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Nature-Based Interventions Promoting the Well-Being of Finnish Youth Outside Education or Employment

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ABSTRACT

Nature-based interventions have a potential to activate and rehabilitate youth facing challenges with social, mental, or physical functioning. In Finland, nature-based interventions have been integrated into youth workshops to foster sustainable well-being. Using an exploratory mixed-methods design, this study explores the value of nature-based interventions for the well-being of Finnish youth outside education or employment. Participants ($N=18$, aged 20-26) were drawn from three nature-based youth workshops. Sixteen participants completed survey questionnaires assessing the cognitive and social outcomes of the interventions and the key elements contributing to their effectiveness. Nine participants took part in qualitative interviews. Thematic analysis of the interview data revealed that the interventions promoted factors supporting well-being, including physical activity, structure and routine, skill development, social belonging, and meaningful participation. Participants also reported enhanced connections with nature and sustainable lifestyles. Central to these well-being experiences were the therapeutic benefits of nature, meaningful nature-related activities, and supportive social contexts. This study provides valuable insights for social workers and social service professionals to leverage nature for health and social outcomes among marginalized youth. Future research should investigate young people's preferred environments and activities toward developing tailored nature-based interventions that promote positive well-being experiences.

KEYWORDS

Nature-based interventions; well-being; youth; social work; Finland

Introduction

Nature-based interventions (NBIs) are gaining recognition as essential approaches for promoting the health and well-being of young people, particularly those in precarious situations such as being outside education or employment (Obeng et al., 2023; Overbey et al., 2023). NBIs is an umbrella term that refers to the use of nature, including fauna-, flora-, and landscape-related activities alongside other complementary approaches like therapy, labor market activation, and rehabilitation to promote positive health, well-being, and social inclusion (Obeng et al., 2023). These interventions are also emerging within social work practice, as effective approaches to address the intertwined social and ecological challenges faced by

marginalized populations, especially youth (Boetto, 2016; Slattery et al., 2023). In Finland and across the Nordic countries, NBIs have increasingly been integrated into programs supporting youth, especially those with mental health and behavioral challenges and those outside education or employment, as NBIs are believed to improve health outcomes, enhance well-being, and foster a connection with nature that contributes to both social and environmental sustainability (Berget et al., 2012; Steigen et al., 2016; Ylilauri & Voutilainen, 2021). Studies have highlighted the multifaceted benefits of engaging youth in nature-based activities, with evidence pointing to improvements in mental functioning, physical health, social participation, and skills development (Fernee et al., 2019; Roberts et al., 2020).

Although the number of youth outside education or employment has declined in recent years, their health and well-being challenges remain a major concern (Eurostat, 2024; Ministry of Education and Culture, 2024). Cross-national studies have revealed that unemployment and job insecurity negatively affect the subjective well-being, health, life satisfaction, and happiness of youth (Nizalova et al., 2021; Schlee et al., 2021), and the health effects could ripple into close family ties (Baranowska-Rataj & Strandh, 2021).

For Finnish youth, inactivity is often attributed to long-term sickness, disability, and family responsibilities (OECD, 2019). Being outside education or employment also negatively impacts their health and well-being, leading to symptoms of anxiety, depression, shame, loneliness, isolation, and a pessimistic outlook on the future (Kivijärvi et al., 2020; Lauri & Unt, 2021; OECD, 2019). The Finnish government prioritizes initiatives that promote the inclusion, activation, and rehabilitation of youth in precarious situations (Ministry of Education and Culture, 2024). Activation programs like youth workshops have been designed to offer early support through practical life skills, education, and work experiences (Siurala, 2018). Due to the underlying health and well-being challenges faced by these youth, they are also rehabilitated through the integration of NBIs into youth workshops (Sokra Coordination, 2024).

Literature Review

Multidimensional Needs of Youth outside Education or Employment

Research indicates that youth at risk of social exclusion may have underlying well-being challenges and needs that may be of greater concern to them than their participation in the labor market or education (Sadler et al., 2015; Yates & Payne, 2006). Focusing on their activation without rehabilitation overlooks their multidimensional needs. Therefore, there is the need to support their well-being holistically, addressing both their subjective experiences and broader relational concerns, including their connection with nature.

The well-being of youth outside education or employment has been explored within the lenses

of need-based approaches (Helne & Hirvilammi, 2022; Obeng et al., 2023) and linked to the consequences of being employed (e.g., Roosmaa et al., 2021). For unemployed youth, the consequences of employment, both manifest (e.g., earning a living) and latent (e.g., time structure, social contact, personal status, purposefulness, enforcing activity), have been well documented (Roosmaa et al., 2021). These aspects also resonate with the well-being discourses of unemployed Finnish youth, particularly in terms of their values regarding sustainability and nature (Helne & Hirvilammi, 2022; Hirvilammi et al., 2019). Using the Having-Doing-Loving-Being (HDLB) model, it has been reported that unemployed Finnish youth prioritize “Doing” (engagement in meaningful activities), “Loving” (emotional connections with nature and others), and “Being” (personal fulfillment, identity, and mental well-being) over “Having” (material wealth and consumption). This reflects a shift toward sustainable well-being values, aligning with the principles of NBIs (Helne & Hirvilammi, 2022).

Supporting Well-Being through Nature-Based Interventions

Nature-based interventions can address multidimensional well-being needs within the interplay of the natural environment or nature, nature-related activities, and social context or community (Sempik & Bragg, 2016; Soini, 2012). The natural environment constitutes the therapeutic context where the intervention occurs. It refers to green spaces like farms, parks, vegetation, rivers, beaches, etc. (Boddy et al., 2021). These spaces are composed of biotic and abiotic elements that enhance their state and the experiences within it. Nature-related activities are the activities that are performed in, for, and with nature (e.g., Moriggi et al., 2020). These activities emphasize the importance of meaningful occupation. The social context refers to the human-to-human interrelations and support that are fostered in NBIs.

In a systematic literature review, Obeng et al. (2023) found that NBIs implemented in fourteen countries helped young people, having underlying health and well-being challenges and being outside education or employment, to improve

physical, mental, and social well-being outcomes as well as fostering social, economic, and environmental sustainability. Meaningful occupations in natural environments help youth engage in activities such as gardening, conservation, and outdoor recreation, addressing both personal and societal challenges like social isolation and environmental sustainability (O'Brien et al., 2011; Simó Algado & Townsend, 2015). Furthermore, these interventions can reduce inequities, offering disadvantaged youth opportunities to benefit from the restorative power of nature while fostering skills that can lead to long-term well-being improvements (Hammell, 2021; Slee & Allan, 2019).

As evidenced in Finland, unemployed youth value nature and environmental sustainability as important as economic and social participation (Helne & Hirvilammi, 2022; Hirvilammi et al., 2019). Also, youth in Finland have identified climate change and nature conservation as pressing societal challenges that need to be addressed because it causes them anxiety (Ministry of Education and Culture, 2024). The significance of nature in the well-being discourses of Finnish youth outside education or employment justifies the integration of animal-assisted or nature-based interventions into group activation services (Helne & Hirvilammi, 2022).

