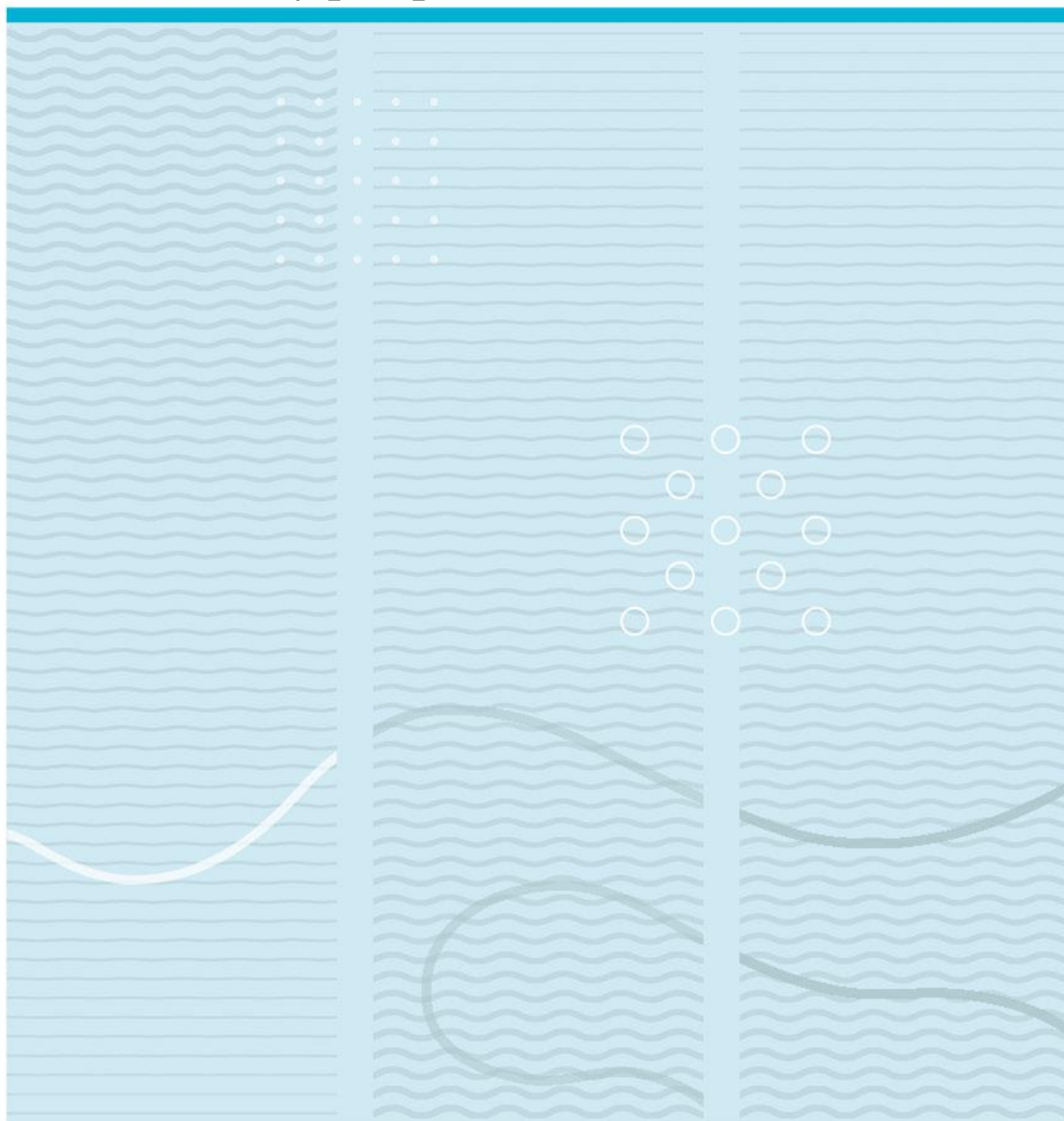


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Elements of nature: Exploring Energiverket participants' outdoors experiences from an Actor– Network theory perspective



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This thesis is worth 30 study points.

Summary

In this thesis, the outdoor experiences of participants at Energiverket were explored. The data collected underwent analysis through the lens of Bruno Latour's Actor-Network theory (ANT) and was subsequently connected to a public health perspective.

I conducted two field trips with six participants from Energiverket's outdoor group. The group aims to offer low-threshold nature-based activities to support mental health recovery. These trips lasted from 8:00 to 16:00 each and provided data from three sources: field notes, interviews, and written records. Data were later analysed using Braun and Clark's reflexive thematic analysis. Additionally, ANT was also used as a methodological standpoint to highlight different perspectives.

The findings highlighted nature and humans as equal parts of the narrative – with a flat ontology. Five themes emerged from the data: *Nature Can Make Us Feel Rewarded Through Tasks*, *Nature Seen as a Safe Place*, *The Social Aspects of Nature: Going Alone and Together*, *Nature as a Timber for Storytelling*, and *Nature as a Place for "Friends"*, which produced various implications that can be applied to projects that use outdoor activities to improve human health. The themes included elements of nature that highlighted various connections between the experiences of the participants and the health perspective. This includes connections made with environmental psychology and also the Salutogenesis model.

To summarise, the Energiverket case study shed light on various nature-based intricacies and potentials that could be incorporated into the public health agenda. Further research is necessary to fully understand the profound connection between nature and the improvement in the quality of life it can offer.

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Foreword

I would like to express my gratitude to the Energiverket outdoor group for warmly accepting me into their community. In addition to the chance to collaborate on this project, I thoroughly enjoyed participating in their outdoor activities. Their kindness and inclusion are truly valued.

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I had an incredible time exploring friluftsliv practices thanks to the wonderful NoFri class of 2023. I am especially grateful for my four amazing flatmates, who made the experience even better.

I would like to express my heartfelt gratitude to my family. Without their incredible support, I would never have been able to embark on this incredible journey. I consider myself incredibly lucky to have been born into such a wonderful family. Thank you all from the bottom of my heart.

Finally, I would like to cheer for the views and places I wish we could have explored together. You will always be my strength and biggest motivation—Grazie Papa.

Bø, Telemark, 15/05/2023

Oswaldo Bruno Borrello

1 Introduction



Figure 1 29th of May 2022, Sandviksfjellet, Bergen, Norway, Osvaldo Bruno Borrello

29th of May 2022: After a few hours of walking, my friends and I reach the top of *Sandviksfjellet* (Figure 1), one of the seven tops in Bergen (Norway). One of my friends, exhausted, turns to me and says, “Now, I am genuinely happy”. At that moment, I smiled and felt that emotion deep inside – as an outdoor enthusiast, I could recall it countless times during my experiences. The peak of a mountain, the sounds of the ocean, the brightness of the moon, and the wind between the leaves of a forest are multiple elements that create this sensation of warmth. Now, thinking back to it, various questions arise from this event: “Was there something in nature that made him happy?” “What were the features that provoked this reaction?” “Are we always happy in nature?”

These might be silly questions, but this wondering is the sparkling light of a more significant process that brings me here: trying to understand the relationship between human beings and the more-than-human world. In this case, the latter refers to what we usually call “nature”. To comprehend this intricate relationship, one must invest time and acquire knowledge. While there is some current understanding, further study

is necessary. What is generally missing in the existing literature is giving enough agency to nature. For instance, nature has been primarily used and understood as a background with little-to-no impact on how we interact with it. In contrast, this dissertation addresses nature as an active component – an actor – that influences us and plays a role in our daily lives.

1.1 Healthy Lives Live in Nature

The connection between nature and well-being is significant, as being in natural environments can have many benefits for both physical and mental health. Below are some studies that explore the positive effects of nature on health:

- Physical activity: Spending time in nature can provide opportunities for physical activity, such as hiking, walking, or cycling, which can improve cardiovascular health, muscle strength, and flexibility (Hartig et al., 2014).
- Air quality: Natural environments often have cleaner air than urban areas, improving respiratory health and reducing the risk of lung-related diseases (Hartig et al., 2014).
- Stress relief: Spending time in nature has been shown to reduce stress, anxiety, and depression by decreasing levels of the stress hormone cortisol and increasing feelings of calm and relaxation (Hartig et al., 2014).
- Immune system: Exposure to nature has been linked to improved immune system function with increased exposure to natural environments associated with increased antibodies and other markers of immune function (Rook, 2013).
- Vitamin D: Spending time in the sun can increase the body's production of vitamin D, which is essential for bone health and the prevention of certain diseases such as osteoporosis and certain types of cancer (Lips, 2006).
- Attention and cognition: Spending time in nature has been shown to improve attention, focus, and cognitive function, benefit learning and memory, and improve overall mental health and well-being (Berman et al., 2008; Bratman et al., 2015; Tennessen & Cimprich, 1995).

It is worth noting that the advantages of being in nature can differ depending on the person, surroundings, and type of experience. For instance, spending time in a natural

setting that is noisy or dangerous could have harmful impacts on health (Wigle et al., 2007). In contrast, spending time in a tranquil, verdant environment may yield positive outcomes (White et al., 2019). A case study conducted in the Netherlands found a correlation between green environments and self-reported health (de Vries et al., 2003). Academic research has considered various factors, one of which is forest bathing, which has been found to positively impact the sympathetic nervous system by reducing stress hormones and lowering the risk of developing mental disorders (Li & Bell, 2018). Extensive research has been conducted on urban parks, which have been found to significantly alleviate stress and mitigate mental health issues (Annerstedt et al., 2012; Ward Thompson et al., 2012). According to the review of Konijnendijk et al. (2013), there are 86 studies cited that examine the health benefits of urban parks. Out of these studies, only one comparative qualitative study demonstrates that outdoor areas, coastal areas, and urban woodlands positively impact stress levels and restorative experiences through exercise and activity compared to parks (Krenichyn, 2006). There have been other studies conducted on blue landscapes. However, they have received less attention than in other settings and have not been systematically analysed (White et al., 2018); there is evidence for a connection with psychological benefits (de Bell et al., 2017).

Our natural surroundings create an ecosystem that impacts our health; this might be called *ecological public health* (Lang & Rayner, 2012). Rayner (2009), in his article, clearly expressed how ecological (the investigation of the human and non-human world as a whole) public health collides with human public health. To reduce it in more accessible terms, our ecosystems allow us to live healthier lives (Lang & Rayner, 2012). *Ecosystem services* are defined as the benefits humans can obtain from ecosystems (such as forests, grasslands, mountains, etc.); these influence our health in different spheres (MEA, 2005). For instance, biodiversity loss and climate change influence our health massively, showing the connection between humans and ecosystems (Watts et al., 2015). There may be doubt about why studying nature more in-depth is a health promotion factor. However, as Van Den Bosch and Bird (2018) described in their book, we must find sustainable solutions where people and nature are considered a whole ecosystem to stop environmental degradation and climate change. Governments have already addressed this in their policies: “Increasing exposure to nature” has been

included in the agenda from 2015 in the Sustainable Development Goals (SDGs) as a sub-goal for “Good health and well-being” (Bosch & Bird, 2018). It reveals that being in nature might help increase our health.

