



# Nature kindergartens: a space for children's participation

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## Abstract

Children's right to participate has become internationally recognised and the early years are a pivotal phase for realising children's rights. Knowledge of how young children can enact their right to participation in different environmental and educational contexts is important for improving and facilitating pedagogical practices around the world. The use of the natural environment for educational purposes has become increasingly popular in the Nordic countries, the UK, Australia and in the United States. In this article, we explore how children and staff experience children's participation through play and everyday life in kindergartens that organise most of the days outside. In Norway they are referred to as nature kindergartens. The primary data sources are focus group interviews with 30 children and 20 staff members from six nature kindergartens in Norway. The results show that the open and fluid character of nature creates a dynamic space for children's play, stimulates creativity and social inclusion, promotes responsibility, and facilitates generational interdependency. Staff promote and participate in children's initiatives but refrain from introducing and controlling activities. We conclude that the environmental and educational contexts in nature-kindergartens offer a range of participative situations while questioning whether all children have the capabilities for required active engagement.

**Keywords** Nature kindergarten · Kindergarten · Participation · Children's experience · Play · Everyday life

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## Introduction

Children's right to participate has become internationally recognised. All countries, except for the United States, have ratified the United Nations Convention on the Rights of the Child, which states that children have rights to participation, protection, and care (United Nations Association of Norway, NOAS, 2020). Among other obligations, Article 12 states that adults must listen to the views of children and involve them in decision-making according to their age and maturity (UNICEF UK, 1989).

The early years are a pivotal phase for realising children's rights. Children are undergoing rapid development, and early childhood is perceived to be a crucial time for young peoples' identity development and interaction with others (Theobald, 2019). Within the early childhood field, there is a general agreement on the importance of considering children's perspectives and facilitating children's participation in the daily pedagogical practice (Correia et al., 2019). In Norway, about 92% of children between birth and six years of age attend kindergartens (Statistics Norway, 2021). Hence, kindergartens are an important arena for the enactment of children's rights in their everyday life. Policy documents state the kindergartens' obligation to comply with children's right to participation and involvement in daily decisions (The Kindergarten Act, 2005). The Norwegian Directorate for Education & Training's, 2017 Framework Plan for Kindergartens highlights the importance of valuing and arranging forms of participation more than speech in order to facilitate the youngest children's views and expressions.

Knowledge about how younger children and toddlers can enact their right to participation in different environmental and educational contexts is important in order to improve and facilitate pedagogical practices around the world. The purpose of this article is to explore nature kindergartens as sites for participation. Data were obtained from a qualitative study of children and staff in six different nature kindergartens in Norway. The premise for this article is a spatial and relational approach to participation, in which participation is understood as a process that is intervened with the places, spaces and the relations surrounding children's play and everyday life (Hultgren & Johansson, 2019; Mannion, 2007).

Nature kindergartens have become increasingly popular in the Nordic countries, the UK, Australia and in the United States as part of the early childhood education system (Jørgensen, 2014; Smith et al., 2018; Sobel, 2015). They have different names, such as 'nature preschools', 'forest kindergartens' and 'udeskole', and organise whole days or part of the days outside (Boileau & Dabaja, 2020; Harper, 2017; Jørgensen, 2014). According to the Norwegian Directorate for Education and Training (2021), Norway has 356 nature kindergartens and valuing the outdoors for educational and recreational purposes is deeply anchored in the Norwegian tradition of outdoor life (Jørgensen, 2018).

Kindergartens in Norway provide care and education, but this phase of children's education is seen as separate from mainstream schooling, which starts at six years of age (Aasen et al., 2009). Enrolment in kindergartens is a voluntary option, and the kindergartens are both public and private (Jørgensen, 2014).

While all Norwegian kindergartens allocate outside time each day, children in nature kindergartens spend most of their days in natural, less manufactured environments characterised by topography, vegetation, and other living organisms that have not been introduced by humans for a specific purpose (Jørgensen, 2014). These spatial conditions create a different pedagogical space for everyday life in kindergartens that may enable or restrict possibilities for children's free play and participation (Aasen et al., 2009; Moser & Martinsen, 2010).

This article aims to investigate how children and staff experience children's participation through play and everyday life in nature kindergartens and how spatial and relational aspects are constitutive for participatory situations.

