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Beauty of Nature

Experiences of how nature enhances creativity

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Abstract

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The aim of this study is to examine in what ways experiences related to nature can enhance individuals' inner creativity. The topic will be explored through descriptions of people's experiences. This research aims to fill the gap in existing research about creativity and nature's way of enhancing it. Additionally, this thesis aims to encourage people to reflect on their relationship with nature and remind individuals how important role nature plays in each of our lives and how it can act as a nurturing source for inner creativity. The research question is: In what ways nature-related experiences can be linked to enhanced creativity?

This qualitative research adopted narrative approach, focusing specifically on individual experiences. The data was gathered through e-form and it consisted of 27 narratives from anonymous participants who described stories about nature experiences which have somehow enhanced their inner creativity. The research identified three themes which answered to the research question in what ways nature related experiences can be linked to enhanced creativity. These themes are as follows: Space for inner processing; resources for creative tasks and play; and calming effects to foster the mind. The findings suggests that natural environments, especially seashores, forests and lake areas, enhance inner creativity by offering escape from daily routines. These nature experiences inspire reflection, innovative thinking, and helps with creative tasks, while sensory experiences deeper the connection with nature. Nature provides beautiful, calming, stimulating surroundings, where individuals can recharge their mind and foster their inner creativity.

Future research still needs to take it further to explore nature's ways of enhancing creativity, as it is complex phenomenon. Despite, it is important to recognize natures' potential on enhancing creativity more broadly, as it could help individuals discover their own creative potential, leading it to enrich their daily lives. Spending time in nature can also deepen individuals' connectedness with nature, which potentially could encourage people to make environmentally friendly decisions in their everyday life.

Keywords: Creativity, connectedness with nature, nature, nature experiences, narrative approach

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Tämän tutkimuksen tavoitteena on tutkia, millä tavoin luontokokemukset voivat lisätä yksilön sisäistä luovuutta. Aihetta tarkastellaan yksilöiden jakamien kokemusten kautta. Tutkimuksen tarkoituksena on rikastuttaa jo olemassa olevaa tutkimustietoa koskien sitä, kuinka luonto ja siellä vietetty aika voivat lisätä ja tukea luovuutta. Lisäksi tämä tutkimus pyrkii kannustamaan yksilöitä pohtimaan omaa luontoyhteyttään, ja muistuttamaan siitä kuinka iso rooli luonnolla on jokaisen meidän elämässä, sekä kuinka luonto voi toimia luovuuden lähteenä. Tutkimuskysymys on: Millä tavoin luontoon liittyvät kokemukset voidaan yhdistää lisääntyneeseen luovuuteen?

Tässä laadullisessa tutkimuksessa käytettiin narratiivista lähestymistapaa, joka keskittyi erityisesti yksilöiden henkilökohtaisiin kokemuksiin. Aineisto kerättiin sähköisellä lomakkeella ja se koostui 27 kertomuksesta anonyymeilta osallistujilta. Näiden kertomusten kautta osallistujat kuvasivat luontokokemuksia, jotka olivat jollain tapaa lisänneet ja tukeneet heidän sisäistä luovuuttaan. Tutkimuksessa tunnistettiin 3 teemaa, jotka vastasivat tutkimuskysymykseen. Teemat ovat seuraavat: Tilaa sisäiselle käsittelylle; resursseja luoviin toimintoihin ja leikkiin; rauhoittavia vaikutuksia mielen edistämiseksi. Tulokset viittaavat siihen, että luonnonympäristöt, erityisesti merenrannat, metsät ja järviolueet, lisäävät sisäistä luovuutta tarjoamalla pakopaikan päivittäisistä rutiineista ja arjen hälinästä. Luontokokemukset inspiroivat pohdintaa, innovatiivista ajattelua ja auttavat yksilöitä luovissa toiminnoissa. Lisäksi aistikokemukset syventävät yhteyttä luontoon. Luonto tarjoaa kauniin, rahoittavan ja stimuloivan ympäristön, jossa yksilöt voivat ladata mielensä ja vaalia sisäistä luovuuttaan.

Tulevaisuudessa on vielä tutkittava lisää luonnon tapoja ja keinoja lisätä luovuutta, sillä aihe on monisäikeinen ilmiö. Siitä huolimatta on tärkeää huomioida tämän tutkimuksen löydökset ja tunnistaa luonnon potentiaali luovuuden lisäämisessä laajemmin. Luonnossa vietetty aika voi auttaa yksilöitä löytämään sisäisen luovuutensa, mikä tällöin voi rikastuttaa heidän jokapäiväistä elämäänsä. Luonnossa vietetty aika myös syventää yksilöiden luontoyhteyttä, mikä mahdollisesti kannustaa ihmisiä tekemään ympäristöystävällisempiä ratkaisuja arjessaan.

Avainsanat: Luovuus, luontoyhteys, luonto, luontokokemukset, narratiivinen lähestymistapa

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1 Introduction

It seems to me that the natural world is the greatest source of excitement, the greatest source of visual beauty, the greatest source of intellectual interest. It is the greatest source of so much in life that makes life worth living.

- Sir David Attenborough

Past two decades, scholars from various scientific disciplines have explored the influence of physical environments on human well-being, through diverse research methodologies and methods (e.g., Kaikkonen, Virkkunen, Kajala, Erkkonen, Aarnio & Korpelainen, 2014; Ojala, Neuvonen & Leinikka, 2019; Tyrväinen, Ojala, Korpela, Lanki, Tsunetsugu & Kagawa, 2014). Also, the benefits of being in contact with nature to the well-being of the individuals', have been increasingly recognised in studies (e.g., Pasanen, 2019; Puhakka & Hakoköngäs, 2024; Salonen & Kirves, 2016). Although nature environment studies have been popular, research has been limited about nature experiences and their benefits to creativity (Ratcliffe, Gatersleben, Sowden & Korpela, 2021). In the field of environmental psychology, the foundation of exploring the connections between nature and creativity lies in the utilization of restorative environment theories. One of the best-known theories is Stephen and Rachel Kaplan's Attention Restoration Theory (1989), known as ART. (Williams, Lee, Hartig, Sargent, Williams & Johnson, 2018.) "Attention Restoration Theory is commonly referenced to explain the creativity benefits of nature experience in terms of renewed ability to direct and control attention" (Williams et al., 2018, p. 36). However, it remains unclear which elements of the environment and interactions between individuals and nature are involved in these processes (Ratcliffe et al., 2021). To fill the gap in existing research, the aim of this study is to examine in what ways experiences related to nature can enhance individuals' inner creativity, and find out insights, which may not have been released before. This study focused specifically on examining the personal experiences of

individuals. A starting point in this study is that the participants could use their own voice and that their experiences were heard, and therefore, a narrative approach is applied in this qualitative research as writing prompts or individual interviews are the most effective ways of collecting data, if the goal is to bring out and further explore individual's experiences (Piekkari & Welch, 2020, p. 221).

The interest towards this topic to find out about nature's way of enhancing creativity, arose from my own experiences. I truly believe nature environments and other natural elements can enhance my inner creativity. Nature has always been very important to me, especially when I was a child. However, I found a whole new connection to nature while living in New Zealand in 2020–2021. For some reason, I have always longed for exotic nature, waterfalls, warmth and turquoise sea in my life, everything that we do not have in Finland. I experienced this inspiring new connection to nature in New Zealand and thanks to it, my inner creativity also blossomed after many years. When I need time for myself, for my thoughts and dreams, I go to the seaside or other water element areas. The seaside is my "soul-landscape" where I can just sit at the beach and stare the infinity of the horizon and be present in a moment. Also, the lushness, the colours and sounds of nature calms down my busy mind and gives room for random thoughts and inspiration.

By conducting this study, I aimed to gather the needed support for my statement of nature being a source for finding inner creativity, and learn more about the research behind it, as in the future I see myself somehow working around this topic. Also, being part of the CRASH, Creativity and Arts in Social and Health Fields master's programme, community and the studies, gave me courage to follow my gut and explore through my thesis the topic which personally fascinates me, even though the topic is rather unusual in the field of social services. I truly believe that in the future, in the fields of social services, education, as well as in the workplace in general, especially in capital region, spending time in nature and connectedness with nature will increasingly serve as a source for finding solutions to social- and well-being issues (e.g., Engemann, Pedersen, Arge, Tsirogiannis,

Mortensen & Svenning, 2019; Ojala, Neuvonen, Leinikka, Huutilainen, Yli-Viikari & Tyrväinen, 2019; Salonen, Hyvönen, Paakkolanvaara & Korpela, 2022).

The bigger picture for this topic arose from the current state of planet Earth, the climate crisis and loss of biodiversity. Haverinen, Mattila, Neuvonen, Saramäki and Sillanaukea, (2021, p. 6) assert that ecological crisis is challenging people's conceptions of nature and forcing them to reassess their relationship with it, if sustainable ways of stopping the climate crisis are to be found. Humans are part of nature, and people need to find a balance on how to live on this planet sustainably. After all, the Constitution of Finland (1999/731, 20§) states that:

The responsibility for nature and its biodiversity, the environment and cultural heritage belongs to everyone. The public authority must strive to secure for everyone the right to a healthy environment and the opportunity to influence the decisions concerning their living environment.

By doing this study and exploring people's nature-related experiences, I aim to inspire those individuals who will come across my thesis, to discover how nature can serve as a source of inspiration and nurture inner creativity either in everyday life or at work. In addition, I also want to encourage reflection on one's own connectedness with nature and how it influences our behaviour towards the natural world around us.

In chapter two of this thesis, the literature review and conceptual framework will be presented and connections between creativity and nature are explained. I will also address from which perspective the creativity concept is approached in this research and present Attention Restoration Theory, ART. Chapter three outlines the study's implementation, including research task and question, and methodological starting points. Also, the methods used in this research are presented in dialogue with the data analysis process description. I will also discuss the research ethics in the end of the third chapter. In chapter four the findings of this study are presented, while reflecting them to previous research and ART theory. This chapter will answer to the research question with three themes constructed during the data analysis. Quotations and photos are included

in this chapter to deepen understanding of my interpretations. Finally, chapter five presents conclusions based on the findings, followed by a reflection on the study, its trustworthiness, and suggestions for further research.



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2 Literature review and conceptual framework

In this chapter, I will introduce some key research available on connections between nature and creativity, which will build the literature review for my research. I will also introduce one of the main theories, Attention Restoration Theory ART (Kaplan & Kaplan, 1989), around restorative environments, as it seems to build the foundation of exploring the connections between nature and creativity in previous research studies. Also, I will briefly address research about individuals' nature-related experiences and their benefits to their well-being and health, as I see creativity intertwined with the insights which arise from these studies. I will explain and define the key concepts of this study and address from which perspective the creativity concept is approached in this research.

2.1 Defining the concept of nature

When people think of the word nature, each of them has their own conception of the term and what it means, and everyone define its in their own. In order to understand how people's nature experiences may be linked to increased creativity, it is first necessary to define what is meant by the term nature. In general, according to the Finnish National Agency for Education (n.d.), nature refers to what a person can observe around them. This includes both built and unbuilt environments, which can range from more to less natural. Defined more specifically, nature refers to the living and non-living factors which are considered an important aspect of supporting life on Earth. Living nature includes all living organisms, such as plants, animals, and microorganisms and non-living nature consists of soil, water, air, and rocks. Humans are also part of nature. "Diverse nature and healthy water systems form the cornerstone of well-being for both humans and nature, as well as for essential basis for all societal activities" (Ministry of the Environment, n.d.).

