and Martin E.P. Seligman (2009) are two of the most renowned and cited researchers in the field of wellbeing. The subjective concept of wellbeing is defined by Diener (2009) as happiness. In order to be happy, one must lack negative emotions, experience intense positive feelings, and feel content in their own lives. When people suppress negative emotions and increase happy experiences, they regard their lives as fulfilling on a subjective basis of wellbeing (Diener, 2009). The subjective wellbeing is characterized by contentment, joy, and pleasure (Seligman & Pawelski, 2003). Diener's concept of wellbeing can be described as either hedonic or subjective (Gallagher, Lopez, & Preacher, 2009; Lima & Mariano, 2022).

Achieving fulfillment in life is not just about pleasure-seeking emotions, according to Seligman (2018). According to Seligman, wellbeing can go beyond reducing negative emotions (Seligman & Pawelski, 2003; Seligman M., 2018). As Martin Seligman (2018) explains, people's wellbeing is not only influenced by their current situation, but also by their experiences in the past and their expectations for the future. This means that past experiences are considered as they may have contributed to the current wellbeing state, while future outlooks can also influence the current wellbeing state through hope and optimism. Wellbeing is said to be enhanced by positive emotions, engagement, relationships, meaning, and accomplishment (Seligman M., 2018). Seligman (2018) suggests that, in order to promote wellbeing, we should focus on determinants of wellbeing. Though the PERMA model suggests several
elements that are not exhaustive, there is still considerable disagreement regarding the determinants of wellbeing (Seligman M., 2018). Additionally, the extent to which these elements contribute to wellbeing can vary from person to person, meaning that the PERMA model can serve as a useful framework, but it should not be seen as a definitive set of determinants of wellbeing.

Negative emotions cannot be ignored in studies of wellbeing, according to Seligman (2018) and Diener (2009). There is always an association between a positive emotion and a negative emotion. When there are fewer negative emotions present, positive emotions may be stronger. There is still, however, little evidence showing that negative emotions increase wellbeing (Diener, 2009). Health, economics, social, and subjective dimensions all contribute to wellbeing, according to Diener and Chan (2011). A person's wellbeing is influenced by factors such as education, employment opportunities, income, housing, and safety. Wellbeing is influenced by cultural factors, so qualitative indicators as well as subjective experiences should be used to measure wellbeing (Andrade, et al., 2022). It has been suggested that subjective wellbeing can be divided into hedonic and eudaimonic domains (Waterman, 1993).

### 3.2.1 Hedonic Wellbeing

It has been widely studied how wellbeing is influenced by hedonic dimensions. In comparison with other dimensions of wellbeing, hedonic wellbeing is more easily measured, which could explain this (Gallagher, Lopez, & Preacher, 2009; Lima & Mariano, 2022). Emotions can be measured in a constant period of time with hedonic wellbeing (Lima & Mariano, 2022).

In addition to happiness and misery, hedonic wellbeing is characterized by perceptions concerning good and bad things in life (Ryan & Deci, 2001; Diener, Lucas, & Oishi, 2018; Diener & Chan, 2011). According to the
hedonic model, subjective wellbeing consists of three components: a positive mood, life satisfaction, and absence of negative feelings (Andrade, et al., 2022). A tradition of hedonism can be traced back to Aristippus of Cyrene, an ancient Greek philosopher who believed the ultimate goal of life was to feel *hedone* (Greek for ‘pleasure’), and that all things in life are merely a means to attain one’s pleasure and avoid suffering (Voigt, Howat, & Brown, 2011).

Plato defined hedonic wellbeing as finding pleasure in good or beautiful things based on his concept of happiness (Diener, 2009). Hedonia refers to having more pleasure, fun, enjoyment, and happiness, while having fewer negative emotions and experiencing a higher level of life satisfaction (Diener, Suh, Lucas, & Smith, 1999; Ryan & Deci, 2001). In general, emotions are a response to environmental stimuli, which include objects, events, and other people (Rahmani, Gnoth, & Mather, 2018). A person's senses are triggered by two types of stimuli that lead to hedonia (Huta & Ryan, 2010): (1) relaxation and comfort, or a feeling of energy; and (2) enjoyment of positively perceived activities.

### 3.2.2 Eudaimonic Wellbeing

According to Aristotle, eudaimonic wellbeing is characterized by fulfilment and self-improvement (Hunt & Harbor, 2019; Huta & Waterman, 2014). The concept of eudaimonic wellbeing has been conceptualized in more recent years as living according to one's own "*daimon*", their ideal, their goal, giving meaning to their lives (Waterman, 1993). In this approach, psychological wellbeing (PWB) refers to one's interpersonal relationships, sense of mastery and growth, self-acceptance and autonomy, as well as a sense of meaning. (Ryan & Deci, 2001; Ryff & Keyes, 1995).

In order to attain eudaimonic wellbeing, individuals should be able to reflect on their own potential through activities that allow them to strive towards it. In order to achieve eudaimonic wellbeing, an individual needs to be able to do
things meaningful to them and feel that they have a purpose in life (Huta & Waterman, 2014). These aspects together can be also viewed as a journey towards inner transformation or self-growth (White M., Pahl, Wheeler, Depledge, & Fleming, 2017; Gallagher, Lopez, & Preacher, 2009; Steger, Kashdan, & Oishi, 2008). Eudaimonic wellbeing is proactive involvement, as opposed to hedonic wellbeing. It focuses on what people do in their lives, and on their behavior, based on the assumption that "doing good" leads to life satisfaction (Ryff & Singer, 2008; Steger, Kashdan, & Oishi, 2008).

In order to achieve eudaimonic wellbeing, autonomy is essential. In other words, eudaimonic wellbeing is self-centered, since independence and satisfaction with one's own life without external approval are key components (Ryff & Singer, 2008; Gallagher, Lopez, & Preacher, 2009; Steger, Kashdan, & Oishi, 2008). Thus, self-acceptance is an essential component of eudaimonic wellbeing (Huta & Waterman, 2014; Ryff & Singer, 2008).

Hedonic emphasizes the pleasure of the present moment, whereas Eudaimonia emphasizes the outcome. It is for this reason that eudaimonic wellbeing is considered to be the long-lasting dimension of wellbeing (Huta & Waterman, 2014; Gallagher, Lopez, & Preacher, 2009; Steger, Kashdan, & Oishi, 2008). Therefore, continuous personal growth is essential to achieving enduring wellbeing. Furthermore, a sense of eudaimonic wellbeing can be influenced by past, present, and future activities (Lima & Mariano, 2022). In addition, self-improvement is often incorporated into the future-oriented approach through the learning component.

Eudaimonia has long-term enduring outputs that have been associated with meaning (Ryan & Deci, 2001; Steger, Kashdan, & Oishi, 2008; Rahmani, Gnoth, & Mather, 2018), and is correlated with both positive and negative affect (Huta & Ryan, 2010). In the literature, there is no consistent definition of meaning: Steger et al., (2006) use this term to describe a sense of
accomplishment, whereas Butler (2006) Cited in (Hamann & Ivtzana, 2016) describes meaning as a sense of higher meaning, a sense of balance, calmness, reflection, a sense of purpose, a sense of reconnecting with our roots, and a subliminal desire to find happiness, contentment and joy.

3.2.3 Wellbeing and Nature's Connectedness

The health benefits of contact with nature have long been studied by researchers from different disciplines, and there is now a substantial amount of evidence supporting a positive relationship between human health and nature (Seymour, 2003; Frumkin, 2003; Pretty, Peacock, Sellens, & Griffin, 2005; Pretty, Bragg, & Barton, 2006; Velarde, Fry, & Tveit, 2007; Keniger, Gaston, Irvine, & Fuller, 2013). Nature health research has been challenged by some researchers for its methodological limitations and lack of consistency, but studies on human interaction with nature generally support the idea that natural environments are better for psychological health than urban and built environments, whether they are experienced directly or indirectly by visual, auditory, or olfactory means (Schebella, Weber, Lindsey, & Daniels, 2017).

Natural views in various settings, such as hospitals, prisons, workplaces, and during commutes, have demonstrated positive effects on wellbeing, including faster recovery, decreased stress, and enhanced cognitive function (Kaplan S., 1995; Maller, Townsend, Pryor, Brown, & Leger, 2006). For instance, hospital patients with natural views experience quicker recovery, while prison cells with such views reduce stress and psychological symptoms (Ulrich, 1984; Moore, 1982). Additionally, nature views reduce stress and increase job satisfaction at workplace (Kaplan & Kaplan, 1989; Maller, Townsend, Pryor, Brown, & Leger, 2006). Children with access to natural scenery at home improve cognition and concentration (Kaplan S., 2001; Taylor, Kuo, & Sullivan, 2002). Traveling with a view of nature supports stress recovery and lowers future stress likelihood (Parsons, Tassinary, Ulrich, Hebl, & Grossman-
Alexander, 1998). Furthermore, large natural places in urban areas are often associated with a higher level of psychological wellbeing and perceived general health than smaller natural places. For example, a study by (Nisbet, Zelenski, & Murphy, 2011) found that greater proximity to green spaces was associated with greater feelings of wellbeing and fewer symptoms of depression. Overall, contact with nature is linked to lower frustration, increased happiness, improved mood and self-esteem, and faster post-surgery recovery (Schebella, Weber, Lindsey, & Daniels, 2017).

Apart from the aforementioned benefits, nature contact appears to be associated with both hedonic and eudaimonic wellbeing (Passmore & Howell, 2014). McMahan and Estes (2015) conducted a meta-analysis of 32 studies with over 2000 participants and found that contact with nature increased positive affect and decreased negative affect moderately, but significantly. There are numerous studies focusing on short-term effects of nature exposure, but there is also evidence for long-term benefits. For instance, a survey of over 10,000 UK residents found that living in a green area increased life satisfaction (White M., Pahl, Ashbullby, Herbert, & Depledge, 2013).

It shows that nature has a great impact not just on physical health but also on psychological health, and not only on the absence of illness or the recovery from it, but also on differences in wellbeing (Nisbet, Zelenski, & Murphy, 2011). A study conducted by Kaplan (2001) concluded that even when viewed through a window, nature has a positive effect on wellbeing. In children with ADHD, nature has therapeutic benefits (Nisbet, Zelenski, & Murphy, 2011). Nature experiences enhance empathy for the natural world in children who are disconnected from nature and lack access to green spaces. Nature experiences contribute to a child's self-esteem, self-confidence, and self-efficacy as well (Nisbet, Zelenski, & Murphy, 2011). As Kellert (1997) argued, we need our biophilic tendencies to develop psychologically and emotionally effectively. In essence, embracing humans' deepest connection with nature enriches their
lives while harmonizing the biophilia hypothesis seamlessly. A sense of wonder and appreciation for the natural world can be fostered as a result of this profound connection (Nisbet, Zelenski, & Murphy, 2011).