### **The outdoors as a site for learning, play and everyday life**

In recent years, researchers have examined children's active engagement with nature from leisure and pedagogical perspectives. Two systematic reviews document numerous benefits of children's engagement with nature, such as improved physical and psychological health, autonomy, and independence (Adams & Savahl, 2017; Gill, 2014). An integrative review has summarised knowledge of the relationship between nature experiences and possibilities for learning and personal development among children. The review concludes that nature-based learning facilitates a range of skills needed in the twenty-first century, such as problem-solving, critical thinking, leadership, teamwork, communication skills, and pro-environmental behaviour. Nature promotes a calmer, quieter and safer context for learning that is also supportive for disadvantaged children (Kuo et al., 2019).

A study from Norwegian kindergartens found that the outdoor setting is a particularly good context for the emergence of informal, immediate, and unplanned learning situations. These situations are important for the learning of democratic values such as equality, respect, solidarity, and justice (Aasen et al., 2009). Another study from Norway has outlined increased motor development and physical activity from children's engagement with nature (Fjørtoft, 2004). Also, the amount of time spent outdoors during kindergarten seems to have a positive impact on the development of attention skills and protect against inattention-hyperactive symptoms (Ulset et al., 2017). Furthermore, a lack of regular contact with nature is likely to lead to fear, discomfort, and a dislike of the environment (Gill, 2014).

Nature-based playgrounds and unsupervised outdoor activities are also found to prompt more complex forms of play and stimulate creativity, imagination, and learning (Dowdell et al., 2011; Tremblay et al., 2015; Zamani, 2016). Simultaneously, Zamani (2016) finds that a combination of natural and manufactured components can be fruitful for stimulating more engagement, teamwork, creativity, and imagination. Barrable (2019) discusses how educators can use resources in natural spaces to promote autonomy in early childhood education, concluding that there needs to be a structure enabling children to feel safe and to enact in a self-directed way. Also, children should manage their own risk and educators should refrain from controlling behaviour.

Several studies on children's play and interaction with nature highlight the importance of free and child-initiated action (Harper, 2017; Skar et al., 2016; Zamani, 2016). Free and less restricted interaction with nature is associated with positive physical and social health (Brussoni et al., 2015; Largo-Wight et al., 2018; McCree et al., 2018; Sandseter, 2009; Skar et al., 2016; Tremblay et al., 2015). Sandseter (2009) compares regular kindergartens with nature kindergartens and finds that risky play takes place in both settings, but nature affords more dangerous elements. As such, there is a profound difference in the degree of risk-taking play afforded by the two environments. Despite this difference, her results showed no differences in staff involvement or restrictions indicating that nature space does not lead to higher rates of risk-taking but might increase the level of risks undertaken.

Research exploring forest schools and nature kindergartens commonly refer to positive benefits, such as increased self-confidence, self-esteem, and self-regulation, enhanced social skills, improved language and communication, improved motivation to learn, development of leadership skills, academic skills, physical skills, and increased knowledge and understanding of the natural environment (McCree et al., 2018; Smith et al., 2018).

In summary, there is a lack of knowledge that examines children's own experiences with participation in the outdoor educational context. Also, there is a lack of knowledge that examines how the environmental and educational context influences children's possibilities for participation. This article aims to contribute to empirical knowledge in this field.

## **A spatial and relational approach to participation**

This article takes a departure in a spatial and relational understanding of participation. This understanding is rooted in a social constructivist knowledge tradition, in which knowledge of how children act within the possibilities of everyday conditions are important (Horgan et al., 2017; Hultgren & Johansson, 2019; Mannion, 2007; Percy-Smith, 2010). Here, participation is perceived as contingent and contextual, and is defined by agency, identity, and empowerment rather than structures. This calls for critical reflection on how the spaces for participation and the associated power relations are constructed and create possibilities for participatory activities (Percy-Smith, 2010).

A spatial and relational approach to children's participation represents an alternative to the classical hierarchical models (Hart, 2008, 2013; Shier, 2001) that focus on whether the child is involved in decision-making, and to what degree they can partake in decision-making. In this article, we explore children's participation as more than the spoken word, involving activities outside of core decision making. The focus on participative activities rather than core decision making also makes possible the inclusion of younger children without the cognitive abilities to enact their participatory rights (Hultgren & Johansson, 2019).