Nature is discussed in various contexts and in several different ways. Researchers, philosophers, among others, have come up with different definitions and terminology for nature (e.g., Aristotle (384–322) & Charles Darwin 1861, as cited in Ducarme & Couvet, 2020, pp. 2–3; Simula, 2012, p. 18). Nature is connected to the exploration of experience, emotions, economy, religions, consciousness, and objective reality. Additionally, nature has also many societal meanings, as the environmental crisis and concern among people about it, add other dimensions and political nuances to the term. Different interpretations and terms prove that nature is appreciated, evaluated and viewed by different criteria. It is impossible to find a conceptual definition that would apply to all perspectives and the attitudes associated with nature, and science cannot artificially standardize these concepts (Ducarme & Couvet, 2020, p. 6; Simula, 2012, pp. 18–19.) Ducarme and Couvet (2020, p. 6) point out that, there is no need to find a definition that consider all conceptions, as the variety of these conceptions of nature presents an opportunity for nature conservation to develop, as it might inspire public actions and help in defining new environmental policies. One could say that the definition of nature is the subjective experience of each individual, regarding what nature or the natural environment means to them.

Like defining the concept of Nature, the concept of *connectedness with nature* is not easily to be defined either and the purpose here is not going into the details about it. Although the concept is important to word out, as it is very much linked to the core meaning of this thesis. Everyone has their own subjective connection with nature and experience it differently. Schultz (2002, pp. 67–70) explores the idea of connectedness with nature, pointing to the way that people develop emotional and psychological links with the natural environment. Them argues that this connection involves feeling part of a larger ecological system. According to Schultz (2002, p. 68) those who feel more connected to nature will act likely more ecologically responsibly. Similar thoughts to Schultz (2002) had Aldo Leopold (1949), who argued that people need to feel connected to nature to develop a sense of responsibility towards it. This connection will guide eco-friendly behaviour by helping individuals to see themselves as members of the natural world. (As cited Mayer, Frantz, Bruehlman-Senecal, & Dolliver, 2009 p. 610.)

Mayer and Frantz (2004) conducted five studies which in they used CNS¹ measure to assess the reliability and the validity of it. Their study results supported Leopold's idea, indicating that people with stronger connection to nature, this connection increases personal well-being and positive environmental behaviour.

Childhood and other experiences acquired throughout life, influence an individual's connectedness to nature and how individual perceive it. For example, this connectedness to nature can be very weak or almost totally absent. It can be viewed as part of human-nature relationship, particularly reflecting the emotional and cognitive dimensions of that relationship. (Soinnunmaa, Willamo, Helenius, Holmström, Kaikko & Nuotiomäki, 2021, pp. 74–74.) The human–nature relationship is also a subjective phenomenon. It evolves throughout a person's life and it is shaped by the cultural and physical operating environment. (Haverinen, Mattila, Neuvonen, Saramäki & Sillanaukea, 2021, p. 43.) Haverinen et al. (2021, p. 43) note that a person who is aware of ecological changes and the consequences of them, seems to have more broader understanding of connectedness with nature and a completely different kind of relationship with nature, compared to someone who shows little interest in these environmental issues.

Our perceptions of nature and relationships with it, can change over time, based on how society views human's role in the world. In the 1960s, environmental discussions began questioning the idea of humans as active subject and nature as passive object, as this separation between people and nature was seen problematic. Cultures and religion effects on people's perspectives of their relationship with nature and also whether humans are seen as part of nature or separate from it. (Haverinen et al., 2021, p. 17.) According to Pietarinen (1987),

¹ "CNS, Connectedness to Nature Scale, is designed to measure of individuals' trait levels of feeling emotionally connected to the natural world" (Mayer & Frantz, 2004).

there are four basic attitudes in how humans relate to nature: utilism, humanism, mysticism, and primitivism. *Utilism* means that humans want to benefit from nature and see it exists solely for them, so they can use its resources to gain wealth or benefiting their well-being. *Humanism* attitude aims at the optimum growth of human potential, while promoting the constant balanced development of people and society. In the attitude of humanism, nature is seen to be provider to advance humans own growth and abilities. *Mysticism* advances the unity between humanity and nature, and believes that both are sacred and essentially valuable. Mystics do not count on rational knowledge and consider that science and technology harms nature's spirituality and prevents humans to experience unity with nature. Nature mysticism has an evident role in European cultural traditions. *Primitivism* aims to protect the intrinsic value of nature and holds that all natural objects are equally valuable. This conclusion advances the notion that people occupy no more privileged relationship to the environment than any other object or living creature in it. A person with a primitive attitude towards nature, sees humans and their actions harmful to nature's vitality. (Pietarinen, 1987, pp. 323–330.) Based on these four attitudes, each of their own can think about what kind of attitude they have towards nature and whether there is something to be corrected in that attitude. However, Pietarinen (1987) points out that there is no single correct attitude.

The human-centered mindset regarding nature is being questioned and viewed as notably reason for the ecological crisis. The ecological crisis challenges people in embracing relationship with nature in a multifaceted way. Research and discussion themes related to human-nature relationships and perceptions are evolving in different fields, and perspectives on these relationships are diversifying rapidly. With advancement of research in this area, a better understanding can be achieved regarding the ways on how nature can enhance human well-being. (Haverinen et al., 2021, pp. 20–21.) Hopefully evolving research will encourage people to view nature in broader way than only as a resource and helps to build better future where ecological balance will be achieved.

2.2 Nature experiences and their related benefits

Viewing beautiful landscapes, doing activities outdoors, enjoying nature's calming and relaxing effect, can be motives to spend time in natural environments. People's choice of where they want to go in the natural environment, can be influenced by aesthetic events experienced before. It is noted that people's childhood living environment, nature relationship, nationality, age, and education may influence people's perceptions regarding the surrounding nature. (Tyrväinen, Savonen & Simkin, 2017, p. 6.) In Puhakka and Hakoköngäs's (2023, pp. 7–9) research about Finnish adolescents' leisure time experiences in natural environments, it was found that natural settings close to home provided a low-threshold opportunity for daily or weekly leisure time, often engaged with spontaneous outdoor activities. Participants described usually summertime activities, instead of winter activities, which mostly were happening in forests, lake areas and shores. While spending time in nature was seen as a routine leisure activity, it also served as an escape from everyday life. This helped participants to escape their normal roles and different social expectations. Many participants reported feeling calm when in nature, with quietness and beauty being key aspects of their experience. Interesting study conducted by Engemann et al. (2019, pp. 5190–5191) found that presence of higher levels of green space during childhood, were associated with a lower risk of developing psychiatric disorders in adolescence and adulthood. Specifically, living in areas with minimal green space increased the risk by 15% to 55% compared to those with abundant green space, except for intellectual disabilities and schizoaffective disorder. Overall, access to green spaces appeared to be beneficial against the negative effects of stressors, contributing positively to mental well-being.

Everyone experiences landscapes in their own way, but favourite landscapes share similarities, which intrigues individuals. These landscapes offer a mixed variety of vegetation and terrain, which interests their viewers. It is also stated that half open and visible areas create a sense of safety, cause people can observe easily their surroundings. Visible barriers are appealing to a person in a way that they want to continue exploring and find out what is beyond the

barriers. Multisensory nature experiences' quality can be enhanced by the varying colours of the seasons, the multi-layered vegetation, as well as the sounds and scents of nature. Cultural backgrounds shapes people's preferences about their favourite natural environment. For example, the favourite spots of those raised in lake areas are often close to water bodies, while for people living in urban areas, urban green areas work perfectly to relieve stress in hectic everyday life. (Tyrväinen et.al., 2017, pp. 6–7.) Korpela (2008) notes that the preference for nature as a favourite place can be partly explained by its ability to relieve stress, and argues that the experience of favourite places, the personal suitability of that place is more important than environments' captivating or attention-grabbing features. In the studies regarding the landscape and environmental appreciation of forests, it is revealed that water bodies and forests are the most appreciated among natural landscapes. Wetlands offer an experiential environment with their colours and scents, but them have not been as valued in studies, as water bodies and forests. (Tyrväinen et.al., 2017, p. 6.) Those forest which shows directly the traces of forestry, such as extensive clear-cut areas, are not valued as much as natural forests. (Silvennoinen, Pukkala & Tahvanainen, 2002; Tyrväinen et.al., 2017, p. 6).

In a study investigating the health and well-being effects experienced by visitors in the National Parks of Finland conducted by Metsähallitus², it was found that visiting the national parks notably improved visitors' mood and mental well-being (Kaikkonen, Virkkunen, Kajala, Erkkonen, Aarnio & Korpelainen 2014, p. 38). The data collection method varied slightly in the national park areas. However, the data was collected by answering a survey during the visit and another survey was sent to the participants' email about a week later. (Kaikkonen et al. 2014, pp. 15–16.) In this study it was found out that visitors experienced rejuvenation and

² "Finnish state-owned enterprise responsible for the administration of state-owned land and water areas. Metsähallitus produces environmental services for a diverse customer base; ranging from private individuals to major companies". (Metsähallitus, n.d.)

relaxation during their visit in these national parks and that the longer they spent time in the park, the stronger the well-being effects were. There were differences in the strength of the effects experienced by participants, depending on their age, gender, or level of education. (Kaikkonen et al. 2014, pp. 18-19, 38–39.) Similar findings were noted in a study conducted by Ojala, Neuvonen and Leinikka (2019, p. 29) where it was examined how virtual nature experiences can promote relaxation and recovery during the workday. Psychological and physiological measurements indicated that a short break in a virtual nature setting effectively aids in stress regulation, specially watching nature videos facilitated recovery from work-related stress. Although all types of breaks used in the experiment helped alleviate stress, breaks spent with forest and water videos were found to be the most restorative.

Similar notions appear in this study where intervention called 'Flow with Nature' (Luonnosta Virtaa, LuoVi-interventio) was studied and developed. The main point was to examine participants experiences of this intervention, and furthermore to get insights how this intervention could be helpful on enhancing individuals' work wellbeing in future use. In this study there was three different participant groups which consisted of Finnish employees: Flow with Nature group, independent nature group and the control group. Among the key research findings, it was observed that positive emotions increased and negative emotions, decreased among the participants of groups Flow with nature- and independent nature group, when they spent time in nature regularly. The study results were based on participants experiences and on immediate emotional changes, which was measured with PANAS-X-questionnaire. It was found that Flow from Nature-intervention could support people's work wellbeing, as also Flow with nature can enable comprehensive nature experience. (Salonen, Hyvönen, Korpela, Saranpää, Nieminen & Muotka, 2020, pp. 25–42.)