The present study explores the value of NBIs for the well-being of Finnish youth outside education or employment. The following research questions are addressed: (i) how are young people's well-being experiences shaped by NBIs? and (ii) what elements of NBIs facilitate these well-being experiences? In the subsequent sections, we discuss the theoretical background, methods, including the social constructionism epistemology that guided our data analysis, and results, discussions, and implications for future interventions.

Methods

Study Design

An exploratory mixed-methods design, integrating both quantitative and qualitative approaches, was employed to generate new insights into the integration of NBIs in youth workshops. This design

has proven valuable in social work research investigating the effects of nature-based methods on youth well-being outcomes (e.g., Norton et al., 2014). The qualitative data served as the core component, and quantitative data as supplementary, an approach supported in the literature (Morse, 2016).

Recruitment Strategy

The researchers collaborated with a municipal organization and a nonprofit organization implementing NBIs in Finland for youth outside education or employment. After initial meetings, the study was introduced to the youth within these organizations. Participants were purposively recruited from three nature-based workshops: two organized by the municipality (*Workshop 1* and *Workshop 2*), and one by the nonprofit organization (*Workshop 3*). *Workshop 1* focused on nature and sports activities, *Workshop 2* focused on nature and environmental management activities, and *Workshop 3* also focused on environmental management tasks, urban gardening, and other activities to promote well-being and responsible environmental action. The activities (Table 1 near here) organized by the workshops overlapped and, in some instances, participants joined together to perform the same activities, especially for *Workshops 1 and 2*. The commonality in activities was a key reason we selected all three workshops for the study. The activities were also implemented in collaboration with Metsähallitus, an organization that manages state-owned land and water areas in Finland. Alongside the young people, there were at least two coaches in each of the three workshops who planned the activities in the workshops and offered guidance to young people during the workshops.

Participants

To participate in the study, one had to be (i) a young adult aged 18–29 living in Finland and outside education or employment, and (ii) a participant in a nature-based workshop as a part of their activation and rehabilitation program. In total, 18 participants provided data; 16 completed outcome questionnaires, and nine participated in interviews post-intervention.

Table 1. Representation of environment types, nature-related activities, and social context.

Natural environment	Activities	Social context
Forest, meadow, allotment garden, pasture, farm, water bodies, beach area, parks, sports and leisure facilities	Walking, hiking, biking, camping, cooking, setting fire and barbecuing, conservation and preservation, clearing trash from nature and streets, farming, planting seeds, caring for plants, harvesting, petting and caring for sheep, composting, ball games, bird watching, installing birdfeeders, planting and caring for plants, harvesting, composting, canoeing, standup paddleboarding, ice swimming, archery, snowshoeing	Participant self-drive and motivation, guidance from coaches, bonding with colleagues, support from family and friends, complementary service from allied professionals like social workers, psychotherapists, mental health, and labor office, giving back to community

Table 2. Participant characteristics.

Category	Subcategory	Frequency (N)	Percentage (%)
Age range (20-26 years)			
Gender			
	Male	9	60
	Female	5	33.3
	Other	1	6.67
Living situation			
	Alone	5	38.5
	With parent	2	15.4
	Married/Cohabiting with no children	3	23.1
	Married/Cohabiting with children	1	7.69
	Single parent	1	7.69
Highest education			
	Upper secondary school	5	38.5
	Basic education	4	30.8
	Vocational school	2	15.4
	Dropped out of school	2	15.4
Employment status			
	Long-term unemployed (>1 year)	7	53.8
	Short-term unemployed (<1 year)	4	30.8
	Never employed	2	15.4
Duration of participation			
	2-6 months	12	75
	6-12 months	2	12.5
	1-2 years	2	12.5

Most participants (75%) attended the workshop for 2-6 months, while a few participated for 1-2 years (Table 2 near here). Participants were engaged in the workshops for one to four days per week for four to six hours at a time. The average age of participants was 23.4 years with most being males (60%), followed by females (33.3%), and other (6.67%). Most participants lived alone, and a few had children, including one single parent. Upper secondary school was the highest level of education attained by most participants, though a few had dropped out of school. Over half (53.8%) of the participants were long-term unemployed (over 1 year) and a smaller proportion had never been employed. The most common obstacle to labor market participation was having a criminal or drug record ($M=4.85$, $SD = 0.55$).

Ethical Considerations

This research was given ethical approval by the University of Jyväskylä Ethics Committee. A

separate research authorization agreement was also signed between the researchers and the center for research and education in the city where the research was conducted. Participants' informed consent was given by signing a consent agreement that covered the entire study. Verbal consent was also given before the interviews. Participants were identified according to a self-generated identity code. No personal data was collected. Names of places and direct personal identifiers were pseudonymized during the data analysis.

Data Collection

Measures

Outcome questionnaires were administered to participants to assess the effects of the interventions on their cognitive and social outcomes and the key elements of the interventions. We used a six-item instrument for cognitive outcomes and a seven-item instrument for social

outcomes, both of which were tested in a nature experiences survey conducted in Finland (Kaikkonen et al., 2014). We also used a three-item instrument to rate the key elements of the interventions. This instrument was tested in a study that assessed green care enterprises in the United Kingdom (Bragg, 2014). The cognitive and social outcomes were assessed on a Likert scale from 1 (strongly disagree) to 5 (strongly agree) while the relative importance of the key elements was rated on a Likert scale from 1 (not at all important) to 5 (very important), (Figures 1 and 2). Multiple strategies were employed to control for potential errors in the quantitative data (Creswell & Plano Clark, 2017). Instruments that have been tested in prior studies and align with our study topic and context were selected. Also, questionnaires were

administered in the participants' preferred language to reduce the risk of misinterpretation and enhance accuracy of answers. Rigorous data quality checks were conducted to identify and address inconsistencies, such as handling missing data through listwise deletion.

Qualitative Interviews

The qualitative data comprised of semi-structured interviews, with an interview guide focusing on themes such as well-being, social connectedness, and nature-relatedness. Participants were given the questions ahead of time to prepare for the interviews. Interviews were conducted in person, lasting approximately 40 min each. Measures to ensure qualitative rigor are in line with the Consolidated Criteria for Reporting Qualitative Research (COREQ) (Tong et al., 2007). One key