A spatial and relational approach also represents a reframing of the tensions within the new childhood sociology between ideas of children as either rational and competent actors here and now ('beings') or as developmental and biological

‘becomings’ (James et al., 1998; Qvortrup, 1994). The child as being perspective that has dominated research in past decades has contributed to the establishment of a dichotomy between adults and children. Either research has focused on how children are marginalised by adult structures, or it has focused on how children have constructed their own spaces or practices independently of adult interventions (Mannion, 2007). A spatial and relational approach brings in the adult dimension and allows for a more fluid understanding of the relationships between children and adults where agency is situated and dependent on concrete participative situations and the dialogic process around the negotiation of participation. The term “intergenerational becoming” is suggested to capture this understanding of child–adult relations (Mannion, 2007).

Throughout discussions of participation in this article, we apply a processual and relational framework of participation developed by Hultgren and Johansson (2019). Within the framework, participation is ‘not dependent on age, maturity or competence and seen as a relational process where nothing is defined in advance, but that the child, the adult and the place are defined during the process’ (Hultgren & Johansson, 2019, p. 3). Participation takes place in everyday relational activities like play, work, and learning, and the focus is on lines of communication rather than outcomes. The framework identifies four important activities for participation between people, places, and things: inclusion, inspiration, involvement, and challenge.

According to Hultgren and Johansson (2019), inclusion is a precondition for participation, and no one should be excluded on the basis of physical, social, cultural, or cognitive aspects. This implies an awareness of the physical and social environment, ensuring that everyone feels welcome and can attend and participate. Furthermore, it is important that the setting affords and inspires exploration, exciting experiences, creative activities, and stimulates all senses. A combination of flexible and recognisable environments is emphasised and children need access to places where they (rather than adults) have control, but where they can also feel secure when accompanied by adults. It is also important to arrange for children’s active involvement and participation in creating or designing the activity or the environment. Finally, to stimulate and challenge the children, the space should not be pre-defined, but should rather be open to children’s and adult’s active engagement with each other and the environment. Less restricted and more ambiguous environments open up ‘lines of flight’ which enable children and adults to leave the traditional child–adult dichotomy and create something unexpected or follow a joint initiative (Hultgren & Johansson, 2019).

## Methods

This article is based on qualitative research and focus group interviews with children and staff as the primary data method. The study expands, through re-analysis, the first author’s work from 2017 (Alme, 2017). Here, Alme explored the children’s and staffs’ experiences with participation in two different nature kindergartens by applying a classical stage theory of children’s participation (Hart,

2013). In 2018, additional data from four new nature kindergartens were collected by the two authors following the same procedure as in 2017, as outlined below.

### Participants and setting

A total of 30 children (age three to five) and 20 staff members from kindergarten groups in six different nature kindergartens participated in the study. The nature kindergartens were selected in dialogue with local municipalities. The 20 staff members had different educational backgrounds (educator, special ed, skilled worker, apprentice, and assistant) and between one and eleven years of experience working in nature kindergartens. Most of the staff also had experience working in regular kindergartens. The children and staff participated in separate focus groups. The six children focus groups had five or six participants, while the six staff focus groups varied in size from two to five participants. The children's focus group lasted for about 30 min, while the staffs' lasted for one and a half to two hours. The children's focus groups took place outside in shelters, and the staffs' in-office. The second author participated as an assistant in six out of 12 focus group interviews.

The nature kindergartens represented in the study were situated in rural settings, but the degree of wild and untamed landscape versus cultivated landscape varied between the kindergartens. The presence of manufactured toys also varied, from the total absence of manufactured toys to a few toys. Most toys we observed were self-made, such as swings made from ropes. Sites for cooking or other activities were often self-made. All kindergartens had a shelter and a fireplace. A common feature was the lack of a fence around the area. The children and staff in our study spent between five and eight hours outside each day all year round. The kindergarten groups in our study accommodated 12 to 25 children and three to five staff members (Fig. 1).