Ulrich, Simons, Losito, Fiorito, Miles and Zelson (1991, pp. 201–230) conducted a comprehensive study using an approach, which integrated physiological and verbal measures, to investigate how exposure to diverse outdoor environments in daily life can support or hinder stress recovery. First the study participants were

shown a stressful movie, which then continued to be exposed to colour and sound videotapes of one of six different natural and urban environments. A key objective was to assess whether interactions with natural environments might lead to better stress recovery compared to interactions with urban environments. The study aimed to observe these differences in terms of emotional states and physiological indicators. The findings of the study affirmed, that subjects experienced quicker and more thorough recovery when exposed to natural settings, as opposed to the different urban environments. Similar findings were also found in Hartig, Evans, Jamner, David and Garling (2003, p. 199) study, which noticed that in the first phase of the experiment those participants' blood pressure declined after spending ten minutes in a room with window view of trees, compared to those who sat in a room without windows.

Similar findings that mentioned above, were found in the research conducted by Salonen and Kirves (2016, pp. 138–158), where descriptions of self-directed and guided nature experiences from two distinct target groups were collected to investigate the effects of nature experiences. The first group of respondents consisted of readers who participated in Yle's³ Health Portal nature survey, while the second group comprised rehabilitation clients and others under the guidance of healthcare professionals. The responses revealed themes related to recovery, emotions, social aspects, well-being, and environmental concerns. These themes were categorized into three groups of perceived impact, named *recoverers*, *healing group* and *mixed responses*. Recoverers reported experiencing benefits such as calmness, relaxation, mental refreshment, improved mood and clarity. Descriptions of recovery in nature, were also linked to feeling of being present and safe, in environments like green forest or near water elements. Healing group described enhanced overall well-being and health due to their nature experiences, in which nature connectedness had significant role. Some

³ "Yle – the Finnish Broadcasting Company is Finland's national public service media company. Yle operates under the Act on Yleisradio Oy." (Yle, 2020.)

emphasized nature's role on healing mental health issues, but it was noted that nature's role of treating mental health issues cannot be oversimplified. The study found a mixed responses group that had both positive reasons for benefitting from nature experiences such as relaxing, to negative ones such as feeling afraid. Weather and seasons affected both positively and negatively, on mixed responses group's experiences in nature. Emotions, positive and negative, had impact on people in all groups. (Salonen & Kirves, 2016, pp. 142–153.) Ningtyas, Paddiyatu, Zani, Herawati, and Sakati (2023, pp. 543–550) conducted a mixed method research about what kind of impact nature exposure has on mental health and wellbeing, and uncovered similar findings compared to previous studies mentioned. Participants in their study noted that time spent in nature affects their psychological wellbeing positively, and that they felt sense of calmness and relaxation during these nature visits. Also, they addressed how they felt nature as a comforting space, where they can amidst daily challenges and pressures. Top of the restorative effects, the study brought up that sensory experiences in nature are essential to enhance those effects. Social aspects were also identified to be important part of nature experiences, like doing outdoor activities with family and friends. (Ningtyas et al., 2023, pp. 543–550.)

2.3 Creativity and nature

Creativity is one of the key concepts in this study, so it is relevant to address from which perspective the creativity definition is approached. Creativity is a complex and multifaced phenomenon, which is influenced by subjective perspectives, social and cultural factors and the integration of knowledge. Creativity can be defined in many ways, and how it is defined depends on the context in which it is presented, whether it is a scientific discovery, artistic expression or problem-solving in daily life. It has been noted that the criteria for creativity differ based on the domain. (Kozbelt, Beghetto & Runco 2010, pp. 21–23; Moran, 2010, p. 74; Plucker & Makel, 2010, p. 48.)

Davidovich and Richards conducted a study where participants were asked to answer eight questions about creativity. In this study involving 114 participants over ten days, about 75% of the participants saw creativity as personal thing, and after classifying the answers, it was observed that 97% of the participants referenced to their creative doing. 25% mentioned creative product and nearly a quarter mentioned visual arts or writing, often intertwined with everyday creativity, which encompasses activities such as thinking outside the box, imagining, expressing, exploring and having fun in various ways. Around 10% doubted their creativity, and half of them were primarily linking creativity to art. (Davidovich & Richards 2013, pp. 256–259.) These findings are quite interesting and shows the complexity in how individuals perceive and define creativity and the creative process. It is worth noting that Davidovich and Richards' study leaned more towards personal descriptions rather than formalized definitions that would apply universally (Davidovich & Richards, 2013, p. 259), but is it even necessary to have definitions which would apply to everyone?

Taking into account the above-mentioned factors, defining creativity in this study was not straightforward either; it required an exploration of various creativity theories and their alignment with the research topic. After exploration, it was decided to approach the definition of creativity through the perspective of four model concept of creativity: Mini-c creativity, little-c (everyday) creativity, Pro-c creativity and Big-C (eminent) creativity (Beghetto & Kaufman, 2007; Kaufman & Beghetto, 2009.), as this perspective was the most appropriate with the research topic. In the next chapters these different creativity level concepts will be explored a bit more.

Big-C creativity known as eminent creativity, is the highest level of creativity, often associated with eminent or historically remarkable creative achievements. That means it contains works in arts, sciences, and other fields which have had notable and lasting impact on influencing society and culture. Eminent creativity is not the same as everyday creativity, and it is important to notice the key differences between Big-C, Pro-c and little-c creativity. (Beghetto & Kaufman, 2007; Kaufman

& Beghetto, 2009.) With the Pro-c creativity is meant, that those individuals who has not yet reached the level of eminent creativity, are still in this pro-c creativity level. This level presents professional-level expertise in creative field. (Kaufman & Beghetto, 2009, p. 5.)

Everyday creativity or little-c involves the various ways people express themselves creatively and solve problems in their daily lives outside of traditional arts or specialised areas of expertise. The concept of everyday creativity has gained attention between researchers and them have recognized the importance of understanding creativity as part of everyday life. It is said that little-c creativity can contribute to personal growth and wellbeing of individuals. (Beghetto & Kaufman, 2007; Helfand, Kaufman, Beghetto, 2017; Kaufman & Beghetto, 2009.) According to Richards (2007, pp. 4–5) noticing everyday creativity can expand people's experiences and also affect on how they view themselves.

Beghetto and Kaufman (2007) argues about Mini-creativity in their article as follows: "Mini-c differs from everyday and eminent creativity, as it refers to the creative processes involved in the construction of personal knowledge and understanding" (Beghetto & Kaufman, 2007, p.73). As creativity is often seen as this extraordinary skill, through which something unprecedented and original emerges, Beghetto and Kaufman (2007, pp. 73–74) notes there is a value to turning attention to mini-c creativity as a part of little-c, Pro-c and Big-C creativity to prevent the creativity theory from being constricted. Mini-c creativity refers to that personal and unique interpretation of events, experiences and actions. Individuals' judges on their own about the novelty and relevance of these actions and experiences. This makes Mini-c different from everyday (little-c) and eminent (Big-C) creativity, because in both of these it requires outside evaluation and identification of novelty and impact. Additionally, mini-c creativity reflects back to the connection between learning and creativity, emphasising that individuals don't passively receive information from the environment; they rather "filter and interpret information through the lens of their existing conceptions, personal histories, and past experiences" (Beghetto & Kaufman 2007, p. 73).

In summary, mini-c creativity is a personal and subjective interpretation of experiences, little-c is the everyday creativity we use to navigate routine challenges in daily life, Pro-c creativity can be achieved with professional level expertise in creative fields and Big-C creativity involves monumental and historically important creative achievements. These categorizations help people to understand the range and depth of creativity in different contexts. (Beghetto & Kaufman, 2007; Kaufman & Beghetto, 2009.)

Previous studies have broadly linked the benefits of nature to an individual's health and well-being, and showed how experiences in nature can act as restorative (See Kaplan, 1995; Pasanen, 2019; Tyrväinen, Ojala, Korpela, Lanki, Tsunetsugu & Kagawa, 2014; Ulrich et al., 1991). However, the relationship between nature and creativity has remained relatively unexplored (Ratcliffe et al., 2021). Research about nature and its connections to health and well-being is reviewed in subchapter 2.2. Next will be introduced some of the empirical evidence of connection between nature and creativity and nature's way of enhancing it. Also, The Attention Restoration Theory known as ART will be explained in more detail in subchapter 2.4.

Tyrväinen, Ojala, Korpela, Lanki, Tsunetsugu and Kagawa (2014) conducted a study focused on examining the restorative effect of urban environments. In this experimental study, the relationship between creativity and the environment was one of the things which was examined. Participants of this study sat and walked in an urban park, urban forest and a city centre. Measures they used in this study, was that during and after these experimental session, participants' blood pressure was measured and also participants' answered to different questionnaires; SVS, ROS and PANAS (See Tyrväinen et al., 2014, p. 4). The study found that participants felt more creative in the green environment compared to the urban environment, and creativity was more strongly associated with the experience of nature than with the city. The findings also indicated that time spent in green spaces increased the feeling of restoration better than compared to build environments. (Tyrväinen et al., 2014). In another study conducted by Yu and Hsieh (2020), it was explored if a three-day forest therapy

would have an impact on enhanced creativity. The three-day forest therapy included workshops and activities which were aimed to promote participants' health. These activities were for example outdoor meditation, sitting and observing the forest, enjoying natural elements like flowers and running water. Creativity enhancement was measured by the Chinese Word Remote Associates Test (CWRAT) (See Yu & Hsieh, 2020, p. 3). The results indicated that three-day forest therapy improved participants' creative thinking by 27,74%, and that participants' reduced feelings of negative emotions (e.g., confusion) correlated with the change of creativity and therefore was associated with enhanced creativity. (Yu & Hsieh, 2020, pp. 4–5). This claim can be supported for instance with this meta-analysis, which revealed that the highest enhancement of creativity occurs when individuals experience active positive mood states, like happiness (Baas, De Dreu & Nijstad, 2008, p. 779).

Study among Danish creative professionals assessed the role of nature across the creative process (Konijnendijk & Plambech 2015, pp. 255–263). The study indicated that some professionals seek inspiration and ideas from natural elements like shapes, scents, and sounds of nature, which often impacts in positive way on their creative processes, during the preparation phase. Many participants mentioned that spending time in nature, helped them in incubation phase of a creative process, as nature allowed them to recharge for these creative tasks. Natural environments were seen flexible and not forcing into anything, helping participants find tranquillity and gather ideas for their work. Participants also mentioned that after returning home from spending time in nature, they felt more capable of organizing and combining their ideas. (Konijnendijk & Plambech, 2015, pp. 258–261.)

Next will be viewed in more detailed one of the latest study about nature's way of enhancing creativity. Ratcliffe et al., (2021, p. 215) examined in their research about what kind of perceived benefits of nature offers for creativity. The analysis of interview transcripts suggested that participants considered affective, cognitive and aesthetic aspects crucial for creativity when they were in natural surroundings. Furthermore, it was mentioned that characteristics of the

environment, sensory experiences, and personal reflections influenced these considerations. (Ratcliffe et al., 2021, p. 215.)

It was defined in this study, that cognitive appraisals and experiences related to nature included interest, inspiration, memory, focus, and a sense of "being away" (See section 2.4). Certain aspects of natural environments, like flowers and trees, were seen helpful maintaining focus during creative tasks. It was told that interest from elements, like bird singing could provide insights and inspiration for creative work. Also, relaxation achieved through these environmental properties were seen beneficial for attentional focus when writing. It was also said that distractions and chaotic natural environments could hinder creativity. Memories stimulated by nature experiences and sense of "being away" for example on a hill, were also viewed as helpful for creative activities. (Ratcliffe et al., 2021, pp. 220–222.)

