

Tuomas Leppisaari & Babita Pantha Pandey

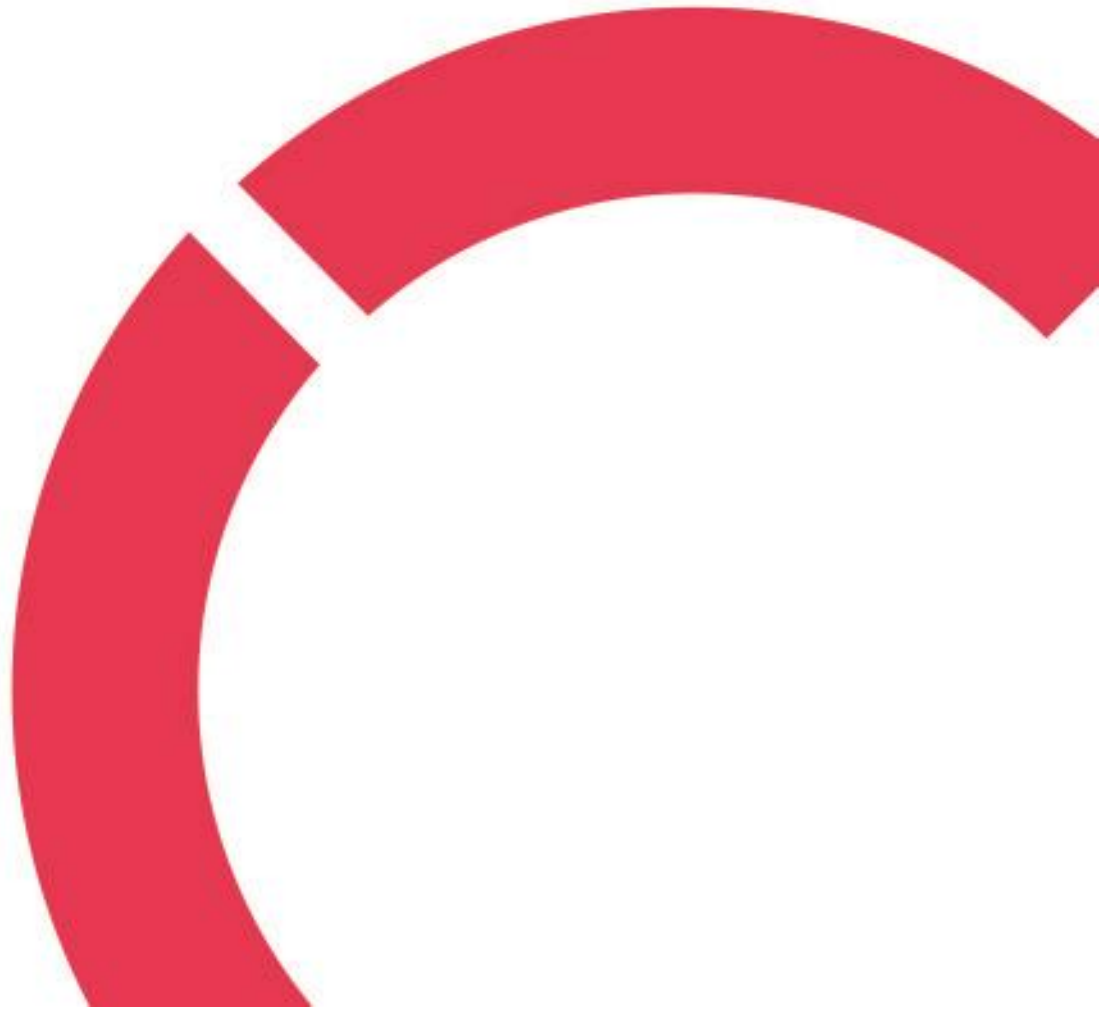
NATURE-BASED ACTIVITIES AND MENTAL HEALTH AMONG IMMIGRANTS

Thesis

CENTRIA UNIVERSITY OF APPLIED SCIENCES

Bachelor of Health Care, Nursing

October 2022



ABSTRACT

Centria University of Applied Sciences	Date October 2022	Author Tuomas Leppisaari and Babita Pantha Pandey
Degree programme Bachelor of Health Care, Nursing		
Name of thesis NATURE-BASED ACTIVITIES AND MENTAL HEALTH AMONG IMMIGRANTS		
Centria supervisor Hanna-Mari Pesonen	Pages 38+3	
Instructor representing commissioning institution or company Lena Enlund		
<p>Involvement in nature-based activities may have a positive impact on human well-being. It has also been shown to help adapting into a new society. The main purpose of this thesis is to analyse how study participants evaluate the effects of nature-based activities on their mental health. The goal is to provide information to people about nature-based activities that can improve immigrants' mental health.</p> <p>This is a research-based thesis which was done in collaboration with Research, development and innovation unit of Centria University of Applied Sciences. The research method(s) utilized in this research were qualitative. The target group were the unemployed immigrants who took part in nature-based activities offered by the project (Luontovoimaa maahanmuuttajataustaisten elämään). Semi-structured interviews were conducted with the participants (n = 3) using open-ended questions. Interviews were conducted via online meetings and in person. To analyse the data, thematic analysis was used. The data was reviewed many times by reading the transcribed documents and listening to the original records throughout all stages of analysis.</p> <p>The results of this research were derived from the thematic analysis by merging the important phenomena into themes. Six different themes were derived, which are: Learning about Finnish nature, lifestyle and nature activities, Sense of belonging, Social interaction, The appealing qualities of Finnish nature, Positive effects on mood and Nature visits as a stress coping mechanism. According to the findings of our study, immigrants' mental health may be benefitted by participating in nature-based activities. As a result, engaging in activities related to nature can also help people adjust to a new environment and society.</p>		
<p>Key words Green Care, Immigration, Mental health, Nature-based activities</p>		

ABSTRACT
CONTENTS

1 INTRODUCTION.....	1
2 THEORETICAL BACKGROUND.....	2
2.1 Mental health	2
2.2 Nature-based activities.....	4
2.3 Nature-based activities' effect on mental health	5
2.4 Green Care.....	8
2.5 Immigration	9
2.6 Nature-based activities among immigrants	10
2.7 Factors affecting the mental health of immigrants	15
3 PURPOSE, OBJECTIVE AND RESEARCH QUESTION.....	17
4 METHODOLOGY.....	18
4.1 Nature-based integration among immigrants in Kokkola region -project (Luontovoimaa maahanmuuttajataustaisten elämään).....	18
4.2 Research method	19
4.3 Data collection	20
4.4 Data Analysis	21
5 RESULTS	24
5.1 Learning about Finnish nature, lifestyle and nature activities	24
5.2 Sense of belonging	25
5.3 Social interaction	26
5.4 The appealing qualities of Finnish nature	27
5.5 Positive effects on mood.....	27
5.6 Nature visits as a stress coping mechanism	28
6 ETHICAL ISSUES	29
7 TRUSTWORTHINESS	30
8 DISCUSSION	32
REFERENCES.....	35-38
APPENDICES	

1 INTRODUCTION

The presence of nature affects human beings in many beneficial ways and is proven to promote well-being. Studies show that nature can promote health by reducing heart rate, blood pressure, stress hormone levels and muscle tension. The evidence of nature's calming effect has been scientifically proven. Nature-based activities and therapies can be used to promote health in a structured manner in health and social care settings. Nature-based activities are being applied, for instance, for the care of persons suffering from mental health problems. (Green Care Finland ry 2021).

As the world has become increasingly multicultural, immigrants form an integral part of populations and societies. This applies to Finland, too. In 2019, there were 423 494 persons of foreign background in Finland of which 351 721 were born in a foreign country (Statistics Finland 2021). According to the Finnish institute of health and welfare (2021), integration and inclusion of the immigrants promote the well-being of the whole society and equality of all its members. Discrimination, social exclusion, and mental health problems go hand in hand. (Finnish institute of health and welfare 2021). Thus, promotion of mental health of immigrants can lead to better integration and vice versa. In this study we aim to combine the aforementioned themes of nature, well-being, immigration and inclusion.

The purpose of this study is to explore how immigrants perceive nature-based activities affect their mental health. By interviewing a group of participants, we aim to find out the experiences they have regarding the relation between nature-based activities and their mental health. The study is conducted in association with Centria's Nature-based integration among immigrants in Kokkola region -project, financed by the European Social Fund (Centria 2022).

Investigating the interrelation of nature-based activities and immigrants' well-being is important, since information gathered from this thesis may be used to promote immigrants' health and inclusion in the society. Future immigrants migrating to Kokkola can benefit from the results, as well as social and mental health care professionals who can implement nature-based activities in their field of work. In larger scope, promoting immigrants' mental health and inclusion will benefit the whole society in both social and financial aspects. Similar study in Kokkola region has not been conducted before to our knowledge.

2 THEORETICAL BACKGROUND

In this theoretical background part, we will define the key concepts of this thesis, such as mental health, nature-based activities, and immigration.

2.1 Mental health

Mental health is a complicated concept to define. According to the World Health Organization (2021), a mentally healthy individual is able to work productively, to enjoys one's free time and to make a contribution to one's community. WHO (2021) addresses the fact that mental health is as important to one's overall well-being and health as physical well-being. In addition, WHO states that mental health is more than just the absence of mental diseases. As health consists of physical, mental and social well-being, mental health is an essential part of it and thus cannot be segregated from the completeness of health. Mental health is determined by multiple determinants, such as social, biological and psychological factors. For instance, socio-economic pressure and genetic factors can predispose one to mental health problems. (WHO 2018).

According to the European Commission, mental health can be described as the ability to understand one's own potential, to form healthy relationships, to work productively, and to have an impact on one's community. Poor mental health can affect people of any age, and besides individual distress can cause social and financial problems within societies. Mental health is affected by several factors, including socio-economic status, health status, genetics, early childhood experiences, and substance abuse. Sound mental health and mental resilience can be supported with good education, working and social protection possibilities and policies, for example. In the European Union mental health problems concern approximately 84 million people. (European Commission 2022.)

One way to distinguish different kinds of positive factors contributing to one's mental health is to divide the factors into internal and external protective factors of mental health. Internal protective factors refer to each individual's unique features of life, whereas external factors are related to the features of the society one is living in. Internal factors are characterised, for instance, by social support, physical well-being, positive early relationships, adequate self-esteem, problem-solving skills, social interaction skills and the ability to fulfil oneself. External protective factors, on the other hand, refer to education

abilities, work, support from work community, societal influence abilities, safe living environment and easily accessible health services. (Mental Health Finland 2021.)