**Fig. 1** Left: Self-made grinding stone; and Right: knobs for hanging backpacks

## Procedure

Our data-gathering approach for children's own experiences was inspired by the 'Mosaic approach', which uses a combination of different methods to make children's perspectives and experiences more visible (Clark, 2005). In our study, we used focus group interviews as the main method, supplemented with drawings, conversations, and guided tours of the 'nature area'. Before the interview started, the children showed the authors what kind of activities they were doing in the forest. These observations were used in the focus group interview and helped to create a common frame of reference for exploring everyday activities. Focus group interviews with the children were conducted in a familiar environment, accompanied by a known staff member. The focus group interview had easy questions, e.g., 'can you tell us what it's like to play in the woods?' and 'can you tell us what you did in kindergarten yesterday?' The questions were combined with pictures of outdoor activities from magazines and simple drawings by the first author, aimed at illustrating topics from the interview guide. The pictures were placed in a wooden chest and, at their turn, the children picked and elaborated on a picture. The children were inspired to take the lead, and questions and comments by adults were minimised. After the interview, some of the children created drawings of what they do in nature. These drawings were used to supplement the analysis of the interview material.

The staff focus group interview followed a semi-structured interview guide. The moderator encouraged an open discussion between the participants. All focus group interviews were recorded and fully transcribed by the two researchers.

## Analysis of focus group data

The original and new material were combined and reanalysed. In the reanalysis, we used 'systematic text condensation', a method developed by Malterud (2012) for thematic cross-case analysis. Data from focus group interviews of the children and staff were first analysed separately. Both authors participated jointly in the analysis and met for consensus discussions after each analysis step. In the first analysis step, all data material was read through with an open attitude and five (children) and eight (staff) preliminary topics were selected. Next, the material was reviewed again based on these preliminary topics (codes). We searched for data that could complement or elaborate on the preliminary topics and which said something about children's play and everyday life in the kindergarten. As a part of this work, the codes from the first step were adjusted, leaving us with four (children) and six (staff) codes. In analysis step three, the main codes were divided into sub-groups for nuances. The sub-groups and associated pieces of text were read through once again, and quotations were gathered as small sub-group texts (condensate). In analysis step four, we reconceptualised data, and condensates were used as the basis for developing analytical texts. Finally, we went through the subgroups again and looked for commonalities. This resulted in the development of two main categories that illustrate the spatial and relational aspects of play and everyday life in nature kindergartens: 'play and

everyday life in ambiguous and open environments’ and ‘fluid categories in play and everyday life’. These two main categories provide the basis for the presentation of findings and the discussion of participation.

### **Ethical considerations**

Before the interview, all participants, including the children’s parents, were informed of their rights as participants in the study in written form (informed consent) and verbally. The participants were informed that participation in the study was voluntary and that they could withdraw their consent at any time during the project. The children were individually asked if they wanted to participate in the focus group by the staff. The staff briefly informed them about the content and form of the focus group interview. All children that agreed to participate were informed of the project and their rights as research participants by the researchers in the focus group using age-appropriate language.

All data related to individual names and characteristics and to the kindergartens were anonymised. Data are stored in accordance with ethical guidelines. The research project complies with the relevant ethical guidelines and is approved by the Norwegian Centre for Research Data. Children’s participation in research demands sensitivity and awareness. Through the methodical design and facilitation of the focus group interview, we attempted to ensure a safe and confident research setting. The interview was kept short, and the setting and activities were familiar to reduce the power imbalance between the adults and children. We were sensitive to any sign of discomfort during the interview.

### **Findings**

We use the terms A, B, C, D, E, F to describe the six different nature kindergartens represented in the study. Quotations from staff are marked with ‘S’ and those from children with ‘C’.

#### **Play and everyday life in ambiguous and open environments**

The children’s and staff’s experiences of play and everyday life in this study take place in an environment characterised by ambiguity and openness (lack of fences/lack of manufacturing). The children and staff continually participate in developing spaces for life and activities in nature. All staff groups shared that the children help to design places for play and participate in necessary work, such as cutting firewood. These everyday activities are important for children’s ownership of the natural space, and also for social inclusion and collaboration, as illustrated by the following discussion by two staff members:

Thor: The children have tremendous ownership of the woods and the nursery area. Because everything we’ve built, the kids have been building. So, they’re involved in the whole process. They get ownership of it.



Odin: Not to mention the carrying.

Thor: Yes, they also help to carry (..) they push the sled. They learn a lot from cooperation, that you can't do it on your own, but together we can (E-S).

