



The relationship between autonomy support and structure in early childhood nature-based settings: Practices and challenges

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Abstract

From a Self-Determination Theory perspective, children are expected to grow according to innate tendencies in supportive environments, such as nature-based educational settings. The role of the practitioner is generally viewed as facilitative in these contexts. We report findings from a qualitative study with a sample of 18 UK-based outdoor educational practitioners. We asked them to respond to four hypothetical situations with differing levels of required intervention. Our purpose was to examine the extent of autonomy support and structure that they would hypothetically provide to the children in each of these different scenarios, and even uncover possible tensions in the application of autonomy support and structure. Our analysis suggests that, in situations of low interventional requirement, practitioners could understate structure and autonomy support and, in situations of high interventional requirement, prioritize structure over autonomy support. The challenge for practitioners that was revealed in this research, as well its implications, are discussed.

Keywords Autonomy support · Motivation · Nature · Nature-based education · Self-determination theory · Structure

Introduction

Early childhood practitioners and parents often find it difficult to provide guidance and direction to children. In a variety of everyday activities and situations, from eating healthy food to gaining useful knowledge and from staying safe to engaging in self-care, children will not necessarily follow instructions or adopt behaviors that they are asked to. The question then becomes one of how children can be motivated to do so. Self-determination theory (SDT; Ryan & Deci, 2017) is a motivational theory that argues that children have natural tendencies to grow, master challenges and integrate experiences into a coherent self.

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Once it is accepted that children are naturally inquisitive and growing organisms, the question that was asked above can be rephrased to one of how adults can channel the children's inherent tendencies in ways that best serve their interest.

In nature-based educational settings, such as nature nurseries and forest schools, children find themselves in an environment that poses various challenges and offers potential for growth (Barrable, 2019; Barrable & Arvanitis, 2019; Harris, 2018). Pedagogical practices that make use of the affordances of the natural space can promote conditions for supporting the child's innate tendencies (Barrable, 2020; O'Brien & Murray, 2007). Practitioners in this context are viewed as facilitators for child-led activities. However, there is no guarantee that every child will indeed grow within this type of educational setting without proper support by the practitioner. The challenge for the practitioner becomes greater when children in specific contexts cannot independently behave according to innate tendencies or when they engage in inappropriate behaviors. Our objective in this research project is to identify how practitioners deal with the specific challenge of supporting children in outdoor settings by focusing on two basic concepts, structure and autonomy support, as well as their intricate relationship.

Structure

An important aspect of educational support involves structure, that is information that is given by adults to children to help them achieve desired outcomes (Skinner & Belmont, 1993). In order to master a challenge, a child needs to understand the nature of an activity, as well as the process of improvement, and to have a step-by-step improvement plan in mind. Relevant information offered by adults is likely to aid in that direction. When climbing trees, children can climb taller or smaller trees depending on their abilities. Practitioners can give guidance in how children can pick certain trees that are appropriate for this activity, and share information on what makes a good tree to climb. They can also design and communicate safety protocols, sometimes with the children, and offer feedback that can lead to improvement. While subtle, the processes described above, involving guidance, feedback and risk-assessment are processes of structure. Another process of structure would be one often seen in more traditional settings like primary schools, where the children are not allowed to climb trees at all. A third approach would be lacking structure, such as the case in which practitioners lead children to the forest or park and leave them on their own to do as they wish without any guidance. In this instance, there is potential for injury and other undesirable outcomes. The word that potentially comes to mind in this case is 'chaos'. If structure lies on one end of the continuum, chaos lies at the other end.

In many educational settings and learning environments, structure is provided by a curricular framework and clear learning activities set out by the adult but, in nature-based education programs such as forest school or nature nurseries, the concept of structure takes on a different form, possibly less clear to the practitioner. There are indeed some settings that acknowledge a focus on National Curriculum targets, but most have much more holistic goals in mind, such as personal, social and emotional development, the enhancement of self-esteem (Harris, 2017) and the development of a connection to the natural world (Barrable & Booth, 2020). In providing structure, the challenge for the practitioner is to transform these holistic goals into a guiding framework that serves as a basis for communicating clear expectations and rules to the children, as well as offering sufficient supervision and constructive feedback. Without such a framework—and in the absence of a curricular framework—communication with children can be restricted to a set of instructions that

simply ensure safety or to an even more relaxed ‘laissez-faire’ attitude that allows children to do as they wish. Understanding the range of structure practices in nature-based settings is one of the main aims of this study.