There are also risk factors to mental health, that can be as well classified in two – internal and external risk factors. Internal risk factors include illnesses, vulnerability of self-esteem, untreated traumas, and loneliness, whereas external risk factors consist of homelessness, losses and break-ups, stressing relationships, abuse and violence, and discrimination. These risk factors contribute to the development of mental health problems. It is especially harmful for one's mental health when risk factors accumulate. (Mental Health Finland 2021).

The Finnish institute for health and welfare (2019) states that positive mental health includes factors such as self-esteem, optimism, sense of mastery and coherence, meaningful activities, satisfying personal relationships and the ability to address challenges. Promotion of positive mental health can be increased by, for example, enhancing survival skills, improving the quality of life, leading a healthy lifestyle, offering social support, balancing physical, social, emotional and mental health, improving income security and creating supportive living conditions and environments. (Finnish Institute for Health and Welfare 2019).

Galderisi, Heinz, Kastrup, Beezhold and Sartorius (2015) criticize WHO's renowned definition of mental health as enabler for misinterpretation and seek to formulate a more comprehensive description of mental health in their article called *Toward a new definition of mental health*. They state that WHO's definition is inadequate in a sense that it describes mental health through positive factors, for instance positive functioning and positive feelings. If mental health is defined only through positive factors, it excludes challenging life situation and negative feelings, which nevertheless are a natural part of every individual's life. Being sad, unhappy or angry does not mean one is of poor mental health, since these emotional states indeed announce of a life fully lived. To further develop the definition of mental health, Galderisi et al. (2015) suggested the following specification.

Mental health is a dynamic state of internal equilibrium which enables individuals to use their abilities in harmony with universal values of society. Basic cognitive and social skills; ability to recognize, express and modulate one's own emotions, as well as empathize with others; flexibility and ability to cope with adverse life events and function in social roles; and harmonious relationship between body and mind represent important components of mental health which contribute, to varying degrees, to the state of internal equilibrium. (Galderisi et al. 2015).

As seen in above definitions of mental health, mental well-being is fundamentally interlinked with, for instance, the psychological, emotional, social and physical health of an individual. Thus, these factors are to be considered when discussing or assessing one's mental health.

2.2 Nature-based activities

In this thesis, we will use the term *nature-based activities* when referring to recreational activities which take in place in nature or natural environments.

Research has shown nature-based activities giving rise to several kind of health benefits. In the United Kingdom, nature-based activities are offered for clients with a social referral, as activities with nature in centre are seen as the first line choice for social referral options. Fullam, Hunt, Lovell, Husk, Byng, Richards, Bloomfield, Warber, Tarrant, Lloyd, Orr, Burns & Garside (2021) described several effects of nature-based activities in *A Handbook for Nature on Prescription to Promote Mental Health*, a publication by the European Centre for Environment and Human Health. Firstly, nature-based activities promote physical activity, which again enhances mental health by activating cognitive functioning and improving sleep quality, for example. It is more beneficial to exercise in natural environments, such as forests compared to indoor training, which is worth noticing. Secondly, nature-based activities can act as a platform for creativity. Creative activities, such as gardening, may provide a relief from stress and increase mental well-being. Through creating participants can promote individual growth, coping mechanisms and achieve something meaningful. Creating can be performed as individual work or implemented as a group. Thirdly, participants of nature-based activities may gain feeling of making a difference. This refers to putting effort on behalf of something greater than oneself, for example the community one is involved in. Contribution to making a difference can increase the sense of achievement and purpose and support psychological well-being. (Fullam et al. 2021, 24–26.)

Fourthly, joy and enjoyment can be found when participating in nature-based activities. Enjoying oneself is associated with better health, and can lead to achieving flow-state, where a person is fully embedded and concentrated in the task at hand. Fifthly, nature-based activities provide the chance of being outside. Being out in nature can take thought away from everyday stressors and provide an environment of calmness, tranquillity and neutrality. Unlike indoor settings, outdoor world enables multi-sensory experiences, as there are stimuli for all the senses in human body. Sixthly, caring for oneself,

group members or nature can be carried out. Caring in general can promote the feeling of solace and achievement, and increase mental and psychological well-being. Caring can be implemented by horticulture and gardening, for instance. (Fullam et al. 2021, 28–31.)

Seventhly, including talking therapies in nature-based activities may lead to personal growth. For example, mindfulness conducted in natural environments or forest bathing can promote psychological well-being. Personal growth in the context of nature-based activities can also be due to achievement, for instance. Lastly, being in a group can benefit nature-based activity participants in many ways. Reduced loneliness, better self-esteem, increased sense of hope, decreased worrying, increased joy and relish are listed as effects of being in a group. (Fullam et al. 2021, 34–36.)

Although the benefits of nature-based activities are listed as above, individually, their effects are intertwined and ambiguous, and the effects can be combined. It is also worth noting that nature-based activities can have a unique effect on each individual participant.

In a study by Bowler, Buyung-Ali, Knight & Pullin (2010), 25 individual research concerning the health benefits of exposure to natural environment were reviewed. The reviewed studies compared the effects of natural environments, such as parks and green campuses, to so-called synthetic environments, those being built indoor and outdoor facilities. Activities performed in the studies were mostly running and walking. Positive effects of natural environment exposure compared to synthetic environment were reported when emotion self-evaluation was conducted for the participants. In addition to enhanced emotion perception there was some evidence of increased concentration abilities. However, evidence for physiological benefits, such as blood pressure and cortisol concentration, was weaker in the reviewed studies. (Bowler et al. 2010, 1–10).

2.3 Nature-based activities' effect on mental health

A systematic review and meta-analysis by Coventry, Brown, Pervin, Brabyn, Pateman, Breedvelt and White (2021) examined the effects of nature-based activities' on mental health and physical health. The review revealed that nature-based activities improved mental health outcomes across different populations, including people suffering from common mental health disorders and long-term adult patients, as well as healthy adults. Thus, interpretation was made that nature-based activities can promote mental health with psychiatric patients, as well as prevent onset of mental health problems with

healthy persons. Group activities were noted to have the best effect on mental health outcomes, and the best effects were achieved with an intervention lasting from 8 to 12 weeks in total, with one session's preferred length being within 20 to 90 minutes. (Coventry et al. 2021.)

Mental health benefits of nature-based activities discovered in the review included lessened anxiety, lessened depressive symptoms, lessened negative affect, and increased positive affect. Underlying mechanisms that result as improved mental health are hypothesised to consist of factors such as connecting with nature, social support, physical activity and purposeful activity. Physical health benefits as such were not discovered in the review, although some nature-based activities may increase the participants' physical activity and therefore promote physical health. (Coventry et al. 2021.)

Marselle, Warber and Irvine (2019) studied the effects of nature group walks on mental health. Nature group walks were found not to buffer the impact of recent stressful life events as is, but instead were discovered to decrease stress, depression and negative affect. Positive qualities, such as positive affect and mental well-being, were increased due to the nature group walks. Therefore, walking in nature with other people was considered to benefit mental health, and was suggested it could be made use of in public health promotion. (Marselle et al. 2019.)

Iqbal and Mansell (2021) studied the mechanisms on which nature-based activities affect well-being. 11 themes arose from the data which was collected through qualitative research interviews. Firstly, enjoyment from different sensory inputs were reported. The sensory inputs consisted of visual, auditory, tactile, and olfactory stimuli, which gave pleasure, enjoyment and calmness. Secondly, the feeling of freedom was associated with exposure to nature. Nature acted as an environment apart from every-day life and its stressors and gave support in problem-solving. Nature also enabled roaming and exploring which for one gave rise to the feeling of freedom. Expectations of other people were not present in nature, and the participants felt they could be freely themselves. (Iqbal & Mansell 2021.)

As the third theme, nature was found to promote calm mood and relaxedness, as nature itself presents calmness. Therefore, nature was perceived to have a mood-changing effect. Fourthly, nature had a mind-clearing effect, which resulted in enhanced problem-solving ability and ability to make efficient action-plans. The presence of nature helped to concentrate on essential factors and disregard unhelpful thought patterns. Fifthly, participants reported increased productivity after engaging in nature-based activities. Increased productivity was related to enhancement in work and study efficiency, as activities performed in nature provided revitalising and refreshing breaks. Sixthly, student participants perceived

exposure to nature to relieve the pressure of education that arises from the society. Nature was felt as a provider of control and ease, as opposite of the educational system which tells the individual what to do and when to do it. In addition, nature-based activities enabled a break from stressors and had a calming effect. Seventhly, nature-based activities enhanced formation of community relations. Group activities, such as scouting, were found to promote social relations and build relationships which, moreover, helped coping with stressors of life. Mutual interest and enjoyment of one another's company gave rise to improved mood and consolidation. (Iqbal & Mansell 2021.)

As the eighth theme, nature enhanced the participants' ability to put things into perspective. The severity of stressful events was often felt less significant and there was a heightened sense of clarity when in the presence of nature – in comparison to the greatness of nature one's own problems felt small. Thus, nature-based activities helped to change thinking patterns for the better and enhanced positive affect. Ninthly, natural environment provided a distinction from urban environment, where there are many hectic, anxiety and caution creating factors, such as speeding cars and public traffic. Activities performed in nature were perceived to bring calmness and reduce anxiety. Tenthly, exposure to nature was used as a mean to alter mood and, thus, as a coping mechanism. Improved affect was often sought from nature, and by feeling better the participants were able to relax, to concentrate on dealing with their problems, and to cope with negative emotions. Lastly, anxiety was discovered to increase when engagement in nature-based activities was not performed for a period of time. As engaging in nature activities acted as a resource of stress relieve, inability to utilise nature's stress-relieving ability caused increased stress and anxiety. (Iqbal & Mansell 2021.)

Tillmann, Tobin, Avison & Gilliland (2018) studied the effects of nature interaction on children's and teenagers' mental health. The study examined 35 papers that had the mental health focus, quantitative results and participants of age 0–18. Findings of the systematic review supported the expectation that nature has a positive impact on mental health, although the authors noted there were several non-significant studies included and need for further studies with more specific study design is evident to be able to generalize the findings. Yet, the review addressed positive outcomes on mental health of children and teenagers through interaction with nature. (Tillmann et al. 2018.)

2.4 Green Care

The term *Green Care* refers to nature-based activities that aim to promote well-being and quality of life. As a distinction from nature-based activities as an umbrella term, Green Care activities are therapeutic or treatment interventions targeted at patients or clients with specific needs (Green Care Coalition 2022, Yliviikari & Vehmasto 2014.) Green Care can be used within health-care settings, rehabilitation, or prevention of health problems. (Green Care Finland ry 2021). Green Care is practiced by trained practitioners with a professional and responsible approach (Green Care Coalition 2022). On the other hand, a survey conducted by Bragg and Atkins (2016) revealed there is no consensus on the use of terms nature-based activities and Green Care. Thus, although our study focuses on nature-based activities, we will here include research evidence concerning Green Care as well.