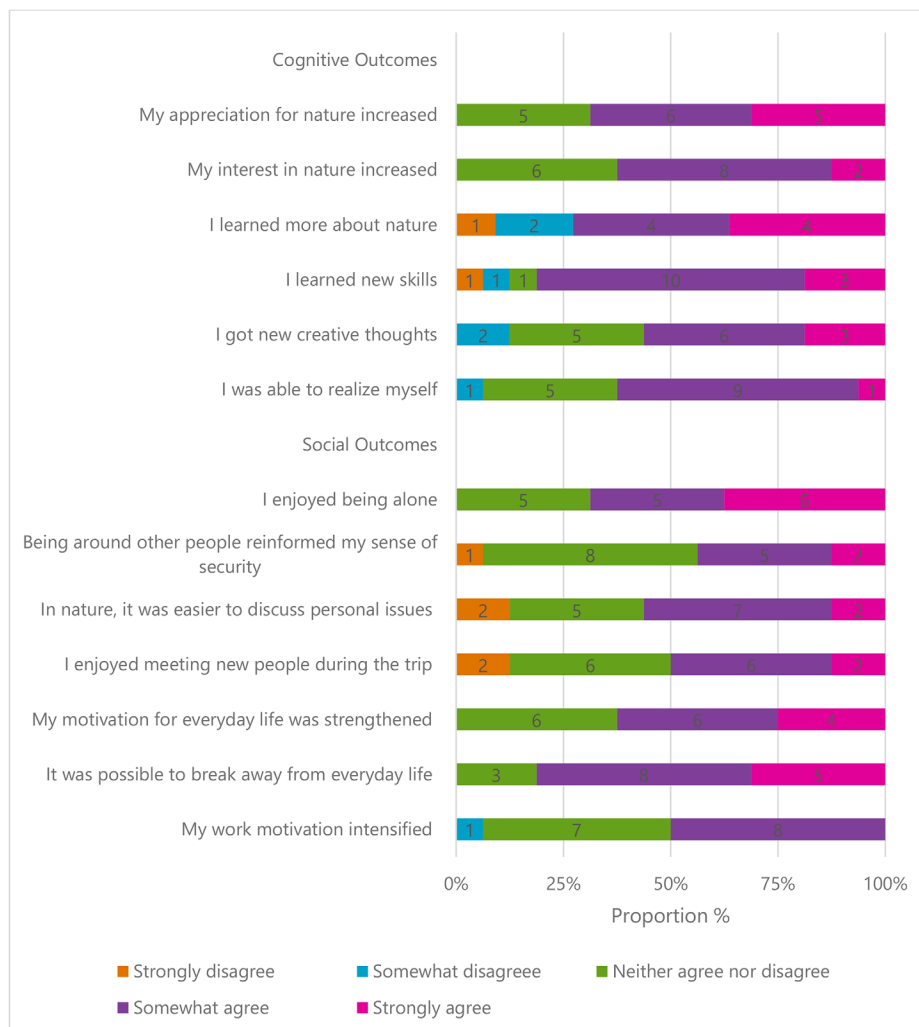


Figure 1. Cognitive and social outcomes.

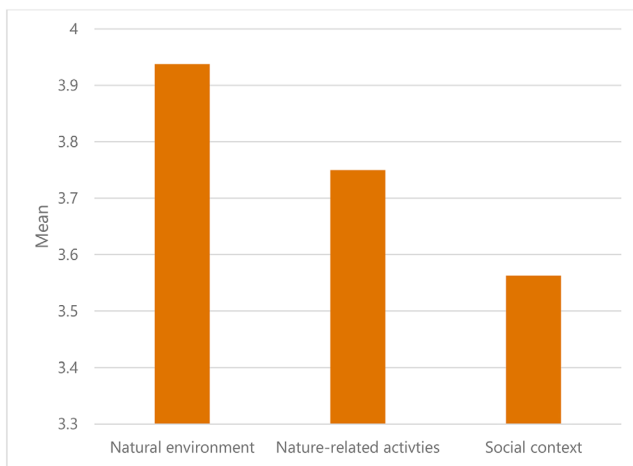


Figure 2. Most important elements of nature-based interventions.

measure was conducting interviews in participants' preferred language which was predominantly Finnish though one participant opted to do the interview in English. The interviews were done by the first author who also participated in the interventions and third author who is a native Finnish speaker, ensuring a level of control over potential bias. We used peer debriefing in the coding and analysis process including presenting the initial codes at an international conference for peer review, followed by discussions among the authors to assess suitability of themes. In addition to analyzing and reporting positive aspects, the study also discusses disconfirming evidence which further strengthens the validity of the results (Creswell & Plano Clark, 2017).

Data Analysis

Descriptive Statistics

The survey data were analyzed descriptively with frequencies calculated for each item. The mean (M) and standard deviation (SD) are highlighted to summarize central tendencies and the variability of responses. Items with higher mean suggest stronger agreement. The frequencies provided an insight into overall trends and response consistency among participants.

Social Constructionism and Thematic Analysis

This study is guided by the epistemology of social constructionism, which posits that knowledge and meaningful reality are derived from human

practices constructed through interaction with the world and are developed and transmitted within an essentially social context (Moon & Blackman, 2014). Although meaning construction is a social process, the objects involved in meaning formation can include the natural world (Crotty, 1998). Our interpretation draws on the assumption that humans are an integral part of nature: through their interactions with nature and with other humans in nature, they construct meaning.

Thematic analysis was employed to interpret the shared meanings constructed by participants. The analysis follows Braun's and Clarke's (2006) six-phase guide to thematic analysis. Thematic analysis entails the process of identifying, analyzing, and reporting patterns or themes within data. The thematic analysis was done in connection with answering our research questions. First, the voice records of the interviews conducted in Finnish were transcribed and translated into English, while the English voice record was transcribed. The transcribed interview data were uploaded into the NVivo software, which provides a platform for data organization and coding. Second, the transcribed data were read to get an overview of the responses and check if they corresponded with the audio records. A thorough reading was given to each data set, and initial codes were created for the data that reflected the research objectives. Third, after generating codes for each data set, similar codes were collated. The codes that followed common patterns were then categorized into potential themes. Fourth, the potential themes were reviewed as sub-themes to determine if they reflected the codes and entire data set. The initial codes and potential themes were presented at a scientific conference, and the subsequent analysis was done based on the feedback. Fifth, after further assessment of the codes, the main themes were defined based on the broader meanings that the sub-themes conveyed in relation to well-being experiences. At this point, the researchers met to discuss the suitability of the themes in line with the research questions before a consensus was reached. Sixth, the themes and sub-themes are reported and demonstrated with data extracts in this paper.

Table 3. Representation of thematic analysis.

Categories	Sub-themes	Themes
Exercise, tiredness, good sleep, relaxation, energy Being part of the cycle of nature, managing everyday life, control over life, setting goal, commitment, achievement Sense of purpose, reciprocity, responsibility, accomplishments Feeling useful, coping, communication, teamwork, confidence, employable skills Self-esteem, non-judgmental, recognition, respect, social inclusion Appreciation for nature, personal values, recycling, consumption, nature-related hobbies	Being active Having structure and routine Meaningful participation and contribution Developing and using skills Sense of belonging Nature connectedness and living a sustainable lifestyle	<ul style="list-style-type: none"> • Factors promoting wellbeing
Therapeutic effects, affordance, safety, deep conversation Low threshold, less pressure, noncompetitive, participatory, collaborative Motivation to change, trust building, encouragement, community	Resourceful natural environment Meaningful nature-related activities Supportive social context	<ul style="list-style-type: none"> • Elements of nature-based interventions

Categories represent the generated code, sub-themes reflect the common patterns across the codes, and the themes are the overarching ideas that capture the essence of the data.

Results

The quantitative results highlight the effects of NBIs on participants' cognitive and social outcomes and the elements of NBIs that had the highest relative importance to participants. Also, qualitative results are organized into two main themes and nine sub-themes, focusing on the factors that promoted participants' well-being and the interplay of NBIs elements in facilitating well-being experiences (Table 3 near here).