The informants describe that staff and children are on the same team and cooperate. The staff say that nature provides more space for children's participation and inclusion. They also emphasise that interaction between children and staff takes a different form in nature, and they associate social interaction and inclusion with participation:

Idun: When it comes to what we do with participation, it's different, both the children and adults are on the same team. Completely different from a normal group of children, where adults decide (..) what children should do (..). There is another interaction between children and adults... (D-S)

Better conditions for social inclusion and more teamwork were often mentioned by the staff when comparing nature kindergartens with regular kindergartens. The relations between staff and children are more flexible as they pursue joint activities and projects. The open and ambiguous nature of the raw materials inspires creativity and interaction between staff and children. Children's fantasy play in nature was often mentioned by staff in the interviews as activities that the staff and children do together. During the guided tour with the children in the woods, the children also showed us several examples of how they used nature to create their own space and playing toys, inspired, for example, by scenes from media. In one of the focus groups (F) we asked the children to elaborate more about sites they had shown us in the woods:

Interviewer: And you said something about what you used to play in that cottage?

Brage: Time machine

Interviewer: (..) But you girls, you played with something in the forest, what was that?

Freia: Motorcycle

Interviewer: Motorcycle, yes! And what do you use when you play motorcycle? Is it a real motorcycle, or?

Brage: Nooo.

Edda: A motorcycle car!!

Interviewer: A motorcycle car, and what is that made of?

Edda: It's made of stone and snow! (F-C)

The ambiguity of nature, the changing seasons and weather conditions, together with a lack of manufactured toys seems to stimulate the children's fantasy. Raw materials such as stones are continually defined and redefined in interactions between the children, staff, and nature. This fluidity creates a dynamic space for children's play and everyday life where they can explore their own experiences and try out new roles, as illustrated by Idun: 'We give the children a unique possibility to play out their lives, and the things they experience (..) dad that travels to the airport, comes home, stays at a hotel, is on the boat' (D-S). The meaning of fantasy play was



**Fig. 2** Left: “Time machine in the cottage in the woods” (left); Right: “We are running around in the woods, we are playing that we are racing cars and our legs are the wheels”. (right)

also illustrated in the children’s drawings. In the drawing on the left (Fig. 2), we can see a child inside a time machine in the forest. The drawing is called ‘Tidsmaskin’ (Time Machine). In the drawing on the right, we can see that children interact with nature in play. The boy himself is a racing car, where his legs are a set of wheels and the surroundings are a racetrack.

The results show that the natural environment stimulates situations in which children can create their own spaces and their own meaning. The open and ambiguous environment is also an important factor for the inclusion of all children in play, despite their different developmental stages, as illustrated by Odin: ‘I think it’s a vivid and dynamic setting, in which the children find their place, no matter where they are in their development, because it’s challenging. The nature accommodates each of them’ (E-S).

The informant points to the challenges afforded by nature that accommodate the children’s different developmental stages as perhaps reducing the need for manufactured toys. Simultaneously, the dynamic setting constructs a participative and stimulating development milieu, thus reducing the need for staff to intervene in children’s play and everyday activities. In one of the focus groups (C-S), a tree was used as an example of how climbing can afford both challenges and success for all children whether you reach the first branch or the top. Here, it is noteworthy that staff refrained from helping.

A recurring theme in the interviews was that staff should follow the children’s initiative. Everyday plans were kept to a minimum and easily adjustable for changing weather conditions or new ideas from the group. The children emphasise freedom and autonomy when talking about play, as illustrated in the following quotes: Freia: ‘We can go where we want!’ (F-C). Solveig: ‘There are no adults who decide what we play’ (C-C). Olav: ‘When we invent play then we decide!’ (A-C). Amund: ‘Then it means we are the boss’ (A-C).

The children’s narratives about play indicate that they experience freedom of choice with few regulations. The absence of fences emerged as a frequent theme during the woods tour. We were told about an invisible boundary surrounding the area. It was the joint responsibility of the children and staff to ensure that no one

crossed this boundary. Both the children and staff said that everyone must be within eyeshot at all times. These informal rules were mentioned as a shared and unquestioned agreement between the children and staff, important in preventing injuries and dangerous situations.

### **Fluid categories in play and everyday life**

The children's and staffs' experiences of play and everyday life are also characterised by the absence of predefined categories. Roles and positions appear dynamic and evolve through interaction:

Else: There are no rules for how play will take place. They must figure it out themselves. And those traditional girls' and boys' games are virtually not present. The girls fly planes and the boys are at the hairdressers. (..) In August when all these children started, they were locked into beads, drawing, dolls (..) Here, they didn't place themselves in boxes (D-S).