Non-communicable diseases (NCDs), such as diabetes, cancer, obesity, and mental disorders, have mostly been found in the urban context (Bosch & Bird, 2018) and are a primary global health issue (WHO, 2014). This might show the link between the growth of NCDs and the consequences of urbanisation (Potts, 2012). Hence, it becomes fundamental to understand if exposure to nature can benefit human health and well-being, especially in this scenario. As already said, NCDs dominate the global health burden of disease, which includes mental health disorders. Mental health disorders are usually caused by stress (Mariotti, 2015), and one of the consequences of urbanisation is chronic stress exposure (Godfrey & Julien, 2005). Nature might be the “cure” for the chronic stress that urban environments produce.

Interacting with nature has been found to prevent stress and promote positive mental health, potentially reducing the risk of developing mental disorders (Van den Bosch et al., 2018). Environmental psychology studies human behaviours and well-being in the socio-physical environment (Stokols, 1978). In the 21st Century, researchers are interested in nature and its relation with health and the sensation of stress relief and show a correlation with the perception of natural environments as more restorative than urban environments (Van Den Berg et al., 2007). What is missing now is that the moderating factors are still unknown, such as if certain features are specifically crucial for the stress-relieving effects (Van den Bosch et al., 2018).

This aspect is crucial because defining "nature" can be complex when considering which elements contribute to our health and well-being. Understanding how exposure to nature can improve human health is essential, but debates about the concept of "nature" will always exist. While this dissertation will not delve into that debate, clarifying terminology is necessary.

1.2 Nature

The concepts of *nature*, *ecosystem*, *environment*, and *humans* have been used interchangeably. However, delving deeper into their meanings is essential to

understand them fully. While creating a divide between nature and culture may come at ease, this has been a longstanding issue since the era of the Old Testament (Castree, 2013). However, nature is intertwined with culture. It can be seen from different perspectives, and recently it has also been conceptualised with the term “landscape” (Keune et al., 2022). Landscape was defined in 2000 by the European Convention on Landscape as “an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors” (*Council of Europe Landscape Convention (ETS No. 176)*, 2000).

There are many representations of nature, and all its forms create everything that makes part of this world (Castree, 2013). However, for the sake of this dissertation, a separation between urban and natural landscapes will be made. Natural landscape refers to landscape without the human touch; as already seen, nature and culture are entangled, and pristine nature no longer exists in the 21st Century (Nuwer, 2016). Hence, I will refer to a natural landscape as one with a degree of “naturalness” (Birnbacher, 2019). Then, during this dissertation, the term “nature” will be used to point to an environment with naturalness within (more-than-human nature). It must be said that even in the urban landscape, nature can be found in parks, so parks and natural areas within the urban environment might be considered “nature”. This had to be clarified because the term nature has been assumed during the years to have a blurred meaning.

Different social perspectives of nature have been developed over the years, one of which is Bruno Latour’s actor-network theory (ANT) (Latour, 2007). Latour (1996), in his work, uses ANT to identify that every “actant” create a “flat ontology” where the agency of humans and non-humans makes epistemology. Hence, in the narrative humans create, every actant (whether nature or human) is on the same level; there is no hierarchy in the perspectives used.

We are interconnected with nature; we can heal and improve our well-being through nature. All matter has consciousness, interacting with us in shaping our experience with nature (Allen, 2011). Modern humanity has dictated our worldview, elevating the human being as the main character of ontology (Latour, 1993b). We must reshape our perspective of nature to discover how to live better and healthier lives. Are we willing to

listen to and accept nature as it is? Are we prepared to humble ourselves and construct a new narrative based on the world rather than solely on humans?

Actor-network theory involves not only building flat narratives between humans and the more-than-human; it also concerns a whole perspective on how we should look at the actants. Those are the knots of the network that are the phenomena we investigate; it will be further discussed in the Issue chapter (2). Currently, we will introduce the phenomenon in its entirety.

1.3 Energiverket Case Study

Experiencing nature influences human beings. It is essential to delve deeper into the experience and consider the role of nature. Nature should be given more agency and viewed less as a mere background. To understand what happens while experiencing nature, we must transgress the division between nature and society and highlight the actants that play a role in human-nature practices (Murdoch, 1997). Hence, it was necessary to build a project for this thesis that allowed me to investigate the experience of *friluftsliv* and question what is happening.

I collaborated with Energiverket, an outdoor group based in Kristiansand, Norway. Energiverket is part of Kristiansand Municipality and has an outdoor group that uses outdoor practices as a low-threshold stress activity for people with (mental) health problems. They introduce activities to help people manage social anxiety, mild depression, and social challenges. They have been running this program for over five years and constantly accept new participants needing help. The programs (outside of the outdoor group as well) the municipality offers are led by professionals in mental health nursing. I joined their hiking group to grasp people's experience with nature and how it influences their lives. The Methods chapter further discusses the details of Energiverket. However, it is necessary to highlight that the data collected came from a case study and explain why this is important. This project can be defined as a case study. According to Yin (2009), to be a case study, the research subject must be bounded to one or more of the following:

1. Exclusive membership of a bounded "group/entity" (in-group vs out-group);
2. A delineated location/place; and/or

3. A delimited time frame.

All three criteria bound Energiverket's outdoor group. Furthermore, Energiverket's hiking group could be defined as an instrumental case. An instrumental case is still explored in-depth, and the context(s) are scrutinised, but the focus is on pursuing the external interest of insight and generalisation (Hodge & Sharp, 2016). For instance, the project aim is to highlight *nature as an actant*; hence, the focus is external from the interest of Energiverket, which is providing mental health support. During the data gathering, many examples were made where nature was part of the participants' narrative, which helped the project reach its goal.

1.4 Aim of the Dissertation

In order to explore the human-nature interaction within the case of the friluftsliv-group at Energiverket, I have formulated the following research questions for this study:

- **How do the hiking group participants at Energiverket describe interaction with nature or elements of nature they experience?**
- **What are the threads the participants highlight where nature is considered an actant?**
- **What connection can be made between the thesis results and public health?**

Since the nature experience is comprehensive, the goal is to frame the settings people interact with into elements. The aim is not to find empirical relevance; however, we can investigate what happens while participants interact with nature through qualitative methods. Despite nature being a constant presence, we have not fully realised its potential in today's human world where infrastructure surrounds us. We must adapt our lifestyles to improve society while maintaining our health. To achieve this, we must delve deeper into nature and learn to coexist with it. This dissertation will consist of four chapters: Issue, Methods, Results, and Discussion. In the Issue chapter, I will provide the theoretical background and introduce the research problem. Moving on to the Methods chapter, I will explain the methodology used to collect and analyse data and why it was chosen to achieve the thesis goals. The Results chapter will display all the data collected for the thesis, while the Discussion chapter will analyse and interpret the findings.

2 Issue

The anecdote in the introduction posits: being in nature can make one feel happy. “Being in nature” in the Nordic perspective can also be called *friluftsliv* or open-air life (Beery, 2013) and is not newly associated with an increased quality of life. Friluftsliv, a term coined by Henrik Ibsen, is associated with humans distancing themselves from their daily routines (Ibsen & Guthrie, 1859/1910). As for my friend as for Ibsen, that moment felt like life was distant (Figure 1). This whole spectrum of emotions based on deep relaxation and a “light heart” generated a curiosity towards what happens in the human body when we dive into nature. As shown above, it has always been addressed agency to nature in the human being narrative. However, different perspectives framing nature with an active role and views in the opposite have arisen, where nature is merely a background for today’s society to express itself.

It is indeed mandatory to take a position on the view of nature and state clearly how much “power” it is given when discussing the outdoors as a social event. The problem stands in our interpretation of whether we choose to separate beforehand nature as an element that shapes our experiences or as a result of narratives from our society. This could limit us because taking a direct position might deny us some possible interpretations of the phenomena. Hence, during the thesis, the central perspective will be Bruno Latour’s Actor-Network theory (Latour, 1993b). However, before discussing that, we must introduce a few concepts that will be used later in the analysis relevant to the results that Energiverket participants created.

2.1 Nature in the Public Health Perspective

Nature has been discussed on a sociological level and addressed in multiple facets; this discussion has no absolute truth and probably never will. We also know nature has physiological effects on humans (Hartig et al., 2014). This does not nullify all the sociological discussion that has been created, but it could be helpful to highlight that “something happens” when we experience the outdoors. There will not be an extended discussion about physiological processes. However, an overview is needed to support the claims when linking the results with the public health perspective, mainly since the

Energiverket Association aims to offer low-threshold activities to enhance people's health.

Different benefits of nature have been listed before; one of them that is required now to highlight is the stress relief power of nature. Different theories support how contact with nature can help cope with stress, such as Stress Reduction Theory (SRT) by Ulrich (1991) and Attention Restoration Theory (ART) by Kaplan and Kaplan (1989) (van den Berg & Staats, 2018).

The former affirmed through experimentation that viewing natural settings can provide more effective restoration from acute stress than viewing built scenes (Laumann et al., 2003). The environmental features present in nature may cause positive reactions, including the restoration from stress (van den Berg & Staats, 2018). Meanwhile, the latter developed by Kaplan and Kaplan (1989), states that a "soft fascination" coming from an environment that does not require cognitive effort (such as nature) permits restoration of the central executive function, thus, coping with stress and mental fatigue (Basu et al., 2019). In addition to the already cited SRT and ART, the Biophilia hypothesis has to be taken into consideration. The hypothesis developed by Wilson and Kellert (1993) claims that humans have an innate affiliation with other living organisms and that a connection to nature is part of our genetics. This would support using nature as a therapeutic landscape to rehabilitate human mental functions. The review by Hansen et al. (2017) shows empirical research findings linking nature therapy, particularly forest bathing, with physiological and psychological benefits. However, it is also stated that there is a need for more longitudinal studies to investigate nature as a healer further and prevent the distress caused by today's society. The case study presented by Energiverket highlighted links regarding the relationships between nature and health. The group participants have progressed in handling situations thanks to spending time in nature and with the Energiverket group.