Green Care activities can be implemented in rural areas, urban areas, in the woods or even indoors (Green Care Finland ry 2021). The foundation of Green Care includes nature, activity, and community. Nature acts as a setting or tool in Green Care and can be implemented through house plants or remote wilderness, for example. Activity is central in Green Care, since it connects a person with his or her surroundings and enables different kinds of pleasant experiences and learning possibilities. Yet, activities can be tranquil, such as mere observing of nature and relaxation in nature settings. The collective aspect of Green Care promotes communality, involvement and inclusion. Interrelation can be implemented through human, animal and natural interaction. (Yliviikari & Vehmasto 2014.)

The founding prerequisites of Green Care are goal orientation, professionalism, and responsibility. Goal-oriented activities strive to meet the specific needs of each unique client and, therefore, Green Care services are to be customized individually. Professionalism refers to certain professional competence that is required to practise Green Care. At the same time there is a lack of regulations regarding who can practice Green Care in different settings, and a need for more organized education and qualification for practitioners. In general, Green Care service providers are to have professionals' skills in fields of both health care and animal care, for instance. Responsibility is key in Green Care, since practitioners work with health and well-being of clients, animals, and environment. When Green Care is practiced as part of social and health care services, several laws, regulations, and ethical guidelines regulate it. (Yliviikari & Vehmasto 2014.)

Methods used in implementing Green Care include various kind of activities. Firstly, animal-assisted therapy and activities, such as riding therapy and dog assisted therapy, are used to promote both physical and mental well-being of customers suffering from diverse mental health problems. Interaction with an animal can also contribute emotional and occupational growth. Secondly, nature-assisted methods, such as adventure education and eco-psychological interventions, are used to deepen the relationship between a human being and the nature. In the context of nature-assisted methods, nature is seen as an essential source of human well-being and being in connection with the nature can promote one's overall health, since the well-being of nature is interlinked with human well-being. Thirdly, rehabilitation in green environment is aimed to promote, for instance, psycho-social abilities and social integration and offer the possibility to practise certain skills. Rehabilitation in green environment can include for example care farming, horticultural therapy, and forestry activities. Care farming enables regular daily rhythm and communal chores for the clients and promotes connection with the nature and animals. (Green Care Finland ry 2021).

2.5 Immigration

Immigration is the act of becoming a permanent resident or citizen of another country. Historically, the mechanism of immigration has provided significant social, economic, and cultural benefits to nations. The immigrant history has been long and varied, and in many ways, it has resulted in the growth of multicultural societies; many western states are marked by a diverse range of cultures. (Parry 2019). Moving to other countries might be one of the most challenging as well as most crucial decision in the life. Almost every immigrant may face many changes internally and the consequences of the process externally which are caused due to migration; internal changes may be linked with physical as well as psychological changes. People deal with many changes within themselves as they might jump into the different world from their own world which used to have opposite culture compared to their own land, their childhood experiences, religions, ethnic background and so on. (Mental Health Finland 2021)

Finland is also one of the countries which welcomes substantial number of immigrants, however, traditionally Finnish citizens used to migrate to other countries (most often to Sweden) in search of better job opportunities. Finland receives considerable number of migrants as asylum seekers from various refugee reception centres. The most common explanation for moving to Finland has to do with family, such as seeking a Finnish partner and preparing for marriage migration. International students and workers, as well as humanitarian and return refugees, are the sources of immigrant communities.

(Heikkilä 2021). Higher education opportunities, foreign businesses, and refugee reception are all reasons for the diversity of Ostrobothnia's immigrant population. The Central Ostrobothnia district had 2,038 foreign-language speakers at the end of 2019, accounting for 3.0 % of the region's total population. (Intregation.fi 2021).

There may be several reasons for the immigration. One of the important reasons for which people migrate from one place to another can be the safety of own and their loved ones. For instance, refugees or asylum seekers have to leave their country in very painful situation; sometimes they themselves may not be prepared for their movement. They often experience many difficulties on the way to another destination which they might be moving for the safety reason. Refugees might also be often emotionally challenged as they had already faced many painful situations which they were not prepared to cope with the new culture, rules, regulations, even language barrier can be one of the factors which may lead to many mental issues. (Mental Health Finland 2021).

Other common reasons for migrating can be economic factor, people tend to move to the developed countries or the richer areas where they can have higher wages and more job opportunities to ensure their future along with the hope of ensuring better future for their children and loved ones. Economic factor can also be linked with the social factor when people migrate to achieve more success and opportunities along with the better quality of life. Other social reasons may also include higher studies; young generations tend to travel the world in search of better education and opportunities to ensure their bright future. (Justice for immigrants 2017).

2.6 Nature-based activities among immigrants

In this section we are describing studies related to nature-based activities performed among immigrants. The study results summarized below are the most relevant for our study and, therefore, we will mostly, yet not exclusively, discuss our results with them in the thesis' chapter *Discussion*.

In a research paper by Lorentzen and Viken (2020), the mental health status of immigrant women in association with nature exposure was studied. The research was conducted in Norway. The aim of the study was to explore how the immigrants experienced connection with nature, their attitudes towards nature, use of nature, and possible health impacts perceived by nature related activities. Qualitative re-

search, semi-structured individual interviews to be precise, were conducted as the means to elicit research aims. The research participants were recruited through a public health centre and Norwegian language practice gatherings. Fourteen immigrant women of different ethnic background from around the world were interviewed, with the age range between 27 and 70 years. Two of the participants were unemployed while others were employed or associated with volunteering or other diverse activities. (Lorentzen & Viken 2020, 360–361.)

The interviews were semi-structured and had open-ended questions. Language problems were met, since the interviews were conducted in Norwegian, and the interviewees were of diverse ethnic backgrounds. When language problems emerged, English was used, or the problematic expressions were put into other words. In the research context, nature was defined as any natural space in the nearby environment, including parks, green areas, woods, either wild or human made. The interviews were then recorded and transcribed. Qualitative content analysis method was used, and to ensure a comprehensive understanding of the data, and abductive approach was conducted. Norwegian was used in the analysis of the research data, while the quotes were translated into English. (Lorentzen & Viken 2020, 361.)

The results of this study show that interactions with nature were clearly associated with positively affected mental health. Nature's positive effects were sorted out into five categories. Firstly, nature was experienced as an environment for mood-enhancement, as several participants felt being exposed to nature helped them cope with negative emotional states and through mentally challenging times. Nature was seen as a place of happiness, where suffering diminishes, and negative moods can be altered. Exposure to nature could be experienced as soothing or energizing. As a contra-indicator for auditory and visual stimuli of crowded urban areas, nature was seen as an environment of quietness, where one could calm down, think freely and be with themselves. The beauty of nature and its' details rose in the interviews, as participants had different approaches onto how they interacted with nature: some enjoyed beautiful views and sought their way to find good spots by lakes, green areas or fjords. Some interviewees, on the other hand, felt interacting with nature gave rise to negative effects. For instance, the silence, peacefulness, and lack of stimuli in natural environments could in a way give space for negative thoughts to be confronted. In addition, negative associations towards nature, and fear of wild animals or straying were perceived. (Lorentzen & Viken 2020, 362–363.)

Secondly, nature was seen as an area for learning, and thus it had the potential to enhance feelings of mastery, inclusion and connection. Learning was carried out especially through the context of Norwegian culture and habits, as the participants had familiarized themselves with Norwegian outdoor life culture involving whole families going hiking together, for example. Many of the participants had had more practical ways to interact with nature, such as gathering food or other natural resources, whereas Norwegians would do physical activities and enjoy each other's company and the nature. Interaction with nature was also seen as a way to familiarize oneself with nearby and far away surroundings, and to learn about Norway, of its climate and conditions. Being in nature with Norwegians had also helped the participants to learn the language. (Lorentzen & Viken 2020, 363–365.)

Thirdly, nature worked as means for social interaction, with participants stating they preferably experienced nature with other people. Thus, nature's health benefits were obtained in addition to enhancing social ties with closest ones, family or friends, both factors which improve mental health. Nature was also seen as a possible environment to acquire new acquaintances and augment social network through group activities, such as hiking groups, for instance. Fourthly, natural environments were seen as points of resemblance to their home countries' environments, and as such interaction with nature could ease their longing and feeling of alienation. Positive emotions and memories could be evoked by visiting for example seashores or beaches similar to the ones they had had in their countries of origin, or by purchasing potted flowers to relive the flower-filled gardens of their families. (Lorentzen & Viken 2020, 365–366.)

Lastly, nature acted as a setting for physical activity for the participants. Most of them interacted with nature through activities such as walking, bicycling, strength training and climbing. In these settings nature and the health benefits of exercising are tightly interrelated, however, and therefore it is unclear whether the participants' reported mental health benefits were due to exposure to nature or due to physical activity. Overall, the research illuminated several possible mechanisms through which interaction with nature may improve the mental health of immigrant women in Norway. Nature was perceived to enhance positive mental state, decrease stress and empower. (Lorentzen & Viken, 2020, 366–368.) As Norway is culturally and geographically somewhat similar to Finland, at least to certain extent, we dare to presume these results could indicate the feelings and experiences of immigrants in Finland and, therefore, be valid for comparison.

In a study by Stodolska, Peters and Horolets (2017) the connection between immigrants' adaptation and the role of leisure in nature were examined. 70 first-generation immigrants residing in the United

States, the Netherlands, Germany, and Poland, with ethnic backgrounds from all over the world participated in the study. The participants were of age between 18 and 76 years. The data was collected through in-depth individual interviews with series of open-ended questions and performed in various different languages by the three researchers and their assistants. The interviews, excluding one case, were recorded, transcribed and again translated to English. The constant comparative method was used in the analysis of the data. (Stodolska et al. 2017, 475–480.)

The study yielded multiple results concerning the benefits of nature interaction for immigrants. These results were divided in two head categories, psychological adaptation and socio-cultural adaptation. Psychological adaptation included increasing psychological and emotional well-being, increasing feelings of attachment to the local environment, and strengthening social ties, building memories and family traditions. Psychological and emotional well-being was improved through activities performed in nature, which decreased stress and reminded the participants of the environment in their home countries. By connecting with familiar environments, they were able to reconnect with their past and thus adapt better in their current life settings. The participants' feelings of attachment to their local environment were positively affected by visits to natural environment, since these visits yielded positive emotions and feelings. Some participants appreciated the unspoiled nature of their current place of residence, which lessened their longing for their country of origin, where clean natural environments were rare. Finally, related to psychological adaptation, nature visits that were carried out with families and friends strengthened the participants' social ties, built memories and increased their attachment to the environment, too. (Stodolska et al. 2017, 481.)