Else refers to gender as a category that she observes as being more malleable in the nature kindergarten than in regular kindergartens. Also, the traditional child–adult dichotomy appears to be more fluid. For example, the staff told us about a situation where the children were given the responsibility of carrying a long ladder through the forest with little help from the staff. Odin describes: 'They must be creative, and they must communicate. And I think that is the most important thing they learn, to communicate, to make things happen. To know that they must work together, they cannot only run solo' (E-S). This exemplifies several instances in which the staff enact restraint and give the children responsibilities that require collaboration, communication, and creativity.

Findings show that the traditional child–adult dichotomy is challenged because children are given more responsibility for their own decisions and well-being. Lise shared: 'We might push them a bit longer to challenge them than in the regular kindergarten (..) because we see that they can manage' (E-S). This quote illustrates a tendency we found for risk and risk assessment to be perceived as being important for learning and self-development. Risk is perceived as a shared responsibility between children and staff. Children can be actors in taking care of themselves and creating their own experiences, as illustrated in the following quotes:

Else: Here they (..) have their own knives, and they know that if they fall and get hurt, if they jump from there to there, that is too high, and you get hurt. And then they get to try it, and then this wasn't so smart. Instead of padding them, there aren't so many rules (D-S).

Kari: Sometimes they don't even want to wear clothes, and then 'Ohh.. too cold'. then they must go back inside again and put on more clothes (D-S).

These 'trial and error' situations described by staff are made possible by staff that utilise nature's offerings by refraining from controlling behaviour and, instead, arranging for situations where caring for children's well-being becomes a joint task for children and staff.

Our data shows that children also take care of other children and help the staff. The following quotes illustrate how the child–adult dichotomy is blurred in the children’s elaboration of what it means to be a helper:

Eva: I helped a small child when an adult did not see ... someone pushing a small child ... then I told an adult (C–C).

Siri: We are our own helpers. Or if some children cry, then the child will say it (D–C).

Ola: Children can help adults and adults can help children (A–C).

The children describe how they include themselves in caring activities of their own volition. Caring activities are not tasks assigned to the children by the staff or induced by rewards but rather develop naturally as part of the relational and spatial setting. The children explain that they voluntarily take the initiative to inform staff and help when a child or staff member needs help. The findings show caring activities as an interplay between child and adult that underscores the generational interdependency. Eva and Siris’ comments also illustrate that a generational order exists in which staff hold a hierarchical position that is activated in certain contexts.

By challenging the traditional dichotomy between children and adults, new learning situations may arise that are important for children’s sense of independence, self-efficacy, and learning of social competencies. We found that opportunities for sharing responsibility and arranging for situations that stimulate children’s experiences of agency and partnership seem more likely to arise in the natural sphere than in regular kindergartens. This may be related to the less strictly defined environment and the fluid categories that characterise the space and relations in nature.

## Discussion

In the following, Hultgren and Johansson’s (2019) processual model for participation will be used for further elaboration of the various participative situations that are experienced through play and everyday life. Findings from the study show that the natural space affords a range of situations that involve, include, inspire, and challenge children.

### Involvement and inclusion

The children in our study are involved in the everyday life of the nature kindergarten in several ways. For example, they collect firewood and collaborate with each other and staff in carrying out the necessary tasks. The children also actively partake in constructing and developing their surroundings. Both the children and staff describe how the children act as architects of both the physical and the imaginary and interact extensively with raw materials. They build shelters, transform stones and snow into toys, and they build airports in the trees. Staff refrain from regulating play but follow the children’s initiatives, thus giving the children autonomy in their choice of activities and sites of play.

Following Hultgren and Johansson (2019), inclusion is a precondition for participation and influence. A possible interpretation of the different experiences of play and everyday life we find in our data is that nature conducts a space for children's involvement that stimulates their initiatives, autonomy, and creativity. Also, other studies have documented increased creativity resulting from children's engagement with nature-based and less supervised playgrounds (Dowdell et al., 2011; Tremblay et al., 2015). The staff in our study particularly pointed to the dynamic environment that is changing year-round, affording continually new conditions and new inspiration for the children. Also, the staff shared that nature inclusively accommodates each of the children, no matter their physical development. Following these findings, it seems like the natural environment contains elements enabling the reduction of adult-initiated manufacturing and activities where these become a joint responsibility between children and staff. Through these processes, inclusion and participation are facilitated and intergenerational practices (Mannion, 2007) are stimulated. The positive benefits from engagement with nature described in this study are supported by results from several studies, indicating, among others, social, physical, and cognitive developmental benefits, and increased experiences of autonomy and independence (Adams & Savahl, 2017; Fjørtoft, 2004; Gill, 2014; Kuo et al., 2019; Ulset et al., 2017).