Managing and completing tasks could be appealing and part of the restoration process, but it could also be associated with a sense of meaningfulness and belonging. This concept can be found in two theories: social cohesion and sense of coherence (SOC). The first relates to how the individual is pulled towards being part of a community, the motives that bring participants to belong to a group or a society (Fonseca et al., 2019).

Additionally, the participants' perceptions are linked with the shared belief of their group (Fonseca et al., 2019). One can feel cohesion with a specific group only if it provides a proper environment with mutual norms and values allowing the participant to be actively involved in the group activities (Fonseca et al., 2019). Social cohesion is also defined as the “field of forces” that pull participants into a community (Friedkin, 2004, p. 411). This might include **feeling trust, belonging and connectedness** (Jennings & Bamkole, 2019). The relationship between social cohesion and a better quality of life has been explored deeply in the academic field, producing evidence of a positive correlation (McGowan et al., 2022; R. J. Smith et al., 2022). Antonovsky (1996), in his salutogenic model, uses the sense of coherence (SOC) as a critical factor for promoting health. According to him, SOC could be defined as a general orientation towards the world that makes it **comprehensible, manageable, and meaningful**. The “field of forces” that draws people to have feelings of trust, belonging and connection to the group could be related to the three achievements of a strong SOC. The definition of SOC and social cohesion share multiple elements, although the latter requires people’s participation (Chu et al., 2016). Hence, the origin of these sensations is different. Social cohesion requires a group, while SOC could relate to nature as an entity. The results will expose how differently the participants would benefit from the group, from being in nature, and possibly from the combination of the two.

In conclusion, *place attachment* is the last concept that needs to be introduced. Place attachment could be defined as “the bond developed between people and places” (Davenport & Anderson, 2005; Ramkissoon et al., 2012); sense of identity and belonging to a place is related to place attachment (Brown & Raymond, 2007). Stories, past experiences, and knowledge about a place create a bond between humans and a place. Therefore, we can define place attachment as the affective link that people settle within a context where they tend to remain comfortable and safe (Hidalgo & Hernández, 2001).

The concept of “place” could open a discussion. I will refer to a “place” using Sommerville’s (2010) definition for the sake of conciseness: place refers both to a material terrain and a representational concept. In this definition, nature could arguably be considered a place, especially in the Norwegian context, where the conceptualisation of nature is highly developed.

The issue now stands on how the bond of place attachment is formed. The connection between place attachment and public health has been shown in the academic field. Place attachment enhances the restorative benefit nature can provide humans (Townsend et al., 2018). Additionally, it is related to nature connectedness, which might encourage people to interact more with nature and improve their well-being (Howell et al., 2011; Mayer et al., 2009; Mayer & Frantz, 2004).

This project has not been focused on the physiological aspect, although quite relevant (it will be developed further in the dissertation). The link between nature and public Health is an exciting field that involves everyone, which will be considered for later analysis. However, the central part revolves around the practice of going out in nature, or friluftsliv, as a social event. The goal is to investigate nature as an actant, highlighting the multiple treads created when humans interact with it.

2.2 Different Perspectives of Nature

As introduced before, nature has been seen in different ways. In his work, Abram (2017) analyses how phenomenology evolved. From Husserl to Merleau-Ponty until his work. Nature, in this view, is powerful, dynamic, and divine, defining experiences and shaping human life. The concept of phenomenology originated from Husserl's perspective, which some argue is overly focused on the essence of things and too "transcendental" in nature due to the practice of bracketing assumptions until the essence is discovered. Merleau-Ponty and the same Abram moved on from the Husserlian view, giving the body and its senses more importance for the experience. This is where this perspective drew particular interest and created some concerns. Our body and flesh are how we can communicate with the more-than-human world; our senses are pristine and untouched, which cannot be denied (Abram, pp. 49-61, 2017). However, even the mind could filter the body; even sensations could be biased. The same experience could be perceived differently just by one's state of mind, and other elements could influence that. Language – for which our minds are particularly well-adapted – also cages discourses about one's experience. Undeniably, how we speak and create knowledge is influenced by the communities we belong to.

This other side of the coin is where our experience becomes a manifestation of the communities or society. The perception of nature in our environment becomes the

driving factor of our experience, whether one will perceive being outdoors pleasant or dangerous—the approach towards enjoying nature changes based on the chosen activity. Bourdieu (1977) might define those perspectives as “doxa”; these doxas, when spread through society, create mental and bodily behaviours that are “habitus”. Although this might seem to fixate all the concerns that phenomenology might have, it is challenging not to allow nature agency. In both views, there is a neat distinction between nature and society.

This might be too simplistic, but experiences must shape the perspective of society about the meaning of nature. Therefore, one new experience or something that changed the perspective has happened at some point, and most likely, nature had a role in that as well as society. Societies are built around places and not the opposite. Therefore, the more-than-human world has a part in the foundation of a community as much as the community creates a perspective around it.

It becomes more interesting to look at this phenomenon because the perspectives develop an option for the being more than a direction to follow. Nature is not defined by society but can be described by it from a human perspective.

This view that investigates the experience as a network made by different agents (actors) has been developed by Bruno Latour. Using Latour’s ideas, I will now dig further into the theory to understand how the friluftsliv phenomenon was looked upon during this project.

2.2.1 Actor-Network-Theory and Nature

Bruno Latour’s (pp. 88-90, 1993) perspective allows us to see the practice of being outdoors as a network. It takes on four deals from a modern perspective that divides nature from society. The first is that humans cannot master reality; it just exists. The second is about society from which people cannot be divided; we are bonded. The third deals with our language and narratives; we created the language which dominates us even though it is just symbolic texts and discourses. The fourth and final speaks of Being, that humans and the more-than-human world share possessing it. In a divided view, these deals are incompatible. From a phenomenological and constructivist perspective, these deals also stand firmly. Therefore, we must find a solution that

allows us to view the network by dismantling the agreements. The issue begins when we try to define nature.

2.2.2 Nature as a Social Element

As already expressed, nature could be seen as a social element as a social mirror. Some communities have a strong narrative of being linked and befriended by nature. While others share a view of the danger of nature or that it is meant just to be exploited. How people perceive nature is determined by their community. The being acts because of the social bond (Latour, 1993b). The discourses and stories about nature result from society's needs rather than a creation based on a meeting between humans and non-humans because usually, nothing happens on an existential plane when humans encounter the more-than-human world (Bourdieu, 1977).

2.2.3 Nature as the More-Than-Human World

On the other side, nature can be seen as a being. Some perspectives have given nature agency (Hultman & Lenz Taguchi, 2010) where the narratives built around it come from a flat ontology, where the human and non-human world create a description of reality together. Although this narrative is based on experience and therefore denies the implication of cultural biases through *bracketing* our assumptions, alternatively, giving voice to our perceived bodily sensation in a more Merleau-Ponty/Abram direction (Abram, 2017). As introduced, we are speaking about a description, not reality's essence. Although this might solve some concerns about the perspective, speaking of flat ontology in a language shared only from one side would create a paradox. Past experiences could bias our bodily sensations. In the end, what we perceive when interacting with more-than-human matter is a mere interpretation of what could mean in the human world; it becomes hard to report a lived experience while not being influenced by any social sphere (Murray & Holmes, 2013).

We find ourselves challenged because every step we take in a direction could be critiqued from the opposite perspective. We cannot accept arbitrarily switching between the dichotomy and symmetry of nature and society because it would not be considered a severe position. Therefore, we need to "break free" from the boxes of

language, society, discourses, narrative, Being, and nature and try to see those elements in the network (Latour, 1993b).

2.2.4 Nature as an Actant

When defining Nature, there is an inner complexity of the task. Nature is an entity; it evolves, grows, and expresses itself, and we can study it from different angles, like from the inorganic natural sciences or as a biological system. Nature also has a social sphere, an arena for our events and activities. However, it also has agency, creating stories of its own accord that can be interpreted as the leading actor or co-actor in an assemblage with a flat ontology. In his writings, Latour (1993a) introduces the concept of "actant", which refers to the ability of objects to exert influence. Nature can be considered an actant because it influences our observed phenomena. According to Latour, flat ontology means that several transcendences exist in a singular, non-total, and open network of inherent existence and worth (James, 2013). In other words, the actants can be considered the knot into our experiences. The flat ontology is the threads that link the actants and create the network or assemblage.

Throughout human history, the networks created by nature have been limitless. Consider the first representation of animals made by *Homo sapiens* in caves. How shall we see these prehistoric cave paintings as language development, the first thought of the Being, or the acknowledgement of nature? The point here is that a separation made prior to diving into an analysis could lead to the wrong path, as there could be potential implications that were overlooked.

The same could be said when we investigate the outdoor experience. We might lose possible interpretations to undue bias if we fixate on a social or a phenomenological perspective. The separation could be more valuable if applied in later stages of interpretation (Latour, 1993b). Initially, we shall see nature as a knot where the network is traced. Nature is narrated, yet an agent in our experience: it is part of the social sphere, yet existential and a comprehensive being. This connection is possible if we minimise our bias since Nature, Society, Discourse, and Being surpass us infinitely (Latour, 1993b).

For instance, during the project, participants reported different portraits of nature. Some would speak about nature as an ally or a friend, while on other occasions, they would refer to it more as an inanimate arena where something happened. However, independently of how time spent outdoors was perceived, agency was given to nature. Nature had an active role in the lived experiences and the narratives or discourses described by the participants.

Therefore, in the process of this thesis, using an inductive method with thematic analysis of the data (which will be seen further in the Methods chapter) helped avoid confining information to one specific view. The events (or data, in this case) during the project have been seen as the meeting point where all the discussed elements join to create our experience. Different interpretations are possible; it does not mean the author arbitrarily decides what is social, discursive, language, or Being (Latour, 1993b). However, while interpreting the experience, it is required to highlight what could fall under each sphere. In the end, every research is a transcription of reality, and modern critical thinking requires surpassing our perspectives' limits (Latour, 1993b).

To conclude, the framework explored now is necessary to understand the project perspective. The thesis focuses on participants' experiences: **How do the hiking group participants at Energiverket describe interaction with nature or elements of nature they experience?**

The participants' descriptions are seen in a flat ontological perspective that is part of the Actor-Network theory. When we view nature as a knot, it presents various threads or interpretations to consider. The process could highlight multiple perspectives since Bruno Latour's ANT allows us to see many links created between the actants. However, a decision must be made to give relevance to the thesis and answer the research questions. It is essential to apply the separation of meanings later rather than imposing it beforehand (Latour, 1993b). This suggests that ANT serves not only as a viewpoint but also as a methodology. In the next chapter, I will discuss the process that assisted this thesis in reaching its aim.