Affective appraisals, which include emotional states such as pleasure, relaxation and arousal were considered essential for creativity. Nature environment offered peace with the sounds to another, and sea was seen as a source of inspiration. Additionally, engaging in creativity in a natural environment was associated with positive emotions, e.g. happiness. Negative emotions related to fear and threat were generally seen as hindrances to creativity, as they shifted focus to self-protection. (Ratcliffe et al., 2021, p. 220.)

Aesthetic appraisals of nature were defined that they encompass how people perceive changes, contrasts and movement in the environment, as well as factors like practicality, extent (see subchapter 2.4) and beauty (Ratcliffe et al., 2021, p. 223). Participants in the study found that changes in natural settings, unpredictability and contrasts in nature were connected to their creative experiences and facilitated inspiration. Moving outdoors facilitated intuition and imagination, allowing for a more creative thought process. The spaciousness provided by nature was beneficial for certain creative activities, like dancing, creating a sense of freedom and compatibility with the environment. (Ratcliffe et al., 2021, p. 223.) In Rompay's and Jol's (2016) study it was also noted that the unpredictability and spaciousness of the nature increased creative performance. They argued on that creativity does not strengthen only because the restorative

effect of nature, which direct the attention, but because nature also widens the attention.

Connections between creativity and physical aspects of the environment was also identified in this study. These elements included green and blue spaces, plants and animals, weather, seasons and landscapes. (Ratcliffe et al., 2021, p. 223.) For example, green natural surroundings and water areas was thought to create a feeling of mental escape that could enhance creativity. It was pointed out that weather and seasons had a notable impact on affective states, influencing moods and creative expressions, in a similar way as in Salonen's and Kirves's (2016) study these factors, weather and season, were seen to influence people's mood on how they perceive nature experiences. Moreover, participants mentioned feeling happier during the summer, leading to more joyful and cheerful artistic expressions. Climbing to higher vantage points and enjoying scenic views had particularly inspiring effect on some individuals. (Ratcliffe et al., 2021, pp. 223–224.) Sensory experiences were seen to be connected to creativity, which included vision, sound, smell, and touch. Some participants described these experiences as multisensory, where they combined senses, such as seeing, hearing, and feeling nature, to find inspiration. Similar findings were found in Konijnendijk's and Plambeck's (2015) study, earlier presented. Visual experiences in nature were particularly important for appreciating its aesthetics, like colours and shapes, while auditory experiences, such as the sound of water, were essential for fostering connections with nature (Ratcliffe et al., 2021, p. 224).

Participants also reflected on the role of the self in their creative experiences and described that being close to nature brought them closer to their inner selves, enhancing their self-awareness and identity. However, participants less familiar with nature had difficulty connecting it with creativity. Also, between the participants it differed if engaging with others during the nature experience was seen beneficial or not. Furthermore, actively engaging with nature environment was seen as a source of cognitive inspiration. (Ratcliffe et al., 2021, pp. 224–225.)

2.4 How can Attention Restoration Theory explain nature's role on enhancing creativity

Kaplan and Kaplan (1989, pp. 178–179) examine in their book the experience of nature: A psychological perspective, what makes an environment serve as a restorative function for people who experience mental fatigue, for example after working tirelessly on a project or assignment. In research about nature's way of enhancing creativity, the Attention Restoration Theory (ART) is used to explain nature's role in enhancing creativity because it highlights the restorative and cognitive benefits of spending time in natural settings (see Berman, Jonides & Kaplan, 2009; Kaplan, 1995).

In ART, the restoration of voluntary attention is central (Kaplan, 1995; Kaplan & Kaplan, 1989). In nature, the restoration of attention is predicted by four experiential qualities: being away, extent, fascination and compatibility. Being away refers to escaping from the demands and busyness of everyday life. Extent implies that the experience of a place or landscape should have dimensions that one can enter and experience as surrounding oneself. Fascination is the involuntary engagement of attention with an interesting feature of the environment. Fascination is crucial, when drawing involuntary attention and reducing the need for directed attention. The fourth dimension, compatibility with oneself, means that the person has the feeling of fitting into the environment, and that the environment aligns with persons goals and preferences. The sense of oneness with the environment signifies a high level of compatibility, resulting in a unique and valued experience. (Kaplan & Kaplan, 1989, pp. 182–186.)

In the following, each of these four qualities of which can enhance attention restoration are presented in a way, that they answer to the question on how can nature meet each of the four requirements for a restorative environment?

Being away: Natural settings, such as the seaside, mountains, and forests, are popular choices for restorative experiences, because they offer a sense of being

away from everyday routines. This feeling of being away can be achieved even in easily accessible natural environments.

Extent: Extent, whether physical or perceptual, is another important element in a restorative experience. A relatively small area can provide a sense of extent through design, but it's worth to note that extent comes easily in distant wilderness.

Fascination: Nature has a lot of fascinating objects and processes, many of which are 'soft' fascinations objects that effortlessly capture attention, like sunsets and snow patterns.

Compatibility: Compatibility between the natural environment and human inclinations is high, requiring less effort to function in natural settings compared to more urbanised ones. Observation of animals or outdoor activities can for example contribute to this sense of compatibility, but there are various other patterns which can also contribute to this. (Kaplan, 1995, p. 174.)

Kaplan (1995) notes that nearby natural environment that is easily accessible, may not meet all these goals and objectives. Nevertheless, it can still provide a supportive atmosphere for individuals seeking a place to relax.

3 Implementation of the study

In the following subchapters, I will provide a detailed description of how my research progressed. I will outline the various stages of the study, from research question to implementation, as well as discuss the research methodology and methods. The methods employed in this research will be discussed in the data analysis subchapter in dialogue with process description. Also, research ethics will be discussed in the end of this section.

3.1 Research task and question

The aim of this study is to examine in what ways experiences related to nature can enhance individuals' inner creativity. The topic will be explored through descriptions of people's experiences. The narrative approach is opted in this research, so that the participants can express themselves in their own words. Also this research aims to fill the gap in existing research about creativity and nature's way of enhancing. The research helps to reveal valuable insights about how nature related experiences can be linked to enhanced creativity. Additionally, this thesis aims to encourage people to reflect on their relationship with nature and remind individuals how important role nature plays in each of our lives and how it can act as a nurturing source for inner creativity.

The research question is:

In what ways nature-related experiences can be linked to enhanced creativity?

3.2 Research methodology

Through methodology and methods, the researcher systematically addresses the research questions they have set. In the research report, it is important that the researcher outlines the key choices they have made and describes the approaches they have followed, so that the readers and fellow researchers can assess the appropriateness of the chosen methods. (Vuori, 2021.) The methodological starting points and methods in this research goes under the qualitative research umbrella. Narrative approach was used when collecting the data.

In qualitative research, a researcher's subjective interpretations are built through different stages of the research process (Piekkari & Welch, 2020, p. 226). Juhila (2021) states that "Qualitative research is always empirical, based on various data and their analysis". Empiricism does not exclude theoretical aspects, and empirical qualitative research cannot be conducted without theoretical framework (Juhila, 2021). Qualitative research aims to gain insight into the perceptions and experiences of individuals or groups, and the meanings they impart (Vilkka, 2021). Qualitative approaches help researchers uncover the meanings people ascribe to objects, activities, situations, and circumstances in their lives. Methodologically, these approaches often rely inductive designs that generate meaningful data. (Leavy, 2017, p. 124.) To answer the research question (In what ways nature-related experiences can be linked to enhanced creativity?), it was only logical that the methodological starting points in this research were set under qualitative research.

The qualitative paradigm is a very diverse and eclectic methodologically and theoretically, and the research projects often have flexible designs in which the methodology is modified as new knowledge is acquired (Leavy, 2017, p. 124). During the different stages of this research process, the choices of methodology and methods were thoroughly thought through. The insights gained from the previous studies and research methodology literature, helped adjust the

methodology and methods to best align with the research question and the aim of the study. This qualitative research process proceeds hermeneutically, which means that the researcher engages in a dialogue with the research data in accordance with the hermeneutic circle. Process of interpretation is not linear, rather circle, during which researcher corrects their preconceptions about the research topic by gaining new insights and meanings. (Puusa & Juuti, 2020, pp. 73–74).

There are also connections to autoethnography in this study since the idea for the research was inspired by researcher's personal experiences. Autoethnography is an approach that aims to describe the researcher's personal experiences. Evocative autoethnography involves creating narratives that unveil insights that may not be shared otherwise and analytical autoethnography focuses on theorising researcher's perceptions of their own experiences (Tienari & Kiriakos, 2020, pp. 283–285). The goal of this study was not to document the researcher's personal experiences, instead it aimed to find validation for these personal experiences through previous research and theories.

Narrative not only serve as research method, but also in a way of conceptualising psychological and social phenomena, as it focuses on individual's experiences and deepens the meaning of them. (Carless & Douglas, 2017, p. 307). Narrative research encompasses various methodological approaches, and it is not limited to a specific method; rather, it represents a broad interdisciplinary research direction (Hyvärinen, 2021). Narrative thinking is also connected to hermeneutics as increasing understanding is a central element in narrative research, rather than prediction or control. (Piekkari & Welch, 2020, p. 226.) By employing a narrative approach in this study, it aimed to capture the diverse stories, perspectives, and lived experiences of the individuals involved and gain insights of the multifaceted research subject.

3.3 Data collection

The recruitment of participants started in October 2023. The anonymous participants for the study were reached through social media and from the researcher's personal networks. To attract interest, a visual advertisement was created for recruitment, providing a brief and informative explanation of the research and its purpose. The advertisement aimed encourage individuals who resonated with the research topic, to prompt them to participate in the research. In addition, different designs of the ad were created for different social media platforms, so that the ad suit their specific functionalities. Within the advertisements, the link for participation in research was always provided.

By promoting the advertisement (see Figure 1) on various platforms like Instagram, Facebook groups and different channels in Reddit sought to make participation in the study possible for those internationally interested in the subject. However, it is important to note that participation in the study was limited based on the participants' language skills: individuals could participate in the study either in Finnish or in English. The advertisement was provided mostly in English. However, in the survey used for collecting the data, all instructions were provided in both Finnish and English.



Figure 1. The advertisement was created to promote participation in this research.

The research data was collected through an E-form (E-lomake) platform, as it is the only privacy-compliant platform approved by Metropolia University of Applied Sciences for conducting surveys in the thesis process. The survey was created by the researcher, and the responses were collected over a period of two weeks.

The survey included:

- an introduction to the study and its purpose,
- researcher's contact information,
- details about the information collected from participants,
- consent to use participant submitted narratives,

- one open-ended question: *Please describe one nature-related experience which has somehow enhanced your inner creativity. You may also describe several experiences if you wish.*
- thanking the participant
- information included where the finalized thesis will be published.

The consent section highlighted that participation in the study was totally voluntary and that the participants' personal information would not be collected. Moreover, the consent section included a privacy notice, in case any participant shared personal information in their narrative.

See the appendices (p. 62) how the design of the survey and the privacy notice looked.