### Inspiration and challenge

Hultgren and Johansson (2019) outline the relationship between inspiration and affordance of place. They argue that an attractive and inspiring space should stimulate activities that can extend the body's possibilities, be exiting, and stimulate all senses. When the staff in our study compare their experiences from nature kindergartens with regular kindergartens, they describe a higher level of risk-taking among children in the nature kindergartens. Both the absence of fences and staff that refrain from regulating children's activities seem to contribute to this. Findings in our study are supported by findings in Sandseter (2009), which indicate a higher level of risk-taking in nature kindergartens. Following Barrable (2019), staff that utilise the affordance of the natural environment and refrain from controlling behaviour promote autonomy in children. In this study, the staff generally associated a higher level of risk with greater opportunities for learning, mastering, independence, and responsibility. As such our findings supplement other studies that have documented the positive benefits of risky and free play (Barrable, 2019; Harper, 2017; Skar et al., 2016; Zamani, 2016). We interpret the affordance of risky play in nature as one spatial aspect that inspires children and, as such, is a condition for participation.

According to Hultgren and Johansson (2019), an inspiring environment is also related to striking a balance between the open, unfixed, and the flexible on the one hand, and the recognisable environment on the other hand. In our data, there are several examples of the unfixed and fluid character of nature. It is changing both due to season but also due to interactions with children and staff as a site for play and joint projects. Simultaneously, all nature kindergartens have some defined areas, for example, a campfire and a shelter that are easily recognisable places to relax or gather socially. These

places are important for creating a sense of safety and belonging which are important preconditions for participation (Hultgren & Johansson, 2019). Our study resonates with findings in research that reveal a combination of structures and manufactured components on one hand, and natural components and free play on the other (Barrable, 2019; Brussoni et al., 2015; Harper, 2017; Zamani, 2016).

Our findings also hint at the fluid categories that characterise play and everyday life in nature kindergartens and how this affects acts of responsibility and caring while challenging the traditional hierarchy between staff and children. Hultgren and Johansson (2019) do not mention responsibility in relation to participation, but they emphasise the importance of designing environments that allow children to have their own experiences with challenging and risky situations. As per Hultgren and Johansson (2019), such situations open up for learning and cooperation. The children in our study indicated the importance of taking care of each other and helping both other children and staff and the staff described how the children take responsibility in everyday life, both for their own well-being and for the groups' well-being.

Findings reveal several examples of situations in which the usual dichotomies are challenged, relating to both the child–adult hierarchy and gender dynamics. In the natural environment, there are no gender-specific toys; rather, the space is ambiguous and undefined, creating possibilities for children's meaning-making outside of established categories. In the meaning-making processes, children, for example, use family experiences and cultural references to give meaning to their surroundings and express themselves. Also, staff highlighted that when children enter the nature kindergarten, established patterns like preferred playmates and activities are opened up and redefined. Hultgren and Johansson (2019, p. 8) and Mannion (2007, p. 416) use the concept of 'lines of flight' developed by Deleuze and Guattari (1987) to describe situations in which it becomes possible to leave dichotomies and create something new and unexpected. Following Hultgren and Johansson (2019), lines of flight are more likely to emerge in fluid and undefined environments, such as nature in this case, than in strictly defined environments with rules, restrictions, and routines. Lines of flight contribute to challenge the children and are, as such, one condition for participation found in our study.

Our study shows that the natural environment combined with relational practices affords a space for play and everyday life that is constitutive for a range of participatory situations that include, inspire, involve, and challenge the children. Unlike Hultgren and Johansson (2019) who discuss how adults can design and implement a space for children's participation, we found that staff generally refrain from designing and initiating spaces for activities and participation, and instead promote and participate in the children's own initiatives in utilising the affordances of the natural environment.