3 Methods

In order to reach the aim of the thesis, I needed to dive deep into the practice of friluftsliv. The academic coursework in the last two years about friluftsliv helped understanding better the meaning of being outdoors. Additionally, this project has been conducted in a full Norwegian context. This might have created biases for both the researcher and the participants since the predominant perspective was the Norwegian perspective (which will be discussed further in Pre-assumptions). Additionally, as introduced before, the approach followed an inductive methodology, allowing the data to unfold in the later analysis. The role of the researcher for this project was as a participant-observer (Musante & DeWalt, 2010). It was moderately challenging as it required me to utilise well-developed social skills to be accepted into the group. For the analysis, thematic analysis was selected due to its flexibility. These choices were made to align with the interests of the project and to be comfortable with the context of the participants. Two field trips were dedicated to delving into the participants' experience, each lasting from 8:00 to 16:00. Through qualitative methods, namely, inductive thematic analysis; I investigated what happens when we focus on the elements of nature that we interact with. In this case, the emerging factors reflect thoughts, feelings, and perceived physical sensations.

3.1 Context

For this research, I collaborated with Energiverket in Kristiansand, Norway (*Kristiansand kommune - Energiverket, 2023*). Energiverket is part of Kristiansand Municipality and has an outdoor group that uses friluftsliv as a low-threshold stress activity for people with (mental) health problems. Before embarking on this study, I talked to the leader of the outdoor group, which helped me understand the dynamics of the association and the group itself. Many events are proposed to the public, including fitness training, arts and music, and different outdoor activities. The friluftsliv group has distinct possible groups; the current groups are paddle and hiking groups, and it is the latter group which the project was built upon.

The group leader has a background in mental health nursing; they aim to allow people to develop themselves by embodying the activity. The experience created feelings,

thoughts, and physical sensations that people might struggle to express, recognise, or accept. The participants can work on them and overcome their struggles thanks to autoregulated activities. This implies that even if there is the role of a leader, there is no hierarchy in the decision-making while doing any activity. Additionally, participants might be asked to take the lead in some cases.

In this case, my role had to be as a participant observer since a specific background was needed to deal with delicate issues, even though a prior conversation with the group leader was made to establish what could have been done (a topic further developed in Ethical Considerations, Section-3.7).

3.2 Recruitment

Participants were recruited at the beginning of 2023 through an information letter via the group leader. The letter contained information about the research project, procedures, rights, and privacy. All the participants signed the letter. The population that was involved in the project follows these criteria:

- 1) Above 17 years of age
- 2) No gender requirements
- 3) Part of the Energiverket Friluftsliv mental health support group

The only exception was made for the researcher, that was not part of the group (in contrast with the third point).

3.3 Participants

The participants included three females and three males (plus myself, the researcher) aged 18 to 65. A dog was carried around during the trips together in the outskirts of Kristiansand in Norway. All the participants were Norwegian, excluding the researcher from Italy. The group has been together for over five years, and they deeply know each other very well. Everyone was free to interact and share dialogues at any moment; no rules besides using mobile phones were established, which were not allowed as a habit in their practices. All the participants had previous experience with the outdoors; it was insightful because it created an environment where knowledge about nature was shared. Moreover, everyone had a particular appreciation for outdoor activities, which

allowed on more than a few occasions to enjoy being present. The participants had previous negative experiences with researchers from other fields; however, since the nature of the project was social, they still were open about discussing and engaging with the researcher.

The group leader was a professional mental health nurse. The participants voluntarily joined the events proposed by Energiverket. Although the intention is not to have a hierarchical structure, the decisions made during the trips primarily depended on the leader. Nevertheless, as mentioned above, there were moments when participants guided the rest of the group.

3.4 Data Creation

The structure of the project profoundly influenced how the data were collected. The initial idea was to spend more time with Energiverket with a more ethnographical approach (Atkinson, 2016). The goal was to be part of the group and grasp their experiences and the role of nature in their practices. Unfortunately, there were complications that made this methodology not possible. The choice shifted then to multiple sources of data in order to gather as much as possible and allow every participant to express themselves in the manner of their preference.

Three resources were used. The first resource was the field notes taken during the time spent together; the second was a focus group interview; the third was a collection of written reflections made by participants. Even though it was a late adjustment, the combination of data gifted depth of insights and allowed relevant themes to rise more clearly. In the end, it became one of the biggest strengths of the whole project.

The data were collected on three occasions with additional written reflections made by participants. The first day was a conversation with the group leader. On the other days, two trips were made with different activities, and a focus group interview with all the participants was conducted on the final day.

3.4.1 Field Notes

Field notes were the primary sources of data collection. The reasoning behind this choice is that the aim was to avoid guiding the participants into the perspective used for

the later analysis. The role of the researcher was of the participant as an observer: to be central in every activity and have the possibility to make observations based on the experiences shared (Gold, 1958). The goal was to become familiar with the participants and settings without blending entirely, keeping a professional distance that permitted the space necessary to make meaningful and thorough observations (H. Smith, 2011). Although the researcher's presence must be accounted for as a possible adverse factor (H. Smith, 2019), it did not result in any reported negative outcome.

The participants during the trips were free to interact with each other and the researcher, and they were allowed to withdraw from any uncomfortable situation at any moment. On the field, short notes on prepared topics of interest (conceptual framework) were made to avoid creating a barrier and were subsequently elaborated on in a different, with less distraction environment (Bechhofer & Paterson, 2000; Mulhall, 2003). This enabled the researcher to blend naturally and participate actively in the group. Moreover, in a case where participants who appeared sensitive were involved, the methodology allowed the researcher not to be seen as a stranger (Denzin & Lincoln, 2017).

To conclude, observations made as a participant fit perfectly with multiple data sources to build a comprehensive data set (Cohen et al., 2011). The two trips focused on activities; the first had fire-making as the central part, and the latter had ice bathing as the primary experience. Thanks to those activities, stories and personal thoughts were shared, giving the research practice-based rich data.

3.4.2 Focus Group Interview

A semi-structured focus group interview was conducted on the final day, focusing on themes that emerged before that moment. Due to the circumstances, only one group comprised all participants, possibly too crowded to allow each to express themselves (B. Smith, 2016). Additionally, in this case, the interview had to be conducted on a specific day as there was no possibility of changing the schedule. It occurred after the ice bathing activity and suddenly when it started snowing. As one could imagine, the participants were trying to warm themselves around the bonfire, and when asked to reflect on those themes, they struggled to do so. However, some answers and reflections occurred.

This legitimated the choice to prioritise the observations made in the field notes as the primary source of data collection. Once again, the field notes supported strengthening other data sources (H. Smith, 2019), especially in this project, which had many adjustments.

3.4.3 Written Observations

Another outcome of the focus group interview was the option of providing written observations afterwards. Document collection was needed to contribute to the triangulation of data sets of field notes (intentional conversations/observations), interviews, and participant observations (Oancea, 2014). This added the possibility of expression to the participants that struggled the most during the conversations and the interview. Additionally, the participants' first language was not English, but they were allowed to write in Norwegian. The written documents were translated by DeepL (*Data Security at DeepL*), a software that ensured the documents' data encryption, which might have caused some loss of nuanced meaning. Three participants out of the six gave their written observations. Although it may result in a more structured approach, the written guidelines followed the interview guide and were later thought of as support for further observation developments (H. Smith, 2019). While managing written documents, a higher thoughtfulness occurred since the medium is more apt to contain more personal information (Mertens, 2014), and participants consented to their use.

3.5 Thematic Analysis

For data analysis, thematic analysis was selected as the method because the flexibility and fit with this inductive approach allowed a wide-ranging overview of the data. Thematic analysis is a qualitative data analysis method that involves identifying, analysing and coding patterns or themes in data (Clarke et al., 2015). Virginia Braun and Victoria Clarke (2006) created a guide to lead the researcher during the thematic analysis composed of six steps: *familiarising yourself with your data*, *generating initial codes*, *searching for themes*, *reviewing themes*, *defining and naming themes*, and *producing the report*.

First, the researcher needs to familiarise themselves with the context, goals, and any relevant theories or framework; they must read through the data several times to

understand its content and develop an understanding of its key issues and themes (Braun & Clarke, 2006). In this project, the point was to understand the context of Energiverket, how the group usually operates, and how they try to utilise nature to develop personal growth. While doing that, the attempt was to hide the thesis goals and let the data “speak” for themselves.

Afterwards, once the data set was completed in the data transcription, the researcher must start checking for meanings and patterns (Braun & Clarke, 2006). During this phase, the goal was to identify where nature had a role in the narrative of the experience. Nature or being outdoors or the thought of both sometimes generated discussions, thoughts, and feelings of physical sensations. Everything related to humans and nature was stored as data segments.

When generating codes, those data segments were labelled as representative of critical themes and relevant patterns; notes were made to store them. The themes were identified thanks to the data segment’s frequency and prevalence in the code (Braun & Clarke, 2006). For instance, a repeated narrative of feeling relaxed after a long hike in nature could be considered a theme; it involves an interaction between humans and being outdoors.

Then, themes were refined on the coded data that were significant to the project’s goals (Braun & Clarke, 2006). Nature might have been present in people’s experiences but not in a way meaningful enough to be able to identify its significance.

Subsequently, the themes were analysed concerning each other and the research question or goals, considering their relationships, patterns, and potential implications. Additionally, those themes have been interpreted as their relationships, explaining the articles’ significance to the research question or goals.

The last part was to write the results of the thematic analysis in a clear, concise, and meaningful way (Chapter 4) including a description of the themes and their relationships and the implications of the findings for the research question or goals (Chapter 5).

3.5.1 Consideration of Thematic Analysis

Thematic analysis is straightforward, but there are many possibilities for conducting a poor analysis (Braun & Clarke, 2006). Braun and Clarke have illustrated the criteria for conducting a proper thematic analysis in different publications (Braun & Clarke, 2006; Clarke, 2013; Clarke et al., 2015). One critical point during this project was shifting towards an entirely inductive approach. While gathering data, connections to previous knowledge were made; this could have denied possibilities for upcoming data to emerge.

Before the project, preparation was made to analyse the data on different levels; this consolidated a few assumptions about the role of nature and the interaction with humans. While this approach could be more inclined towards grounded theory analysis (Walker & Myrick, 2006), it might not have been optimal for a reflexive thematic analysis because the chosen methodology was more aligned with an inductive approach. However, the combination of Bruno Latour's Actor-network theory (1993b), which requires a separation at later stages of the analysis, and thematic analysis, which is indeed an interpretative methodology, fit perfectly. The main issue was to let the data unfold and avoid any biases during the analysis, allowing the researcher to see the threads (interpretations) generated from the knot (nature as an actant) and not the opposite. The researcher is trying to refer to this when it is stated to use ANT as a methodology.