The quality of life of people is greatly improved by green spaces (Ridder, Bruse, & Weber, 2004). It is widely recognized that parks and other natural places can stimulate physical activity and facilitate social interaction (van den Berg, Maas, Verheij, & Groenewegen, 2010). However, green places appear to possess a special characteristic that is lacking in other public spaces: they can serve as a source of relaxation and relief from stress. Nature can provide a sense of relief from stress through its 'restorative quality', as evidenced in numerous national surveys in several countries (Grahn & Stigsdotter, 2003). As an example, natural environments are often conducive to physical activity, which enhances wellbeing, and they can also enhance the benefits of physical activity associated with built indoor and outdoor environments (Pasanen, Ojala, Tyrväinen, & Korpela, 2018). These innate restorative qualities of nature contribute significantly to both psychological and physical wellbeing, a phenomenon intricately entwined with the biophilia hypothesis. Since humans have an innate affinity for nature, there is an inherent connection between health, wellbeing and nature.

3.3 Attention Restoration Theory: Nature's Restorative Effects

This research employs Attention Restoration Theory (ART) to relate biophilia, nature connection, and wellbeing concepts. It provides a comprehensive perspective on how interactions with nature, such as biophilic experiences, affect an individual's wellbeing by unifying these elements.

Studies have shown that exposure to nature is associated with a restoration from stress and mental fatigue (Hartig, Evans, Jamner, & Davis, 2003; Ulrich, Simons, Losito, & Fiorito, 1991). Compared to urban environments, natural environments protect people from the effects of environmental stressors and
offer physiological, emotional, and attention restoration. The term ‘restorative environment' refers to a place that encourages more positive emotional states, positive changes in physiological activity levels, and positive changes in behavior and cognitive functioning (Kaplan & Kaplan, 1989; Kaplan S., 1995). Restorative environments are any type of non-threatening environment, from the simplicity of a single plant to the serenity of a waterfall or dense forest (Velarde, Fry, & Tveit, 2007; Joye & Block, 2011). Nature scenes with greenery are among the most frequently studied restorative environments for pragmatic and theoretical reasons (Berto, 2014).

The natural environment is often referred to as a "favorite place" in restoration research (Newell, 1997; Korpela K., Ylén, Tyrväinen, & Silvennoinen, 2008). The term favorite place refers to those places with which an individual has formed an emotional or affective attachment (Korpela, Hartig, Kaiser, & Fuhrer, 2001, p. 96). These are the places that a person may value more than any other place (Korpela, Hartig, Kaiser, & Fuhrer, 2001, p. 579) or that a person would choose to protect from destruction or damage above (Newell, 1997, p. 500). In terms of personal preferences, people who are in need of restorative experiences are more willing to seek out natural environments in their favourite places (Hartig, Kaiser, & Bowler, 2001). A person is more likely to develop attachments to places that can offer restorative experiences over time if they rely on them for restorative experiences (Korpela, Hartig, Kaiser, & Fuhrer, 2001, p. 573). Visits to favorite places are associated with stronger restorative outcomes, according to Korpela et al (2009).

In accordance with ART (Kaplan & Kaplan, 1989), an environment is more likely to be restorative if it exhibits the following four characteristics: being away, extent/coherence, fascination, and compatibility. This set of characteristics, however, does not describe the environment itself; rather, it describes the transaction between the person and the environment itself (Hartig, Kaiser, & Bowler, 2001). The natural environment is often considered
to be the most appropriate setting for extended restorative activities. There are many idyllic places for 'getting away', including the seaside, mountain ranges, lakes, streams, forests, and meadows (Kaplan S., 1995), however even a glance out of one's window or a walk in nature can relieve one's stress and daily routine (Kaplan S., 2001). But, for many people in urban areas, such destinations are not accessible. A sense of being away does not require a distant setting, however. Consequently, natural environments that are easily accessible are an important resource for providing a place to rest one's directed attention (Kaplan S., 1995). Extent comes easily in the wilderness. However, the term extent does not necessarily refer to large areas of land. The extent of an area can even be discerned from a relatively small area. A trail or pathway can be designed in such a way that a small area appears to be much larger than it is (Kaplan S., 1995). It is the feeling of entering another world described by its extent (Hartig, Korpela, Evans, & Gärling, 1997). This feeling will be induced by a coherent physical or conceptual environment (Wöran & Arnberger, 2015). For example, some natural environments cannot be restored because they are perceived as dangerous. But some urban environments, such as historical environments, museums, or monasteries can sustain restoration because they have to some extent restorative qualities and they are easily approachable and so compatible with the free time of the majority of the inhabitants of the city (Berto, 2014). A soft fascination, however, is one that is triggered in response to a soft stimulus rather than a stimulus like a car accident or violent scene (Kaplan & Kaplan, 1989, p. 193). Our involuntary attention is captured by non-threatening objects in a way that replenishes our attention capacity and allows the mind to wander. A natural environment is more likely to exhibit these characteristics than an urban environment (Kaplan & Kaplan, 1989).

It shows that nature has the beneficial effect on restoring people's ability to pay attention (Kaplan & Kaplan, 1989; Kaplan S., 1995). Often, work
Pressures exhaust people's attention capacity to the point at which they are no longer able to concentrate. Directed attention is easily fatigued, especially when it is required to concentrate on things that are not innately engaging. Kaplan & Kaplan (1989) suggest that when directed attention is used repeatedly, concentration gradually deteriorates and irritability begins to develop. Many people seek out natural environments to regain their cognitive abilities. Natural environments have been shown to be capable of restoring attention capacity in some studies (Kaplan & Kaplan, 1989).

As a result of dealing with large amounts of competing stimuli and information, people may experience a depletion in their capacity to direct attention (Kaplan S., 1995). A person's attention is divided into directed attention (voluntary attention) and fascination (involuntary attention). The former requires effort while the latter is effortless. When analysing cognitive information, we use directed attention. A more "modern" part of the brain is responsible for this phenomenon, which inevitably leads to mental fatigue (Berto, 2014). As a result of prolonged mental fatigue, resulting from cognitive overload, there is an increased likelihood of experiencing stress reactions and a reduction in the cognitive resources available for daily activities. Fatigue can result in negative emotions, irritability, impulsiveness, and decreased performance (Hartig, Korpela, Evans, & Gärling, 1997; Kaplan & Kaplan, 1989). Mental fatigue is worsened when attention is not able to be renewed, which has an impact on mood, work performance, and relationships.

In the absence of recovery opportunities, directed attention is a highly limited resource. A healthy environment is one in which this system is allowed to rest, and in which we can make use of our other information sources, such as fascination, which is a plentiful source of information (Berto, 2014). A tree's flower, a rustle in a bush, or a glimpse of water are just a few examples of how the natural world uses this type of attention. Adapted from Kaplan (1995), the natural environment provides the best environment for relaxation and directed
attention. A natural environment can not only direct effects on stress recovery and mental fatigue restoration, but may also serve as a buffer against the health impacts of stressful events (den Berg, Maas, Verheij, & Groenewegen, 2010). Many people seek out nature during times of stress. Unfortunately, due to increased urbanization, modern homes have become increasingly detached from natural environments (Berto, 2014). A lack of access to natural areas may make people more susceptible to the effects of stressful life events and environmental stressors on their physical and psychological wellbeing.

Natural scenes hold people's attention almost effortlessly due to their tendency to respond positively to nature. Natural settings possess a soft fascination e.g. clouds, sunsets, snow patterns, leaves in motion all of these capture the attention, but in an undramatic manner (Kaplan & Kaplan, 1989).

In turn, Kaplan's work on Attention Restoration Theory (1995), indicates that enduring positive emotions, along with advantages like stress alleviation and increased attention, are more achievable when an individual is actively immersed in a direct and tangible relationship with the natural environment. This involvement often involves being fascinated by the sensory richness of the natural world. It also involves experiencing a sense of detachment from daily surroundings, among other restorative qualities. By capturing people's attention, nature reduces pessimistic thoughts, reduces negative emotions, and relaxes the cognitive functions that control directed attention (den Berg, Maas, Verheij, & Groenewegen, 2010). This emphasizes the strong correlation between ART and a profound connection to nature.

Kaplan (1995; 2001) specifically cites wilderness backpacking as one of the classic examples of an experience that cultivates nature's restorative qualities. Numerous studies have also suggested that outdoor recreational activities in nature settings or exposure to nature features have also positive effects on stress reduction or restoration qualities (Parsons, Tassinary, Ulrich, Hebl, &
Grossman-Alexander, 1998; Ulrich, 1984). Nature based physical recreation appears to be an appropriate recreation associated with psychological wellbeing. Thus, research indicates that soft fascination, especially in natural settings, promotes relaxation and mental rejuvenation, contributing significantly to psychological restoration. An environment's compatibility with nature can be defined as how well it meets the needs and motives of its inhabitants within the natural context, resulting in a higher level of wellbeing when those motives align with their surroundings (Kaplan & Kaplan, 1989; Kaplan S., 1995; Wolsko, Lindberg, & Reese, 2019). The availability of a park/forest-like area correlates with higher happiness, lower stress, anger, depression, and tension, and improved mood and concentration (den Berg, Koole, & der Wulp, 2003). The presence of natural environment within a radius of 1–3 km has been associated with perceived general wellbeing (Berto, 2014).

On the basis of the Attention Restoration Theory (ART) (Kaplan S., 1995), nature is believed to promote psychological wellbeing by promoting enhanced attention, which is comprised of directed attention (Kaplan S., 1995). Thus, the activation of involuntary attention facilitates directed attention recovery (Huynh & Torquati, 2019). The natural environments induce involuntary attention, and exposure to nature is associated with improvements in directed attention, working memory, executive functioning, and self-regulation (Huynh & Torquati, 2019). In addition, nature-based physical recreation has been associated with eudaimonic wellbeing (Ryff & Keyes, 1995) such as the ability to live a fulfilling and meaningful life; subjective wellbeing as evidenced by feelings of satisfaction with important life domains and hedonic wellbeing as evidenced by heightened feelings of positive emotion (Wolsko, Lindberg, & Reese, 2019). According to Mayer and Frantz (Mayer & Frantz, 2004), increased restorative experiences in nature enlarge one's self-concept and promote a sense of belonging, community, kinship, and embeddedness, then
such experiences are likely to be associated with the enduring psychological and social fulfilment characteristic of Eudaimonia, and with positive, lasting evaluations of important life domains (p. 512). The experience of being in nature can also be immediately hedonically enjoyable, leading to repeated positive emotional experiences. Thus, participation in nature-based physical recreation is associated with a direct emotional outcome resulting from enjoyment of nature, whereas immersive nature sensory experiences are associated with improved moods, reduced stress, enhanced positive emotions, and increased cognitive abilities (Wolsko, Lindberg, & Reese, 2019). The positive outcomes associated with nature and nature based activities contribute to overall wellbeing concept and nature connection.