Socio-cultural adaptation occurred through acquiring culturally appropriate skills and knowledge and facilitating interracial/interethnic interactions. Visits to natural environment helped the participants to understand their local community and raised awareness of the local customs and traditions. They observed differences in recreational activities, for example, that were different to what they were used to. For instance, Latino immigrants felt they are more family-centred, whereas Americans emphasise individualistic behaviour and attitude. Many participants learned to appreciate the nature and the coordinated recreational activities of their local community by visiting local parks. On the other hand, differences observed between the current places of residence and countries of origin gave rise to longing for home, as the participants' sometimes felt they did not belong to their host countries due to the differences. (Stodolska et al. 2017, 481–482.)

Facilitating interracial or interethnic interactions was also a factor raised in the study, although the participants in general were doing nature visits with people they already knew. Meeting new people and making friends in natural environments was rare, and when it did happen, it was usually transient. Nevertheless, some participants were more prone to making the acquaintance of new people they met. On the other hand, some felt relieved for people not being curious and coming to chat when in public parks, for example, unlike in their home countries where people were accustomed to talk to strangers they come across. (Stodolska et al. 2017, 483–485.)

In conclusion, the study conducted by Stodolska et al. (2017) illuminated the importance of nature when adapting immigrants into their new host country. Especially psychological adaptation increased when time in natural environments was spent. Leisure recreational activities in nature enhanced the participants' psychological and mental well-being. (Stodolska et al. 2017, 485–489.)

The importance of urban greenspaces for immigrants' emotional and physical health was studied in research by Hordyk, Hanley & Richard (2015). The study was carried out with a hermeneutic phenomenological approach, with data collection methods including drawing, story-telling and semi-structured interview. Participants were formed of seven immigrant families with 10 adults and 13 children. The study results were classified in three, first being nature as an extension of home. As the participants often accommodated in apartments lower in quality compared to what they were used to in their home countries and compared to what they would have desired, urban greenspaces were of great significance to them. Accessing greenspaces and practising nature activities provided the parents and children a positive environment to spend time together, and freed the parents minds off from inadequate living conditions. (Hordyk et al. 2015, 74–80.)

Secondly, nature provided the participants a platform for social cohesion and social capital. Urban greenspaces offered possibilities for gatherings and informal activities for neighbours and friends, where social ties could be strengthened. On the other hand, activities containing calculated risks, such as climbing, skating or sledding, and nature conservation activities, such as recycling or community workshops, lead to increased social capital, since the participants felt pride of mastering and joining these activities. The activities also enhanced the feeling of belonging in the community and increased the sense of attachment to surroundings. (Hordyk et al. 2015, 80–81.)

Thirdly, nature worked as a buffer for stress. A number of participants suffered from psychological stress during their integration process, which was due to language, cultural, social and political barriers

confronted. Nature experiences, either planned or unanticipated, played a great role in providing relaxation, moments of bliss and a break from psychological strain. Therefore, nature enhanced the participants' emotional well-being. (Hordyk et al. 2015, 81.)

2.7 Factors affecting the mental health of immigrants

It might often be more difficult to identify mental issues related symptoms specially among immigrants as they come from different background, culture, have different language and their ways of interpretation may vary from one another (Finnish institute for health and welfare 2020; Kirmayer, Narsiah & Pottie 2011).

Exposure to torture which can be linked with war, violence, forced migration might lead most of the immigrants to get mental illnesses. Much research has been done which shows that exposure to violence and torture are one of the causing factors of several types of psychiatric disorders (Kirmayer et al. 2011.). In addition, according to a research don by Suhaiban, Grasser and Jauanbhakt (2019), exposure to trauma and forced immigration leading mental illnesses can be categorized as post-traumatic stress disorder, depression, and anxiety along with other mental health conditions.

Discrimination also plays a vital role when it comes to mental health among migrated people. Immigrants tend to face discrimination while trying to fit into the new society which affects their mental health. (Mougenot, Amayer, Mezones-Holguin, Rodriguez-Morales & Cabises 2021.) According to research done in United States by Szaflarski and Bauldry (2019), perceived discrimination has played a negative role in immigrant's health both physically and mentally which provokes outcomes such as substance abuse, obesity, hypertension, mental illnesses such as anxiety, depression, distress and so on. In addition, another research was done in Norway by Straiton, Ambo & Johansen (2019), which was done to analyse the relation between discrimination and general as well as mental health among immigrants. Discrimination refers to the unfair behaviour which is done to a person or a group because of their ethnicity, sex, nationality, age culture, disability and so on. The result showed that almost 27 % of participants claimed that discrimination was not linked with their general health but with the mental health problem.

Loneliness has been identified as a global issue for a public health which should deserve health care professionals as well as researcher's attention, since it is related with many other issues which affects

person's general and mental wellbeing (Ponizovsky and Ritsner 2004). Loneliness can be caused by homesickness which also has not received enough attention from research psychologists, despite it being one of the important keys for the counsellors and health care professionals those who deal with mental wellbeing of immigrants (Tilburg, Vingerhoets & Vantlek, 2009). Specially, those immigrants who move abroad as a student are the ones who suffer more from homesickness as they try to make new friends in the host country but cannot feel the immediate support as a family member after a stressful day or in challenging times which results as a loneliness (Jamil 2020).

Culture and language barriers often create communication gap, especially with the immigrants who shift to different country and society. Usually, when people do not know the language, problems arise because they cannot explain about their difficulties, their illnesses, and symptoms, complicating their possibilities to find jobs for their daily life and hard to integrate into the new society and culture. To add with this, according to Kirmayer et al. (2011), language and cultural barriers affect immigrants in many ways such as difficulties in interpreting illnesses, their symptoms and characteristics, coping with treatment, finding employment, accepting the new society, and so on.

In Finland, mental health promotion of immigrants is considered important, since immigration predisposes to several psychological risk factors that can lead to mental health problems. Mental health problems may further cause social exclusion and difficulties in the immigration process. Difficulties regarding mental health can also lead to physical health problems and affect overall well-being, especially when compared to the native representatives of the population. In addition, attitudes and awareness towards mental health and mental health problems vary greatly within different cultures. Difficulties with mental health can be met with shame, reticence, or lack of apprehension, which may reduce the likeliness of help seeking and lead to untreated illnesses. (Finnish Institute for Health and Welfare 2020).

3 PURPOSE, OBJECTIVE AND RESEARCH QUESTION

The purpose of this thesis is to explore how nature-based activities are perceived to affect the mental health of immigrant participants. The aim is to provide information about nature-based activities as means of affecting the mental health of immigrants. The information gathered will be useful for professionals working within the field of nature-based activities, mental health care and social work among the immigrant population and may therefore be used to improve immigrants' mental well-being in the future.

This study's research question is:

How do immigrants perceive nature-based activities affect their mental health?

4 METHODOLOGY

This thesis was done as a research-based thesis. We collaborated with the Research, development and innovation unit of Centria University of Applied Sciences. We interviewed the unemployed immigrants who took part in the nature-based activities; hence the number of our participants were limited, our thesis was conducted as qualitative research. The target group were the unemployed immigrants in Kokkola. We interviewed them after implementation of the Green Care activities, examining the mental health depending on their view or perception towards nature-based activities.

4.1 Nature-based integration among immigrants in Kokkola region -project (Luontovoimaa maahanmuuttajataustaisten elämään)

This project is carried out between 2021 and 2023 under the direction of Centria University of Applied Sciences and with cooperation of Nature Resources Institute, Finland (LUKE). The European Social Fund and the city of Kokkola are funding the project. (Enlund 2022.)

The main objective of this project is to utilize the natural resources that have not been implemented in integration of immigrants both in practice and socially. To discover nature-based solutions for unemployed immigrants who are at risk of being socially isolated by encouraging community engagement is another goal of this project. Another additional goal of this project is to support immigrants by developing the relation between human and nature which will encourage working and functional capabilities physically and culturally. It also promotes to enhance the mutual learning as well as evaluation of its effectiveness. (Enlund 2022.)

All the nature-based activities in this project are designed based on the goals by collaborating with immigrants' routes to socialisation. These paths will ensure a safe and responsible way of personal well-being in nature. The project will enable the development of the human-nature relationship in the unfamiliar environment. The project's outcome will include the improvement of working and functional capabilities and working life skills. As a result, the human-nature relation of the immigrants will be strengthened, and a new cultural relation will be built between local actors and immigrants. Moreover, actors who may make use of nature-based activities in the phase of initial integration and afterwards

will be recognised. In addition, participants will have their teamwork skills improved and will be encouraged to speak Finnish. (Enlund 2022.)

4.2 Research method

Qualitative research method was chosen for our study as it allows to understand study participants' experiences in-depth. Interviews are widely used tools for qualitative research.

Qualitative analysis looks to answer concerns about the nature and perception aspects of people's lives and social environments. The subjective interpretations, actions, and social contexts of research subjects, as they understand them, are central to successful qualitative analysis. Qualitative analysis usually differentiated from quantitative research as qualitative research in search of questions like 'what,' 'how' and 'why' whereas quantitative research is more often related to 'how many' or 'how much' (Green & Thorogood 2009, 5). A systematic and robust approach to the study's design and execution, data collection and review, and evaluation and reporting of results is needed for sound research. Qualitative research interviews aim to elicit participants' views of their lives, as portrayed in their stories, and so to gain access to their experiences, feelings, and social worlds. (Fossey et al, 2002). As a humanistic or idealistic approach, qualitative analysis focuses on interpreting the collected data. The qualitative approach is used to understand people's views, experiences, emotions, behaviour, and relationships. (Pathak, Jena & Kalra 2013). Questions about experiences significance and perception are addressed using qualitative methodologies, frequently from the perspective of the participants. Most often, semi-structured interviews are used as one of the techniques in qualitative research to solicit opinions on a specific subject or with selected respondents. (Hammarberg, Kirkman & Lacey 2016).

Malterud (2001) stated that large volumes of information are represented as a qualitative data and analysis entails simplification and some form of generalization. To gather the information that can be used by other elements from, and expressions of the specific informant are utilized. Qualitative research includes interpretation as a crucial component. The goal of a qualitative researchers may be induction, or the creation of a theory from facts. Sample size for conducting qualitative research has always been in concern. Boddy (2016) in his article concluded that the sample size that is acceptable for qualitative research can be just one because a sole case study with a single research subject might be significant and provide valuable insight.

Qualitative research methods need to illustrate that the research is conducted accurately by documenting, organizing, and reporting all the process of the study, which makes it easier to the readers to understand and evaluate whether the process is reliable or dependable (Nowell, Norris, White & Moules 2017). Elo, Kääriäinen, Kanste, Pölkki, Utrainen and Kyngäs (2014) described that planning, management and reporting the findings of study are the three main phases of any qualitative content analysis and all the processes should seek to promote trustworthiness which can be done by reporting the data appropriately.