It is important to note that thematic analysis is a flexible and iterative process, and revising and refining themes was necessary as the analysis progressed. Additionally, it was essential to maintain an objective and transparent approach to the analysis and to be open to new articles and insights as they emerged from the data (Clarke et al., 2015). After gathering all the data, it was mandatory to be explicit about the assumptions and cognitive biases before moving on to the analysis.

3.6 Pre-assumptions

While participating in a contextualised activity, such as practising friluftsliv in Norway, bracketing a few expectations is challenging. One outsider that meets the Nordic country for the first time is suddenly immersed in the romantic narrative that nature is

part of our daily life, especially if you are close to the academic culture regarding outdoor studies, where figures like Henrik Ibsen and Arne Næss are often associated with the foundation of the meaning of friluftsliv (Ibsen & Guthrie, 1859/1910; Naess, 2009). The narrative that one might expect comprehends nature as a way of distancing from modern life. The pace, the settings, and the increased sociability of the practice suggest the bias that nature can be a tool for relaxation. This might have been part of the participants' cognitive biases since they were all Norwegians and also the researcher's own bias since I was immersed in a Nordic friluftsliv context over the past two years.

There are too many factors in one's life to determine what might be considered a shared experience; socioeconomic status, age, and gender are a few examples (Gurholt, 2015). Friluftsliv has different meanings for the Norwegian population; for example, one might seek a risk as a reward, while others might seek deep relaxation in their practices (Gurholt, 2015). In this case, the project revolved around a hiking group where the participants all pursued help to cope with mental health challenges. Hence, even if not forced, there is a natural connection with the literature regarding nature and public health. Additionally, the researcher's background is in health science (kinesiology). Multiple biases that might prevent an analysis on a different plane than the physiological one might arise.

Although it might be that those assumptions might limit the research, the awareness of understanding the immediate implications that one's mind does is powerful in the analysis (Matta, 2022). The impulsive approach was categorising each data segment under a known perspective, which was deemed inadequate. To address this, it became necessary to familiarise oneself with each data extract and analyse every thread generated. This methodological approach made the theoretical framework inseparable from the data, with each data extract forming a crucial part of the entire dataset. Every possible implication was explored as a potential theme.

Adopting an Actor-network theory perspective, each theme was viewed as an actant with the potential for interpretation and correlation with other themes and existing literature. The natural world, society, narratives, and discourses were all considered possibilities to create a consistent interpretation of human experience.

3.7 Ethical Considerations

This master thesis project has been assessed and approved by NSD, the Norwegian Centre for Research Data (Approval number 848658). Nevertheless, more careful assessments were made for this project while collecting data. Although the nature of the research was sociological, the participants were subjects that (with different degrees) struggled with mental health problems; even though the environment built allowed room for exchanging opinions and dialogues, the researcher needed to not push too much into personal data that might cause a participant to have a negative reaction. This might be considered paradoxical since the best data often come from something deeply personal (Guillemin & Heggen, 2009). It takes time to build a relationship in order to comfortably address severe personal issues, and during the project, there was not enough time to build for such a relationship. Luckily, no personal distress was reported, and besides just one participant that did not interact, everyone shared something about themselves, including the researcher.

During the conversation with the group leader on the first day, the “zone of the untouchable” was discussed, described by Danish philosopher Knut Ejler Løgstrup as the sphere of personality that cannot be touched because it imposes a defensive state in the person (Guillemin & Heggen, 2009). Additionally, the group had a negative previous experience from another study conducted in the mental health nurse field. There was some concern from the group leader that information too personal might have been asked for. An understanding of the interest of this thesis and what was allowed to “touch” in the discussions with the participants was found. Additionally, the nature of the thesis is sociological; hence, it would not require any diagnosis and digging into traumas. During the trips, this was kept in the researcher’s mind, which helped the conversations fit more naturally and avoided any potentially harmful experiences for the participants. All the data collected were made anonymous; during the transcription, all extracts that included personal data or details that could allow the identification were removed or edited. All the participants that participated in the study were given pseudonyms and made genderless to ensure the anonymity of each one.

3.8 Methodological Considerations

The focus group interview faced many adversities because of the forced setting previously described in 3.4.2. The interview was forced to take place on the last day we could spend together; otherwise, it would never happen. This created a situation where the researcher was forced to conduct the interview independently of the conditions. On the last day trip, the group practised ice bathing in a frozen natural lake. The interview was scheduled for afterwards, with all participants seated around a bonfire. All the participants, including the researcher, were in a post-shock condition (because of the coldness of the water) while trying to warm themselves. After some time, as the researcher, I decided it was necessary to stop the interview to handle the possible distress the situation might cause the participants (Arifin, 2018). Later, after moving inside to a warmer place, many participants would declare that they could not ponder outdoors. At that point, the idea to implement written documentation (with the consent given for later utilisation) from the participants resolved some of the barriers and gave accessibility to each participant to express themselves.

Other barriers happened during the time spent together that prevented the development of better data. The first and most important was the language and cultural barrier (Arifin, 2018). The outdoor group was entirely composed of Norwegian people, and the researcher comes from Italy without any knowledge of the Norwegian language. Therefore, the spoken interactions between the researcher and participants occurred in English, which felt unnatural to the participants since Norwegian was spoken between the group components. This did not prevent data generation but influenced the one participant that did not interact and might have found a better environment talking in their native language.

In conclusion, a concern might be raised about the possibility of generalising an individual case. Whereas in the “force of the example” stands a possibility, a single case could be central to scientific development through generalisation or as a supplement to alternative methods (Flyvbjerg, 2006, p. 228). Although the project does not follow a case study approach, some features fall under the characteristics of one. Thanks to data collected in this context, possible implications could lead to developing concepts not limited to this specific scenario.

4 Results

Five themes were identified from the analysis of combined data:

1. Nature Can Make Us Feel Rewarded Through Tasks
2. Nature Seen as a Safe Place
3. The Social Aspects of Nature: Going Alone and Together
4. Nature as a Timber for Storytelling
5. Nature as a Place for “Friends”

As suggested by the titles of the themes, nature was considered an actant in each identified theme. The results have shown how nature was part of the experience with an active role and how the interpretation of the meanings of it was necessary for the later stages of the analysis to address agency. Additionally, nature covered an active role in each data extract that will be used to explore more profound themes. The experiences contained nature as a knot with multiple treads. Those treads in the analysis will lead the discussion, but I shall put all the relevant assemblages on paper for now.

Each theme explored contains two perspectives: one from the researcher and one from the participants. The researcher’s field notes are marked in *italics*, while the participant’s observations from the interview or the written reports are reported as block quotations.

4.1 Nature Can Make Us Feel Rewarded Through Tasks

Throughout this project, the recurring theme of “being rewarded” was predominant and could arguably be considered the main topic due to its frequency and prominence in the dataset.

During the first trip, we had fire-making as the day’s main activity. The group decided not to bring any wood but to collect it instead. When asked why they preferred searching for it instead of just bringing it, multiple participants expressed feeling more rewarded by gathering wood rather than bringing wood directly from the base.

On different occasions, participants expressed that something they enjoy about going outdoors is feeling rewarded for the tasks that nature provides them. One example

related could be collecting wood, but it could also be applied to other activities. For instance, during the second trip, the group decided to go ice bathing, which was an activity that typically provided a sense of accomplishment among participants. As Marco said during the interview:

The ice bathing activity allows you to prove yourself. Once I decided to do it, I turned to it and made it happen. It feels rewarding knowing that you manage to stick to and do it.

Subsequently, in the interview, when asked to provide examples of other activities that were not part of the two days spent together, Marco continued with the following:

I feel the same [sensation of reward] after long hikes. Knowing that you made it through after 8–9 days of camping and hiking, you completed your goals, and as well I gained new experience and new knowledge on how I should have done many things during the trip.

At that point, since multiple participants were expressing the sensation of reward related to different activities, the interviewees were asked to elaborate on whether mastering something concrete, particularly in nature, could make us feel more accomplished.

Curtis: Nature is always in a driving position, and we have to accept managing what nature gives us. Being able to handle those situations gives us the feeling of reward.

Gina: It is not up to us to master nature; we work with nature to complete the tasks.

In the quoted data segments, nature is fundamental, but it has been seen as an ally that provides us with challenges and will make us feel rewarded. Multiple participants described this sensation described as “warming for the body and the spirit”. The use of the body or tools (axes, shovels) was crucial for achieving this feeling. Additionally, experiencing the reward was associated with positive emotions, as Gina elaborated in their written document:

Nature gives me balance, perspective, challenges, and beautiful views. I can bring the experience of nature into my daily life and seek to spend more time outdoors because that is where I feel in balance and at home.

The transfer from the *friluftsliv* practice to managing everyday life was a shared opinion between the participants. Several participants described how completing a task could give the sensation that one could overcome adversities, which would be later associated with a sense of self-efficacy. During the trips, every participant was eager to show me their knowledge about nature and its different applications.

Once we found a good log to collect wood, the participants started working on it with their axes. They shared what they would consider the best technique to do the job and the best result possible. They called a “filet” the pieces of wood because of the reminder of the salmon steak. Once one participant managed to carve a big “filet”, everyone got excited and complimented them. Afterwards, the same happened when we had to light the fire. Fio was excited to show me their technique using the flint.

4.2 Nature Seen as a Safe Place

In contrast to what has been highlighted, another shared opinion was that nature must be enjoyed in a “safe” way. The Energiverket group has no established rules but interacts with nature following a scheme. The activity is the centre of each day; the participants share the choice. This creates expectations around what will happen during the day, and it also helps to visualise the possible outcomes of the day and be ready for different scenarios. For instance, during the second trip, where the group decided to do the ice bath, we decided to be silent before dipping in the water to be ready to face the challenge ahead.

Ten minutes before arriving at the lake where we were directed, Gina reminded us to be silent. It was a shared decision to allow everyone to be ready to immerse in cold water.

The silence (that will appear later as another theme) was a solution proposed to make the activity safer. While talking to the group leader, they said that the assessments adopted in the group are commonly shared among the participants to make nature more predictable so everyone could contribute. Nevertheless, they also declared that it

is the group leader's responsibility to "sort things out". Among the participants, feeling safe was mandatory to be present to challenge themselves and overcome adversities.

Marco: Sometimes you have to try and challenge yourself ... But, in a safe way, you can fail and try again because you know that you are safe ... This gives us the security that we can manage those challenges.