Cognitive and Social Outcomes

Increased appreciation for nature ($M=4.00$, $SD=0.82$) was the highest-rated cognitive outcome, reflecting a stronger connectedness with nature fostered through the intervention (see Figure 1). Self-realization ($M=3.63$, $SD=0.72$) and creative thoughts ($M=3.63$, $SD=0.96$) were the lowest-rated cognitive outcomes, with the latter showing greater variability among participants due to its higher SD . For social outcomes, participants mostly reported that the interventions enabled them to break away from everyday life ($M=4.13$, $SD=0.72$), whereas the opportunity to meet new people ($M=3.38$, $SD=1.15$) was the least common, with the higher SD indicating that this experience differed among participants. On the other hand, increased work motivation ($M=3.44$, $SD=0.63$) had the lowest SD for social outcomes, reflecting a shared experience among participants.

Factors Promoting Well-Being

Being Active

Being active was identified as something important to the well-being of participants. The workshops encouraged physical activities that helped improve the physical and mental health of participants. These activities were aided by the affordance within the natural environment where different landscapes and activities could be utilized. Participants said that the physical activities promoted a positive affect such as making them feel relaxed, restored, and energized. They said: *It has made me happy (Interviewee 6).*

...I didn't really go outside much or exercise, so I woke up with a headache every morning and a congested nose. And now that I've been coming here, those are no longer an issue (Interviewee 3).

While physical activity is good for well-being, participants highlighted that exercising in nature was even better. This is because exercising in nature benefits both the body and mind:

...being physically active in nature doesn't necessarily feel like exercising. Exercising makes you feel good so then you feel doubly as good (Interviewee 5).

Although tiredness could be considered a negative affect, it helped participants enjoy better sleep, thereby enhancing their well-being. However, there were instances of negative affect such as panic and hyperventilation, which were detrimental to the well-being of participants: *...I really like, panic, and hyperventilate... (Interviewee 2).* Whereas physical activity in nature was a positive thing in general, it did not influence

elements such as a winning mentality as the gym could. While this may count superficially as a limitation, it encouraged collective successes among participants and ensured that no one was left behind in these activities. That is, being active in nature was less about competition but more about doing things that were easy for everyone to follow and enhancing collective successes, something that is lacking in mainstream society.

Having Structure and Routine

Having a daily rhythm and control over one's life were identified as necessary to deal with the life challenges resulting from being outside education or employment. Most participants recalled that prior to the workshop, they were stuck at home without anything going for them. The natural environment and nature activities in the workshop presented participants with a natural structure which they could follow and to which they could commit. Activities such as planting seeds and participating in plants' life cycle through to harvesting were exemplary. The participants said:

...because you go with the cycles of the nature, and you plan about it. And in the wintertime, you think about what you are going to do and plan. Then comes the spring, you plant the seeds, and you see the seeds grow. Then comes the summertime, you can plant them and see the growth of them. Then comes the fall, and the crops die... (Interviewee 8).

Keeping up with routines required participants to set goals and stick to them, thereby promoting a sense of commitment and achievement. The significance of being part of routines and structure in nature was further illuminated in how it helped participants deal with well-being challenges such as depression and hopelessness.

Just getting up and going somewhere in the morning. And that I can commit to what I have (Interviewee 2).

I had a phase in my life where I didn't really have much structure and was kind of lost and depressed. But now I feel like, especially the way I experienced being able to get something from nature in a way that can heal – that's had the effect that I now find it easier to go outside... (Interviewee 9).

However, strict routines could also be challenging for the well-being of participants, especially when they had to manage the workshop

activities with other responsibilities such as parenting. This called for more flexibility in the workshop routines, with required breaks and occasional remote work.

Meaningful Participation and Contribution

Participation in the workshops provided participants with a sense of purpose, as the activities in which they engaged were meaningful and reflective of their contributions to both society and nature. In particular, caregiving activities involving plants and animals fostered reciprocal relationships in which participants cared for nature and, in return, experienced personal growth. For example, caring for farm animals helped participants feel calmer and more comfortable, improving their social skills and helping them manage anxiety. The visible positive outcomes of their efforts further enhanced their sense of accomplishment. One participant said:

And then it's given me plenty of these feelings of success when I've planted and potted some plants, and they've turned out nice looking...when I managed to use oats to guide the animals hundreds of meters to the other side of their area. Or helped a baby animal back to its mother or won the trust of some skittish animal. I felt like I succeeded there, too (Interviewee 7).

However, some activities may be unpleasant and even contradictory to personal values. One participant made this observation about farm animals:

...this summer some farm animals died while they were out on the pasture, and we had to move their smelling corpses... That made me think about things from a different perspective. And the ewes abandoned their babies, and I just thought that nature is just, you can't really help it (Interviewee 2).

Meaningfulness in nature also had broader societal benefits, reflecting a reciprocal relationship between humans and the environment. Even when activities were unpleasant, their significance for public health and societal contribution was evident. This also highlighted that while nature could provide positive lessons, it could occasionally teach lessons that should not be replicated in human behavior.

Developing and Using of Skills

The workshop supported the development of various skills such as communication, confidence,

teamwork, and entrepreneurial abilities. These skills not only helped participants manage their well-being challenges but also gave them techniques they could use in the future. For example, participants struggling with communication and social anxiety noted improvements in these areas. Additionally, the ability to contribute their skills for the benefit of others fostered a sense of usefulness and strengthened camaraderie among participants:

...I've been very happy about the atmosphere here, that I can use my skills for the good of everyone. Like that cooking and such, those are the fun things (Interviewee 5).

Participants also acquired practical skills such as survival, farming, and horticultural skills, which they believed would be valuable in the future:

I like that we have done like farming and stuff like that, I think that's an important skill to have... (Interviewee 8).

These activities, especially those related to farming and food production, gave participants a sense of accomplishment, which contributed positively to their well-being. The support and encouragement from workshop coaches were pivotal in boosting participants' confidence. The secure and positive environment provided allowed them to regain self-esteem, especially for those who had experienced negative work environments in the past. Interviewee 5, who had experienced bullying in a previous job, explained:

That I've learned to be more confident about my own skills. And that because they encourage you here, when you have a good idea, and they compliment you, so you get those feelings of success and that helps you go further...

In addition, the workshop inspired an entrepreneurial mindset in some participants, who expressed a desire to expand on the skills they had learned, such as horticulture, for future income generation.

Sense of Belonging

Through the workshop, a crucial social space where participants could bond with peers and coaches and experience feelings of recognition and respect was

created. This helped mitigate feelings of isolation and enhance their self-esteem. They expressed that being outside education or employment had affected their sense of social inclusion, leaving them without a community. The workshop therefore created a new social group for them:

Definitely community, that I can have people to talk to and close people to me. It feels like I'm not that alone or isolated (Interviewee 8).

It feels like a big family...You can talk to anyone here; they will be nice. So, I feel the network is good (Interviewee 6).