4.3 Data collection

The interview questions were made by both authors. Interview questions were created based on background research literature and discussing with the project manager. As the study topic is related to the mental health, more attention should be paid in the questioning styles or skill because this topic sometimes can be offensive while asking directly or may be in the wrong manner; often cultural differences can play a significant role. People coming from distinct cultural backgrounds, professions should not be assumed or expected to understand values and problem-solving skills from another nationality or culture, as the world is very culturally diverse, no one also should be expected to cooperate with people who are new to them. (Schein & Schein 2021, 2.)

Interviews are versatile tools for data gathering, since they permit the use of multiple sensory channels, including talking, listening, non-verbal and verbal cues. The contact between the interviewer and interviewee, in direct relation with the circumstances unique to each of them is crucial to the development of information. The utilization of the interview signifies a repositioning effort on the part of individuals who participated in the research process, who are no longer seen as simple information sources. (Cheron, Salvagni & Colomby 2022.). There are many types of interviews used to conduct research such as structured, informal interviews, semi-structured, in-depth, or narrative interviews. The most used interview methods are, semi-structured or narrative interviews while doing qualitative research. (Green & Thorogood 2009, 94.)

Semi structured interviews are used in qualitative research to gather a deep description of a certain topic. In semi-structured interviews the participants are questioned personally with open-ended questions mixed with some close ended and usually with how and why questions. Semi structured inter-

views are used when we need to ask open ended questions to know the personal thoughts of the individual within the same group for a certain topic. These interviews might require much more time and effort as it accompanies with the task of analysing the notes and the conversation between the participants and interviewer. (Adams 2015, 492–505.) Omolola, Adeoye-Olatunde & Nicole (2021) illustrated that the ability to focus interviews while yet giving the interviewer freedom to explore any relevant ideas that may arise throughout the interview is one of the main advantages of semi-structured interviews.

In a semi-structured interview, prepared question that are systematic and methodical and are guided by define themes are interspersed with probes meant to elicit more in-depth responses in order to help steer the conversation towards the subjects and concerns that the interviewers want to learn more about, the interview guide will incorporate several major themes that will be covered during the interview. The majority of the interview guides range from being very scripted to being quite flexible. the semi structure interview is well-liked by the researchers because it can reveal significant and frequently concealed aspects of organizational and human behaviour while also being adoptable, accessible, and understandable. (Qu & Dumay 2011.)

In this research, we interviewed the participants after they took part in one or more nature-based activities organised by the project. The interviewees are the participants who took part in the nature-based activities in the project. Interviews were conducted in presence of both authors. there were three study participants altogether. Two of the interviews were conducted via teams meeting because of the COVID-19 situation. One of the interviews was done in persons, in one of the classes of Centria University of Applied Sciences. The interviews were 30 minutes long. The participants' information was provided by the project manager. After that, emails were sent to all the participants to confirm time, place and conducting methods. Interviews were done without any disruptions and all the data was recorded with phones and computers for the future needs of the actual conversations. All the interviewees were ensured prior to the about the confidentiality. We had made sure to the respondents that none of their personal information will be included in this thesis and the interviewees will remain anonymous.

4.4 Data Analysis

After doing an interview, the notes and the conversations need to be analyzed and should be described in detail. The interviews of the participants were first translated to English language as two of the interviews were in Finnish language. After that, all three interviews were transcribed by both authors. Both authors were present in the data analysis process, and discussion was done in each phase which includes interviewing, translating, and transcribing to maintain the authenticity and reliability of the results.

Transcribing data or conversation in general is a process of translating the recorded conversation by maintaining the reliability of the words used by respondents. The crucial factor is that the project team and whoever is transcribing the data agree on the transcription rules to be employed. Removal of any identifiers, such as names or precise locations, is crucial before using the transcripts to maintain the confidentiality of interviewees. (Green & Thorogood 117, 2009.)

Thematic analysis (TA) was used to analyze the data. Thematic analysis can be a good and frequently used method while doing qualitative research in the health sector which focuses and evaluates the responses of the interviewee (Green & Thorogood 2009, 119; Guest, MacQueen & Namey 2012). According to Braun & Clarke (2012), TA is a method for methodically identifying, categorizing, and offering insight into meaningful themes or patterns from a dataset by focusing on meaning from the description or data. They also explained that this method is a way to analyze common meaning or sense from the way people talk about a certain topic. Authors also mentioned TA method as a versatile method as it allows researchers to be focused on the same data in numerous ways, for instance: you can analyze meaning from the whole data or you can investigate a specific aspect in depth.

TA is a data analysis procedure that is utilized often in all qualitative designs. Without providing the necessary information about how the analysis reduced the data into usable themes and the emerging conclusions, TA is frequently employed in research studies and later classified as qualitative research. TA is used to discover, interpret, and report themes inside data. It is characterized as a descriptive approach that flexibly compresses the data analysis approaches. Due to the large range of research issues and themes that may be addressed with this type of data analysis, it is frequently used. (Castleberry & Nolen 2018.)

Thematic analysis is a process which encourages the creation of reliable results. There are mainly four phases while doing thematic analysis. Firstly, initialization is categorized as the first phase which con-

sists of transforming original document to textual form and reading that transcribed document by highlighting and making notes or coding. Construction is categorized as the second phase, in which the researchers consider the way they had grouped codes and contrast their differences with their similarities to arrange all groups of codes connection with the study's objective. Thirdly, the next phase is rectification which is also classified as verification where theme is almost developing, but the researchers should reflect and evaluate the entire process to minimize the impulsive and incomplete analysis of the data. The last phase of this process is finalization where the story line is created as a written document which links, explains, and relates to the research question and themes. (Vaismoradi, Jonas, Turunen & Snelgrove 2016.)

The interviews of this study were analyzed by following the process of thematic analysis. Firstly, the contents of the three interviews were coded in the transcriptions. We used color-coding to highlight sentences that were interrelated and described a similar phenomenon. After the coding, we carefully considered what kind of phenomenon each code seemed to represent, and then revised if we could find more related data. We examined which phenomena were described many times both between the three interviews and within the interviews. We also considered which phenomena were central to this study, since describing some of the similarities of the data would have not given any value to this study. Finally, the essential phenomena were merged into six themes: Learning about Finnish nature, lifestyle and nature activities; Sense of belonging; Social interaction; The appealing qualities of Finnish nature; Positive effects on mood; Nature visits as a stress coping mechanism. The data was reviewed several times by reading the transcriptions and listening to the records in all stages of the analysis, in addition to reflecting and reassessing the significance of the derived themes and story line.

5 RESULTS

Analysis of the research data yielded six themes: Learning about Finnish nature, lifestyle and nature activities; Sense of belonging; Social interaction; The appealing qualities of Finnish nature; Positive effects on mood; Nature visits as a stress coping mechanism.

5.1 Learning about Finnish nature, lifestyle and nature activities

The interviewees reported they learned to know Finnish culture in a broad sense during the nature-based activities they attended. They learned to identify, pick and prepare berries and mushrooms, to cook in a fireplace, to make porridge, to make coffee in a forest and to have a barbeque, all of which they thought to be important parts of the Finnish cuisine and nature-related recreational activities. These activities were also quite new and unique experiences for them.

I1: For me it was peaceful, I got to be in the forest, talk and discuss with other people, to watch and observe what kind of berries and mushrooms there were and how they were picked. And food culture, there was a hut on a lake shore. There we discussed, ate, cooked different foods, made pancakes and enjoyed coffee made in a pot. This was a totally new experience with me.

I1: When I lived in Russia, we had a different kind of culture of picking mushrooms and cooking them as a food. Here in Kokkola I can now pick mushrooms from a forest and cook them. Here I see lots of seasonal food, and I learned what to eat during Christmas, Easter, Midsummer and New Year. I know these now better than before. -- It was important to listen to Finnish being spoken and to speak Finnish to learn it.

One of the interviewees was originally from a big city scarce in green areas and was unexperienced in any nature-related activity. Through attending nature-based activities she learned a lot about Finnish nature and recreation. The activities opened her mind to see what nature has to offer.

I2: For me, I am from the city. I had no idea what to do and how to enjoy in forest and nature activities. So, I wanted to attend to more activities to open my mind, to see, to enjoy. Before I got no experience.

I2: I hope more foreigner people can join these activities and open their mind how to enjoy, how to use the forest to balance our life, to be less distressed. I hope they continue to have these activities to help foreigners to learn how to enjoy in the forest, and how to protect it, and how to know more.

Finnish lifestyle was seen to have more balance between work and leisure time than life in the interviewees' home countries, and in Finland people seemed to have time to spend in nature and to enjoy recreational activities.

I2: In my [home country's] society I can say almost 80–90 % [of time] is working. Need to do much. But in here it's different. In here half is working for living but on the other half you can enjoy in nature. This is new for me. This makes life more balanced. This is very good because I can enjoy and relax in the forest. This is what I learned from these activities.

Outdoor life was considered an important part of the Finnish lifestyle. One of the interviewees made a comparison between her friends of Finnish and foreign origin, stating that spending time outdoors is more of a distinct characteristic of the Finns.

I3: I have met lots of people, both Finnish and foreigner. Finnish people like a lot to go into nature, to sit, they have lots of day trips. I like it too, if I have time a will go with them. Finns like more going to forest [than foreigners].

5.2 Sense of belonging

As our interviewees were immigrants, we wanted to find out if they felt participating in the nature-based activities helped them feel more at home, as a part of the local society. One of the study participant felt she got to know more about the Finnish society through interaction with other people.

I2: For me it's maybe by the talking I know more about Finland, the society.

Another participant described how she felt that the nature activities made her feel more of a part of her new hometown. On the other hand, she stated she did not yet feel completely like a local resident. She experienced equality between the immigrant participants and the Finnish activity organisers, as well as other participants. In her description nature seemed to have brought the people closer together.

I1: I learned about different activities that are organized, what can be done together as a group, that was an important experience for me. I learned that in Kokkola and Kokkola region a there lots of activities arranged where people can participate and discuss. There's always something new. -- I also understood how people live here in Kokkola, how it works, what they do as hobbies and how those are arranged, and that

nature and sports are a part of Kokkola municipality. It felt good. -- I cannot say that I feel I am a citizen of Kokkola, but I try to be a citizen of Kokkola, and I am progressing all the time. I have a feeling that I never lived in [the city I am from in my home country], but I lived here all the time. I have this kind of feeling. -- I can say that the activities made me feel a part of the society. I did not feel that I was an immigrant. It was quite a warm feeling to be there, to discuss and walk, that was nice. I cannot say that I was a different people from those who were Finnish. In nature, we all were warmer towards each other and not far from each other. There was a sense of togetherness.