Several participants reported that they do not refer to "being safe" as a complete absence of menace but to the awareness that they can overcome any encounters waiting for them. In contrast, the group put obstacles in everyday *friluftsliv* to make them more complicated and intriguing.

Gina: We sometimes get lost [in nature] on purpose ... The trip is always going to be safe, but we know that nature will bring challenges, and we want to be ready to cope with them.

"Being safe" does not just include the human world, but nature is part of the concept as well. While gathering wood for the fire-making activity, some rules were commonly shared between participants.

The group commonly believed that nature is not meant to be harmed or shaped. We were after a completely dead log on the ground that was not too close to the path. We encountered a few logs while hiking, but they were either too near or still alive until we found the perfect log that allowed us to follow our shared view.

Indeed, there were situations when the boundary between safe and unsafe was less than clear, and an examination of the balance between safety and reward was needed. However, it was commonly shared that the priority was also given to the safety component and achievement of the tasks was only secondary. Additionally, being in a group helped many participants to be able to feel safer practising *friluftsliv*.

Marco: Having a specific ground [Energiverket outdoor group] makes nature becoming more predictable ... It sets up boundaries that make it feel safer.

The group, in this case, was another example of a resolution that made nature more accessible for the group itself. The theme of being in a group not only involves the sensation of being safe as I will now show, the social dynamics of being outdoors are shaped and change based on whether one goes alone or together.

4.3 The Social Aspects of Nature: Going Alone and Together

The participants had different opinions regarding whether to enjoy nature alone or in a group. However, they all agreed that being in a collective shaped their practices. In the quotations above, we could see how a group dynamic prompted the establishment of boundaries that changed the perspective of nature. Gina gave another example regarding how being in a group could help overcome possible challenges:

Gina: If you find tasks challenging, we are trying to use the group to overcome them.

The group, consolidated through the years, would show differences when talking between themselves and the researcher. The interaction dynamics would change depending on if the participants were alone or with someone else.

While hiking, every participant besides me approached me alone or with someone else. The conversations we shared would drastically change if it were a 1-on-1 conversation or with multiple people, and participants were more inclined to share something more personal in the first scenario. In contrast, the interactions with multiple people, maybe because of the less familiar language, would be more superficial and chaotic.

Moreover, how one could interact shifted between being with someone else and in a group. In this case, different considerations have to be made. As reported in the field notes, it was atypical for the participants to interact with each other in a different language than Norwegian. Additionally, the researcher's personality should be accounted for as a fundamental factor. The observation does not correspond to how a participant will interact 1-on-1 all of the time; however, maybe because of the influence of the research context, the participants would try to be more reflective.

During our trips, a dog accompanied us. The participant responsible for keeping the dog on a leash chose to stay towards the back of the group. Several participants agreed that the positioning in the group affected their experience.

Fio: If I lead [in nature] or in front of the group, I tend to look after the path more and be less social. My focus is always on my next step, and I would find myself going faster ... If I am in the back or the middle, I go slower, and I am more social ... I let the others carry me.

While these dynamics could also be related to a more general sphere and not strictly related to the *friluftsliv* practice since participation in many activities in a group or alone would affect the participant's experience differently. Firstly, the forest where we hiked to collect the wood was commonly known by every participant besides the researcher. As the group leader declared, the group explored the forest multiple times but wanted a new path.

Although everyone knew the forest, they tried to explore a new path. The direction was clear, but the group allowed themselves to change the path based on what we encountered. Once we arrived at our "destination", all the group shared that it was the first time they had taken that path to arrive there, even if they usually go for the same spot.

Then when asked how a group or individual setting shaped the exploration, there were mixed opinions among the participants. It was an even distribution: half would not be highly affected. Gina reported in their written document:

Gina: I do both. I have my secret places I never share with others, but I also enjoy exploring new places both alone and with the group.

Conversely, the other half described how they would adapt based on the scenario they would find themselves in. Piccolo gave an example of a large gap between the two possible situations during the interview.

Piccolo: Being in a group and alone is very different to me. I find it easier to connect to nature when alone being silent ... And we [Energiverket outdoor group] sometimes walk silently. We all experience the same weather and nature, so in that way, we feel "the same". At the same time, the personal experience will vary.

Several participants reported that they found it easier to "connect" with nature while being alone and in silence. At the same time, they would find themselves more willing to be social in the group when they forwent the intention of enjoying nature silently. This second way of exploring was discussed during the focus group interview, and it stood out from the other approaches towards nature for what it prompted each participant to express.

4.3.1 Exploring Nature with Silence and Calm

Every participant reported that sometimes they would choose to hike in complete silence. On the first day, while collecting wood without a prior agreement, the group started to wander silently; the participants respected the silence until the participant that was in the lead was uncertain about where to go.

We started hiking and looking to collect some wood; it was morning around 9:30 AM. The silence was created by the light conversation among the participants at some point, and we silently agreed to respect the silence while walking for about twenty more minutes. Everything became so present, and I was lost in nature until Fio, who led us, turned to ask where to go. Gina pointed out that they noticed a few good logs to be collected but did not want to break the silence.

Although it was a practice that the group used to incorporate into their practices, it felt extremely natural to wander silently. Many participants reported that walking in silence would make them feel calmer; this perception was also associated only with walking in nature.

Fio: I feel more free [to interact] while in nature; it's easier to express your emotions when you feel calm like in nature.

Different participants shared a sense of calmness, and the combination of silence and being outdoors was the most associated with this calmness. Moreover, in this case, the feeling was also correlated with more sociability. In the Energiverket group, nature was where many stories and adventures were narrated. Not only was nature both a background and catalyst for openness but nature also took a fundamental role in the narrative of those stories.

4.4 Nature as a Timber for Storytelling

One story was shared after we collected some pine wood. The participants were sharing their knowledge about the properties of pine as a good timber for fire when the smell of the resin inside the wood reminded Marco of their child in a story.

While we were gathering fire from a dead pine log, Marco started smelling the resin inside one of the pieces that we just collected. They started telling me a story about their

child. The kid needed some wood for a kindergarten fire-making event with the school. Since Marco knew that pine wood was excellent for lighting a fire, they gave their child that kind of wood, explaining why it was so good. Especially the resin inside that they would call “tyri” [pinewood soaked in resin]. Since then, the kid has always wanted the “tyri” to light any fire. The pungent smell of the resin reminded Marco of the many times camping with their child.

The smell was the trigger for Marco that reminded them of this story. Many other smells triggered the participants’ memory that would then lead to the telling of a story. Gina made another example in their written document. In this case, a frozen lake triggered a deep story and a subsequent reaction in a companion:

Gina: Some years ago, we crossed Hardangervidda with a group in wintertime. Back home, I had a friend fighting cancer. We crossed a frozen lake getting closer to a steep hill. I started thinking about my friend and the fact that they would never be able to do this kind of trip again. I started to cry and shared my thoughts and feelings with the group. One of the participants said that their head was full of negative thoughts about the steep hill (will I make it? It will be hard etc.). After my sharing, they said that it changed their perspectives from negative thoughts to, “How lucky I am being alive and able to feel both pain and happiness.”

This was a memory of an encounter that triggered a reaction in one of the participants. The reaction then shaped the experience for the individual and the group and gave them a meaning of what was happening then. Another case was when we returned from the fire-making activity; two participants wanted to revisit a place to tell us a story.

After we had our lunch around the fire, we started hiking back. Gina and Fio led the group and wanted to pass by a lake with a small piece of land in the middle. Once we found the lake, they told us they had “conquered” the island a few months ago by swimming there. They now wanted to check how their “conquered island” [what they were calling the piece of land] was doing; they were proud of their accomplishment because they perceived the swim as long at that time. Now, while looking at it from the coast, they realised that maybe in their head, it was longer than it actually was.

[continue later... (4.5.1)]

From this data segment, nature becomes a fundamental part of the story, an emotion, a memory of something done together. It makes us engage with others narrating our stories and sometimes inflates them (*e.g.*, the island's distance from the shoreline). This last part is linked with another theme, the attempt to relive old memories. The participants, during the hike, would try to revisit places or elements of nature that would remind them of something, most of the time something happy.

4.5 Nature as a Place for “Friends”

It frequently happened that the whole group would shift the hike towards something familiar. However, it could also be just one participant that decided to try to influence the path of the group in order to share something. The following few examples are linked by a theme of trying to “feel at home” while being in nature. Some of the encounters we had made participants feel this sensation again, and this sensation was shared while hiking but outside of the collected data (the interview and the written document).

This next theme is based more on an outside observer's perspective. Thus, all the data come from observations made on the field notes. Each sub-theme will start with an observation to be investigated in each fragment.

4.5.1 Conquered Island

[following from the previous observation (4.4) ...] Gina and Fio wanted to share with their “conquered island” to tell us a story and share an accomplishment [swimming from the coast to the island] that they were proud of. They also shared it with us because they felt attached to the “island” and wanted to check if everything was okay.

The piece of land in the middle of the lake became an island in the narrative of the two participants. Although many other islands were in the lake, they created a bond toward that one in particular and “conquered” it. Since the last time they checked had been months ago, they took the chance to go back and relive this moment they shared once more.

4.5.2 Pinewood

When we had to collect firewood, we encountered different dead logs, but none of them were acceptable to the group. They insisted that we use pine wood and were conscious that one could light up a fire with other kinds of wood. However, since they always did it with pine wood, they kept using that. Additionally, the group enjoyed the smell of burned pine.

The pine previously has resulted as a trigger to a story while here it appears as a group friend. Each participant insisted on collecting pine and elaborated on why pine wood is better than others. They also refer to the resin, *tyri* in Norwegian, as the primary justification for the choice.

4.5.3 Fireplace

After collecting enough firewood, we headed towards our “destination”, where we made the bonfire. The group, before the hike, agreed that there was no exact location in mind on where to go. However, since it was sunny, they knew a spot by the lake where the sun could have given us a warming light. That is when we decided to go for it. Once the fire was set and the group was seated, a shared silence occurred. Afterwards, multiple participants refer to this moment as “the best”. Multiple participants shared that they could feel calm and cosy.

The participants already knew the place where we set up the fire. They knew that being under the warmth of the sun’s rays on a sunny day could make them feel a certain way. They immediately sought out the location of our bonfire, eager to experience those emotions once more.

4.5.4 Heartstone

At some point on our way back from the dip in the frozen lake, the participants started to look to the ground independently of where they were positioned in the group. Once I asked what they were looking for, they answered that they were searching for a specific stone shaped like a heart. I joined the investigation until one participant found it, and everyone was happy because “Heartstone” was found.