Based on evolutionary principles, natural places are generally believed to have restoration effects. It is generally agreed that modern humans have developed a partial genetic disposition, resulting from millions of years of evolution in natural environments, to respond positively to environments that were conducive to pre-modern people's survival and wellbeing (Kellert & Wilson, 1993). It is interesting to note that only natural environments seem to trigger this tendency to respond positively to human-friendly environments. In 1989, (Kaplan & Kaplan) Attention Restoration Theory (ART) supported this evolutionary view Biophilia that people feel better in nature since humans were born in natural conditions (Wilson, 1984).

Kaplan's ART provides a convincing explanation that nature constitutes “restoration of psychological wellbeing” (Berto, 2014). This suggests that people are inherently drawn to nature due to its calming and restorative effects, which may explain why people living in urban environments often seek out natural spaces for recreation or relaxation. A number of research studies have consistently demonstrated that being in natural environments is beneficial to one's health and wellbeing (Gillis & Gatersleben, 2015). The Biophilia hypothesis suggests that humans are biologically connected to the natural
world which accounts for these beneficial effects of nature exposure. Thus, nature plays an integral role in influencing people's overall wellbeing (Gillis & Gatersleben, 2015).

3.3.1 ART as a Research Framework

Attention Restoration Theory (ART) and the Biophilia Hypothesis offer invaluable frameworks for analysing immigrant students' wellbeing, which is the subject area of this thesis. It is important to understand the factors contributing to the psychological adaptation of immigrants, particularly those who experience acculturation issues, language barriers, financial crisis and homesickness. According to ART, exposure to nature promotes cognitive function and reduces fatigue in the mental process. A natural environment can provide solace and familiarity to immigrant students who are struggling with the challenges of assimilation. In this regard, Kaplan's concept of "favorite places" is relevant, as it suggests that immigrant students may become emotionally attached to certain natural settings, which in turn contributes to their overall wellbeing. Biophilia hypothesis suggests that nature can provide a sense of belonging and cultural identity for humans by emphasizing an innate connection to it. Particularly an immigrant student may be able to bridge the gap between their home country and their host country through nature. This study aims to gain a better understanding of the relationship between immigrant students, local natural places, and their psychological wellbeing by grounding the research in these theories.
4 Methodology

A brief overview of the research methods used in this thesis is presented in the following chapter. Using a social constructivist perspective, the study examines the experience of humans.

4.1 Social Constructivism

In research, philosophical ideas often guide the direction of the research (Creswell & Creswell, 2018). A philosophical position is a worldview that guides the design, methodology, and approach of research. Ontology, epistemology, and methodology are three factors that shape research design (Creswell & Creswell, 2018).

As social constructionists believe, individuals develop subjective meanings based on their experiences in order to comprehend the world they inhabit. Rather than limiting understanding to a few categories or ideas, these meanings are diverse and complex, requiring researchers to take a multifaceted approach. The research aims to rely heavily on respondents' views regarding the investigated situation (Creswell & Creswell, 2018).

Subjective meanings are often negotiated through social interactions and influenced by historical and cultural norms. The goal of social constructivist research is to study how individuals interact with each other within specific social contexts. They seek to understand the historical and cultural environments of respondents. Researchers also acknowledge the impact of their own background, interpretations, and personal, cultural, and historical experiences on their research (Creswell & Creswell, 2018).

In summary, social constructivist research emphasizes the complexity of subjective meanings and the importance of social interactions and historical-cultural contexts. It recognizes the researcher's background and encourages
self-reflection on how personal experiences influence interpretations and positionality within the research process (Creswell & Creswell, 2018).

Within the framework of social constructivism, it is crucial to recognize that the researcher's position is inherently subjective. Therefore, the researcher's background knowledge and experiences are acknowledged and utilized in understanding and interpreting the collected data. This process is often referred to as reflexivity (Creswell & Creswell, 2018). As a result, the interpretation of the data is influenced by the researcher's own perspectives.

Researchers use this approach to construct meaning from data, which is closely associated with interpretive research. In a constructivist approach, both the respondents and the researchers actively contribute to the findings of the research. The creation of nuanced knowledge is contingent upon the interaction and engagement between the respondents and the researcher (Flick, 2018).

A constructivist perspective is used in this study, which implies that meanings, knowledge, and truth are socially constructed. The current study explores immigrants' bonds with natural places. It is therefore focuses on the diverse and multiple meanings people attribute to those places. As I develop my understanding of the forming of people bonds within the context of wellbeing, I suggest that nature connection is an evolutionary process that is dynamic. This can be explained from a constructivist perspective, which shows that meaning is generated by discussions and interactions, and that it is also negotiated in different contexts.

Social and historical factors often influence subjective meanings. Rather than simply being imprinted, influences are shaped by the interactions an individual has with others (hence social constructivism) and by the historical and cultural
norms that he or she is exposed to on a daily basis (Creswell & Creswell, 2018).

The interactions between individuals are often the focus of constructivist research. In order to better understand people historical and cultural environments, it is also important to take into account the specific contexts in which they live and work. Thus, researchers' cultural, historical, and personal backgrounds influence how they interpret research and place themselves in the field (Creswell & Creswell, 2018).

4.2 Qualitative Research Design

Qualitative approaches to data, as well as interviews, are essential for understanding how, for instance, attitudes change over time (Creswell J., 2009, p. 175). In the qualitative approach, Bryan (2008) explains that it is the result of an inductive understanding between theory and research, whereby the former leads to the latter (Creswell J., 2009, p. 119). A qualitative approach facilitates the collection of authentic ideas, their interpretation, and analysis in order to identify the research question that is being explored (Creswell J., 2009, p. 175).

The researcher can then establish new knowledge about the phenomena within the study through the development of a theoretical understanding (Moses & Knutsen, 2012). Also, this method allows a researcher to learn the meaning that respondents hold regarding the problem or issue being studied (Creswell J., 2009, p. 119). Thus, a qualitative research approach involves incorporating statements about real-life events within a real framework (Silverman, 2006, pp. 117-119).

Tourism studies have seen a significant increase in qualitative research over the last few decades (Mura & Sharif, 2017). Nature connection is the focus of these research efforts, which examines the individual, subjective bonds that
people form with nature and how these connections relate to their overall wellbeing. Due to the nature of this inquiry, qualitative research is not only relevant but also essential. Therefore, the purpose of this study was to provide rich data that is inductive and exploratory in nature, tells the story of the respondent, and provides an understanding of their perspectives.

4.3 Narrative Approach

The narrative method is commonly employed in qualitative research within a social constructivist framework. Narrative analysis is a method of study within the discourse analysis field focusing on the stories/narratives that individuals share with their external environment. It is based on the constructivist view of knowledge, where knowledge is seen as something subjective and personal. Through this methodological approach, narratives are examined carefully in relation to their activation, organization, production, and transmission within a specific (social) context (Mura & Sharif, 2017). Narratives are one of the most commonly employed ways of systematizing the human experience. It encompasses various approaches that aim to understand the diversity and complexity of individuals' lived realities and how these realities are presented (Flick, 2009; Mura & Sharif, 2017). As Michael Quinn Patton (2002) states that, narrative analysis is fundamentally concerned with how we interpret stories and more specifically, the texts that tell those stories. Furthermore, narratives emphasize the subjective experiences and stories of individuals (Parker, 2005).

In addition to having multiple meanings, narratives can also be used in a variety of ways and expressed in different ways (Riessman, 2008). There are various types of narratives, ranging from brief, tightly bound stories to narratives that span across time and space (Riessman, 2008). Narratives are commonly referred to as what the narrator believes actually occurred (Rubin & Rubin, 2005). There are a variety of disciplines that use the narrative
approach. (Mura & Sharif, 2017) List sociology, psychology, anthropology, health sciences, linguistics, and social history as among the subjects. Consequently, narrative analysis is seen as including a variety of techniques and procedures because the term 'narrative' has a variety of meanings and numerous disciplines have conducted narrative studies. However, they are perceived as fragmented and abundant since they cover a wide range of topics (Riessman, 2008).

Various meanings are associated with each unique narrative. Narrative analysis encourages respondents to convey their individual interpretations of events as well as their subjective perspectives. In this study, researchers focused on understanding how individuals construct their stories, enabling them to interpret someone's sociocultural context similarly to how constructed worlds are portrayed (Creswell & Poth, 2018; Flick, 2009; Mura & Sharif, 2017).

The narrative method goes beyond a simple analysis of text and values the richness of the story itself. By analysing the text and considering factors such as the background, context, audience, and transitional moments (such as moments of silence), researchers can uncover the actual subjective reality being conveyed. This approach acknowledges the significance of the narrative and enables a deeper understanding of the individual's experiences (Brinkmann & Kvale, 2015; Mura & Sharif, 2017).

While narrative approaches are embedded in social constructivist frameworks, they require the researcher to be proactive. The researcher creates the results by understanding and interpreting the stories based on the interviewer's knowledge and background (Creswell & Creswell, 2018; Creswell & Poth, 2018). A narrative can change based on a listener's perspective according to narrative analysis. A narrative approach to interviewing involves two distinct
interpretations: the interviews themselves, and then the researcher, who interprets the actual story construction (Flick, 2009; Mura & Sharif, 2017).

In this study, I a narrative approach meanings are usually constructed and represented via narrative or storied accounts of immigrants' bond to natural environments. By using this qualitative approach, I am able to co-create narratives that reflect the process by which immigrants construct meaning regarding a specific natural environment, and therefore I am able to examine how immigrants’ bonds are formed and manifested in relation to nature and wellbeing.

4.4. Research Setting

This research was conducted with immigrants of Gothenburg. Gothenburg has been ranked as the world's most sustainable destination by the Global Sustainability Index since 2016 (Albulut, 2021). The estimated population of Gothenburg in 2023 is 631,481, making it the second largest city in Sweden and the largest port in Scandinavia (World Population Review, 2023). This city dates back to 1621, when Dutch and German immigrants interacted. During that period and until the 1960s, the city hosted a variety of European cultural interactions (World Population Review, 2023). Since the 1960s, there has been an increase in non-European migration flows to supply the labour needs of the city's growing industrial area. There are currently over 140,000 individuals with an immigrant background living in Gothenburg (World Population Review, 2023). It was therefore possible to choose immigrants from diverse ethnic backgrounds as a sample to address research questions effectively.