5.3 Social interaction

As the nature-based activities were all group activities by nature, we wanted to ask the interviewees' if they made any new friends during their participation in the activities. None of the interviewees described making actual friends, but two of them still stated they got to know new people in the nature-based activities. One of the interviewees did not make any new acquaintances during the activities. Nevertheless, social interaction played an important role in the interviewees' experience of nature-based activities and being in nature with company seemed to be favoured in comparison to being alone.

I1: There were lots of Russians. I met a few Ukrainians, but we talked mostly in Finnish. I met the same people a couple of times. I cannot say that I got new friends, but at least I have more acquaintances than before, that I can say. I think it is sometimes nice to be together with people as a group in nature. At weekends I can be peacefully in forest with my family. Both are fine.

I3: I like to be in forest with other people. It is quite nice to discuss, talk and laugh, it is not nice alone, I don't like to be alone [in forest]. Because it becomes boring when you are alone. It is nice to be as a group in forest.

I2: Some other people joined these groups, I did not know them before, so I know them [now]. -- It was very nice that there were other people [in the nature-based activities], they were from other countries, I wanted to ask them what they do in their countries, in the forest. We could talk. This let me know something different.

5.4 The appealing qualities of Finnish nature

Clean nature and good accessibility to natural environments arose as themes in the interviews. Two of the interviewees reported they could not reach nature conveniently in their countries of origin, where they lived far from forests and other natural habitats and recreational landscapes. They also mentioned their former places of residence did not have as clean forests as in Finland, and that recreational areas were often crowded with people. In Finnish nature they appreciated its cleanliness and calmness, and that it is easy to reach.

I2: It's very peaceful, very beautiful. The trees are tall. The air is very very fresh. In forest there are maybe more trees, I don't know, but the air and when the wind comes, it's fresher for me. And [there are] not many people, only a few people, so it's a very calm feeling. This is very good for me both mentally and physically.

Finnish nature was also appreciated for its offerings, for instance free-of-charge wild berries and mushrooms. A study participant's answer combines several positive aspects of foraging, such as cost-effectiveness, healthiness, increased physical activity, and effects on one's mind.

I1: I went to pick lingonberries with my husband, 100 litres. We ate the berries we picked ourselves the whole winter. It is healthy. -- My feeling gets better when I am picking at peace, clean forests, clean nature, lakes, sea, animals, they all affect me. Another advantageous thing is that I can pick berries and mushrooms myself, and that is important because it is healthy food. I also get exercise.

5.5 Positive effects on mood

All of the interviewees felt being in nature had a positive effect on their mood. Spending time in nature made them feel peaceful, relaxed and gave rise to good feelings. Activities performed in nature, such as drinking coffee, were perceived more pleasurable compared to urban settings.

I3: It feels like everything is fine when you are in nature. It affects the mind and everything positively. Everything cleanses.

I2: I can really enjoy and relax, no stress in the forest. No need to [do] anything, only sitting, to see, I feel this is very relaxing. I get more energy from the forest. -- You can enjoy, relax in the forest. To drink the coffee, to eat, to talk. -- Now I enjoy the coffee more in the forest than in the café.

I1: After the nature-based activities I felt better, I talked in Finnish and understood what people are talking about. At the same time, we were in forest and in nature, it was a good experience. -- Everything was peaceful and healthy. I had a good feeling all the time. -- My feeling gets better in a forest. That's number one thing for me.

Two of the interviewees reported a difference in their children's behaviour when spending time together in nature. Exposure to nature seemed to have given the children more energy, positivity, and readiness to talk. This, reciprocally, made the interviewees feel better, too.

I2: After school I took my boy to forest to join the activity. My boy was negative, he didn't want to join [the activity]. But after the activity he felt happy, he must talk about the activity, he was happier, he had more energy, he was more positive. He was completely different.

I3: I like to walk in forests with my children, there it is easier from them to discuss, the air is somehow different there. They talk about everything there and laugh, it's the best time for me.

5.6 Nature visits as a stress coping mechanism

Besides noticing the mood-altering qualities of nature, nature visits were seen as a tool to manage stress. Reportedly, all the interviewees continued to do visits to nature after participating in the nature-based activities.

I2: When having this high stress, I think going to forest may help mentally, to slow down. Because there is no noise in forest, many birds singing. So, [I] can mentally relax.

For one interviewee nature visits acted as a way of getting a break from everyday life with its worries, hurries and responsibilities. In the following description there is a transition from the heaviness of life into laughter when going for a walk in a forest with a friend.

I3: I have lots of heavy thing in my life. When I go to a forest for a walk, my mind gets brighter, it is nice. I often go to forest with my children or with my neighbours. -- Sometimes my friend comes to me and tells me to leave everything. My spouse is unhealthy, and I take care of all the things at home, so the friend tells me to leave everything and to come to the forest with her. Okay, I put my clothes on and go with her. That's quite nice, we laugh and talk and discuss what's new, that's how it always goes if we go to the forest.

6 ETHICAL ISSUES

To be considered trustworthy, a study is to be implemented following the principles of responsible conduct of research. Research must be conducted, documented, illustrated, and evaluated in an honest, precise, and accurate manner. Data is handled in an ethically responsible way, and openness is maintained in every stage of the research process. Necessary research permits are acquired, and the ethicality of the research is evaluated. If there is a conflict of interest, researchers must acknowledge this and refrain from actions that could predispose the research to unreliability. (Finnish National Board on Research Integrity 2012). In this thesis a research permit was applied from Jennie Elfving, Director of Education, and thesis agreement was made with the Project Manager at the Centria University of Applied Sciences.

In our thesis responsible conduct of research was followed, including safety in data collection and documentation. Participation in the research process should not be forced or mandatory and the participants should be given the whole information including the consequences of participation; therefore, informed consent is crucial (Green & Thorogood 2009, 69). An informed consent was asked from the research participants, and their answers were handled anonymously, so that no harm was caused to the participants. Indeed, when following ethical principles for research with human participants, the research cannot give rise to negative outcomes or harm to the participants (Finnish national board on research integrity 2019, 8).

As the participants were interviewed and since the topic was related to mental health, there was a possibility to collect very precise, in-depth, and sensitive data. Thus, respect and sensitivity towards the research participants was demanded. In this sense, too, it was good that there were two authors conducting the interviews, so that we could lead the interviews in a fine way, prepare ourselves better for sensitive discussions, and reflect and offload the loading situations. As researchers following the guidelines of the Finnish national board on research integrity TENK (2019, 9), we also had to make sure the participants understood that their participation was voluntary and ensure they did not feel pressurized to taking part in the research. The participants were free to withdraw from the research whenever they wished to do so without any inconvenience. (Finnish national board on research integrity 2019, 9). Furthermore, to ensure security, all research data was destroyed after the research was conducted and evaluated.

7 TRUSTWORTHINESS

Trustworthiness in general might be quite easy to understand with the basic word trust. If anything is taken as trustful, worthy, or reliable it can be known as trustworthy. For anything to be trustworthy or to be paid attention to, it should be proved as being valid or reliable, for which anyone can build a trust in it. Trustworthiness can be categorized as a crucial factor to any kind of research to make it authentic. To maintain the truthfulness of the research, certain criteria should be established, such as credibility which means being truthful in the research, transferability which indicates the relevance of the results in diverse types of situations, dependability which illustrates the we can rely on the findings and use it frequently in the future when needed, and confirmability which impacts the study's conclusion by measuring the neutrality of respondent's response rather than researcher's motive and interest. (Amankwaa 2016.)

Since we may have opinions of our own regarding the topic of our study, the effectiveness of nature in health promotion, a reflection of our neutrality and ways of conducting reliable, free of distortion research in all phases of the research process is important. Nevertheless, it is often described that trustworthiness is crucial for qualitative research, it is concluded that importance of every phase of analysis including planning, management and reporting is crucial to investigate the reliability of research. To maintain the truthfulness of the study, it is always important to report any analysis in a valid way that anyone can understand, however due to the poor explanations of data gathering method or evaluation, it is usually not so easy to evaluate trustworthiness of any research. (Elo et al. 2014.)

The participants of this study were interviewed either via a video call or in person. There were no disruptions in the calls nor disturbances when interviewing in person. We recorded the interviews with two mobile phones or computers, and the quality of the recorded videos or audios was good. Thus, in this sense the study results can be considered reliable. We asked questions related to the participants mental health, a topic highly sensitive, and therefore it is possible that some factors that would have been important for this study might have been left untold. On the other hand, the participants knew the topic of our study in advance, and they were all very open to discuss about their experiences. They were also informed that any information leading to recognition of participants would be removed from the final published study report.

Limiting factors related to our study results' reliability were the number of study participants and language barriers. As we had problems with finding participants in the study, the overall number of participants was three. Our concern with the limited number of participants was discussed with our thesis instructors, and the number of participants was accepted for this study, as the goal of participants was from three to five. Language barriers, on the other hand, were met when both interviewing the participants and analysing the collected data. We recognized and acknowledged the possibility of language barriers in the initial phase of planning this study, since the study focused on immigrants who were not able to speak in their mother tongue with us. We tried to diminish this problem by making our questions grammatically simple, by talking clearly, and to repeating questions and rephrasing them when necessary. In addition, by recording the interviews we were able to play and pause the records and listen to them all over again.

Analysing the data can affect the reliability of the study results, since it includes interpretation from the authors. In this case, the language barriers may have yet exposed the results to misinterpretation, although when there were unclear words or sentences in the data, they were left out of the results. We also aimed to diminish the risk of misinterpretation by repeating questions and by rephrasing what the interviewee had said in means of verifying that we had understood the meaning correctly. Nevertheless, we sometimes had difficulties interpreting which of the answers were specifically related to the nature-based activities which the interviewees had attended to, and which considered the interviewees' views about activities in natural environments in general, unrelated to the nature-based activities themselves.

This study was conducted as qualitative research. Semi-structured interviews were used for collecting the data, and thematic analysis utilised for processing the data. We selected the previous methods, since the number of participants was limited and, on the other hand, qualitative research method enabled acquiring detailed information. Thus, we aimed for better understanding of the investigated phenomenon. Using only one method for collecting data was estimated to be sufficient within the framework of this study. Since we used qualitative research method in this study, the results apply to this case and the general applicability is limited.

8 DISCUSSION

The purpose of this study was to examine how nature-based activities are perceived to affect the mental health of immigrant participants. We aimed to provide information about how nature-based activities could be used to promote immigrants' mental health. We reflect the results gained from participant interviews with previous research results related to nature activities' health effects. In addition, we are interested in social aspects of the immigrants' well-being, since social health is non-separable from mental health and overall health of a person (see e.g., WHO 2018). We assumed that participating in nature-based activities would be experienced beneficial for the immigrants' mental health.