Once again, the *Heartstone* was considered a friend like the *tyri*. The group was eager to show the researcher and check the stone's condition. This time there was no story behind the reasoning for a visit; it was a landmark that needed to be passed.

4.5.5 Mushroom

Before concluding our second trip, Piccolo noticed a mushroom, and they revealed we could make an axe sheath out of it. Subsequently, they also noticed another mushroom on a tree three meters up, and Piccolo and Fio started climbing on each other to collect it. Piccolo then explained that this mushroom was practical for making tea.

The expertise of Piccolo made them share their “friends”, in this case, the mushrooms. The group was interested in the possibilities of those mushrooms; additionally, while sharing the information with the rest, Piccolo was genuinely happy to explain every detail of the processes.

In the data presented in this chapter, nature appears as a knot that creates many things: tasks, challenges, sociability, stories, and more. Next, I interpret the threads generated from this knot in the Discussion.

5 Discussion

This thesis aimed to explore friluftsliv experiences: *How do the hiking group participants at Energiverket describe interaction with nature or elements of nature they experience?*

The findings presented allow for multiple interpretations. Nonetheless, as previously mentioned, the link between nature and health is robust and requires further investigation. Therefore, while there may be significant social implications, it is essential to highlight the findings on the network between nature and health. Nonetheless, the data collected had a strong connection in the health field despite no intention to delve into the experience for the connection with health.

Lastly, the interpretation of the themes sought to explore their meaningful relationships and provide a narrative explanation of their significance to the research questions (Braun & Clarke, 2006). The link between the themes and existing literature regarding the health perspective of nature and the meaning participants address to the friluftsliv perspective will also be shown. The discussion will be divided into two parts from the five themes explored before (Chapter 4, p. 32):

1. Nature Can Make Us Feel Rewarded Through Tasks
2. Nature Seen as a Safe Place
3. The Social Aspects of Nature: Going Alone and Together
4. Nature as a Timber for Storytelling
5. Nature as a Place for “Friends”

In the first part, we will discuss the health implications the data reveals. In contrast, the second part will examine the significance of spending time outdoors and draw upon constructivist, phenomenologist, and Actor-network perspectives. It is important to note that these three avenues of interpretation are interrelated and offer a comprehensive understanding of the topic.

It is important to note that the separation of constructivism and phenomenology does not invalidate Bruno Latour’s Actor-network theory. This separation was made during later stages of analysis, and what is being expressed reflects what could be relevant in the academic field.

The analysis from a public health perspective does not hinder ANT. This analysis was particularly relevant as it was closely related to the topic. To elaborate, after exploring the potential interpretations of the data from a health standpoint, the potential implications in other areas were also considered. The reader is invited to delve into the process of analysing potential threads. Some threads were given more attention, while others may have been overlooked. I hope the highlighted context and threads will inspire a desire for knowledge.

5.1 When Humans Meet Nature: Health Implications

One of the central parts of the results was about the challenges nature gave to the participants. As shown in the previous chapter, the group would feel rewarded after completing a task. A reward has always been part of the Scandinavian *friluftsliv*, if not a core element (Gelter, 2000). In the Scandinavian narrative, managing to complete a task that nature provided to you is often associated with the reward of being connected with nature (Gelter, 2000).

Participants would report that they could complete these tasks because they were ready to cope with nature's challenges. Nature was seen as a safe place to prepare for and manage tasks that might appear. This might be linked with the Attention Restoration (ART) and Stress Reduction (SRT) theories (introduced in Section 2.1, p. 14). Nature might be seen as an enhancer for the restorative process in handling stressful situations (Hartig et al., 1991).

The theory of ART emphasises "directed attention" and "fascination". This theory suggests individuals have limited attention spans for non-captivating things (van den Berg & Staats, 2018). When a tired individual enters a situation that does not demand cognitive effort, it allows them to recharge and renew their central executive function (van den Berg & Staats, 2018). Repeated experience of "restoration" has been found beneficial to enhance one's well-being (Groenewegen et al., 2012, Section 3). This fits perfectly with what the Energiverket hiking group expressed.

First, we have to consider the population of the participants. Individuals willingly enrolled in the program with the intention of seeking assistance in their journey towards mental health recovery. The respondents expressed that completing the

assigned tasks would give them a feeling of accomplishment, making them feel capable and productive. However, it is essential to consider the social context as it can influence beliefs about health-related circumstances (van den Berg & Staats, 2018).

Based on the data sample, it is evident that social context in outdoor settings is a prominent theme. Participants' experiences and emotions were influenced by their activities and whether they were in a group or alone. As previously mentioned, being in a group promotes social behaviour, which can foster the creation of Social Cohesion. In comparison, the Sense of Coherence can be attributed to the activity or the individual's exploration of nature in the absence of a group (Chu et al., 2016). However, both refer to belonging, trust, meaningfulness, and comprehensibility (Jennings & Bamkole, 2019).

Being more motivated, understanding challenges and believing in their affordability shape a strong SOC (Antonovsky, 1996). We could also relate this with what was shown in the results: participants would use group dynamics to manage tasks, explore new places, and simultaneously experience a connection with nature while alone.

Furthermore, connecting with nature has been argued to provide individuals with a sense of purpose and emotional wellness (Mayer & Frantz, 2004).

In the Energiverket outdoor group, the ability to "connect" with nature alone has been expressed on multiple occasions. As well, sociability would increase while exploring nature in the group; this finds academic relevance since several studies support nature as a social cohesion enhancer (Cook & Swyngedouw, 2012; de Vries et al., 2013; Goldy & Piff, 2020; Jennings & Bamkole, 2019; Peters et al., 2010; Walsh, 2011).

Another concept emerged from the results: I observed how nature acted to facilitate and enhance storytelling and how people desired to revisit places and "friends" that have met in their *friluftsliv* practices. These features link with the concept of *place attachment* (Ramkissoon et al., 2012) (defined in Section 2.1 p. 14). However, the results also showed that encounters shaped participants' feelings, emotions, thoughts, and bodily sensations. Additionally, feeling safe or comfortable with the surroundings was a common observation among the participants. These sensations shared by participants could develop embodied place attachment through activities that make one feel safe and "at home"; thus, a greater attachment to the place built (Segers et al., 2021). Participants' desire to revisit certain places and be with their "friends" may

indicate the development of an emotional attachment. This attachment pertains to the relationship between humans and nature, where nature is viewed as a place (This idea was discussed in Section 2.1). The connection between these two elements and nature's positive impact on restoring well-being is directly connected to public health promotion (Frumkin & Jackson, 2014).

In the academic context, multiple theories have been developed to highlight how nature could affect humans' mental health. These effects have been shown to occur in measures of memory, attention, concentration, impulse inhibition, and mood (Bratman et al., 2012). However, the many doors to which the results lead the interpretation are fascinating, and they express the need for more research in the outdoors from the public health perspective. This topic will be explored later, but now, we shall see the possible meanings of being outdoors.

5.2 When Humans Meet Nature: The Meaning of Being Outdoors

During the conversation about their outdoor practices, participants' various perspectives on nature were brought to light revealing how nature can shape human narratives and descriptions. The data highlighted how nature was considered an actant, resulting in a flat ontology where both humans and non-humans were seen as equal parts of the narrative (Latour, 1993a). In this discussion, it is necessary to distinguish the different meanings of being outdoors and emphasise the role of threads drawn by nature as an actant. Three perspectives will be highlighted: constructivist, phenomenological, and actor-network. It is worth mentioning that alternative perspectives could have been emphasised. However, the intention was to utilise Actor-network theory not only as a viewpoint (where nature is considered an actant) but also as a methodology to achieve the thesis objectives.

5.2.1 Nature as a Social Element

The results show several examples of how the group's beliefs influenced the participants' narratives about nature. For example, the group's collective belief that they must adjust to their surroundings and duties may have been shaped by the goals

of the Energiverket outdoor group. As stated by their leader, the primary objective is facilitating individuals' personal growth through outdoor activities.

When considering the perception of safety, it became evident that the group setting significantly impacted the participants' perception. The presence of the group transformed nature into a safe place. As per the participants' narratives, we might interpret certain beliefs or "doxa" regarding nature (Bourdieu, 1977). Some of these include the notion that nature is a secure place when travelling in a group and that nature assigns tasks to individuals. After completing the tasks in nature, the participants felt secure and capable of handling them. The issue is the lack of clarity regarding whether the most significant influence comes from being in a group or nature. Further exploration of this topic will be addressed in the Implications section (5.3). Let us now delve into the other aspect of the issue, the phenomenological viewpoint.

5.2.2 Nature as the More-Than-Human World

The results showed that the participants attributed agency to nature, perceiving it as a communicative element (Murray & Holmes, 2013). For example, when they described nature as assigning them tasks that required adaptation, it could be interpreted as a form of communication. In addition, the shared stories have stemmed from interactions with nature. The forest, mushrooms, and frozen lakes – these natural elements have evoked powerful sensations in the participants. Participants have described how their experiences in nature have shaped their feelings and thoughts (Abram, 2017). Furthermore, their representations included interpreting the events surrounding them through their physical sensations (Murray & Holmes, 2013). For instance, participants often described feelings of calmness, connection, presence, or loss about their experiences in nature.

Finally, throughout our journeys, we were always guided by the suggestions of nature, and this, in turn, has greatly influenced the shape of the project as well. During the interview, we were forced to halt due to the intense cold, which led to the idea of creating written documents. I have analysed the data from the two perspectives of phenomenology and constructivism, but now it is time to examine it through the lens of Actor-Network theory.

5.2.3 Nature as an Actant

The data portrays nature as an actant, which means it plays a vital role in the social network of phenomena. It works as a knot, actively participating alongside other actants, such as humans, and other narrative elements in the events (Latour, 1996).

I developed themes based on the core of nature. I observed that participants felt rewarded and at ease in nature, almost as if they were home. Being surrounded by nature can enhance sociability while at the same time providing a calming and relaxing experience in a peaceful environment. Moreover, the inspiration for storytelling and sharing emotions, ideas, anxieties, and perspectives originated from nature. Lastly, study participants expressed how nature was viewed as a companion.

Furthermore, we now observe nature through the lens of flat ontology, but it is also possible to adopt ANT as a methodological framework. The network has different meanings, some of which have been highlighted. Now that the analysis has been completed, we can utilise those findings to generate fresh insights.

The tasks assigned by nature to the participants could be interpreted in two ways. From an experiential viewpoint, they could be linked to an inherent sense of reward. Alternatively, from a constructivist perspective, this feeling could be attributed to acknowledging one's peers.