4.5 Data Collection

In a qualitative study, data may be collected through unstructured or semi-structured observations, interviews, documents, or visual materials (Creswell
& Creswell, 2018). The study parameters need to be set in a variety of ways, such as selecting the respondents through sampling and/or recruitment, collecting the data, and establishing a protocol for the conditions under which the respondents will take part (Creswell & Creswell, 2018).

In qualitative research, the most commonly used interview methods are semi-structured or narrative interviews (Green & Thorogood, 2009). Semi-structured interviews are used to gather a detailed description of a particular topic. During semi-structured interviews, respondents are asked open-ended questions as well as some close-ended questions with a focus on how and why. In semi-structured interviews, open ended questions are asked to obtain the thoughts of individuals within a group concerning a specific topic. In addition to analysing the notes and the conversation between the respondents and the interviewer, these interviews may involve a lot more time and effort (Adams, 2015, pp. 492-505). According to Omolola A. Adeoye-Olatunde & Nicole L. Olenik (2021), semi-structured interviews are advantageous because they focus interviews while allowing the interviewer to explore any relevant ideas that may arise.

4.6 Semi-Structured Interviews

Semi-structured interviews were used as the primary method of collecting data from respondents in this study. Using this interview technique is primarily intended to gain a deeper understanding of the psychological and social lives of unaccompanied minors and encourage them to relay their own stories, rather than being completely guided by the interview questions (Smith & Osborn, 2003, p. 80). The researcher can also examine, study, compile, and document the responses of respondents using this method of research. A semi-structured interview enables the researcher to present an overview of the interview process, which enables the researcher to understand and explore how interviewees create and implement meaning within their social lives (May,
By using semi-structured interviews, it is possible to obtain useful and interesting information during the interview that would otherwise not be provided because of the interviewer's preconceptions (Olsson & Sörensen, 2011, p. 80).

Respondents were asked questions designed to encourage them to share their experiences freely (Boyce & Neale, 2006; Riessman, 2008). The interview process began with an overview of the respondents' general background. In order to address the research questions comprehensively, it is segmented into three sections. In addition, I prepared a few open-ended questions regarding the research's background and theoretical foundations. The interview guideline includes the proposed questions is in English and can be found in Appendix A.

A total of 11 interviews were conducted in two different ways. Seven interviews were conducted in person and four via Zoom. Interviews were conducted with two different groups of south Asian immigrants. One of the groups belongs to Pakistan, while the other belongs to India. The duration of the interviews varied with each respondent, lasting between 20 to 40 minutes. Interviews were conducted between August and September 2023 within a period of four weeks.

The interview flow and the respondent's stories led to extra questions or follow-up questions that were asked to develop the respondent's understanding of natural places, their experiences, and impact on their wellbeing. Participants had the opportunity to freely express their thoughts and emotions by answering open-ended questions without being constrained by a rigid structure. With the respondents' permission, the interviews were recorded, which allowed me to concentrate on the conversation and attend attentively. Within 48 hours of the interview, the transcription was completed using the recording. During the
interview, I took notes to record significant remarks or pivotal events for future reflection and analysis (Creswell & Creswell, 2018; Creswell & Poth, 2018).

### 4.7 Interviewee Selection

Research in qualitative methods is conducted through purposeful sampling, in which respondents are proactively selected rather than randomly selected. The selected respondents are then considered suitable and able to provide appropriate data for answering the research question based on predefined criteria in accordance with the research aim. Furthermore, gathering a variety of respondents with varying perspectives is a key to purposeful sampling (Creswell & Creswell, 2018; Creswell & Poth, 2018; Flick, 2018). Due to the fact that respondents are selected through the interviewer/researcher, her own academic knowledge and social skills are utilized to ensure that the respondents are a good match for the research goals (Gioia, Corley, & Hamilton, 2013). As a result, interviewees are treated as knowledgeable agents (Gioia, Corley, & Hamilton, 2013, p. 26).

In this study, I selected a specific group of respondents, International students who migrate in substantial numbers from South Asian countries, primarily India and Pakistan, to Gothenburg every year. Students often struggle with migration challenges, and their experiences are extremely valuable to my research objectives. These objectives aim to understand how the local natural environment helps them to overcome these challenges and enhancing their overall wellbeing.

I selected my respondents by meeting students at the University of Gothenburg and articulated my research objectives in my interview request. Furthermore, I utilized digital platforms, such as student social media groups, to disseminate information regarding my research objective and requested respondents who expressed interest. Several factors led me to choose this group of respondents. Firstly, it is practical and effective to communicate with them in English, a
language that is widely spoken. Furthermore, I am intrigued by the unique natural characteristics of this region, which are very different from those of Europe. Additionally, I emphasize the importance of engaging knowledgeable respondents in order to address my research questions in an effective manner. Therefore, this selection of respondents complements my research objectives perfectly.

4.8 Number of Respondents

Narrative approach needs only on a small number of carefully selected respondents to gain in-depth understanding rather than generalizing conclusions. (Creswell & Creswell, 2018). Bryman (2016) suggests that a minimum of twenty interviewees is considered to be scientifically valid. New themes or patterns are not expected to emerge from this number of respondents. Several authors have argued that the predefined number of interviewees is not as important as another factor, according to Creswell & Creswell (2018), as well as Galletta & Cross (2013). If no new streams or thematic ideas were observed by respondents to have been added, the number of interviews can be considered sufficient. Guest, Bunce, & Johnson (2006) describe saturation as the process of identifying a representative group of individuals. Most qualitative research is saturated within the first twelve interviews, which is the opposite of Bryman's recommendation of twenty interviewees (Creswell & Creswell, 2018; Guest, Bunce, & Johnson, 2006). A total of 11 interviews can be included in this study. According to Guest et al. (2006), the first twelve interviews are saturated with new themes, therefore eleven interviewees seem adequate for this thesis. The interviewees are summarized in Table 1 mentioned below.
<table>
<thead>
<tr>
<th>No</th>
<th>Code</th>
<th>Municipality</th>
<th>Gender</th>
<th>Age</th>
<th>Nationality</th>
<th>Education</th>
<th>Interview</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>AL</td>
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<td>Pakistan</td>
<td>Bachelor</td>
<td>In-person</td>
</tr>
<tr>
<td>2</td>
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<td>Male</td>
<td>27</td>
<td>Pakistan</td>
<td>High School</td>
<td>In-person</td>
</tr>
<tr>
<td>3</td>
<td>UM</td>
<td>Gothenburg</td>
<td>Male</td>
<td>27</td>
<td>Pakistan</td>
<td>Bachelor</td>
<td>In-person</td>
</tr>
<tr>
<td>4</td>
<td>SR</td>
<td>Gothenburg</td>
<td>Male</td>
<td>25</td>
<td>Pakistan</td>
<td>Masters</td>
<td>Zoom</td>
</tr>
<tr>
<td>5</td>
<td>AT</td>
<td>Gothenburg</td>
<td>Female</td>
<td>27</td>
<td>Pakistan</td>
<td>Masters</td>
<td>Zoom</td>
</tr>
<tr>
<td>6</td>
<td>AY</td>
<td>Gothenburg</td>
<td>Female</td>
<td>27</td>
<td>Pakistan</td>
<td>Masters</td>
<td>Zoom</td>
</tr>
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<td>AK</td>
<td>Gothenburg</td>
<td>Male</td>
<td>27</td>
<td>India</td>
<td>Bachelor</td>
<td>In-person</td>
</tr>
<tr>
<td>8</td>
<td>AD</td>
<td>Gothenburg</td>
<td>Male</td>
<td>28</td>
<td>India</td>
<td>Bachelor</td>
<td>In-person</td>
</tr>
<tr>
<td>9</td>
<td>RJ</td>
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<td>27</td>
<td>India</td>
<td>High School</td>
<td>In-person</td>
</tr>
<tr>
<td>10</td>
<td>AA</td>
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<td>29</td>
<td>India</td>
<td>Masters</td>
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</tr>
<tr>
<td>11</td>
<td>RL</td>
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<td>Female</td>
<td>27</td>
<td>India</td>
<td>Bachelor</td>
<td>In-person</td>
</tr>
</tbody>
</table>

Table 1: Summary of conducted interviews
4.9 Data Analysis

A qualitative researcher analyses the information gained through interviews, to gain a deeper understanding and description of the phenomenon being studied. Verbal content is analysed through a series of interrelated steps that must be revised throughout the process. The recording of audio and transcribing of the transcript are prerequisites to the analysis being able to reflect on the content and comprehend the meaning of the information gained (Flick, 2018; Creswell & Poth, 2018). It is therefore important to mention words explicitly as well as to incorporate meaning between the lines. In order to interpret words or meanings, associations must be made with words or meanings that respondents convey without explicitly naming them (Flick, 2018).

Using the app myrecorder, interviewees consented to the recording of their interviews. Once saved, they were deleted from the cell phone and saved on a laptop. Afterward, the audio files were uploaded to otter.ai. Software automatically transcribed the audio files. My second step was to go over all the transcription texts again by hand and make the necessary corrections, as the program also makes mistakes. In order to gain a deeper understanding of what was discussed in each interview, I read the transcripts three or four times after they were all transcribed. So, I wanted to be as accurate as possible when evaluating the interviews.

4.10 Data Coding

A thematic coding approach was used to analyse the collected data. According to Flick (2018), thematic coding is a method for discovering and identifying recurrent patterns and themes in data. In other words, it involves interpreting various aspects of research. In (Locke, Feldman, & Golden-Biddle, 2022) definition, coding involves carefully inspecting, collecting, and organizing materials as well as incorporating relevant theoretical aspects such as features
and relationships. As interviews have been conducted, the thematic coding assumes that respondents’ recollections deserve the attention of a thorough synthesis, analysis, and discussion (Lochmiller, 2021). According to Lochmiller (2021), the results of thematic coding should be interpreted according to a clear and concise line of inquiry and a focus on patterns repeated within the dataset. In addition, thematic coding was the appropriate method for coding the data since it allowed the researcher to dig deeper into the data collection process. Kiger and Varpio (2020) argue that thematic coding is beneficial in this study since it illustrates how certain social constructs developed through social constructionism. In addition, different themes related to the purpose and the research question could be identified through the analysis of a collection of experiences that illustrate the immigrant's relationship with nature and wellbeing.