From the results of this study, we found out that the nature-based activities had a positive effect on the participants mental health. Being in nature was described to enhance mood, to calm, to relax, and, on the other hand, to give more energy. The positive mood-altering effects of nature were experienced by all of the participants, and in addition, two of them noticed similar effects on their children. Similarly, Lorentzen & Viken (2020, 362–363) reported in their study of nature's mood-changing qualities, as well as of nature as their study participants' so-called happy place. They reported that nature was experienced as soothing by some and energizing by others, as in our study. The participants of our study described their nature-visits as a means of coping with stress and challenging life situations, such as taking care of loved ones burdened by disease. Spending time in nature was experienced as a break from hardships and stress, as if nature acted as a contrary setting for the heaviness of everyday life. Indeed, this goes along with Lorentzen's & Viken's (2020, 362–363) findings, as well as with Hordyk et al (2015, 81), who found that nature acted as a buffer for stress, as nature activities provided relaxation and breaks from psychological strain. There are many other studies that indicate enhanced mood, increased relaxation or lessened negative mood in non-immigrant study participants (see e.g., Coventry et al. 2021; Marselle et al. 2019; Iqbal & Mansell 2021.)

The cleanliness, calmness and reachability of Finnish nature was appreciated by our study participants, as well as the forests' offerings, such as wild berries and mushrooms. These factors were not as common or as reachable in the environments of our study participants' countries of origin. The importance of clean nature was raised also in the study of Stodolska et al. (2017, 481) for similar reasons. As in our study, Lorentzen & Viken (2020, 362–363) found out that nature was a source of quietness that enabled calming down, contrasting urban areas with various stimuli. They also reported of their study participants' habits of interacting with nature by gathering food (Lorentzen & Viken 2020, 362–363.

Similar nature activities were performed by our study participants, who reported that they enjoyed picking berries and mushrooms, and preparing food out of these. During the nature-based activities which they attended, they learned, for example, to recognize mushrooms, to prepare them and cook them as part of the Finnish cuisine. This increased the appeal of nature.

Learning was indeed one of central elements in the findings of our study. The participants of our study learned about Finnish nature, culture and recreational activities by participating in the nature-based activities. Recreational, nature-related activities were reported to be an essential part of Finnish lifestyle, and the participants learned a lot about the nature and what they could do there. Good balance between working life and leisure time in Finland was also described, as Finns were seen to have more time to spend performing recreational activities in nature. Lorentzen & Viken (2020, 363–365) reported of the same phenomenon, too, as they found that nature was a setting of learning, and their study participants learned about Norwegian culture and habits through familiarizing their selves with Norwegian outdoor-life.

Our study results indicated that the social aspect of nature-based activities played an important role for the participants of our study. The presence of other people was not experienced as unpleasant – on the contrary, it was found rather pleasing, as it made possible getting to know new acquaintances and learning from each other. The participants preferred social nature-based activities to being alone in nature. These findings go along with the ones of Lorentzen & Viken (2020, 365–366), as they reported that being in nature enabled strengthening social ties and meeting new people. In their study, the presence of company was preferred to solitude, too (Lorenzen & Viken 2020, 365–366.) Hordyk et al. (2015, 74–80) also reported that urban greenspaces provided a setting of spending time with closest ones. In addition, Stodolska et al. (2017, 483–485) described that some of their study participants made new persons of acquaintance in natural environments. Although our study participants met new people in the nature-based activities they attended to, none of them reported of making new friends.

By attending to nature-based activities and through the presence of other people, our study participants' feeling of belonging was heightened. They learned more about the Finnish society as well as the local community and its distinctive features, and what kind of life people lead here. Furthermore, they felt more of a part of their new hometown and its community. In addition, nature seems to have provided an environment of equality and cohesion, where the immigrants did not differ from the locals. In previous research engaging in natural environments has improved knowledge about local community and its customs, in addition to appreciating the local nature (Stodolska et al. 2017, 481–482.) Hordyk

et al. (2015, 80–81) reported similarly to our findings, that nature-related activities provided a platform for social cohesion. They also described that the activities promoted sense of belonging in the society and attachment to the local environment.

On the grounds of our results it can be cautiously stated that engaging in nature-based activities may benefit the mental health of immigrants. Accordingly, adaptation to a new environment and society can also be eased by participating in nature-based activities. In this study, nature-based activities were perceived to enhance mood, to reduce stress, to enable social interaction, to increase social capital, to heighten sense of belonging, and to enable learning about the local society, culture, nature, and lifestyle. Nonetheless, more studies about the topic are required to confirm these statements.

In future research, quantitative research and other data collection and data analysing methods could be used in order to support the results of this study and to gain more precise results. In addition, future research could benefit of more participants and more data, as well as consecutive interviews for each participant if using qualitative research methods.

Conducting this thesis was an educative experience. It taught us planning, managing, and implementing of an academic study. Qualitative research, interviews and thematic data analysis were new methods for both authors of this thesis. Time management skills were required to keep the process on time, and communication skills were used to keep in touch with the study participants and thesis instructors, for example. As nursing students, our topic gave us more understanding of the use and possible effects of nature-based activities, which we can hopefully utilise in our future careers. In addition, it gave us insight into immigration and different cultures, which will benefit us in future, as more and more health care patients are of various cultural backgrounds. We also wish that the results of this thesis would benefit immigrants who move to live in Finland or are currently living in Finland.

REFERENCES

- Adams, W.C. 2015. *Handbook of Practical Program Evaluation, Conducting semi-structured interviews*: fourth edition. Chapter 19. Jossey-Bass. Available: https://www.researchgate.net/publication/301738442_Conducting_Semi-Structured_Interviews. Accessed 25 May 2022.
- Adeoye-Olatunde, Omolola, A. & Nicole, L. Olenik. 2021. Research and Scholarly methods; semi structured interviews. *Journal of the American College of Clinical Pharmacy*. 4(10). Available: <https://accpjournals.onlinelibrary.wiley.com/doi/abs/10.1002/jac5.1441>. Accessed 29 August 2022.
- Amankwaa, L., 2016. Creating Protocols For Trustworthiness In Qualitative Research. *Journal of cultural diversity* 23(3), Available: <https://journals.sagepub.com/doi/full/10.1177/2158244014522633>. Accessed 7 September 2022.
- Bowler, D. E., Buyung-Ali, L. M., Knight, T. M. & Pullin, A. S. 2010. A systematic review of evidence for the added benefits to health of exposure to natural environments. *BMC Public Health*, 10(1).
- Bragg, R., Atkins, G. 2016. A review of nature-based interventions for mental health care. *Natural England Commissioned Reports*, 204(1).
- Castleberry, A. & Nolen, A. 2018. Thematic analysis of qualitative research data: Is it as easy as it sounds? *Currents in Pharmacy Teaching and Learning* 18(6). Available: <https://doi.org/10.1016/j.cptl.2018.03.019>. Accessed 29 August 2022.
- Centria. 2022. Luontovoimaa maahanmuuttajataustaisten elämään. *A force of nature in the lives of people with an immigrant background*. Available: <https://net.centria.fi/hanke/luontovoimaa/>. Accessed 23.9.2022.
- Cheron, C., Salvagni, J. & Colomby, R.K., 2022. The qualitative approach interview in administration: A guide for researchers. *Revista de Administração Contemporânea*. Available: <https://doi.org/10.1590/1982-7849rac2022210011.en>. Accessed 6 September 2022.
- Coventry, P., Brown, J. V. E., Pervin, J., Brabyn, S., Pateman, R. M., Breedvelt, J. J. & White, P. C. L. 2021. Nature-based outdoor activities for mental and physical health: Systematic review and meta-analysis. *SSM - Population Health*, 16(2021).
- Elo, S., Kääriäinen, M., Kantse, O., Pölkki T., Utrainen, K. & Kyngäs, H. 2014. Qualitative Content Analysis: A focus on trustworthiness. *Sage Journals*. Available: <https://journals.sagepub.com/doi/full/10.1177/2158244014522633>. Accessed 1 September 2022.
- Enlund, L. 2022. Nature-based integration among immigrants in Kokkola region -project (Luontovoimaa maahanmuuttajataustaisten elämään). Email from Enlund.
- European Commission. 2022. Mental health. *Public Health*. Available: https://health.ec.europa.eu/non-communicable-diseases/mental-health_en. Accessed 29 August 2022.
- Finnish Institute for Health and Welfare. 2020. Immigrants and mental health. *Mental health*. Available: <https://thl.fi/en/web/mental-health/mental-health-promotion/immigrants-and-mental-health>. Accessed 13 May 2021.

- Finnish Institute for Health and Welfare. 2021. Integration and inclusion. *Migration and Cultural diversity*. Available: <https://thl.fi/en/web/migration-and-cultural-diversity/integration-and-inclusion>. Accessed 13 May 2021.
- Finnish National Board on Research Integrity TENK. 2012. *Responsible conduct of research and procedures for handling allegations of misconduct in Finland*. Available: [Responsible conduct of research and procedures for handling allegations of misconduct in Finland | Finnish National Board on Research Integrity TENK](#). Accessed 14 May 2021.
- Finnish National Board on Research Integrity TENK. 2019. *The ethical principles of research with human participants and ethical review in the human sciences in Finland*. Available: [The ethical principles of research with human participants and ethical review in the human sciences in Finland \(tenk.fi\)](#). Accessed 14 May.
- Fossey, E., Harvey, C., McDermott, F. and Davidson, L., 2002. Understanding and evaluating qualitative research. *Australian & New Zealand Journal of Psychiatry*, 36(6), 717–732 .Available: <https://journals.sagepub.com/doi/full/10.1046/j.1440-1614.2002.01100.x>. Accessed 25 May 2021.
- Fullam, J., Hunt, H., Lovell, R., Husk, K., Byng, R., Richards, D., Bloomfield, D., Warber, S., Tarrant, M., Lloyd, J., Orr, N., Burns, L. & Garside, R. 2021. *A handbook for Nature on Prescription to promote mental health*. Version 1. University of Exeter.
- Galderisi, S., Heinz, A., Kastrup, M., Beezhold, J. & Sartorius, N. 2015. Toward a new definition of mental health. *World psychiatry* 14(2), 231–233.
- Green Care Coalition. 2022. How does Green Care differ from other nature-based activities? *Green Care Coalition*. Available: <https://greencarecoalition.org.uk/about/how-does-green-care-differ-from-other-nature-based-activities/>. Accessed 25 March 2022.
- Green Care Finland ry. 2021. *Green Care in Finland*. Available: <https://www.gcfinland.fi/in-english/>. Accessed 13 May 2021.
- Green, J. & Thorogood, N. 2009. *Qualitative Methods for Health Research. Second Edition*, London: SAGE Publications Ltd.
- Guest, G., MacQueen, K.M. & Namey, E.E. 2012. Introduction to applied thematic analysis. *Applied Thematic Analysis* 20(3), 1–21. Available: <https://dx.doi.org/10.4135/9781483384436>. Accessed 3 September 2022.
- Hammarberg, K., Kirkman, M. & de Lacey, S., 2016. Qualitative research methods: when to use them and how to judge them. *Human reproduction* 31(3), 498–501. Available: <https://doi.org/10.1093/hum-rep/dev334>. Accessed 11 August 2022.
- Heikkilä, E. 2021. Immigrants contribute to the Finnish labour market. *Nordregio Magazine*. Available: <https://nordregio.org/nordregio-magazine/issues/migration-and-integration/immigrants-contribute-to-the-finnish-labour-market/#>. Accessed 25 May 2021.
- Hordyk, S. R., Hanley, J. & Richard, É. 2015. "Nature is there; its free": Urban greenspace and the social determinants of health of immigrant families. *Health & Place* 34, 74–82.