3.4 Data analysis

In this study a narrative approach refers to how the research data was collected. According to Piekari and Welch (2020, p. 221), if the goal is to bring out an individual's experiences, writing prompts or individual interviews are the most effective ways of collecting data. The data for the study consisted of narratives collected through a survey. Participants were given the opportunity to freely narrate their nature-related experiences that enhanced their creativity through an online survey which included one open-ended question. This one open-ended question in the survey was designed in a way it allows participants to describe these experiences in their own words. The stories people tell about themselves and others, influence them and the direction of their lives. These narratives not only reflect individual experiences, but also contribute to the collective understanding of the research subject (Hyvärinen, 2021). Participants were not asked how they define creativity, but it is clear that every participant has their own conception of creativity and creative process. Although, it is worth noting what connects participants stories is that all of them were written from the everyday

creativity and mini-c creativity perspective (Beghetto & Kaufman, 2007, 2009). This study aimed to explore individuals' own experiences without any limitation, and therefore, it is interesting to see the similarities found among participants' responses.

There were 30 answers in total, which 27 answered the question provided, two of which were empty and one answer which did not answer the question. The length of the narratives varied between 2–20 sentences. It is not clear how two empty responses ended up among the answers because the survey was structured in a way that it prevented blank responses from being submitted. However, it can be assumed that there was a system glitch at the precise moment when the two respondents submitted their answers. Consequently, the system recorded two responses from one respondent at the same time, one completed and the other empty. This assumption is made based on the fact that the timestamp for when the responses were submitted is exactly the same.

Narrative data cannot be condensed into numbers or categorised unequivocally; instead, handling the narrative data always requires interpretation (Heikkinen 2018, p. 180). In qualitative research, the subjects under investigation are usually not straightforward and easily analysable. Human actions or experiences cannot be described in a simplistic manner, because they are intertwined, and thus the meanings people attribute to things are often complex. (Juhila, 2021.) In qualitative research, there are generally no strict right or wrong methods for analysing research data, despite that most of the methods are based on the content analysing. Content analysing can be seen as a broad framework, which guides data analysis to proceed forward. The initial step in analysing the narrative data is to approach the data with an open mind, refraining from making interpretations at this stage. (Puusa, 2020, pp. 148–151; Puusa, Hänninen & Mönkkönen, 2020, p. 223.)

In the first phase of data analysis in this research, the narratives were carefully read through multiple times with open mind without any preconceptions. After the data reading, the coding phase started, which can simply mean, that sentences

containing consistent meanings or phenomena, that convey the same concept, are identified and labelled with codes. Research data can be broken into parts or categorised to make it simpler, which then leads to build a foundation for thematic analysis (Puusa, 2020, p. 152). In this phase similar expressions or phenomena in the narratives were preliminary identified and categorised. This process resulted in the creation of ten codes (see figure 2.), which were highlighted in different colours. During the reading through the narratives, all relevant codes were marked to each narrative. For example, if one same participant described both inspiration and the peace brought by nature in their text, these phenomena were marked with two different codes: “inspiration” “calming environment”, to indicate that two distinct phenomena were represented within the same narrative. During the coding process, the researcher pinpoints elements in the material that are relevant to the research goals and questions. This aims to clarify the data content, so it is easier to understand what the material holds. By coding the data, it enables researcher to handle this multifaceted information better, which will support further analysis and interpretation of the data. (Saaranen-Kauppinen & Puusniekka, 2006, p. 81.)

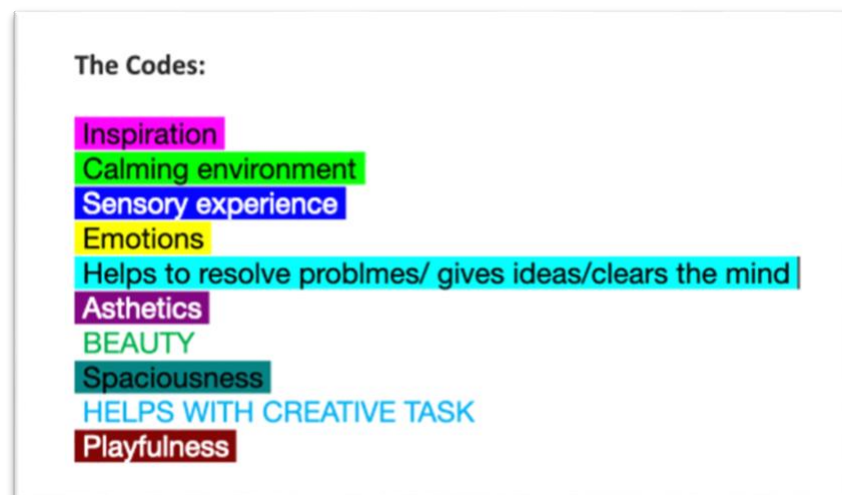


Figure 2. The Codes

After this coding phase, the actual analysis of the data started. The analysis began with a data-driven approach. In data driven research, units of analysis are

not predetermined, and this inductive approach does not begin with the testing of a theory or hypothesis. It is impossible for the researcher to make purely inductive reasoning, as it is based on describing observations without preconceived ideas about the phenomenon. (Saaranen-Kauppinen & Puusniekka, 2006.) In this analysis phase, the narratives were broken into parts with the help of the codes, in way that similar expressions and phenomena were put together in away that they answered to the research question. For this phase, a table was created (see Figure 3. below), with four sections. The first section presents the original quotations from the narratives, the second outlines the findings, the third lists key words, and the fourth presents the final theme ideas. Also, in this phase colours were used to highlight the similar phenomena and help to keep on track which quotations are preliminary categorised together.

In what ways nature-related experiences can be linked to enhanced creativity?			
Original quotations from the narratives:	Findings	Key words:	Theme ideas:
<p>"Luonto on auttanut ainakin mua todella paljon luovuudessa. Luonnossa nimittäin tuntuu ettei ole rajoja."</p> <p>"During times of personal crisis or change processes I have spent a lot of time in natural environments like forest, sea side and lake areas. These kind of environments give a lot of space for the inner processing which often can feel overwhelming indoors."</p> <p>"Tyyni, tumma elokuun yö, pilvetön taivas ja tähdet - tunne kuulumisesta maailmankaikkeuteen ja sen myötä asioiden mahdollistuminen"</p> <p>"Nature for me is boundless and let's me think that my creativity is too."</p> <p>"Siellä voi haaveilla vaikka miä."</p> <p>"Minulle luonto on tärkeä elementti varsinkin metsässä liikkuminen, aina kun astelen metsään tapahtuu kokemus joka vapauttaa ja mielikuvitus pääsee lentoon --"</p>	<p>The spaciousness provided by nature and the way nature environment feels boundless for individual helps with their inner creativity.</p> <p>Engaging with the environment, like forest, seaside and lake areas, is seen beneficial for creativity, as it's creating a sense of freedom and room for thoughts, dreams and inner processing. Observing the stars helps an individual feel connected to the universe, facilitating the enabling of things.</p> <p>Also one of the participants highlighted that nature makes them realize the limits of human life, which then creates safety, and then addresses that feeling safe is the foundation of creativity</p>	<p>Spaciousness</p> <p>Imagination</p> <p>Dreaming</p> <p>Boundless</p> <p>Flowing thoughts</p> <p>Supports problem solving</p> <p>New ideas</p>	<p>Nature offers a sense of space, boundlessness, and safety which supports thinking and inner processing</p> <p>Nature supports flowing thoughts, decision making and inner processing</p>

Figure 3. Example of the table for thematic analysing

During this thematic analysis, quotations were moved around, put together and rearranged until the final themes were identified. Forming the themes was not straightforward and did not happen instantly. These formed themes aim to answer to research question and explain respondents' experiences on how natural environments can enhance and support an individual's inner creativity. As data analysis progressed, the identification of themes and findings was not directly made based on theory, but connections to previous research and theory were noted. Therefore, it can be said that the analysis and interpretation of this study's data evolved from data-driven approach to theory-bound approach. Through a theory-bound approach, the researcher seeks support or explanations from previous research and theory to interpret the findings (Saaranen-Kauppinen & Puusniekka, 2006, pp. 15–16). The analysis phase took a quite long time, but having breaks during the data analysis helped the process continue. Each time the data was revisited with fresh eyes, it became easier to identify the similarities in the phenomena described by the participants, which helped forming the final themes and answer to research question. However, it's important to note that these themes I have constructed and the findings I am presenting, are after all based on my own interpretation of the data, although similar findings can be observed from previous studies.

3.5 Research ethics

Throughout the data collection process, the approved guidelines for Responsible Conduct of Research provided by The Finnish Advisory Board on Research Integrity (TENK) were followed. The study adhered to the ethical principles outlined in "The ethical principles of research with human participants and ethical review in the human sciences in Finland" (2019) and "The Finnish code of conduct for research integrity and procedures for handling alleged violations of research integrity in Finland" (2023). Additionally, the principles of data protection in Helsinki Metropolia University of Applied Sciences were followed. The research

data was securely stored in cloud service and in computers own database, until the completion and approval of the thesis. These databases were protected by passwords and researcher's personal login identificatory, and no one else had the access to these. Survey responses were promptly deleted upon the thesis's completion.

Participants in this study were anonymous. Participants were provided with the necessary information about the research, its purpose, and the type of information to be collected from them before seeking their consent to participate⁴. Consent to participate in the study was obtained from all participants in accordance with the ethical principles of TENK (2019, pp. 7–8). Participation in the study was entirely voluntary and no one was pressured to do so, and participants incurred no costs associated with participating in the research.

The importance of thinking about ethical questions while doing research is undeniable. Leavy (2017, p. 32) notes that “do no harm is the primary principle governing the protection of research participants”. During this thesis process there was not any intentions to make any harm to participants and participants protection was insured with their anonym participation. Leavy (2017, p. 25) also notes that it is necessary to understand that our beliefs, values and ideas which develop in social context, shape every decision we make which then undeniably affects our research project. I have strongly emphasised that the topic of my research emerged from my own experiences, and I am well aware that they have influenced my choice of research methodology and methods. However, it is important to note that while my own experiences have inspired this study and I have personal insights on the subject, I have allowed each research participant to express their own views and experiences of the research subject. As Juhila (2021) points out, in qualitative research, the researcher needs to be reflective and aware of their own preconceptions related to the research and the research

⁴ Consent to participate was part of the survey layout. See appendices section.

subject, and capable of articulating these beliefs to others. I have done this through out the whole research process and in this thesis text, highlighting if something has been formed based on my assumptions, preconceptions or interpretations. In the end it is impossible to do research without this kind of behaviour, I believe so.

Participants being anonymous is part of the research ethics. TENK guidelines (2019, p. 15) point out that: "The general principle is the protection of the privacy of people who have participated in the research". To ensure participants' anonymity, data was collected through a secure platform, and any personal identifiers were not collected from them. All the quotations used in this thesis are presented in a way that people cannot be identified. If participants have used some personal identifiers in their answers, them have been deleted from the original text in the phase of data analysis.

Language corrector, translators and dictionaries have been used while conducting this thesis, helping with translations of the text I have created myself, as well as for clarifying and correcting the text. I have taken care of the originality of the text before placing it in this thesis. References in this thesis have been made according to reference instructions. The sources used are relevant for the research topic and presents accurate information, consisting mostly of peer-reviewed articles, book chapters and couple of doctoral theses. These sources are also carefully noted in the reference list so that copyrights are not infringed. Copyrights of the photos used in this thesis belongs to me, Lilli Lempinen. Most of the photographs are taken in New Zealand and at Lake Saimaa. These are special places for me, and the photos represents my "soul-landscape".