Some participants also expressed concerns that they might not experience the same sense of belonging in mainstream school or work settings due to potential stigmatization. They therefore noted the significance of being recognized and valued for who they were and the value of their participation. This recognition was crucial for their self-esteem, as they felt welcomed within the group:

...I have some history with drugs and I'm in substitution therapy, and then I have a child. So, if I go somewhere with normal people, like to a school to study...Or if I'd have a real job, I feel like I'd still bear that same label, like "I'm this old and I don't have a profession so something must be wrong" (Interviewee 2).

A non-judgmental and supportive environment and mutual respect among participants were key to fostering a sense of belonging and enhancing well-being. There was also the perception that the participants were more grounded and sociable because of their interest in nature.

Nature Connectedness and Living a Sustainable Lifestyle

Participants' interactions with natural elements such as plants, animals, waterbodies, landscapes, and weather strengthened their connection with nature. This connection was reflected in post-workshop changes, particularly in their leisure activities and lifestyle choices such as consumption, recycling, and environmental preservation. Participants recognized the importance of giving back to nature after receiving its well-being benefits, with many reassessing their values in terms of sustainability: *...it also made me think more about my own values in terms of nature* (Interviewee 9). Some participants noted that

modern life has led to disconnection from nature, emphasizing the need to invigorate their connections with nature:

I think we humans have disconnected from nature. We have been more in the city life... It's where we were born, where we will die... It's just our natural state (Interviewee 8).

Participants who already felt a connection with nature found that the workshop heightened their appreciation and awareness of nature's impact on their well-being. For example, one participant expressed an increased connection through their care for farm animals, viewing them as a bridge to nature. Engagement with nature also influenced participants' sustainable lifestyle choices such as reducing waste and minimizing plastic use: *I don't throw my cigarette butts on the ground anymore (Interviewee 6).*

Some participants even adopted new nature-related hobbies like gardening or walking outdoors after the workshop, enhancing their connection with nature in their personal time. However, not all participants could maintain sustainable practices due to financial constraints and lack of access to nature:

I could make far better choices for nature, but some things prevent that. For example, my financial situation, laziness, and a little bit of indifference, even though I think it's important (Interviewee 7).

These challenges highlight how external factors can impede young people's ability to sustain positive gains from NBIs and their pursuit of sustainable lifestyles.

Elements of Nature-Based Interventions

The survey results showed that for the most important elements of NBIs, participants highly rated being in the natural environment ($M=3.94$, $SD = 0.68$), including enjoying the scenery, beauty, and freshness, followed by doing meaningful nature-related activities ($M=3.75$, $SD = 0.77$), and being part of a social context ($M=3.56$, $SD = 0.81$) (see [Figure 2](#)). Participants' experiences reflected the interplay between the natural environment, nature-related activities, and social context as key elements facilitating their well-being experiences.

Resourceful Natural Environment

The natural environment played a central role, providing both biotic (e.g., plants, farm animals) and abiotic (e.g., weather, water, soil) resources that contributed to the overall ecosystem services and therapeutic benefits observed. The environment facilitated interactions between the young participants and their coaches, with the setting proving a significant factor in promoting well-being. Participants noted several therapeutic benefits associated with the natural environment. For example, one interviewee highlighted the positive impact of nature on mental clarity and mood regulation:

I was like one year on sick leave before this, and I felt like the walls were just like coming down... you go for a walk in nature or the forest... you get the fresh oxygen, and your body just starts to relax more, and your mind clears more, it's not that brain foggy anymore. Also, if your mood is anxious or something like that, I think it eases that feeling, and you feel calmer (Interviewee 8).

The informal natural setting also facilitated communication and reduced power imbalances between participants and coaches. This mitigated potential tensions, making it easier for participants, especially those with communication difficulties or trust issues, to express themselves. Nature also provided cues for conversation and allowed more relaxed interaction. The participants explained:

I used to be very introverted, and it was difficult for me to talk, so sitting face to face feels more serious and a bit more formal, so then when we walk and the scenery changes, and there's the movement forward, so it just feels more natural (Interviewee 5).

...it's easier to open up and talk about things because you kind of see a lot in nature, so that gives you things that you want to say and then you start to talk... maybe it's easier when there's a bit of distance from the other people if we're walking, stay behind a bit (Interviewee 3).

These were also possible due to the dynamic outdoor setting, as compared to a confined office space. However, it is essential to acknowledge that the natural environment did not universally enhance well-being. One participant expressed anxiety associated with specific landscapes:

And then, there've been many situations where we've been working, like at a plot in [Name of place] or the

pasture. And I'm afraid of, there's a swamp there, that I'll sink in... I've often told them that I'm truly afraid and so on (Interviewee 2).

This suggests a nuanced relationship with the natural environment that varies based on personal comfort and preference for specific nature types.

Meaningful Nature-Related Activities

Organized nature-related activities were structured to support key well-being needs. They were intentionally designed to be low threshold, promoting participation and meaningfulness, and reducing pressure, while fostering collaboration. This approach ensured that tasks were manageable and meaningful to participants, contributing to both individual and collective well-being. The participatory nature of planning and implementing these activities further enhanced their value, allowing participants to experience a sense of control, ownership, and involvement in shaping their experience. One participant reflected on how the ease of engagement in these activities helped initiate a productive routine:

Well, get something to do, routine and low-threshold activities, so it serves as a kind of springboard (Interviewee 1).

Participants highlighted how the planning and execution of tasks were conducted at their own pace, with ample support readily available. Moreover, the activities were meaningful and collaborative, allowing participants to take on responsibilities without feeling overwhelmed:

...we get responsibility but not so much that it would feel scary. And similarly, that we have a lot of say in what we want to do, and how we will do it. And it's not that rigid, that this is how we've always done it (Interviewee 5).

These values, including low-pressure, meaningful work, collaborative effort, and participatory involvement, position workshops using NBIs as sustainable work alternatives that prioritize well-being needs such as autonomy, competence, and relatedness.

Supportive Social Context

The social context in the workshop comprised a network of relationships and support systems, including the self-motivation of young participants,

encouragement from peers and coaches, and collaboration with external services such as social workers, mental health professionals, and labor offices. The participants' motivation to change and willingness to engage in the workshop helped them trust the process and satisfy their well-being needs. The supportive relationships were built on mutual trust, as evidenced by the participants' experiences:

...They're very open between each other and with us. I feel like I don't need to hide anything, and that they don't hide anything (Interviewee 3).

So, I think in here, it has been such a huge relief, because you can just say, "I'm feeling anxious today, or I might have panic attacks," or something like that, and even just saying that helps so much... (Interviewee 8).

In addition to support from the workshop community, family members and friends played a vital role. The participants further enumerated the essential emotional and practical support they received from their social network:

The coaches were very encouraging... Whenever we were sitting around a campfire or something, they asked everyone what they would like to do in the future and whatnot. They provided the kind of support that made us consider alternatives for what we could do in the future, like study or work (Interviewee 9).

The presence and support of peers provided motivation for continued participation, illustrating the importance of being in groups. In particular, the benefits of small group settings fostered stronger bonds among participants. That is, the workshop fostered a cooperative atmosphere where participants worked together, ensuring that the workload was shared, and stress was minimized.