After the interviews, transcripts were prepared, which provided the basis for coding and analysis. Flick (2018) claims that transcriptions must be based on the research question and should include only what is necessary to answer the question. There were six steps involved in the process of thematic coding. According to Flick (2018) and Kiger and Varpio (2020), these six steps will introduce you to the data, help you create initial codes, identify themes, analyse themes, define and name themes, and compose a report. A first step was to review the data to gain a deeper understanding of it, and then a second step was to colour code the data in order to identify the initial codes. Rather than using an online software application, it was necessary to code manually. By revising the codes, adding notes, and combining concepts without following a structure in an online tool, the researcher was able to remain unbiased and free. When the merged categories, representing the answers to the research question, are combined, a number of overarching themes become apparent. Table 2 illustrates the codes, categories, and themes identified.
<table>
<thead>
<tr>
<th>1st Round</th>
<th>2nd Round</th>
<th>3rd Round</th>
</tr>
</thead>
<tbody>
<tr>
<td>Codes</td>
<td>Categories</td>
<td>Themes</td>
</tr>
<tr>
<td>e.g.</td>
<td>Relationship with natural places</td>
<td>Embracing nature into daily lives</td>
</tr>
<tr>
<td>local natural places</td>
<td>Outdoor activities and life challenges</td>
<td>Outdoor Recreation as a Restorative Power of Nature</td>
</tr>
<tr>
<td>Activities</td>
<td>Nature’s health benefits</td>
<td>Wellbeing (Hedonic and Eudaimonic) through Nature’s bond</td>
</tr>
<tr>
<td>Stress relief</td>
<td>Sense of Peace</td>
<td>Sense of wonder</td>
</tr>
<tr>
<td>Loneliness</td>
<td>Mood enhancement</td>
<td>Maintained nature</td>
</tr>
<tr>
<td>Physical health benefits</td>
<td>Natural health comparison</td>
<td>Nature comparison</td>
</tr>
</tbody>
</table>

Table 2: Illustration of the coding process

4.11 Ethical Consideration

Researchers and respondents are in close contact during qualitative research. It is therefore necessary to consider ethical considerations throughout the entire study process, not only during interviews (Creswell & Poth, 2017). An important factor that determines the quality and relevance of narrative methods is the relationship between the interview partners. As a result, they must be close to each other. It was essential to build trust and respect within the relationship in order to encourage respondents to share their emotions and experiences (Creswell & Poth, 2017; Flick, 2018). Thus, for a successful study, respondents must be treated ethically throughout the entire research process (Flick, 2018). The research process has considered several ethical principles in relation to the ethical aspects of social research. As Flick (2018)
explains, informed consent, confidentiality, anonymity, and data protection are all important ethical considerations.

A number of ethical considerations must be taken into account in the conduct of this research. For this reason, I have adhered to the recommendations of Creswell & Creswell (2018). During each interview, respondents were informed of the study's objectives and made aware of their role in the study. In addition, consent to record interviews was only obtained from respondents at the time of the interview. Thirdly, the subjects’ anonymity was protected, and their right to withdraw from the study was informed throughout the study. Lastly, the information gathered was only used in this research study.

Lastly, following a narrative approach within a social constructivist framework, the researcher knows her own influence. The narrative analysis may be affected by her knowledge and experience. The researcher, however, did not intend to influence or bias the answers provided by the respondents. Moreover, the researcher did not influence the responses in a manner that aimed to achieve a particular outcome. Thus, it was endeavoured to create an environment where every answer was appreciated and valued during the data collection process. Moreover, the researcher followed Creswell & Poth (2017) recommendations to actively resist stereotypical associations, while acknowledging respondents’ diverse backgrounds and cultures. The researcher, however, knows her subconscious subjectivity and cannot completely exclude different tendencies when approaching different groups of respondents.

According to Creswell and Creswell (2018), the diversity of perspectives of the respondents is an important aspect of a good research study, and should be included in the results. All of these ethical considerations have been considered during the process of engaging with the results and analysing the information. The results have been processed with the precaution that
respondents' identities will remain anonymous and the respondents have also been acknowledged in the analysis and discussion of the results. Finally, it was acknowledged that there were gaps in knowledge and power imbalance between the interviewer and the respondents (Brinkmann & Kvale, 2015).

4.12 Limitations

It is inevitable that research will have limitations. For the sake of enhanced transparency and transferability, this study has the following methodological limitations.

An intentional sample of potential interviewees was collected by the author in the first step of the process. Thus, the results may be biased due to the representation of perspectives. The researcher selected respondents through his perceptions and beliefs regarding the topic. This bias was countered by including respondents with different ethnic backgrounds.

Some interviews were conducted through Zoom, which is considered to be a weakness in the study. It is possible to miss some significant clues in online interviews because of the time lags and lack of certain non-verbal cues (James & Busher, 2016). Online interviews can be conducted from respondents' homes or other convenient locations. Due to their surroundings, they may be distracted by daily life. The respondent who was at home with her children received a phone call while the respondent who was at work received a call. I was asked to repeat certain questions by respondents during these specific situations. In providing me with a quick response, they may have been less reflective. As a result, the validity of data collection may have been compromised.

The interviews were conducted in English, however English was not the first language of all respondents (including me). Speaking in a language that is not your native tongue may therefore make it difficult for you to express yourself
clearly. A respondent's intention or attempt to convey a message may differ from what I understand the respondent to convey. To reach the desired response, the researcher needs to rephrase the question at some points as the respondent may have taken a pause. As a result, data collection may not be valid.

In addition, thematic analysis has limitations as a method of structuring and analysing the data. Braun and Clarke (2006) describe these measures as a means to counteract the major discrepancies within the analysis process. This was done to improve data analysis quality and enable a robust process that would enable significant themes to emerge.
5 Results and Discussion

In the following chapter, the results of eleven semi-structured interviews are presented based on the analysis of the narratives. Based on an inductive coding approach, the resulting themes provide answers to the following research questions:

*RQ 1. How do immigrant students bond with local natural places? RQ 2. What is the role of bonds with natural places in wellbeing of immigrant students?*

After analysing the narratives of the eleven respondents, three themes emerged:

1) Embracing nature into daily lives which relates to the Biophilia hypothesis of nature connection

2) Outdoor Recreation as a Restorative Power of Nature which relates to the Attention Restoration Theory (ART)

3) Wellbeing (Hedonic and Eudaimonic) impacts through Nature’s bond which relates to the Wellbeing Concept

It will discuss each theme in detail, along with quotes from the interviews.

5.1 Embracing Nature into Daily Lives

When asked about how the interviewees interact with the nature and surrounding places, each of them relates a different story depending on their experiences and how they are engaged with the nature. The respondents discussed their experiences with nature generally in Sweden and specifically in Gothenburg. They indicated that in Pakistan and India, interaction with natural places is limited to a picnic held at the weekends. This provides limited opportunities for individuals to interact with the natural environment, such as barbecuing, sitting on a chair, watching, and not experiencing the wilderness.
Meanwhile, respondents believed that the concept of nature had a more meaning and was more related to the outdoor understanding in Sweden and was regarded as more pristine as well. Subthemes are created to show respondents' preferences for enjoyment and relaxation in nature. It also shows how nature integrates into their daily lives.

5.1.1 Nature Visits

In this case, respondent 1 (AL) shared his views about nature visits and its benefits as follows.

*I visit lakes most often. I used to spend time there to relax, enjoy nature and meet people (AL, 2023).*

By spending time in favorite place, the respondent demonstrates his love for nature, as well as finding nature to be a place where he can relax and socialize with others. Similarly respondent 2 (SH) expressed the nature’s role in his routine as.

*My favorite place to visit is forests. There I find peace, beauty, and a relaxation from the modern life demands (SH, 2023).*

According to respondents 2 (SH) and 4 (SR), they have a strong emotional connection to nature. They convey a sense of belonging to the natural world in their narratives. Existing literature confirms that the presence of parks and gardens provides a sense of comfort and belonging to immigrants (Rishbeth & Finney, 2006). Like respondent 4 (SR) mentioned:

*Nature is very calm and soothing to me. In natural places like forests, I walk and meditate and feel a deep connection to the natural world (SR, 2023).*
Respondents 3 (UM) and 5 (AT) shared their experiences of nature interaction through visiting their preferred places and using free time to relax after a hectic schedule. It can be seen that natural environments are predominant favorite places in the literature and is most often associated with feelings of relaxation, calmness, and comfort (Korpela, Hartig, Kaiser, & Fuhrer, 2001).

I enjoy seeing the countryside because of its beautiful scenery. I enjoy visiting nature at the seaside the most. I enjoy sitting there and enjoying my coffee (UM, 2023).

In natural places, I enjoy parks and forests, which make me feel close to nature. It is relaxing to visit these places after a busy day (AT, 2023).

Respondent 6 (AY) also expressed how nature gives her an emotional and psychological lift by visiting nearby natural surroundings. As literature tells us that nature may be able to achieve deeper levels of relaxation by putting worries aside and reflecting on personal matters and improves the wellbeing (Korpela, Hartig, Kaiser, & Fuhrer, 2001). As respondent mentioned below:

It is part of my daily routine to visit parks and lakes nearby my house where I spend time enjoying nature and relaxing my mind (AY, 2022).

Respondents 7 (AK), 8 (AD) and 9 (RJ) compare the nature of the host country to their own. They appreciated the well-maintained nature of Sweden as opposed to the wild nature of their home country. The natural environment thus serves as a bridge between immigrants' countries of origin and their countries of residence (Rishbeth & Finney, 2006). It is evident from their story that they are engaged with nature in some way on a regular basis. People seem to be attracted by the nature.
Respondent 7 (AK) used a metaphor to communicate his emotional attachment to nature in his story. The places that people enjoy are often influenced by their ability to regulate their emotions and emotional wellbeing (Korpela, Hartig, Kaiser, & Fuhrer, 2001).

*It is really enjoyable for me to spend time in the forest and enjoy the beauty of nature. In my opinion, nature is our mother (AK, 2023)*

Respondent 8 (AD) shared his sentiments in a similar manner.

*At times, I visit a park near my home, and it is a very relaxing and beautiful experience (AD, 2023).*

In the words of respondent 9 (RJ).