4 Findings

The data analysis sought answers to the research question: In what ways nature-related experiences can be linked to enhanced creativity? The question was examined through people's experiences. During the thematic analysis three themes were identified:

Space for inner processing

Resources for creative tasks and play

Calming effects to foster the mind

In the following subchapters, I will present these three themes and explore the findings, reflecting them with my conceptual framework. Direct quotations from the narratives are included to enrich the analysis of the study results, providing greater substance and understanding. Including these quotations in the presentation of findings helps to clarify the researcher's reasoning process, giving readers a clearer basis for evaluating the interpretations (Puusa, 2020, p.154). As previously mentioned, responses to the questionnaire were provided in both Finnish and English. The quotations in Finnish have been translated into English, potentially resulting in slight changes to the original quote's meaning. To each narrative were assigned a unique letter in alphabetical order to represent each participant. Quotations included in this thesis are marked with the corresponding letter, indicating from which participant the quotation is from.

The findings section includes photos aimed at enhancing the understanding of the phenomena and experiences described by the participants in the quotes. Also, these images have been included in this thesis to emphasize my personal experience with the topic. Furthermore, through these photos, the aim is to evoke the reader's thoughts and feelings in a nonverbal way and also to deepen the interpretation of the data. The brain regions that process visual information are evolutionarily older than those responsible for verbal processing, which is why visual images can reach deeper levels of human consciousness than words alone (Harper, 2002, as cited in Glaw, Inder, Kable & Hazelton, 2017, p. 2).

4.1 Space for inner processing

Based on the data analysis, 14 participants felt that spending time in the nature, especially the spaciousness provided by nature and the way nature environment feels boundless, encourages their innovative thinking, everyday problem-solving (Beghetto & Kaufman, 2007), and supports their inner processing. Many participants emphasised in their stories that by immersing oneself in nature environment away from urban environment, having for example walk outside in nature, their minds were liberated from the constraints of routine thinking. They suggested this enables flowing thoughts (Kaplan, 1995; Kaplan & Kaplan, 1989), which participants associated with increased creativity. Participants addressed that during nature visit or after returning back from the nature, specially writing tasks and processing inner thoughts felt easier (Konijnendijk & Plambech, 2015). As respondent H. describes: "A. common, very often recurring experience while writing is hitting a block; however, all it takes is stepping outside into even a slightly natural environment for a short walk, and suddenly, the thoughts begin to flow again!". Also, the participant C. expressed similar notions:

Walking in nature, spending long, leisurely periods in the forest, expands the mind and enables the birth of new and creative thoughts. It often happens that during a peaceful walk in the woods

or on a hike, as I go forward, I develop an idea or an entirely new “project” within my mind.

Nature’s boundlessness mirrors individuals’ perceptions of their own creativity and compatibility in surrounding environment (Kaplan & Kaplan, 1989; Ratcliffe et.al., 2021), allowing them to envision limitless possibilities, like participant B. notes: “In my experience, nature has been a significant aid to my creativity. In nature, it feels like there are no boundaries”. Also, one of the participants highlighted that nature makes them realize the limits of human life, which then creates safety, and then addresses that feeling safe is the foundation of creativity.

Whether walking in the forest, by the seaside, or under a starlit sky, participants noted that they were themselves able to dream and imagine freely under these circumstances. Participant A. describes this in following: “The open air, green surroundings and natural sceneries support me to look at things from different perspectives than usual and inspire me to find solutions in unexpected ways”. Also, participant W. had similar thoughts:

Taking walks in the forest and being by the lake or sea, opens up my creativity. I find that I am more receptive to creativity when I am in the forest or by large bodies of water, and I get new ideas; my thinking somehow expands.

Nature was seen as a place where the mind can wander and explore without limitations, leading to the generation of new ideas and solutions. This happened not only because of nature’s way of nurturing inner creativity (Konijnendijk & Plambeck, 2015), but because these nature environments forced individual to use their everyday creative thinking (Beghetto & Kaufman, 2007), for example when unexpected situation emerges during forest trip. Like one of the participants described how they have needed to use their creative thinking to figure out what to do next, when making fire has turned out to be not successful.



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Overall, based on the participants' stories it seems that engaging with various natural settings, especially forests, seashores, and lake areas proves beneficial for nurturing inner creativity. Spacious and boundless environments foster a sense of "being away" and "compatibility" (Kaplan, 1995; Kaplan & Kaplan, 1989), and these environments provide for their users' space where reflecting, achieving flowing thoughts and getting new ideas is easier (e.g., Konijnendijk & Plambeck, 2015; Ratcliffe et al., 2021).

4.2 Resources for creative tasks and play

This theme emerged most clearly from the narratives, and it is also highly recognized in the previous studies related to nature's way of enhancing creativity (Konijnendijk & Plambeck 2015; Ratcliffe et al., 2021). 12 participants highlighted in their stories that they seek inspiration from nature for various creative activities

such as photography, choreography, poetry, playing instruments, and also for work which is somehow related to art and crafting, as participants D. and R. described: “The atmosphere of the forest inspires the creation of artistically fitting images and choreographies. –The sea and water as elements inspire movement and the art of movement.” “Creativity specially during autumn times, is linked to arts and craft conducted with children, dry leaves and their colours serves as a material for these creative activities.”

Participants described nature’s vegetation and animals, including different shapes, colours, patterns, and light found in nature, to be source of inspiration for creative tasks, which in turn were seen to lead to a sense of increased creativity overall (Konijnendijk & Plambech, 2015). Also, participant J. remarked, that growing their own vegetables is both inspiring and rewarding, as it requires also creativity to come up with recipes where to make use of the crop:

I also love growing my own fruits and vegetables. When you grow your own and you only have specific foods to use, you really do just have to get creative. Whether it be the figuring out recipes to use tomatoes or lemons or thyme, it all feels very exciting using your own home-made ingredients.

Whether it is the allure of a sunset over the sea or the admiration amidst colourful corals in the deeps of the ocean, participants address that nature’s beauty fuels their inner creativity, with these “soft fascination” objects (Kaplan, 1995; Kaplan & Kaplan, 1989) which grasp their attention effortlessly. Immersing oneself in the beauty and richness of the nature environment fosters inspiration, pushes individuals towards new realms of creativity and self-expression, like participants J. and O. expresses:

Being out in nature always inspires me to capture and savour beautiful moments. I always love to take a camera or a phone when out on a hike or watching a sunrise / sunset. Nature is art in itself, all the colours, shapes, tones and curves.

Sunsets on Lake Saimaa during summer evenings have been memorable moments, sources of inspiration. That’s when the soul

rests and the sensation of feeling good fills up the mind. It has clearly fed my inner creativity. I've admired, photographed, and simply enjoyed the beautiful artwork of nature in silence.



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Engaging with nature can spark individual's creative process and also enhance a deep connection with the environment. This can also improve one's mood and mental well-being (Kaikkonen et al. 2014; Salonen & Kirves, 2016). Participant K. shared how their perspective on the ocean changed notably during freediving, leading them to desire a deeper connection with the ocean and better comprehension of it:

Recently I had one of the most beautiful experience with nature practicing freediving and I found a new world. Being under water exploring the marine world, all the different species of fish, colourful coral, the depth of the ocean, how big it is and feel the peace surrounded me it changed my perception of the ocean. I always had respect of the ocean in a way of being a bit afraid of it, now that

respect is about admiration. Now I want to be part of the ocean and keep exploring and learning from that amazing world.

This kind of “extent” (Kaplan, 1995; Kaplan & Kaplan, 1989) in nature environment, clearly helped participant K. to achieve greater inspiration and pushed the learning process into the next level.

It is interesting to note that three of the participants brought up how they associate creative experiences in nature with their childhood memories, such as using natural materials for crafting and play when they were young. Also, nature acted as nurturing source for imagination and acted a big part in those play moments in childhood. However, utilizing materials provided by nature was not only associated with play and crafting in childhood, but also with using them for decoration and art projects in current moment. For example, participant W. described that how they’ve had used materials from nature to create nature mandala: “One creative nature experience is also the making of nature mandala, I collected material from nature and made it into a great mandala of art”. Another participant told how they observe the surrounding trees while outdoors, wondering if a twisted branch could serve as a suitable handle for a cottage door, among other things. Participant F. describes the connection of childhood and creative experience in nature as follows:

As a child, nature already inspired me in many ways. The increase in creativity was evident, for example, in the diversity of play: with the help of nature, play could become truly versatile, only the sky was the limit. Mostly what comes to mind are those childhood memories, as an adult, it has been difficult to grasp back those moments of youth and childhood creativity.

In summary, it can be said that nature serves as a rich source of inspiration for a wide range of creative pursuits, including artistic hobbies and professional work, but also for everyday activities. The beauty and diversity found in nature and extent (Kaplan, 1995; Kaplan & Kaplan, 1989) of some environments, offers intriguing aspects that stimulate creative thinking (Konijnendijk & Plambeck 2015.), but also deepens the connectedness with the environment. Deepening

the connection with the environment can motivate individual's to learn more on specific things happening in nature and encourage them to spend more time in nature. Nature experiences and getting inspiration from the nature, are also for some linked to childhood and the memories they have from it. Additionally, engaging with nature environments provides individuals concrete materials for play, artmaking, and crafting, which kick-starts the creative processes.

4.3 Calming effects to foster the mind

The narratives raised that seven of participants collectively agree on the key role of nature's calming effect in fostering inner creativity. It is important to note that most of the participants who mentioned nature's calming effect did not specifically express how this calmness enhances their inner creativity. Therefore, the assumption that nature's calming effect enhances inner creativity has been made based on this observation. This notion strongly associates to attention restoration theory (Kaplan & Kaplan, 1989, Kaplan 1995) that nature environments provide restorative functions, which can ease for example stress and promote cognitive functioning.

Forests, seaside and lake areas, provides restorative environments (Kaplan & Kaplan, 1989), where individuals can escape the hustle and bustle of daily life. These environments help them to find tranquillity, allowing their minds to liberate into a creative space. The peacefulness of nature allows individuals to relax, slow-down, and recharge, fostering a sense of inner calm and contentment, like participant I. express: "Nature first of all for me is a breathing space & a place where I can fully relax". Also, participant Q. highlights: "Whenever I walk into the forest, my mind finds peace. When I come across a beautiful mossy forest, I feel like hugging the tree trunks and lying down on the moss to let nature empower me". In nature people feel free to explore and reflect, and if the environment aligns with person's needs, compatibility (Kaplan & Kaplan, 1989, Kaplan 1995) with nature can be achieved.



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Participants emphasized that seaside areas are the most relaxing and calming, but they also found forests to have similar impact. Like Participant D. describes: “At the seaside, I often find peace and my mind starts to clarify.” Engaging in activities such as berry picking in nature-environment was also seen beneficial. Based on what the participants shared in their stories, it emerged that being in nature and especially engaging with sensory experiences, often helps individuals’ to relax and clear their minds. This was seen among the participants, that sensory experiences enhanced their inner creativity and processes. Participants brought up that water elements, in particular, evoke a sense of touch in various ways, while the scents and sounds of nature also contribute to sensory experiences. Viewing stunning landscapes or details found in nature is also essential part of these sensory experiences. Participant I. describes these sensory experiences as follows:

The ocean is my love; the movement, the smell, the constant change, the warmth or coldness, I seek and find creativity through swimming in the ocean every day! It not only clears my mind but allows and opens up for new things to come in. Also sitting on the beach with the ocean in front of me, touching the sand and hearing the waves is another force that allows me to instantly feel calm, relaxed to open up my thoughts and creative brain.