Discussion

This study builds on existing research that suggests that NBIs can promote sustainable well-being among young people in precarious situations (e.g., Helne & Hirvilammi, 2022; Obeng et al., 2023). Specifically, we investigated the value of NBIs for the well-being of Finnish youth outside education or employment. These individuals faced well-being challenges, including social withdrawal, isolation, sleep difficulties, mental health issues such as anxiety and depression, drug records,

long-term sickness, hopelessness, and uncertainty about their future, challenges also highlighted by the OECD (2019).

The overall results informed by the themes revealed that the NBIs facilitated the satisfaction of participants' well-being needs. Participants in our study engaged in physical activity through the workshops, which had a positive impact on their well-being, aiding in revitalization, better sleep, and management of health conditions. Prior research has shown that physical activity in natural environments benefits both physical and mental health, improving sleep, reducing stress, and enhancing self-reflection and self-efficacy (Ferneer et al., 2019; Leck et al., 2015). The natural context of these activities provides a therapeutic benefit (Sempik & Bragg, 2016). Structure and routine were also developed naturally for the young people, as they became enmeshed within the cycle of nature in the seasons, planting, and harvesting. This added a sense of commitment, goal-directedness, and task accomplishment to their lives. Farming and horticultural activities have been shown to encourage repeated actions within the cycle of nature, supporting the well-being of individuals in precarious situations (Ellingsen-Dalskau et al., 2016; Scartazza et al., 2020).

The workshops further fostered meaningful contributions, allowing participants to develop a sense of responsibility and purpose, which is critical for mental health recovery (Granerud & Eriksson, 2014). Contributing positively to society has also been linked with personal satisfaction and improved self-worth (Leck et al., 2015; Richardson et al., 2020). Participants not only realized their existing skills but also acquired new ones necessary for coping with future challenges and employment. Developing such skills made them feel useful and increased their work motivation. Self-development and use of skills are essential aspects of work and well-being for youth outside education or employment (Roosmaa et al., 2021). Learning new skills such as entrepreneurial skills can also support their reintegration into the labor market (O'Brien et al., 2011; Obeng et al., 2023).

Furthermore, social belonging was a key element in participants' well-being, particularly given the experiences of loneliness reported among Finnish youth outside education or

employment (Kivijärvi et al., 2020). Therefore, the workshops provided a social group where participants felt accepted and respected, improving their self-esteem. Välimäki et al. (2023) underscored the need for young people outside education or employment to connect with peers who share similar experiences because this can reduce feelings of isolation and shame. An additional well-being experience was increased appreciation and connectedness with nature, which influenced participants' adoption of nature-related hobbies and a sustainable lifestyle. Increased connectedness with nature is associated with positive well-being and ecologically sustainable behavior (Bragg, 2014; Nisbet & Zelenski, 2013). Broadly, the well-being experiences identified in our study conform with the five evidence-based actions needed for promoting well-being, which include connecting with other people and nature, being physically active, taking notice and staying mindful of one's surroundings, learning new skills, and giving back to other people, nature, and wider society (Aked et al., 2008; Bragg, 2014).

The results support the notion that the well-being of Finnish youth outside education or employment is deeply intertwined with nature and sustainability. These results can be framed within the HDLB sustainable well-being model (Helne & Hirvilammi, 2022), where the "Having" dimension reflects the natural environment's capacity to support well-being, "Doing" involves being active, routines, skill development, and meaningful contribution, "Loving" relates to social belonging and nature connectedness, and "Being" reflects holistic well-being, including improvement in physical and mental health, and the adoption of sustainable lifestyles. The interplay between the resourceful natural environment, meaningful nature-related activities, and supportive social context was crucial to participants' well-being experiences, with the natural environment having the highest relative importance based on the mean survey results. The natural environment, as both resourceful and an enabling context, encouraged participants to develop connections with their surroundings, fostering responsibility and stewardship for the environment and encouraging sustainable behaviors. In particular, the therapeutic effects of nature were

evident, as participants experienced positive affect through soft fascinations such as plants, animals, and the movement of leaves, which fostered reflection and conversation (Duvall & Sullivan, 2016). Functioning in the natural environment also requires less effort, supporting faster recovery from stress than urban environments. The participants valued the opportunity to escape from urban life and engage in healthy responsibilities in nature at their own pace. Kogstad et al. (2014) noted that for youth facing precarious situations, performing tasks at their own pace supports their freedom of working in less supervised environments, unlike the stressful and competitive labor market and school environment. Moreover, the less effortful nature-related activities, participants' motivation to change and the trustful relationships built during the workshops were crucial. Mutual recognition, trust, and support from coaches, peers, and family played a vital role in their engagement and positive experiences, similar to findings in green care enterprises (Kogstad et al., 2014). Bragg (2014) found that among participants in green care programs, being with other people had the highest relative importance compared to being outside in nature and doing nature-related activities. Leveraging NBIs to foster social support systems demonstrates their potential to serve as a bridge to social inclusion, helping youth outside education or employment connect with others and meaningfully participate in society. This emphasizes that the path to social inclusion is not merely through traditional employment but also through creating meaningful nature-based experiences that lead to sustainable and fulfilling lives. Nature-based interventions in other contexts such as the United Kingdom also highlight the therapeutic benefits of nature, skill development, and the creation of supportive social environments (O'Brien et al., 2011; Richardson et al., 2020).

Conclusion and Implications

This study highlights the significant potential of nature-based interventions (NBIs) in promoting the well-being of youth outside education or employment, particularly in the Finnish context. By engaging participants in meaningful activities

within natural environments and fostering supportive social context, NBIs supported the satisfaction of essential well-being needs. The reciprocal relationship between humans and nature, where both benefit and care for one another, emphasizes the interconnection between human well-being and sustainability.

The results have significant implications for social work and social services, especially in the face of the ongoing Global socio-ecological crises and the need to combine ecological and social approaches into practice. Social workers can utilize interventions in nature to promote nonhierarchical interactions, neutralizing power imbalances between social workers and clients. This would help marginalized youth feel valued, increase their agency, and meaningful participation.

Also, NBIs offer safe and nonjudgmental spaces where clients can feel comfortable sharing deeply personal issues, crucial for trust-building. In contrast with traditional office-based interactions, nature enables less formal yet effective therapeutic engagements, which may be particularly beneficial for youth in precarious situations, who may distrust formal institutions.

Furthermore, the low-threshold activities in NBIs can foster inclusive participation in social work practice, as they are easily accessible and less intimidating for youth who may face barriers to engaging with traditional social services. The non-competitive and flexible nature of these activities also allows individuals to participate at their own pace, reducing pressure and enhancing motivation.

Integrating nature into social work can also encourage sustainable lifestyles among youth and nurture their sense of responsibility toward the environment. This promotes both individual and community well-being, fostering a sense of contribution and encouraging youth to give back to society.