## Implications

The different participatory situations shown in our study can be attributed to the open, ambiguous, and fluid environment afforded by nature, together with relational practices. It is relevant to ask whether the findings in this study must be related to the uniqueness of the nature kindergartens or whether they can be relevant and applicable to the more

general use of outdoor settings in kindergartens. All children in Norwegian kindergartens spend several hours outside each day, and the outdoor setting is highly valued as a part of the Norwegian tradition (Jørgensen, 2018). However, the amount of time spent outside, and the activities undertaken in regular versus nature kindergartens, differs. In regular kindergartens, children spend part of the time outside playing, while in nature kindergartens children construct their everyday life outside within the frameworks of changing weather conditions and seasonal challenges. In our study, it seems like the staff utilise nature's resources in ways that contribute to creating relational environments that enhance children's responsibility and caring as particularly important values.

Second, our findings show that the areas of the outdoor landscapes are usually larger and less manufactured than in regular kindergartens. For example, the lack of fences is a striking difference that seems to have an impact on the relation between children and staff. Further, less manufactured environments are found to inspire and challenge the children by encouraging them to take more risks. However, it is relevant to question whether risk-taking is culturally conditioned and will be reflected in pedagogical practices more generally. For example, Sandseter (2009) finds that the amount of risk-taking in nature kindergartens is quite similar to the amount of risk-taking in regular kindergartens. The importance of risk-taking as a condition for democratic participation found in this study, can hence also be relevant for regular kindergartens. Particularly, we find the staffs' pedagogic practice of restraint enabled risky play. This lack of restrictions also stimulates creativity, meaning-making, and experimental learning. The staff themselves described this as different from what they have experienced working in regular kindergartens. This finding differs from Sandseter (2009), who did not find any difference due to staffs' use of restrictions. A relevant question is how risky play can be arranged in more manufactured and structured environments to facilitate children's participation.

Participation in nature kindergartens primarily takes place in and through relational activities in which the initiative is taken by the children and activities are carried out on children's premises in informal arenas. Thus, it is relevant to ask whether this relational and informal form of participation is inclusive for all children, or whether it offers a position for participation only for children fulfilling the social, physical, and psychological conditions that are required to actively engage in social interaction. In our study, we found no children that were being excluded from the participatory situations because they lacked relevant capabilities, but this might also relate to characteristics of children who are enrolled in nature kindergartens. Since applying for enrolment in nature kindergartens is a voluntary option we can ask whether children in nature kindergartens are representative of all children. The findings of this study must be interpreted in this context.

## Conclusion

This study shows that the open, ambiguous, and fluid character of nature creates a dynamic space for children's participation through play and everyday life in nature kindergartens. Staff promote children's natural resource-using initiatives and refrain from designing activities and participation themselves. We conclude that nature kindergartens, through this combination of nature and relational practices, offer a range of participatory situations that inspire, include, involve, and

challenge the children. The active engagement that is required from children stimulates creativity, responsibility, and generational interdependency, but it is relevant to ask whether these informal and relational aspects of participation are inclusive for all children.

The study is small and the findings cannot be generalised, but it provides insight into experiences of children's participation in six nature kindergartens in Norway. Nevertheless, the study's findings can stimulate reflections on pedagogical practices and the educators' role outside the Norwegian context. We recommend that educators pay attention to how they can utilize the natural environment in their everyday practices to create an environment for children's play and participation that also allows for children's creativity. Furthermore, we recommend that educators take a less instructive role and let the children's initiative and abilities flourish and thrive at their own pace. Simultaneously, educators must be sensitive to the children's needs, also in relation to potential risk. We acknowledge that kindergartens have different possibilities for using the natural environment. However, insights from this study can also be relevant for regular kindergartens and inspire educators to arrange for less structured and instructive environments that allow for children's initiatives and creativity.

The study's findings actualise questions on the differences between nature kindergartens and regular kindergartens regarding children's participation. In our study, we have not compared participation in nature kindergartens with participation in regular kindergartens, but most of our informants had prior experiences in regular kindergartens and naturally compared their experiences with this. Further comparative research on conditions for participation in different types of kindergartens should be conducted in the future.

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**Data availability (data transparency)** The qualitative data generated during and/or analysed during the current study are not publicly available due to Norwegian data storing policy but can be made available for reviewers on request.

**Code availability (software application or custom code)** Not applicable

#### Declarations

**Conflicts of interests** The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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