*Every evening after work, I go to a nearby park to relax and feel calm (RJ, 2023).*

Two respondents, 10 (AA) and 11 (RL), recently moved to Gothenburg and expressed an affinity for the natural surroundings in Sweden in the narratives that followed:

*There is a park near my home that I regularly visit. I enjoy seeing the beautiful flowers and trees in this beautiful place. I feel very calm and close to nature when I am in this area (AA, 2022).*

*There is a lot of greenery in Sweden, which makes me feel so relaxed. The Swedish nature is so calm, quiet, and fresh. It is really nice to walk on green ground and experience nature (RL, 2023).*
The literature typically describes nature as having green features (such as hills, rocks, grass, trees, flowers, fields, gardens, parks, and forests) and blue ones (such as lakes, creeks, and the seaside) (Edge, et al., 2023) which the immigrants mention throughout their narratives. A healthy lifestyle depends on contact with nature in an urban environment. As a result of accessing mostly green spaces in the city, immigrants are seen as "active citizens" (Hordyk, Hanley, & Richard, 2015). These immigrants took advantage of nature spaces and interactions within their urban 'natural places' to relieve their hectic daily routines and achieve the health benefits of nature. For immigrants, parks, gardens, and forests were places of safety and peace where they could share their experiences and provide support to one another. Additionally, sensory experiences contributed to the sense of belonging, such as flowers' scent, grass' feel, and trees' view (Longhurst, Johnston, & Ho, 2009). In light of this, immigration stories, such as how they feel a sense of belonging to nature, are supported. Therefore, promoting connections with the local natural environment, including trees, was a promising and cost-effective strategy to enhance human and environmental health, according to the research (Nisbet, Zelenski, & Murphy, 2011).

Immigrants' psychological and emotional wellbeing can be improved by exposure to forested areas and walking in parks. Nature's influence makes people feel more alive, more cooperative, and more emotionally connected (Nisbet, Zelenski, & Murphy, 2011). It is evident from the arguments of respondents 2 (SH), 7 (AK) and 9 (RJ) when they used words like "connected," "beautiful," and "calming," which demonstrate their emotional connection with nature. The effects of parks and forests on a person's mental and physical health have been studied in Japanese research. A forest bathing practice, called Shinrin-Yoku, involves immersing oneself in a forest and experiencing its air and visual stimuli with all of the senses (Park, Tsunetsugu, Kasetani, Kagawa, & Miyazaki, 2010). The benefits of forest bathing include improved mood and...
reduced stress. Parks and forests are natural settings that relieve stress, as reported by the immigrants. In addition to improving the health and wellbeing of humans, natural places, such as forests and parks, are also thought to have a positive impact on their cognitive and emotional development (Nisbet, Shaw, & Lachance, 2020).

Hence, the immigrants from both the ethnic backgrounds visited natural places frequently and exhibited an emotional attachment to the elements of nature, which supports the idea of biophilia Ecopsychology, which posits that natural elements are attractive to people and help them to relax and peaceful, and those favorite places are predominant in natural places that provide restoration and relaxation (Ulrich, 1984; Ulrich, Simons, Losito, & Fiorito, 1991; Hartig, Kaiser, & Bowler, 2001). It demonstrates that nature attracts immigrants involuntarily, i.e., it is their biological tendency that attracts them towards nature and its surroundings (Kellert & Wilson, 1993). Additionally, immigrants who are influenced by nature are inherently bonded to nature through their genes, which facilitates evolutionary biophilia. People relate to nature because of their evolutionary history. As a result, there is a growing focus on the significance of establishing a sense of connection with nature, beyond just spending time in nature, as a possible way to enhance and sustain wellbeing. Research has indicated that people with childhood exposure to nature and those who frequently visit the nature tend to have higher levels of nature connection (Mayer & Frantz, 2004). Therefore, Immigrants irrespective of their backgrounds, they interact with nature and find it a place of harmony and social cohesion which ultimately enhances their emotional and psychological wellbeing (Ulrich, 1984; Ulrich, Simons, Losito, & Fiorito, 1991; Ulrich, 1993; Hartig, Kaiser, & Bowler, 2001).
5.2 Outdoor Recreation as a Restorative Power of Nature

Nature visits serve as a counterbalance to everyday struggles, coping with hardships and stress. In accordance with (Lorentzen & Viken, 2020, pp. 362,363) findings, Hordyk et al (2015, p. 81) describe nature-based activities as relaxing and reducing psychological strain.

5.2.1 Mental and Physical Health

Respondent 1 (AL) shared his story of participating in nature based activities as.

*Playing badminton, hiking in the forest or cooking barbecues with friends are some of my favorite outdoor activities. These activities energize me, relax me and cheer me up. I find these natural places to be refreshing and give me the energy I need to cope with my daily challenges (AL, 2023).*

It was more enjoyable for some respondents to engage in social nature-based activities rather than be alone in nature. It seems that nature strengthens social ties and allows new connections to develop, as reported by Lorentzen & Viken (2020, pp. 366-367). Similarly the respondent 2 (SH) also expressed his narrative in a way like.

*In the morning, I enjoy running in the forest because it makes me active and focused on my life goals (SH, 2023).*

Nature-based recreation provided an opportunity for respondents 3 (UM) and 6 (AY) to escape from daily stresses, responsibilities, and hectic schedules. As respondent 3 (UM) shared his participation in social activities.
A few of my favorite outdoor activities include boating and fishing with my friends. I also enjoy walking in the forest in the mornings to sit and relax and forget about my worries (UM, 2023).

I enjoy spending time in parks with my family and kids as a form of recreation. It helps me relax and relieve stress and has a positive impact on my life challenges as I move to another country (AY, 2023).

Respondent 4 (SR) agreed that nature not only heals, but also helps him cope with the daily stresses of life in a new country. As literature suggests that observing nearby nature may also reduce stress, improve concentration, and protect individuals from further stress (Maller, Townsend, Pryor, Brown, & Leger, 2006).

In times of depression or overwork, I like to meditate in nature, either near a lake or in a park. I feel more focused, energetic, and calm after this activity (SR, 2023)

It has been found that individuals with easy access to nature are three times more likely to engage in physical activity than others (Bowler, Buyung-Ali, Knight, & Pullin, 2010). Literature confirms that the presence of nature near the home encourages physical activity in both adults and children particularly in urban places (Cohen, et al., 2006). Respondent 5 (AT) describes how nature-based recreation can help to cope the stress as follows:

Sometimes I feel lonely and depressed, so I try to relax by visiting natural places, such as a park. I find this to be very beneficial for my mental health. For both my mental and physical health, walking is my favorite recreational activity (AT, 2023).

Respondents 7 (AK) and 8 (AD) described their nature-based recreation experiences as:
Kayaking is one of my favorite outdoor activities. In order to cope with the daily stress of life, I spend time at the lake with my family (AK, 2023).

My worries disappear when I walk barefoot on grass. This activity greatly relieves my stress and resolves my problems (AD, 2023).

A similar description was provided by Respondents 10 (AA) and 11 (RL) regarding their activities and difficulties they faced as immigrants in the new country, and how nature was used as a source of recreation in order to cope with these challenges.

When I am unwell, I enjoy walking or visiting the nearby park for fresh air and a cool breeze. I find inspiration and motivation in nature’s beauty to deal with daily life issues AA, 2023).

Whenever I walk or hike outdoors, I feel refreshed and my stress levels are reduced (RL, 2023).

The immigrants throughout their stories shared their outdoor experiences in nature as healthy and stress free. Natural environments are also known to promote psychological wellbeing through recreational activities, which increase their connection to nature (Mayer & Frantz, 2004). Results show that respondents feel more active and relaxed after engaging in recreational activities. Thus literature tells us that nature-based recreation significantly improves mental health and both emotional and psychological wellbeing (Brymer, Crabtree, & King, 2020).
5.2.2 Bond with nature

Several respondents expressed that nature-based recreation not only helped them to remain physically fit and active, but it also enabled them to strengthen their connection to nature as well. Respondents 2 (SH), 3 (UM), 4 (SR), and 5 (AT) expressed their sentiments about nature connection and its importance in their lives in the following narratives:

The outdoors gives me peace and allows me to connect strongly with nature (SH, 2023).

I am closely connected to the natural world through outdoor activities. Humans cannot survive without nature, as it is a gift from God (UM, 2023).

I am often inspired by nature, and this strengthens my bond with it, but if I am too busy to engage with nature, this bond weakens (SR, 2023)

Nature plays an important role in my life and is closely connected to me through outdoor activities (AT, 2023).

By repeated contact with nature, immigrants form connections with nature, like we do with people, according to Mayer and Frantz (2004). Several studies have found that experiencing nature makes people feel closer to nature (Rosa, Collado, Profice, & Larson, 2019). Further, the results of the immigrants support the previous studies that there seems to be a similar relationship between the connectedness to nature, and the enjoyment of recreational activities in both ethnic groups (Lumber, Richardson, & Sheffield, 2017). Literature confirms that contact with nature increases a person's sense of connection to nature, which can lead to positive effects (Mayer F., Frantz, Bruehlman-Senecal, & Dolliver, 2009). It is important to maintain a
connection with nature in an era when we are increasingly cut off from the natural world. Nature-based recreation has therefore been established as a stress coping mechanism in existing literature, and immigrants throughout their stories showed that recreational activities not only increase their psychological wellbeing, but also strengthen their bond to nature. As a result, they feel more attracted to nature which supports the biophilia hypothesis of nature connection in evolutionary history as a biological tendency of immigrants.

In addition to increasing awareness of outdoor experiences, being in nature is also considered to be an extension of attention restoration (Nisbet, Zelenski, & Murphy, 2011; Wolsko & Lindberg, 2013). In contrast to artificial and urban environments, natural environments tend to be more restorative. An important characteristic of restorative environments identified by ART is their experience of being away, where one feels a sense of escape from the stresses of daily life, and their extent, which promotes a sense of belonging and connectedness in an environment. Immigrants mentioned in their stories that outdoor activities provided a temporary break from daily stresses and helped them to connect with the nature on a deeper level. ART has been demonstrated to improve performance on attention-demanding tasks following exposure to nature (Hartig, Korpela, Evans, & Gärling, 1997; Berman, Jonides, & Kaplan, 2008). After participating in outdoor activities, results suggested that immigrants feel more focused on their life goals that contributed to their psychological wellbeing.

5.3 Wellbeing (Hedonic and Eudaimonic) impacts through Nature’s Bond

Based on the analysis of the interviews, the respondents revealed a close bond with the nature and their surrounding places. According to respondents, pristine places (outdoor activities) provide physical benefits, joy, and
happiness to them, which is related to hedonic wellbeing. Furthermore, frequent visits to nature contribute to their personal growth and life satisfaction, thus contributing to their Eudaimonic wellbeing. While respondents in the interviews spoke about their connection to nature and its importance to their overall wellbeing. Thus to describe the respondents' narratives two sub-themes emerged (Hedonic and Eudaimonic Wellbeing).