A key strength of this study lies in using a mixed-method approach to explore the multifaceted effects of NBIs. This methodological combination enabled the assessment of specific well-being outcomes while also capturing the nuanced and subjective experiences of participants. However, the absence of more extensive quantitative analysis constrains the generalizability of our findings and hinders the ability to draw causal conclusions about whether the observed

effects can be attributed solely to the elements of NBIs. Nevertheless, the findings of the qualitative interviews confirm previous studies and contribute to a deeper understanding of the authentic effects of NBIs, amplifying the voices of young people. Another limitation is the lack of representativeness of the youth population outside education or employment in Finland. Official records indicate that foreign-born individuals constitute a significant proportion of this group, yet our study focused solely on the experiences of Finnish-born participants, excluding a key demographic. The results may also be influenced by the participants' preexisting interest in nature, which could differ from those of youth engaged in non-ecologically focused activities or workshops. To address these limitations, future research should consider experimental designs to evaluate the long-term impacts of NBIs and incorporate the perspectives of youth with immigration background, who represent a critical subpopulation at risk of social exclusion. Finally, while this study highlights the positive impacts of NBIs, certain environments and nature-related activities were less effective in fostering well-being, underscoring the need for further investigation into young people's preferred environments and nature-related activities toward developing more tailored NBIs.

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Data Availability Statement

This study is part of an ongoing research project, and the anonymized data will be published in the Finnish Social Science Data Archive upon the project's completion. The metadata has been published in the University of Jyväskylä open data repository (JYX).

References

- Aked, J., Marks, N., Cordon, C., & Thompson, S. (2008). *Five ways to well-being: A report presented to the Foresight project on communicating the evidence base for improving people's well-being*. Nef.
- Baranowska-Rataj, A., & Strandh, M (2021). Health effects of unemployment in couples: Does becoming unemployed affect a young partner's health?. In M. Unt., et al. (Eds.),

- Social exclusion of youth in Europe* (pp. 58–80). Bristol University Press. <https://doi.org/10.51952/9781447358756.ch003>
- Berget, B., Lidfors, L., Pálsdóttir, A. M., Soini, K., & Thodberg, K. (Eds.). (2012). Green care in the Nordic countries – A research field in progress: Report from the Nordic research workshop on Green Care in Trondheim, Ås. Norwegian University of Life Sciences.
- Boddy, J., Slattery, M., Liang, J., Gallagher, H., Smith, A., & Agllias, K. (2021). Psychosocial interventions situated within the natural environment with young people who have experienced trauma: A scoping review. *The British Journal of Social Work*, 51(3), 1018–1040. <https://doi.org/10.1093/bjsw/bcaa093>
- Boetto, H. (2016). Developing ecological social work for micro-level practice. In J. McKinnon & M. Alston (Eds.), *Ecological social work* (pp. 59–77). Macmillan Education UK. https://doi.org/10.1007/978-1-137-40136-6_4
- Bragg, R. (2014). *Nature-based interventions for mental well-being and sustainable behaviour: The potential for green care in the UK* [Doctoral thesis]. University of Essex. School of Biological Sciences). EThOS. <https://ethos.bl.uk/OrderDetails.do?uin=uk.bl.ethos.635893>
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. <https://doi.org/10.1191/1478088706qp063oa>
- Creswell, J. W., & Plano Clark, V. L. (2017). *Designing and conducting mixed methods research* (3rd ed.). Sage publications.
- Crotty, M. (1998). *The foundations of social research: Meaning and perspective in the research process*. Sage.
- Duvall, J., & Sullivan, W. C. (2016). How to get more out of the green exercise experience: Insights from attention restoration theory. In J. Barton., et al. (Eds.), *Green exercise: Linking nature, health and well-being* (pp. 37–45). Routledge.
- Ellingsen-Dalskau, L. H., Morken, M., Berget, B., & Pedersen, I. (2016). Autonomy support and need satisfaction in prevocational programs on care farms: The self-determination theory perspective. *Work (Reading, Mass.)*, 53(1), 73–85. <https://doi.org/10.3233/WOR-152217>
- Eurostat. (2024). *Drop in youths neither working nor studying*. <https://ec.europa.eu/eurostat/web/products-eurostat-news/w/ddn-20240613-1>
- Ferneer, C. R., Mesel, T., Andersen, A. J. W., & Gabrielsen, L. E. (2019). Therapy the natural way: A realist exploration of the wilderness therapy treatment process in adolescent mental health care in Norway. *Qualitative Health Research*, 29(9), 1358–1377. <https://doi.org/10.1177/1049732318816301>
- Granerud, A., & Eriksson, B. G. (2014). Mental health problems, recovery, and the impact of green care services: A qualitative, participant-focused approach. *Occupational Therapy in Mental Health*, 30(4), 317–336. <https://doi.org/10.1080/0164212X.2014.938558>
- Hammell, K. W. (2021). Occupation in natural environments: Health equity and environmental justice. *Canadian Journal of Occupational Therapy. Revue Canadienne D'ergotherapie*, 88(4), 319–328. <https://doi.org/10.1177/00084174211040000>
- Helne, T., & Hirvilammi, T. (2022). Balancing needs: Young unemployed Finnish adults' discourse on well-being and its relation to the sustainability transformation. *Sustainability: Science Practice and Policy*, 18(1), 158–170. <https://doi.org/10.1080/15487733.2022.2030115>
- Hirvilammi, T., Väyrynen, M., Stamm, I., Matthies, A., & Närhi, K. (2019). Reflecting on work values with young unemployed adults in Finland. *Nordic Journal of Working Life Studies*, 9(2), 87–104. <https://doi.org/10.18291/njwls.v9i2.114802>
- Kaikkonen, H., Virkkunen, V., Kajala, L., Erkkonen, J., Aarnio, M., & Korpelainen, R. (2014). Health and well-being from Finnish national parks: A study on benefits perceived by visitors. *Metsähallituksen Luonnon suojelujulkaisuja. Sarja A*, 208, 65.
- Kivijärvi, A., Aaltonen, S., Forma, L., Partanen, J., Myllylä, M., & Rissanen, P. (2020). Quality of life among young Finnish adults not in employment or education. *Applied Research in Quality of Life*, 15(3), 757–774. <https://doi.org/10.1007/s11482-018-9687-z>
- Kogstad, R., Agdal, R., & Hopfenbeck, M. (2014). Narratives of natural recovery: Youth experience of social inclusion through green care. *International Journal of Environmental Research and Public Health*, 11(6), 6052–6068. <https://doi.org/10.3390/ijerph110606052>
- Lauri, T., & Unt, M. (2021). Multiple routes to youth well-being: A qualitative comparative analysis of buffers to the negative consequences of unemployment. In M. Unt., et al. (Eds.), *Social exclusion of youth in Europe* (pp. 81–111). Bristol University Press. <https://doi.org/10.51952/9781447358756.ch004>
- Leck, C., Upton, D., & Evans, N. (2015). Growing well-beings: The positive experience of care farms. *British Journal of Health Psychology*, 20(4), 745–762. <https://doi.org/10.1111/bjhp.12138>
- Ministry of Education and Culture. (2024). *Strengthening young people's well-being through multidisciplinary measures: National youth work and youth policy programme 2024–2027, Finland*. <https://urn.fi/URN:ISBN:978-952-263-950-9>
- Moon, K., & Blackman, D. (2014). A guide to understanding social science research for natural scientists. *Conservation Biology: The Journal of the Society for Conservation Biology*, 28(5), 1167–1177. <https://doi.org/10.1111/cobi.12326>
- Moriggi, A., Soini, K., Bock, B. B., & Roep, D. (2020). Caring in, for, and with nature: An integrative framework to understand green care practices. *Sustainability*, 12(8), 3361. <https://doi.org/10.3390/su12083361>
- Morse, J. M. (2016). *Essentials of qualitatively-driven mixed-method designs*. Taylor & Francis Group.
- Nisbet, E. K., & Zelenski, J. M. (2013). The NR-6: A new brief measure of nature relatedness. *Frontiers in Psychology*, 4, 813. <https://doi.org/10.3389/fpsyg.2013.00813>