It seems like these sensory experiences in nature enhances individuals' inner creativity by serving as a source of inspiration which stimulates the mind and promotes relaxation. Also these sensory experiences activates the senses and fosters emotional connection with nature. Like participant S. describes sensory experience “lying on top of the moss” being for them a nature experience, which somehow enhances their inner creativity. As well participant E. notes that “Lake, the touch of water on the naked skin on a calm sunny day, or swimming during rainy summer day when waterdrops are dancing”, are a nature sensory experiences which enhances them inner creativity.

Overall, these findings suggests that nature can have an impact on people’s mental well-being and effect on their inner creativity. Nature provides restorative environments where individuals can fully relax (Kaplan & Kaplan, 1989) when environment aligns with the persons needs and expectations. These findings also underscore how nature environments are capable of evoking a wide range of sensory experiences (Ratcliffe et al., 2021), which promote feelings of relaxation and inspiration. When person experiences, they are able to calm down and relax, it encourages them to open their mind to new ideas and strengthens their emotional connection with natural environment around them.

4.4 Summary of the findings

Below is a summary of the findings in a table format (Table 1). The table is structured as follows: The first column presents the theme, the second column lists the key words, and the third column provides a summary of the findings.

In what ways nature-related experiences can be linked to enhanced creativity?		
THEMES	KEY WORDS	SUMMARY
Space for inner processing	Dreaming, Flowing thoughts, New ideas, Problem solving, Spaciousness.	Spending time in nature environment, like forest, seaside and lake areas, enhances inner creativity by enabling flowing thoughts, dreaming and clearing room for inner processing. Also, spending time in these spaces support everyday problem-solving and innovative thinking, helping with tasks such as writing.
Resources for creative tasks and play	Aesthetics, Beauty, Inspiration, Creative task, Playfulness, Childhood memories	The beauty of nature inspires various creative activities like photography and music, and fosters a sense of creativity. Nature also provides materials for creative tasks, enhancing the creative process. Additionally, the link between nature and creativity stems from childhood memories of imaginative play and crafting in natural settings, for some.
Calming effects to foster the mind	Calming, Empowering, Open mind, Relaxing, Soul food, Sensory experience.	Nature helps individuals find peace and serves as a place where one can fully relax. These restorative environments, intertwined with sensory experiences, fosters relaxation and emotional connection with the nature, which leads to open mind. By these effects, nature can improve mental stage and help to "set" the mind into a creative space.

This table presented aims to give clear overview of the findings for the readers. The colours and sections used, aims to making it easier to follow. The table also sums up how these formed three themes are answering to the research question and highlights the main points of the findings.

5 Conclusions and Discussion

This research aimed to find answers and increase understanding on how nature-related experiences can be linked to enhanced creativity and potentially revealing new insights on the topic. Also the aim was to inspire people to try how nature can act as source for creativity and encourage readers of this thesis to reflect their connectedness with nature, as ecological crisis is forcing everyone to reassess their actions towards natural environment. This topic was explored through people's own narratives about the phenomenon, so it was interesting to see how similar descriptions emerged from participant's stories. Although the data collected could have been more extensive, meaningful findings were drawn, providing insights into how nature experiences can influence and enhance creativity.

The findings suggest that engaging with nature environments, especially seashores, forests and lake areas, enhances inner creativity by providing a sense of "being away" (Kaplan & Kaplan, 1989; Kaplan, 1995) from everyday hustle. This kind of spacious environments allow individual to dive into deeper reflection, promote innovative thinking and after returning from nature, tasks like writing can be easier. The beauty of nature inspires various creative activities and play, which often increases the feelings of creativity. Also in some cases admiring nature's beauty can deepen the connectedness with nature. Moreover, nature provides concrete materials, like leaves, shells & stones, that fosters creativity and supports the creative process. Nature environments also promote relaxation and peace, helping the mind to open for new ideas. Nature also provides sensory experiences that through them individuals can activate their senses, feel empowerment and deepen their emotional connection with nature. Calming effects can lead individuals to feel mentally recharged; therefore, nature facilitates a creative mindset, making it an essential tool for enhancing inner creativity.

Based on the findings, there are multiple overlapping pathways likely involved when people feel nature experiences effecting on their inner creativity. The

findings show that the benefits of nature experiences on creativity are diverse, and participants' narratives reflect their own individual perceptions of creativity and what it means to them. This means that nature can serve as a source for enhancing inner creativity in various tasks or circumstances, depending on individuals' needs. Whether it is finding inspiration from beautiful landscapes of nature for creative project or work, supporting the mind to effortlessly open and become more receptive for creativity, by viewing "soft fascination" objects (Kaplan, 1989) like sunsets, or need to get out of everyday environment to clear mind, that it is able to innovative thinking or resolve a problem afterwards.

These conclusions and observations made, show connection to field of cultural wellbeing. Nature experiences and how people perceive them are tied to cultural backgrounds (Tyrväinen et.al., 2017). Participants in this study highlighted in their narratives how they seek inspiration from nature to creative activities, like visual arts. The notion of cultural wellbeing ties together arts and culture and explains how them can promote people's wellbeing and health. In the core of cultural wellbeing is the individual's conceptions of arts and culture, and the meanings they give to these cultural experiences. (Houni, Turpeinen & Vuolasto, 2020, p.17; Lilja-Viherlampi, 2021, p. 74.) Nature is intertwined with art and it is recognized in cultural wellbeing field on promoting health, wellbeing and artistic expressions, which can then lead to increased creativity (Houni et al., 2020).

Based on the findings, immersing in the admiration of nature and doing activities like swimming, intertwined with sensory experiences can deepen the connectedness with nature. Deepening the connectedness with nature can lead to better actions towards the environment, as Scuhultz (2002, p. 68) notes. This is an important finding in term of the aims of this study, because this study wanted to encourage individuals to reflect their own conception on their nature connectedness, and this shows that spending time in nature can also deepen that connection even though the initial reasons to spend time in nature can vary. I am hoping that this study will inspire it readers to go out to the nature and explore it wonders, because people need to deepen their connection to nature, so that it is easier for them to adapt positive climate actions into their daily lives. If a person

does not have connection to nature, it is harder to act environmentally friendly (Mayer, Frantz, Bruehlman-Senecal, & Dolliver, 2009).

The findings of this research show connections to Attention Restoration Theory (Kaplan & Kaplan 1989; Kaplan 1995), which focuses on people's cognitive and attention restoration. However, in this study, the four factors – being away, extent, fascination, and compatibility – that make natural environments restorative, are also seen enhancing individual's creativity in a way that these factors not only support attention restoration but actively help people open their mind.

This study focused on finding out how nature visits and experiences can support creativity, however the findings also revealed similarities with research on nature's effects on wellbeing, such as improving mood and promoting relaxations (e.g., Kaikkonen et al., 2014; Salonen & Kirves, 2016; Ulrich et al., 1991), can it therefore be assumed that people connect concepts of creativity and well-being strongly together? And can these concepts even be separated from each other in the first place? At least based on what the findings of this study show, there is a strong connection to the fact that experienced restorative effects in nature environments can improve and allow creativity, particularly when individuals' find peace and relaxation through time spent in nature.

On a side notion which came up when drawing up conclusions is that 25 of the participants did not describe social interactions, like spending time in nature with someone else, in their stories. Only two of those who described their creative experience related to childhood memories, mentioned someone else, like a nanny, to be part of their experience. In the rest of the participant's stories, there was no other human character mentioned. No definite conclusion can be drawn from this, because after all participants were asked to share a personal experience, but this can still indicate that people want to experience nature visits that increase creativity, in their own peace. This need to be taken under further exploration though, whether this is the truly the case that when people want to seek their creativity, they want to be alone.

This whole thesis process got its inspiration from my personal experiences. Nature has had a huge impact on my own creativity, but before this thesis process it was only my perceived view and opinion of this subject, and I had nothing to base this claim on. Therefore, during this research project I have gained a lot of knowledge and understanding of this phenomenon and realized there is actual scientific evidence behind it. It was intriguing to explore other people's experiences of the same topic, and noticed how others share and describe similar notions. Because of this personal connection to the research topic, this research had autoethnographic undertones (Tienari & Kiriakos, 2020). The photos presented in this thesis tie together the whole process from start to finish and represent my personal connection to the topic. Also they aim to support understanding of the findings and strengthen interpretations.

Qualitative research focuses on people's subjective experiences and their meaning-making processes (Leavy, 2017, p. 124.), therefore choosing qualitative research as methodological starting point in this research was the most suitable, because the research topic specially focused on people's own experiences. This research process proceeded hermeneutically, and the phases of the process were overlapping (Puusa & Juuti, 2020, pp. 73–74), and finally everything culminated in this finalized written thesis report. This means that during the process, my own understanding of the topic evolved and broaden, as I gain new knowledge, which helped reforming the preconceptions, interpreting meanings and understanding of the research data and construct the findings and conclusions. The chosen concepts presented in this thesis aligns with the research topic, leading and preparing the reader to better understand the findings and conclusions made of this research. Presenting ART and reflecting it to the findings, supports the understanding of rather complex topic and enhances reliability of the findings drawn. Although, ART has its limitations in this kind of research setting, as the focus in this study was not solely in examining the restorative effects of nature environments. Previous research findings on creativity and its connections to nature experiences presented in the conceptual framework and reflected on in the findings chapter, also contributed to the trustworthiness of the findings.

It is necessary to address, that during the data analysis, there were some limitations in the data gathered. The data was collected through a survey with one open-ended question: *Please describe one nature-related experience which has somehow enhanced your inner creativity. You may also describe several experiences if you wish.* During the data analysis phase and specially when forming the findings, I found myself thinking, "I wish I had also conducted interviews so I could have asked follow-up questions for clarification." However, I believe narrative approach was suitable method to use in this thesis, because idea was to explore people's experiences and that the option for anonymous responses helped facilitate participation, as also the intention was for participation to be as accessible as possible. Thus, I think that including a few interviews would have enriched the data, making the interpretation more reliable, as data gathered from the interviews would allowed for comparisons with the narratives. Perhaps it could have been also useful to first ask people to define their views on creativity. Although it is a complex concept to articulate, and there is no single clear description of it, as creativity in us evolves through lived life (Richards, 2007) and everyone can achieve different levels of it (Beghetto & Kaufman, 2009). Beghetto's and Kaufman's (2007; 2009) four levels of creativity concept, illustrates how everyone possesses creativity in their own way and how it is intertwined with life span, therefore this was suitable way of viewing the creativity concept in this thesis.