5.3.1 Hedonic Wellbeing

Hedonic approaches often focus on assessing the frequency and intensity of pleasant and unpleasant emotions (Nisbet, Zelinski, & Murphy, 2011). It is also considered hedonic to place more emphasis on cognitive rather than emotional judgments of satisfaction with one's life, or various specific domains within it (Diener, Suh, Lucas, & Smith, 1999).

Respondent 1 (AL) shared his narrative of hedonic wellbeing as.

An unexpected snowfall and forest visits give me a feeling of freshness and joy (AL).

A similar experience of benefiting from nature was reported by respondent 2 (SH) in a more personal way.

As a nature lover, I feel the smell of grass, soil, and flowers. I believe that smell is an intrinsic characteristic of nature that allows humans to connect with it easier. It gives me a sense of calm and pleasure (SH).

For the respondent, Natural scents bring happiness to him. Respondent 3 described his views on nature and impacts on health in a following way.

In my experience, landscapes, bird’s sounds, or outdoor activities are three factors that inspire me to connect with nature.
It's so wonderful and relaxing for me and helps me to improve my mood positively (UM, 2023).

Visiting natural environments positively impacted the respondent's sense of attachment to nature since these visits yielded positive emotions and feelings, as well as helping him feel better and happier. In the same way respondent 4 (SR) described his connection to the nature and its benefits as:

I am usually attracted to the sounds of birds in nature. I enjoy listening to different sounds when I meditate in nature, such as the sound of flowing water or the sound of birds. I am also happy to see new species of plants and animals in the forests (SR, 2023).

There is a strong connection between nature and the respondents due to his attraction to bird sounds and joy at exploring new plants and animals. These experiences are likely to provide immediate feelings of pleasure, happiness, and sensory enjoyment, enhancing the respondent's hedonic wellbeing. Another respondent 5 (AT) shared her story to describe this element as:

Landscapes and activities form the basis of my relationship with nature. It is a pleasure and a positive feeling for me to walk in the natural environment (AT, 2023).

Respondent 6 (AY) for example puts her words by saying:

For me, spending time in nature with friends and family is a pleasure, and I feel more calm and relaxed when I am in the natural environment (AY, 2023).

Both respondents describe positive nature experiences, emphasizing joy, pleasant feelings, and calmness and relaxation. These experiences contribute
to hedonic wellbeing by fostering immediate happiness and positive emotions (Diener, Lucas, & Oishi, 2018).

Respondents 7 (AK) and 9 (RJ) described their bond with the nature through outdoor activities such as sports, walks, and viewing beautiful landscapes. By participating in these activities, they are able to connect with nature and get away from the stresses of daily life. Engaging in physical activity and taking pleasure in the beauty of the landscape promote a positive mood and increase a sense of hedonic wellbeing. In a deeply personal narrative, Respondent 8 (AD) revealed his connection with the natural world and its impacts on wellbeing as:

*Watching sunsets on the lake near my house is one of my favorite pastimes. It is so beautiful and makes me happy. Nature walks keep me fit and elevate my mood and help me sleep better (AD, 2023).*

The respondent feels profound pleasure from watching sunsets and taking walks in nature, which bring happiness and aesthetic enjoyment. The respondents 10 (AA) and 11 (RL) acknowledge and value this human nature bond for their hedonic wellbeing and appreciate it greatly in their narratives.

*I enjoy seeing green landscapes, as they are very beautiful. Being in the greenery or walking in the greenery gives me a sense of freshness, joy and is good for my health (AA, 2023).*

*The sounds of water, birds, and trees in nature make me feel relaxed and comfortable (RL, 2023).*

There was a consistent connection between respondents and nature as demonstrated by various activities related to nature, such as viewing green landscapes and nature walks, which result in feelings of freshness, joy, relaxation, and happiness. These experiences seem to contribute positively to
immigrants' hedonic wellbeing. Consequently, hedonic wellbeing refers to immigrants' current feelings and experiences (Lima & Mariano, 2022).

Thus, results indicate that immigrants' subjective wellbeing (hedonic wellbeing) is more affected by their connection to the natural environment. Literature also tells us that several hedonic measures have been related to a higher level of nature connection that supports subjective wellbeing (Capaldi, Dopko, & Zelenski, 2014). As a result of simple engagements (for example, walking in the park and sitting in the forest), all immigrants experienced positive emotions, such as awe, relief, and relaxation, demonstrating the immediate benefits of direct and ‘softer’ contact with nature related to hedonic wellbeing. Images of nature (e.g., landscapes), sounds of nature (e.g., creeks running), and the fresh air all contribute to our hedonic wellbeing, in addition to being visually pleasing (Clissold, Westoby, McNamara, & Fleming, 2022). In addition, nature connection provides immigrants with a sense of accomplishment, realization of capabilities, and personal development. These feelings are derived from a variety of activities in natural places.

5.3.2 Eudaimonic Wellbeing

Eudaimonic wellbeing includes indicators such as purpose in life, personal growth, autonomy, and vitality, tend to follow from the humanistic perspective, thus capturing aspects of optimal living that may be less intuitively pleasurable (Ryff & Keyes, 1995). Thus, eudaimonic indicators are essential for understanding the potential of human growth.

Respondent 1 (AL) shared his narrative of nature connection and its impact on Eudaimonic wellbeing in a following way:

*My relationship with nature helps me feel fresh, reduces stress, boosts motivation and energy, and offers me peace and rejuvenation so that I am able to achieve my goals more effectively* (AL, 2023).
The respondent’s meaningful and purposeful interaction with nature directly relates to eudaimonic wellbeing, as it represents a meaningful and purposeful connection to nature, contributing to feeling of fulfilled and flourishing.

Respondent 2 (SH) and 3 (UM) also shared similar sentiments in response to Eudaimonic wellbeing as:

*It is very difficult to concentrate during a time of stress. In order to overcome my problems, I visit the forest and run in it to gain peace, boost my mind, and it helps me to focus on my problems (SH, 2023).*

*In times of stress and fatigue, I walk to the forest and sit for a while. My mind is calmed and relaxed in the forest. The beauty of nature gives me a feel of wonder and peace (UM, 2023)*

The act of engaging with nature and physical activity promotes meaning, growth, and purpose for respondents rather than temporary enjoyment. When responding to stress with activities that promote mental clarity and problem solving, the respondent invests in their emotional wellbeing and feeling more fulfilled.

Hence, Respondents 4 (SR), 5 (A), and 6 (AY) shared the same experiences in nature as a means of cultivating positive mental health through meditation in the forest, seeking nature for clarity during stressful times and decision-making, seeking solace in nature when feeling depressed, and walking in nature for health and peace were all practices they used in nature. Eudaimonic wellbeing is the result of all these factors. As a result, respondents are engaging more deeply with nature, indicating that they are seeking to gain personal growth, meaning, and purpose through their experiences.
Respondent 8 (AD), 10 (AA), 11 (RL) also shared their views of nature connection and its effects on their Eudaimonic wellbeing as following:

It is always wonderful for me to be surrounded by natural landscapes. As I walk in nature, I feel more peaceful and committed to my life goals (AD, 2023).

When I spend time in nature, I am able to relax and find peace of mind. In turn, I feel less stressed and more focused (AA, 2023).

As a nature lover, I find that being in nature reduces stress and anxiety, and increases feelings of amazement. This allows me to relax and forget my worries. My peace and contentment are enhanced by a walk in nature (RL, 2023).

Several authors have suggested that nature connection could be advantageous for Eudaimonic wellbeing as it facilitates the fulfilment of fundamental psychological requirements (Howell, Passmore, & Buro, 2013; Nisbet, Zelenski, & Murphy, 2011). For instance, engaging in natural environments has been found to enhance people’s sense of connectedness with the natural world, thereby satisfying the fundamental psychological need for belonging (Weinstein, Przybylski, & Ryan, 2009). According to (Howard, Passmore, & Buro, 2013), a greater sense of social connectedness may mediate the relationship between nature affiliation and wellbeing. Furthermore, research has also shown that a connection to nature encourages prosocial behavior such as compassion and empathy (Weinstein, Przybylski, & Ryan, 2009). Furthermore, it appears plausible that connection with nature fosters a unique and significant form of relatedness that is separate from social (human) connectedness. This is supported by the findings of (Zelenski & Nisbet, 2014), who discovered that the concept of nature connection was a significant and
distinct predictor of happiness and was distinct from other forms of relatedness, such as connectedness with family and friends.

This suggests that people connection with nature play an especially significant role in promoting psychological growth and development, as nature connection was significantly more strongly associated with personal growth than the majority of the other components of eudaimonic wellbeing. Personal growth is comparable to Maslow's notions of self-actualization and self-transformation (Ryff & Singer, 2008). According to the hypothesis put forth by (Huta & Ryan, 2010), Eudaimonia, strives for excellence and development, would be associated with elevating experiences that challenge individuals to surpass their typical boundaries, such as encounters with the natural world. According to (Huta & Ryan, 2010), "elevating experiences" are those in which people experiences awe, gains a heightened level of consciousness, and establishes a connection with a greater entity (p. 740). It has been revealed that nature connection predicts transformative and awe-inspiring experiences, especially in the wilderness, and correlates significantly with the value of transformation (Pritchard, Richardson, Sheffield, & Mcewan, 2020). Higher order emotions, frequently linked to transformative experiences like astonishment and wonder, may serve as a significant mediating factor in the connection between nature connection and personal development.

Consequently, the profound appreciation experienced in natural environments may stimulate the development of cognitive frameworks and self-perception, thereby promoting individual progress. Similarly immigrants frequently described their awe-inspiring experiences in nature as providing them with a newfound perspective on their lives, objectives, and purpose (Pritchard, Richardson, Sheffield, & Mcewan, 2020). Similarly, the association that nature connection has with meaning and purpose in life is consistent with the
notion that self-transformation occurs when people adapt to new experiences following contact with nature.

Therefore, respondents said that being in nature and nature-based activities helped them to overcome life challenges. This resulted in a sense of accomplishment for both males and females, as well as an increase in self-confidence and self-worth. Thus the Eudaimonic dimension of wellbeing is influenced by each of these aspects (Clissold, Westoby, McNamara, & Fleming, 2022).