- Nizalova, O., Malisaukaite, G., Xanthopoulou, D., Gousia, K., Athanasiades, C (2021). Effects of unemployment and insecure jobs on youth well-being in Europe: Economic development and business cycle fluctuations. In M. Unt., et al. (Eds.), *Social exclusion of youth in Europe* (pp. 31–57). Bristol University Press. <https://doi.org/10.2307/j.ctv1sr6k9z.8>
- Norton, C. L., Wisner, B. L., Krugh, M., & Penn, A. (2014). Helping youth transition into an alternative residential school setting: Exploring the effects of a wilderness orientation program on youth purpose and identity complexity. *Child and Adolescent Social Work Journal*, 31(5), 475–493. <https://doi.org/10.1007/s10560-014-0331-y>
- O'Brien, L., Burls, A., Townsend, M., & Ebden, M. (2011). Volunteering in nature as a way of enabling people to reintegrate into society. *Perspectives in Public Health*, 131(2), 71–81. <https://doi.org/10.1177/1757913910384048>
- Obeng, J. K., Kangas, K., Stamm, I., & Tolvanen, A. (2023). Promoting sustainable well-being through nature-based interventions for young people in precarious situations: Implications for social work. A systematic review. *Journal of Happiness Studies*, 24(8), 2881–2911. <https://doi.org/10.1007/s10902-023-00683-x>
- OECD. (2019). *Investing in youth: Finland*. OECD Publishing. <https://doi.org/10.1787/1251a123-en>
- Overbey, T. A., Diekmann, F., & Lekies, K. S. (2023). Nature-based interventions for vulnerable youth: A scoping review. *International Journal of Environmental Health Research*, 33(1), 15–53. <https://doi.org/10.1080/09603123.2021.1998390>
- Richardson, M., Richardson, E., Hallam, J., & Ferguson, F. J. (2020). Opening doors to nature: Bringing calm and raising aspirations of vulnerable young people through nature-based intervention. *The Humanistic Psychologist*, 48(3), 284–297. <https://doi.org/10.1037/hum0000148>
- Roberts, A., Hinds, J., & Camic, P. M. (2020). Nature activities and well-being in children and young people: A systematic literature review. *Journal of Adventure Education and Outdoor Learning*, 20(4), 298–318. <https://doi.org/10.1080/14729679.2019.1660195>
- Roosmaa, E. L., Reiska, E., Stasiowski, J., Bertolini, S., Torrioni, P. M. (2021). Meanings of work in the narratives of Italian, Estonian, and Polish young people who experience labour market insecurity. In M. Unt., et al. (Eds.), *Social exclusion of youth in Europe* (pp. 139–165). Bristol University Press. <https://doi.org/10.51952/9781447358756.ch006>
- Sadler, K., Akister, J., & Burch, S. (2015). Who are the young people who are not in education, employment or training? An application of the risk factors to a rural area in the UK. *International Social Work*, 58(4), 508–520. <https://doi.org/10.1177/0020872813515010>
- Scartazza, A., Mancini, M. L., Proietti, S., Moscatello, S., Mattioni, C., Costantini, F., Di Baccio, D., Villani, F., & Massacci, A. (2020). Caring local biodiversity in a healing garden: Therapeutic benefits in young subjects with autism. *Urban Forestry & Urban Greening*, 47, 126511. <https://doi.org/10.1016/j.ufug.2019.126511>
- Schlee, C., Musumeci, R., Ghislieri, C., et al. (2021). Experiencing unemployment and job insecurity in two European countries: German and Italian young people's well-being and coping strategies. In M. Unt., et al. (Eds.), *Social exclusion of youth in Europe* (pp. 112–136). Bristol University Press. <https://doi.org/10.51952/9781447358756.ch005>
- Sempik, J., & Bragg, R. (2016). Green care: Nature-based interventions for vulnerable people. In J. Barton., et al. (Eds.), *Green exercise: Linking nature, health and well-being* (pp. 116–129). Routledge.
- Simó Algado, S., & Townsend, E. A. (2015). Eco-social occupational therapy. *British Journal of Occupational Therapy*, 78(3), 182–186. <https://doi.org/10.1177/0308022614561239>
- Siurala, L. (2018). Youth workshop in Finland. In J. Ord., et al. (Eds.), *The impact of youth work in Europe: A study of five European countries* (pp. 49–62). Humak University of Applied Sciences Publications, 56.
- Slattery, M., Ramsay, S., Pryor, A., Gallagher, H., Norton, C. L., Nikkel, L., Smith, A., Knowles, B., & McAuliffe, D. (2023). Nature-based interventions in social work practice and education: Insights from six nations. *International Social Work*, 66(6), 1686–1700. <https://doi.org/10.1177/00208728221123160>
- Slee, V., & Allan, J. F. (2019). Purposeful outdoor learning empowers children to deal with school transitions. *Sports (Basel, Switzerland)*, 7(6), 134. <https://doi.org/10.3390/sports7060134>
- Soini, K. (2012). Development of Green Care in Finland. In B. Berget., et al. (Eds.), *Green care in the Nordic countries – A research field in progress* (pp. 13–22). Norwegian University of Life Sciences.
- Sokra Coordination. (2024). Nature-based workshop activities. *Innokylä Nature-based workshop activities | Innokylä (innokyla.fi)*
- Steigen, A. M., Kogstad, R., & Hummelvoll, J. K. (2016). Green care services in the Nordic countries: An integrative literature review. *European Journal of Social Work*, 19(5), 692–715. <https://doi.org/10.1080/13691457.2015.1082983>
- Tong, A., Sainsbury, P., & Craig, J. (2007). Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. *International Journal for Quality in Health Care: Journal of the International Society for Quality in Health Care*, 19(6), 349–357. <https://doi.org/10.1093/intqhc/mzm042>
- Välimäki, V., Aaltonen, S., & Honkatukia, P. (2023). A need to be recognized: On the importance of shared semantics for young adults while not in education or employment. *Acta Sociologica*, 66(4), 421–434. <https://doi.org/10.1177/00016993221145350>
- Yates, S., & Payne, M. (2006). Not so NEET? A Critique of the Use of 'NEET' in Setting Targets for Interventions with Young People. *Journal of Youth Studies*, 9(3), 329–344. <https://doi.org/10.1080/13676260600805671>
- Ylilauri, M., & Voutilainen, O. (Eds.). (2021). *Review of Nordic nature-based service models: Study on the opportunities and challenges of the nature-based services in Finland, Sweden, and Norway*. University of Vaasa Reports 23. <http://urn.fi/URN:ISBN:978-952-476-950-1>