This thesis process has been long, partly because I have prioritized different things in my personal life, but also because this fascinating topic has proven to be incredibly complex and difficult to fully grasp. However, I suppose this is exactly what the research process is about: starting with some preconceptions, delving deeper into the topic, gathering data, conducting analysis, forming interpretations, and finally putting it all together into a clear and understandable text that thoroughly explains the entire process. I have shared my own understanding of the topic and how it sparked my interest to this research topic, so inevitably, in some level, my preconceptions have influenced this study, the data analysis, and the findings and conclusions drawn. However, throughout the entire process, I have been aware of this and have aimed to describe the different

phases of the research in this thesis honestly and transparently and have tried to be as objective as possible when forming and describing the result and interpretations. Although, it is impossible to achieve complete objectivity, as the decisions made in qualitative research are inevitably based, to some extent, on the researcher's subjective choices (Puusa & Julkunen, 2020, p. 189). Overall, during this master's thesis process, my own understanding and knowledge of the topic deepened, which was one of my personal goals. I also think that this thesis will give insight for those who are interested of the phenomenon and will perhaps inspire future research around the topic.

Nature has shown me that it is cradle of creativity and well-being, offering abundant resources that can be drawn upon not only for in personal life and work, but also on a societal level. After diving into this research process, I realized that while there is extensive research on the perceived benefits nature offers to people, this thesis topic has many nuances and the research around it vary a lot with different approaches and methods used in these research projects. Therefore, further exploration is needed to understand the deeper, more nuanced effects of nature on creativity, especially in diverse cultural contexts and across different forms of creative expression. For instance, I think it would be beneficial to do half-structured interviews (Puusa, 2020, pp. 111–112) and explore if similar findings emerge from them comparing them to this study's findings, to widen the understanding of the topic. Also in this kind of qualitative research (Puusa & Juuti, 2020) it could be explored further, how experiencing nature alone or with someone, is affecting on people, when they want to or try to enhance their creativity during nature visits.

Another intriguing approach could be conducting research with an art-based approach (Leavy, 2017 p. 191) where creative activity workshops would be first held indoors and then, for comparison, outdoors in a natural setting. The idea would be to discover participants' views on whether changing the workshop environment to nature has any impact on inspiring or facilitating the creative process. I personally believe that this kind of research among the youth for example during school art class, could be beneficial to not only sparking

creativity, but also building and deepening the nature connectedness among those youngsters who does not spend time in nature on their leisure time. Research experiment could also contribute within its findings to those research projects, which are trying to find solutions to major issues we are facing on society level, like environmental crisis (Haverinen et al., 2021) and worryingly increased mental health issues, particularly among the youth (Sitra's Megatrend publication 2023, p. 28), as green spaces can provide mental health benefits (see Engemann et al., 2019).

Furthermore, this research shows that peoples' experiences vary in ways how nature can enhance their inner creativity. Yet almost all the participants addressed that, nature somehow inspires them, helps them to resolve problems or generate new ideas. If this is looked from the work perspective, where most of the population spends their major time of the week and need above-mentioned skills at work, this made notion should prompt organizations to reconsider and perhaps reassess their working practices. It is noted that creativity holds even stronger position in the meta-skills of work life in the future, as World Economic Forum said (2023, p. 6) in their latest Future of Jobs Report, that creative thinking remained as one of the most important skills for workers in 2023. There are some interesting examples on how work and nature have been connected, which other companies could take advantage of. For example in Lahti, there were built remote workstations in forest to prompt well-being in work and hinder stress (Lähdetluoma, 2021). These kinds of inventions could be great way of prompting also creativity in work, helping to solve problems or inventing new project. Of course, more research about the effectiveness of these kinds of inventions is needed.

Creativity is often linked to artists, painters, scientists, and similar figures in public discourse. There are many explanations and theories of the term, but in my opinion, the beauty of creativity lies in the fact that each individual can enjoy their inner creativity and use it however they choose in their everyday life. It can be magical or tamed-everything in between, but it is like a special superpower and if someone needs help to discover and releasing this creativity, nature can be an

excellent place to start with. Unfortunately, we are witnessing the climate crisis and loss of biodiversity happening, and how human actions are destroying and polluting this beautiful Mother Nature. A healthy Earth is essential for life, but humans tend to exploit every corner of it through unsustainable actions. Therefore, I challenge everyone to step into nature, pause, and admire its beauty. Perhaps that step will lead to the discovery of a greater source of inspiration, which will not only enhance inner creativity but also deepen the connection with nature, making our actions more sustainable and environmentally friendly.

Lastly,

I want to thank all the participants, who shared their views on how nature experiences can enhance their inner creativity. The topic is definitely not easy to word out, but without your stories, it would not have been possible to carry out this study. It was special to read about of your experiences. Thank you.

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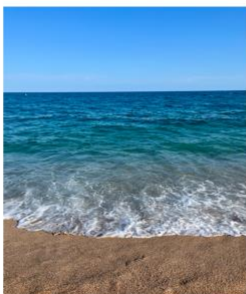
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Appendices

The Beauty of Nature—survey layout

The Beauty of Nature



Hello and welcome !

I am conducting research on how nature experiences can enhance people's inner creativity. This study is part of my Master's studies, which I am currently pursuing in the Creativity and Arts in Social and Health Fields master's degree program at the Helsinki Metropolia University of Applied Sciences in Finland

I would like to invite you to participate in my research by answering to this survey which only includes one open-ended question on the connection of nature experiences and creativity. The study applies a narrative approach with an aim to give a voice to anyone whose experiences relate to the research topic, and to tell freely about these experiences.
You can answer either in English or in Finnish.

All answers are highly appreciated. Thank you very much!
Best regards, Lilli Lempinen, lilli.lempinen@metropolia.fi

Hei ja tervetuloa!

Teen tutkimusta siitä, miten luontokokemukset voivat lisätä ihmisten sisäistä luovuutta. Tämä tutkimus on osa maisteriopintojani, joita suoritan parhaillaan CRASH - Creativity and Arts in Social and Health fields - maisteriohjelmassa, Metropolia Ammattikorkeakoulussa.

Kutsun sinut osallistumaan tutkimukseeni vastaamalla tähän kyselyyn, joka sisältää yhden avoimen kysymyksen luontokokemusten ja luovuuden yhteydestä. Tutkimuksessa käytetään narratiivista lähestymistapaa, jonka tavoitteena on tarjota kaikille joiden kokemukset liittyvät tutkimusaiheeseen, mahdollisuus vapaasti kertoa omista kokemuksistaan.
Voit vastata joko englanniksi tai suomeksi.

Permission

Participating in this study is voluntary and no personal identifiers will be collected.

Please note that it is on the respondent's responsibility what kind of information they include to their stories. In the finalized thesis, the narratives provided by the participants will not be connected with any personal identifiers. All gathered raw data will be destroyed after the thesis has been published.

By answering to this survey, you will give permission to use your answer as part of the research.

Tähän tutkimukseen osallistuminen on vapaaehtoista, eikä henkilötietoja tai muita tunnisteita kerätä.

Huomaa, että vastaaja on itse vastuussa siitä, millaista tietoa hän sisällyttää tarinoihinsa. Valmiissa opinnäytetyössä osallistujien kertomuksia ei yhdistetä henkilökohtaisiin tunnisteluihin. Kaikki kerätty raakadata tuhoetaan opinnäytetyön julkaisun jälkeen.

Vastaamalla tähän kyselyyn annat luvan käyttää vastaustasi osana tutkimusta.


[Privacy notice](#)

☐ Permission *

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Question


Please describe one nature-related experience which has somehow enhanced your inner creativity. You may also describe several experiences if you wish. Kuvaile yksi tai useampi luontoon liittyvä kokemus, joka on jotenkin lisännyt sisäistä luovuuttasi. *

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Thank you

Thank you for participating in this research! Your answer is valuable and will help to reveal important insights about how nature related experiences can be linked to enhanced creativity.

If you have any questions or other comments, please contact me via email: lilli.lempinen@metropolia.fi
The finalized thesis will be published at www.theseus.fi

Kiitos osallistumisestasi tähän tutkimukseen! Vastauksesi on arvokas ja auttaa paljastamaan tärkeitä oivalluksia siitä, miten luontoon liittyvät kokemukset voidaan yhdistää lisääntyneeseen luovuuteen.

Jos sinulla on kysyttävää tai muita kommentteja, voit olla minuun yhteydessä sähköpostitse: lilli.lempinen@metropolia.fi

Valmis opinnäytetyö julkaistaan osoitteessa www.theseus.fi

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Saavutettavuusseloste | Metropolian tietosuojaselosteet

Privacy notice

A Privacy Notice for Scientific Research

NOTE. This form only applies if the participant submits personal information.

Within this study, Your personal data will be processed according to the European Union General Data Protection Regulation (679/2016) and current national regulation. The processing of personal data will be described in the following items.

Data controller of the study

Lilli Lempinen, Helsinki Metropolia University of Applied Sciences in Finland.

Contact person for matters related to the processing of personal data

Lilli Lempinen, lilli.lempinen@metropolia.fi

Types of personal data that will be collected

- Participant's narratives about nature-related experiences which have enhanced their inner creativity.

There is no statutory or contractual requirement to provide Your personal data, participation is entirely voluntary.

Personal data protection principles

Data will be collected through the E-form (E-lomake) platform. When processing the data, it will be stored in the protected network disk drive of Metropolia University of Applied Sciences.

The data that is to be processed in the information systems has been protected using the following:

- ✓ user ID
- ✓ password
- ✓ user registration

For what purpose will personal data be processed?

For research purposes on how nature experiences can enhance people's inner creativity.

Legal basis of processing personal data

Consent granted by the data subject.

Nature and duration of the research:

This is one-time research.

The data will be collected in the fall of 2023 and analyzed by the end of the year 2023. The finalized thesis will be published in spring 2024.

What happens to the personal data after the research has ended?

Any research materials containing personal data will be destroyed.

Possible transfer of personal data outside the EU or the EEA:

Your data will not be transferred outside of the EU or the EEA.

Your rights as a data subject

Because Your personal data will be used in this study, You will be registered to study registry. Your rights as a data subject are the following

- Right to obtain information on the processing of personal data
- Right of access
- Right to rectification
- Right to erasure (right to be forgotten)
- Right to withdraw the consent regarding processing of personal data
- Right to restriction of processing
- Notification obligation regarding rectification or erasure of personal data or restriction of processing
- Right to data portability
- The data subject can allow automated decision-making (including profiling) with his or her specific consent
- Right to notify the Data Protection Ombudsman if you suspect that an organization or individual is processing personal data in violation of data protection regulations.

If the purposes for which a controller processes personal data do not or do no longer require the identification of a data subject by the controller, the controller shall not be obliged to maintain, acquire or process additional information in order to identify the data subject for the

sole purpose of complying with this Regulation. If the controller cannot identify the data subject the rights of access, rectification, erasure, notification obligation and data portability shall not apply except if the data subject provides additional information enabling his or her identification.

You can exercise your rights by contacting the data controller of the study.

Personal data collected in this study will not be used for automated decision-making

In scientific research, the processing of personal data is never used in any decisions concerning the participants of the research.

Pseudonymisation and anonymisation

All information collected from you will be handled confidentially and according to the legislation. The data will not be given to people outside the research group. The final research results will be reported in aggregate form, and it will be impossible to identify individual participants. Research data will be stored in the protected network disk drive of Metropolia University of Applied Sciences until the thesis is finalized and published, after which it will be destroyed and deleted permanently.