- Integration.fi. 2021. Ostrobothnia and Central Ostrobothnia. Available: <https://kotouttaminen.fi/en/im-migrants-in-ostrobothnia-and-central-ostrobothnia>. Accessed 25 May 2021
- Iqbal, A. & Mansell, W. 2021. A Thematic Analysis of Multiple Pathways Between Nature Engagement Activities and Well-Being. *Frontiers in psychology* 12, article 580992.
- Jamil, M.H.B. 2022 . Coping with Homesickness in a far-away land. *Impossible Psychological Services*. Available: <https://www.impossiblepsychservices.com.sg/our-resources/articles/2020/02/03/coping-with-homesickness-depression-anxiety-expatriate>. Accessed 25 April 2022.
- Kirmayer, J.L., Narasiah, L. & Pottie, K. 2011. Common mental health problems in immigration and refugees: general approach in primary care, *CMAJ: Canadian Medical Association Journal*. 183(12), 959–967. Available: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3168672/>. Accessed 25 April 2022.
- Lorentzen, C. A. N. & Viken, B. 2020. Immigrant women, nature and mental health. *International Journal of Migration, Health and Social Care* 16(4), 359–372.
- Malterud, K., 2001. Qualitative research: standards, challenges, and guidelines. *The Lancet*. 358(9280), 483–488. Available: https://www.sciencedirect.com/science/article/pii/S0140673601056276?casa_token=DG0BzjfGd0AAAAA:6TtOBkSVKTAisj_ZZjGyFoc5cx9oljCS4XxhIbB4mjF0vsb1d7eskjP7. Accessed 11 August 2022.
- Marselle, M. R., Warber, S. L. & Irvine, K. N. 2019. Growing Resilience Through Interaction with Nature: Can Group Walks in Nature Buffer the Effects of Stressful Life Events on Mental Health? *International journal of environmental research and public health*, 16(6).
- Mental Health Finland. 2021. Suojatekijät vahvistavat, riskitekijät heikentävät mielenterveyttä. Available: Mielenterveyden suoja- ja riskitekijät - MIELI ry . Accessed 17 September 2021.
- Mougenot, B., Amaya, E., Mezones-Holguin, E., Rodriguez-Morales, A., J. & Cabieses B. Immigration, perceived discrimination, and mental health: evidence from Venezuelan population living in Peru. *Global Health*. Available: <https://doi.org/10.1186/s12992-020-00655-3>. Accessed 27 April 2022.
- Parry, S. 2019. Immigration. *Encyclopedia Britannica*. Available: <https://www.britannica.com/topic/immigration>. Accessed 21 May 2021.
- Pathak, V., Jena, B. and Kalra, S., 2013. Qualitative research. *Perspectives in clinical research*, 4(3). Available: <https://www.proquest.com/docview/1848147740?pq-origsite=gscholar&fromopenview=true>. Accessed 25 May 2021.
- Ponizovsky, A.M., & Ritsner, M.,S. 2004. Patterns of loneliness in an immigrant population. *National Library of Medicine*. 45(5). Available: <https://doi.org/10.1016/j.comppsy.2004.03.011>. Accessed 28 April 2022.
- Qu, S.Q. & Dumay, J. 2011, The qualitative research interview, *Qualitative Research in Accounting & Management*. 8(3), 238–264. Available: <https://doi.org/10.1108/11766091111162070>. Accessed 29 August 2022.

- Schein, H.E. & Schein, P.A. 2021. *Humble Inquiry: The gentle way of asking instead of telling: Second Edition*. Oakland. Berrett-Koehler. Available: [Humble Inquiry, Second Edition: The Gentle Art of Asking Instead of Telling - Edgar H. Schein, Peter A. Schein - Google Books](#). Accessed 2 September 2022.
- Stodolska, M., Peters, K. and Horolets, A. (2017), "Immigrants' adaptation and interracial/interethnic interactions in natural environments", *Leisure Sciences*. 39(6), 475–491. Available: <https://doi.org/10.1080/01490400.2016.1213676>. Accessed 25 April 2022.
- Straiton, M.L., Aambø, A.K. & Johansen, R. 2019. Perceived discrimination, health and mental health among immigrants in Norway: the role of moderating factors. *BMC Public Health* 325. Available: <https://doi.org/10.1186/s12889-019-6649-9>. Accessed 25 April 2022.
- Suhaiban, A. H., Grasser, R. L. & Javanbakt, A. 2019. Mental health of refugees and torture survivors: A critical review of prevalence, predictors and integrated care. *International Journal of Environmental Research and Public Health*. 16(13). Available: doi: [10.3390/ijerph16132309](https://doi.org/10.3390/ijerph16132309). Accessed 25 April 2022.
- Szaflarski, M. & Bauldry, S. 2019. The Effects of Perceived Discrimination on Immigrant and Refugee Physical and Mental Health. *Advances in Medical Sociology*. Available: <https://doi.org/10.1108/S1057-629020190000019009>. Accessed 25 April 2022.
- Tillmann, S., Tobin, D., Avison, W. & Gilliland, J. 2018. Mental health benefits of interactions with nature in children and teenagers: A systematic review. *Journal of epidemiology and community health*, 72(10), 958–966.
- Vaismoradi, M., Jones, J., Turunen, H. & Snelgrove, S. 2016. Theme development in qualitative content analysis. *Journal of Nursing Education and Practice*. 6(5). Available: <https://nordopen.nord.no/nord-xmlui/bitstream/handle/11250/2386408/Vaismoradi.pdf?sequence=3>. Accessed 2 September 2022.
- Van Tilburg, M., Vingerhoets, A. & Van Heck, G. 1996. Homesickness: A review of the literature. *Cambridge University Press*. 26(5). Available: <https://doi.org/10.1017/S0033291700035248>. Accessed 5 May 2022.
- World Health Organization, WHO. 2018. *Mental health: strengthening our response*. Available: [Mental health: strengthening our response \(who.int\)](#). Accessed 17 September 2021.
- World Health Organization, WHO. 2019. *Mental well-being: resources for the public*. Available: <https://www.who.int/news-room/feature-stories/mental-well-being-resources-for-the-public>. Accessed 13 May 2021.
- Yli-Viikari, A. & Vehmasto, E. 2014. Luonto hyvinvoinnin lähteenä. Suomalainen Green Care. *Luonnonvarakeskuksen julkaisut*. Available: <https://jukuri.luke.fi/handle/10024/546143>. Accessed 13 May 2021.

APPENDIX 1

Interview structure

1 Effects of nature activities to mental health

- How do you perceive the concept of mental health in general?
- What kind of relation to nature do you have?
- How do you feel after being in nature regarding these nature activities?
- Have you observed any changes in your mood due to these nature visits?

2 Social health

- Have you met new people? Made new friends?
- Do you enjoy alone or being with other people around you in nature?
- Do you feel more part of the society?

3 Physical health

- What are the activities you do in the nature?
- Have the activities affected your physical well-being?

4. Learning

- How you learned something new during the nature-based activities?
- Have you learned something of Finnish society and culture?



Dear participant,

The purpose of this letter is to invite you to participate in a study. We are Babita Pantha Pandey and Tuomas Leppisaari, nursing students at Centria University of Applied Sciences, Kokkola. We are conducting a Bachelor's degree thesis in Nursing, and our topic is related to nature activities, immigration, and mental health. Our study is carried out in co-operation with Centria University's Green Care project with the contact person being Lena Enlund. We have received your contact information from Lena.

As we are conducting our study through interviews, we would like to ask you to participate in an interview (approximately 30 minutes) to discuss the Green Care nature activities you have participated in this fall. The interview will be carried out by meeting you in person or via online video call (e.g. Teams). We are interested in your personal experiences, so there are no right or wrong answers. The discussion is confidential, and your personal information will not be disclosed at any time during the study.

Participation in this study is voluntary. If you do agree to participate, you remain free to withdraw from the study at any time.

If you decide that you would like to participate in the study, please contact us.

babita.panthapandey@centria.fi

tuomas.leppisaari@centria.fi

Thank you for taking the time to read this information!

Yours Sincerely,

Babita Pantha Pandey & Tuomas Leppisaari



PYYNTÖ OSALLISTUA TUTKIMUKSEEN

Kutsumme teidät osallistumaan opinnäytetyötutkimukseen. Olemme Babita Pantha Pandey ja Tuomas Leppisaari, ja opiskelemme sairaanhoitajiksi Centria-ammattikorkeakoulussa Kokkolassa. Teemme opinnäytetyötä, jonka aiheena ovat luontoaktiviteetit, maahanmuutto ja mielenterveys. Opinnäytetyömme liittyy Centria-ammattikorkeakoulun Green Care -projektiin, jota vetää Lena Enlund. Olemme saaneet yhteystietonne Lenalta.

Tutkimukseemme liittyen kutsumme teidät osallistumaan haastatteluun, jonka tarkoituksena on kartoittaa kokemuksianne Green Care -luontoaktiviteetteihin liittyen. Haastattelun kesto on noin 30 minuuttia. Voimme tavata kasvotusten tai keskustella videopuhelun avulla (esim. Teams). Olemme kiinnostuneita juuri teidän kokemuksistanne, joten oikeita tai vääriä vastauksia ei ole, vaan kaikki vastaukset ovat arvokkaita. Keskustelumme on luottamuksellista ja anonyymia, eivätkä henkilötietonne tule esiin missään vaiheessa tutkimusta.

Tutkimukseen osallistuminen on täysin vapaaehtoista. Mikäli päätätte osallistua tutkimukseen, voitte halutessanne vetäytyä osallisuudestanne milloin tahansa.

Mikäli haluatte osallistua tutkimukseen, voitte ottaa meihin yhteyttä:

babita.panthapandey@centria.fi

tuomas.leppisaari@centria.fi

Kiitos ajastanne!

Ystävällisin terveisin,

Babita Pantha Pandey & Tuomas Leppisaari