Furthermore, Nature connection has been described as a fundamental psychological need. Research has demonstrated a significant correlation between nature connection and both heightened positive affect and diminished negative affect. The impact of nature exposure on human mind relaxation is more pronounced than that of exercise as a whole. According to ART, Human psychological health is improved through indirect contact with nature like through the use of forest imagery (Grabowska-Chenczke, Wajchman-Switalska, & Wozniak, 2022). Furthermore, an enormous increase in the perception of positive emotions were noted in the respondent’s stories. (Nisbet, Shaw, & Lachance, 2020) discovered that more connection to natural environments may have positive effects on the wellbeing of individuals. The research findings pertaining to nature connection additionally provide support for the biophilia hypothesis, which posits that nature connection strongly linked to the wellbeing due to the fact that it satisfies people’s inherent desire for social interaction with other living things, thereby inducing solace and personal satisfaction (Grabowska-Chenczke, Wajchman-Switalska, & Wozniak, 2022).

To conclude, the results demonstrate that immigrants benefit from nature both from a hedonic and a Eudaimonic wellbeing perspective, and in most narratives, the hedonic dimension is dominant in the connection of wellbeing.
The benefits of nature extend to both health and wellbeing, while Eudaimonic is predominantly concerned with immigrants' futures. Hedonism places emphasis on the attainment of optimal psychological functioning and the realization of one's true potential, while the eudaimonic approach prioritizes general fulfilment in life, reduced suffering, and greater happiness as constituents of wellbeing (Ryan & Deci, 2001). According to research, hedonic and eudaimonic wellbeing are psychological mechanisms that function together. However, (McMahan & Estes, 2015) have reported that engaging in activities and behaviors consistent with the eudaimonic approach is more strongly associated and provides a more strong process to sustained wellbeing compared to the hedonic approach.
6 Conclusion

To sum up, this thesis has explored the relationship between immigrant students and their natural surroundings, particularly how natural places influence their psychological and emotional wellbeing. Three themes were identified in the study to address the intended research questions. The first theme of embracing nature into daily lives unveiled that immigrant students visit natural areas such as forests, lakes, and parks on a regular basis. Immigrants also preferred to visit local natural areas, which has a direct influence on their body and mind and induces a sense of relaxation, according to the findings. It demonstrates that immigrant students have a profound connection with the natural environments in their local surroundings. This is consistent with the biophilia hypothesis, which demonstrated that students are either actively or passively drawn to nature. They are captivated by nature, which also provides solace and tranquillity. The three perspectives of the biophilia hypothesis, which are discussed in the chapter 3 conceptual framework, provide factual evidence that people are biologically and evolutionarily bonded to nature that they cannot survive without it and that nature has a positive psychological impact on human health and wellbeing. According to the findings of this study, there is a favourable correlation between biophilia and nature connection on students' attachment to nature and their wellbeing.

The results for the second theme, "Outdoor recreation as a restorative power of nature," indicated that engaging in outdoor activities in the natural world helps immigrants' students stay physically fit by encouraging an active connection with nature, which enhances their health and wellbeing. Outdoor activities helped immigrant students temporarily forget their worries, feel happier and more relaxed, and become more goal-focused. The results demonstrated that nature possesses a healing force that not only improves
people's mental health but also strengthens their capacity for problem-solving. By providing individuals with comfort and serenity via direct or indirect interaction with nature, ART theory truly enhances the healing potential of the immigrants towards the natural environment. The findings of this study also support the ART theory's explanation that it not only improves the daily nature visits of immigrant students to local places but also contributes to their overall psychological wellbeing. Therefore, the two notions of this study are successfully covered by this theory.

The final theme of the research focuses on the impact of nature's bond on wellbeing, with a particular emphasis on the hedonic and eudaimonic effects experienced by immigrant students. The students have emphatically described how their exposure to nature sustained their happiness and positive outlook during their difficult time in the host country. The sense of isolation and sadness that immigrant students experience in their host country was alleviated by outdoor activities centred on nature. Hedonic wellbeing is significantly correlated with the positive outlook that immigrants maintain in their day-to-day lives and their outward expressions of happiness and serenity. The eudaimonic wellbeing of immigrant students is exemplified through their sense of personal development, revitalization, and life's meaning. Therefore, both hedonic and eudaimonic wellbeing enhanced the overall wellbeing of immigrant students through the stimulation of positive emotions and the provision of delightful experiences in the natural environment. Furthermore, the results indicated that eudaimonic wellbeing is the most prominent means of attaining hedonic pleasure and self-actualization.

As a result, the findings of this research suggests that policy makers and urban planners in the tourism industry can gain a deeper understanding of the needs and demands of immigrants' students for their use of natural places by focusing on their health and wellbeing impacts. The goal is to make natural places more
accessible to immigrants by designing, promoting, and conserving them. Students will thus have more opportunity to engage in nature-based activities and wellbeing programs and will be more conscious of the preservation of those natural areas around them.

6.1 Knowledge Contribution and Implications for Future Research

Immigrant students prefer to spend their spare time exploring natural places near their homes and using them as recreational activities. The study shows that immigrants have a strong connection to nature, actively or passively, and it enables them to cope with the challenges of daily life in a new country. As a result of this study, we understand the importance of human nature connections and wellbeing impacts. In addition, we learn how nature-based recreation fosters the nature bonding. Researchers, policymakers, and recreation service providers will benefit from knowing more about immigrant students' needs, interests, and preferences. In this way, their programs and services could be better designed and delivered.

Study results suggest that immigrant students enjoy natural places and recreational activities regardless of their background. Male students are more likely to participate actively in recreational activities and games than their female classmates, according to research. Female students, on the other hand, are emotionally attached to nature and benefit a lot from its aesthetic and therapeutic benefits. Thus Future implications is suggested to better understand this gender based participation in nature based recreation from diverse ethnic backgrounds.

The use of natural spaces and green spaces in immigrant integration has been extensively studied in the literature. Despite significant gaps in knowledge, natural places play a significant role in immigrants' wellbeing while they settle
in their host countries. This research aims to fill this specific gap. But more future research is needed from diverse ethnic groups to better examine this relationship.

As a result of this study, immigrants, particularly international students, are better able to understand how to adjust to host countries and the challenges they face. International students are a substantial part of Sweden's student population and are a significant contributor to the country's economy, yet researchers often overlook them. The health and wellbeing of these students can be adversely affected by the challenges they face due to their studies, living conditions, visa issues, and financial crises. Many Swedish cities have a large number of international students. To improve student health and wellbeing, researchers and policy makers need to increase awareness of natural places and recreational activities. This study contributes to future implications regarding nature connection and mental wellbeing for this specific group of immigrants.

### 6.2 Limitations

There will always be gaps or areas for improvement in every study, so this thesis is no exception. There are also other limitations in addition to the methodological limitations I have already mentioned.

It was intended to conduct a larger number of interviews than the 11 that were actually conducted. It is important to note that even with this number of interviewees, the perspectives, experiences, and viewpoints of the interviewees were diverse. A greater number of interviewees would have resulted in more diverse data collection and analysis.

The data can be characterized as lacking diversity due to only interviewing two ethnic groups from South Asian communities. To enhance authenticity
and diversity, a wider range of ethnic backgrounds should be included with different age groups.

There are also limitations to this study due to the short time frame, which affects both the collection of data and the selection of limited number of respondents.

This research relies heavily on Attention Restoration Theory (ART) as its main theoretical model. The concept of biophilia and wellbeing may not be fully captured by ART, although it is helpful in understanding the impact of nature on attention restoration. Immigrant experiences might be limited by its narrow focus on attention restoration.
6 References


Planetary Health: protecting nature to protect ourselves (pp. 189-220). Washington: Island Press.


Appendix 1 Interview Consent

My name is Sehrish and I am currently pursuing a Master's degree in Sustainability and Tourism at the Linnaeus University under the supervision of Dr. Marianna Strzelecka. The interview will help me to understand how you experience natural places in Gothenburg and how that has affect your wellbeing.

I anticipate that we will have a pleasant conversation lasting between 30-45 minutes. I encourage you to share any details or feelings that come to mind, as everything that is important to you is of great interest to me.

➢ Thank you for your time and willingness to be a part of my research and share your experiences and insights.
➢ Your help is immensely valuable to my research, and I truly appreciate your openness.
➢ Your participation is completely voluntary, and you have the freedom to stop the discussion at any time if you wish.
➢ Your answers are anonymous and will be treated with complete confidentiality and used solely for my research project. No personal data is collected during the interviews.
➢ I will digitally record our conversation to capture your insights accurately.
➢ Recordings will be stored in the secure place.
➢ All recordings and transcript will be deleted after upon ending of this research project.
➢ You can withdraw your consent to processing the interview data at any moment of the project
➢ I would appreciate your verbal agreement on the document.
Appendix 2 Interview Questions

Section 1

Background of Respondents

Gender: Male Female

Where you from? India Pakistan

Highest Level of Education: High School Bachelor’s Master’s

Age Group: 15-25 25-35 35-45 45-65

Section 2

Opening Questions

Q1. How do you relate local natural places you (regularly) visit in Sweden?
Q2. How are they meaningful to you?
Q3. How do you include those natural places into your daily life in Sweden?

Stories about Recreation/ Outdoor Activities

Q1. What is the most important for you about spending your free time outside in nature? (Like what kind of benefits) What is your favorite way to spend outside, and how do you enjoy it so much?
Q2. How does participating in recreational activities make you feel? Can you tell me about a favorite recreational activity in nature that brings you joy and why it's special to you?
Q3. Tell me about new recreational activities that you do since moving to a new country (such as Sweden)? What motivates you to explore all these new activities?
Stories about Respondents bond with Nature

Q1. How spending time in nature makes you feel? Will you describe a memorable experience in nature and how it made you feel?
Q2. What is your favorite spot in nature that you like to visit regularly? What draws you to that place?
Q3. Can you describe a situation when you felt a deeper connection to natural environment while engaging in outdoor activities? Please explain.
Q4. How would you describe your bond with the nature?
Q5. How do you think spending time in nature affects your wellbeing? Please recall a moment when spending time in nature helped you cope with a challenging situation?

Respondent experiences about Nature and Wellbeing Impacts

Q1. Can you share what aspects of nature you feel are the most beneficial for your wellbeing (landscapes, sounds, or activities)?
Q2. Can you recall experiences (or one) in nature that made you feel a sense wonder? Please tell me about those in Sweden.
Q3. Please, tell me about the outdoor experiences that benefited your physical health?
Q4. How outdoor experiences (in nature) are affecting your mood or emotions? Can you tell me about some of those experiences from Sweden and how they affected your emotions and your mood?
Q5. Can you share with me any special moments when you felt a sense of peace and rejuvenation while immersed in nature since you moved to Sweden?
Q6. How is your experience of nature since you moved to a new country? How is it in comparison to your home country?