The feeling of belonging and purpose in the activity that the participants shared in the results could stem from various perspectives. It may arise from being part of a group that shares similar values, while for others, being in nature may be the dominant factor that brings a sense of ease and fulfilment.

Finally, one's attachment to a place comes from the stories created within its natural surroundings and the experiences accumulated throughout their lifetime. Thanks to Actor-network theory, it was possible to delve deeper into the data and explore the possible interpretations. With the expanded network, we can now discuss the implications and potential future studies.

5.3 Implication and Future Recommendation

The public health perspective was predominant in the data interpretation, and numerous research possibilities exist within this field. In the upcoming chapter, we will explore the correlation between the available literature and the implications that can be inferred from data interpretation. Additionally, it will provide a reference for potential future studies. This thesis explored Energiverket participants' experiences. From the results, we can draw some interesting themes that could be developed into possible features for other projects with the same goals as Energiverket.

An example of this could be incorporating outdoor activities that focus on developing one's ability to handle challenging situations as a part of rehabilitation programs. Additionally, some municipalities might introduce friluftsliv activities with a similar structure to assist individuals in overcoming life's obstacles and reintegrating into society. Further investigation is necessary to fully understand the relationship between rewards and their impact on humans at a physiological level. It would be beneficial to delve deeper into this topic. According to Csikszentmihalyi (Bonaiuto et al., 2016), the term *flow* describes optimal experiences among the most enjoyable in human life. Intrinsic reward, which is recognition or reward for its own sake and is not goal-oriented (Gelter, 2010, p.10), is part of experiencing the *flow* experience. However, Gelter (2010) would add that in the sportified versions of friluftsliv, an external reward must be considered – that could come from the audience, media, and fame.

The reward could also be associated with recognising what has been accomplished. In their paper, Langseth and Salvesen (2018) explore the motivations that bring elite extreme sports athletes to take risks. They found a correlation between risk-taking and recognition of actions under their *Credibility Zone*. The model is applied to the climbing environment in that study; however, if we would stretch it to the Scandinavian friluftsliv context, we might see that some tasks such as hiking, fire-making, gathering wood and mushrooms, and camping are activities that are generally recognised as friluftsliv (Gurholt & Haukeland, 2019).

Based on the data collected, it is impossible to determine the reward's source, whether it is intrinsic or extrinsic (although the data might suggest that it is rather intrinsic). Any assumptions made would be speculative. Regardless of its origin, the results show that

being in nature is associated with a sense of reward. I will not delve into the significance of the sensation as that is beyond the scope of this study. However, both origins refer to the same emotion in humans. We produce dopamine as soon as we initiate a task (Badgaiyan et al., 2003) and after receiving a reward more significant than expected (Lerner et al., 2021; Schultz, 2016). Unfortunately, no relevant studies explore the correlation between dopamine and outdoor activities. Nonetheless, there is a correlation between dopamine and mental health: dopamine release could be beneficial for dealing with stress disorder and schizophrenia (Beaulieu, 2012; Klaus & Pennington, 2019; Worley, 2017).

We also delved into the concept of duality in terms of belonging, whether from being part of a group or immersed in nature. This understanding is crucial for developing programs to improve people's health. We need to determine whether a sense of belonging is primarily derived from group activities, nature-based activities, or a combination of both. A cohesive social environment “is characterised by close social relations, pronounced emotional connectedness to the social entity, and a strong orientation towards the common good.” (Schiefer & van der Noll, 2017, p.592). Following this definition, some elements could be used to explore more profound nature as a socially cohesive environment. Measuring social cohesion remains difficult as does correlating it with health (Oberndorfer et al., 2022). However, it is possibly an exciting field to explore in the direction of sense of coherence (Antonovsky, 1996). A strong SOC could be related to increasing one’s ability to cope with stressful situations. A study published by Susan Strang and Peter Strang (2001) found that there could be a relationship between patients’ “fighting spirit” and their motivation to manage brain tumours. They used SOC to expose how people handle situations (Strang & Strang, 2001). It could be possible to link one’s SOC and connectedness with nature. Another study published by Lipowski et al. (2019) examines the correlation between SOC, nature connectedness, and the motivation for practising karate. Feeling emotionally connected to the natural world is correlated with comprehensibility, manageability, and meaningfulness (Lipowski et al., 2019). Exploring the relationship between social cohesion, SOC, nature connectedness, and managing mental disorders would be relevant for further developments in the public health field.

During the discussion, another duality was discovered regarding the source of place attachment. In an article by Cross (2015), the different processes and frameworks of place attachment are examined; Cross acknowledges the concept's multiple origins from both perspectives. However, studying the roots of the place attachment concept is an issue that still stands and needs to be researched (Manzo & Devine-Wright, 2020). While some may argue that one's environment can shape their perspective, we currently view nature as an actant. Thus, this might be as well seen as the phenomenological side of the constructivism-phenomenology coin. Here we are not trying to break the dichotomy or unify the symmetry of the phenomenon because it is not part of the aim of this thesis. What has shown here is the threads that link nature with the concept of place attachment.

To sum up, the origin of place attachment may or may not be related to experience or storytelling, but it is strongly linked to the development of human habits. Studies have shown a connection between storytelling and social changes (Borum Chattoo & Feldman, 2017; Hancox, 2014; Neile, 2009; Prasetyo, 2017). Because of the correlation between health and nature described above, promoting nature engagement in many ways becomes fundamental. Sharing the embodied experience with nature or creating new narratives through storytelling holds great potential from a health perspective. Increasing people's exposure to nature through these means may prove essential. However, more research is necessary to strengthen these claims.

5.4 Strengths and Limitations

The project had strengths and limitations, some of which were attributed to its design while others were linked to the open potential of the findings. The researcher was given significant power through the design, and the triangulation of data sources resulted in a robust practice-based data set. This provided ample opportunities to develop interpretations and hypotheses that could be starting points for future research.

The Actor-network theory perspective enhanced the research by preventing the researcher from being limited to just one viewpoint, and it allowed for openness in interpreting the data unfolding within the network. The research methodology was an excellent fit for answering the research questions and for my role as a researcher in the project. As someone who joined the Energiverket hiking group from outside of Norway,

my outsider perspective helped ensure that the Norwegian perception did not overly influence me.

Being an outsider in the group could be simultaneously seen as a strength and a weakness. One of the main strengths is maintaining a professional relationship with participants without being influenced by the romanticised Norwegian view of *friluftsliv*. Regarding this matter, I was able to strike a balance between being not a stranger and maintaining a level of formality. However, there were limitations due to a lack of knowledge of the Norwegian language that caused an inability to access more complex ideas. This also affected written documents, as they had to be translated by software, which may have resulted in a loss of meaning. Additionally, the participants were subject to mental health problems. This was a limitation because, without a background as a mental health care professional, I could not make any psychological assessment and dig deeper into some issues that might have arisen from the conversations.

This master's thesis carries a weight of 30 ECTS and was completed in the allotted timeframe of four-and-a-half months. However, due to unforeseen schedule changes, data collection could only begin in the third month, which limited the amount of data and interpretations that could have been generated. The resultant adjustments made (such as written documents and field notes as a primary sources) turned out to be some of the greatest strengths of the process. Thanks to these adjustments, the data triangulation succeeded in producing an answer to the research questions.

6 Conclusion

Three research questions were generated as the aim of this thesis:

- How do the hiking group participants at Energiverket describe interaction with nature or elements of nature they experience?
- What are the threads the participants highlight where nature is considered an actant?
- What connection can be made between the thesis results and public health?

While analysing the data, multiple findings were discovered. From the participants' experiences, themes were developed and connected with various perspectives. The findings suggested a link between nature and well-being. Participants reported feeling more capable of accomplishing tasks, which aligns with the Stress Reduction (Ulrich, 1991) and Attention Restoration theory (Kaplan & Kaplan, 1989). Furthermore, the participants conveyed a sense of trust and belonging, attributing it to the natural setting and the group dynamic. One possible explanation is that there was an enhancement in the sense of coherence, which could be connected to Antonovsky's Salutogenesis model (1996). Alternatively, it could be attributed to improved social cohesion (Friedkin, 2004), as individuals felt a sense of belonging to the group. Both explanations connected the phenomena to human well-being and strengthened our connection to nature (Hartig et al., 2014; Lavis & Stoddart, 1999; Lipowski et al., 2019).

I analysed nature as an actant from a sociological perspective, utilising the Actor-Network theory (Latour, 2007). Discourses and experiences emerged from the data and portrayed nature as an entity equal to humanity in the narrative, showcasing a flat ontology (Latour, 1993a). The experiences of the Energiverket outdoor group were highlighted from different perspectives, which revealed various meanings. The implications of these meanings are significant for advancing our understanding of the connection between nature and public health.

Participants often reported feeling a sense of reward upon completing a task. To gain a complete understanding of the source of this feeling, additional exploration is required to determine if this feeling is inherent (Gelter, 2000) or derived from a sense of belonging to a community (Langseth & Salvesen, 2018). Relatedly, in Section 5.3 was

noted that there is a lack of research on the relationship between the hormone dopamine (correlated with reward (Badgaiyan et al., 2003)) and natural environments that could also be an interesting research to develop. Exploring the root of trust and a sense of belonging is crucial further understanding the significance of the roles of nature and social groups. Should we prioritise being in nature and connecting it to a sense of coherence or being part of a group and connecting it to social cohesion? Perhaps the combination is synergistic more than a sum of its parts.

The participants shared stories about nature, and reminiscing about their experiences in natural settings prompted them to relive those moments. The development of the concept of place attachment (Hidalgo & Hernández, 2001) is closely linked to storytelling and embodied experiences (Cross, 2015; Segers et al., 2021). We can conduct further research on developing the attachment to nature and prioritise strategies to encourage nature engagement.

Numerous discussions were made during the data collection process for this project. However, it is important to note that this is only a master's thesis, and additional data is necessary to reinforce the explored themes. Unfortunately, the study was conducted under slightly different circumstances and less time than originally planned (see Section 5.4); more ideal settings could have greatly enhanced its strength. Nonetheless, numerous practical applications can be derived from this thesis for future projects and studies.

These qualitative results could be useful for similar projects like Energiverket in other municipalities. These connections highlighted how collaborating with nature can help us develop knowledge in the public health field. While Energiverket already provides an excellent service to everyday people, these findings can further improve it. Moreover, generating information about projects Energiverket can aid in encouraging preventative and rehabilitating nature-based measures that promote healthier lifestyles for individuals.

This thesis emphasises the need for further research in the area connecting nature and public health, both quantitatively and qualitatively. The intricate connections between nature and health require significant effort and time to fully investigate and cultivate.

7 References

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8 List of tables and charts

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