Autonomy support

Autonomy support is best understood through an SDT lens if it is distinguished from lack of interference or the promotion of independence (Arvanitis & Kalliris, 2017; Ryan, 1993). Children are not supported if they are encouraged to be independent, but only if they are supported in behaving in accordance with their interests and values. These interests and values lie at the core of autonomous behavior. Supporting children to act on their own does not necessarily enhance autonomy because what children do independently might not reflect their true interests and inherent tendencies. This concerns adults as well. For example, research on emerging adults’ well-being (Kins et al., 2009) indicates the positive effect of dependent living with family (compared to independent living) so long as their living arrangement reflects their values and needs (Kins et al., 2009). With regard to children, autonomy can equally be supported when decisions are made by important others *and* when they make the decisions themselves (Bao & Lam, 2008). Therefore, it is conceivable for children, even emerging adults, to feel autonomous in states of dependence. It is also possible for children to feel pressured in states of independence. Practitioners need to attune to the children in their care to understand their motivational states and react accordingly.

Autonomy support can be thought of in terms of stages during education (Reeve, 2016). At an initial stage, it is necessary to take the students’ perspective; at a middle stage, to vitalize inner motivational resources and offer rationale for an activity; at a later stage, to display patience, acknowledge negative affect and rely on informational, non-controlling language to engage the child in an activity. As can easily be deduced, autonomy support is by no means a passive form of non-interference but an active and purposeful effort by the educator that aims at tapping into children’s interests in order to constructively engage them in self-growing activities.

In nature-based settings, practitioners are viewed as facilitators for child-led activities (Barrable, 2020) and are there to support the child’s innate tendencies. In forest school, an example of a nature-based learning environment, Knight (2009) writes that “the learning is play based and, as far as possible, child-initiated and child-led” (pp. 16–17). How practitioners understand what it means to support child-led learning is unclear. Harris (2017) touches upon this point by explaining how some practitioners highlight ‘the challenge of negotiated learning’ as a delicate balance between allowing children to shape their activities and more structured practice, led by the practitioner or the group. As such, autonomy support can be viewed differently by practitioners, from some believing that leaving a child alone is a part of child-led learning to others seeing their role as actively providing support that aims to tap into the children’s innate tendencies. According to SDT, the latter is better viewed as autonomy support and the former more likely promotes independence. As with structure, a main aim of this study was to understand more fully the range of autonomy support practices used in nature-based settings.

Structure and autonomy support

The relationship between structure and autonomy support is complicated. Initially, chaos (that results from adult inaction) cannot be autonomy supportive because it is difficult in these situations for children to act according to their interests. As the level of structure improves, there are differing levels of autonomy support with which it can be combined with. Moreover, the two seem to have a linear relationship (Jang et al., 2010). As structure improves, so does autonomy support. Table 1 offers an example for a classification of educational tactics according to different levels of autonomy support and structure, capturing how autonomy support becomes stronger as structure improves.

Regarding autonomy support, we have relied on Reeve (2016) to construct three levels of autonomy support: (a) low, with no attunement to the child, (b) medium, with the child offering of feedback, and (c) high, with acknowledgement of conflict, offering choice, use of autonomy-supportive language and positive feedback. Reeve offers a distinction with regard to autonomy support that helps to better understand these levels. On the one hand, autonomy support aims to deliver the curriculum in a need-satisfying way so that learning outcomes are better served. This aim is rather effortlessly achieved in nature-based settings where there is no official curriculum involved and nature becomes a primary source of learning and growth. On the other hand, Reeve argues that autonomy support involves forming a dialectical two-way relationship in which the practitioner is in sync with the children and both are mutually responsive to each other. The more the communication between practitioner and child becomes transactional, the more there is ground for helping the child grow according to innate tendencies, especially when the child encounters difficulties. This is why high autonomy support in our classification involves two-way communication between the practitioner and the child. Although Reeve also discusses controlling educational practices, we have not included any controlling practices in our classification because of the pedagogical ‘child-led’ philosophy of nature-based educational settings.

Regarding structure, we have three levels also: (a) low, with no information given to the child, (b) medium, with instructions of low informational value offered to the child and (c) high, with a guiding framework of high informational value offered to the child. What sets the guiding framework apart from the instructions of low informational value is its derivation from holistic goals of personal, emotional and social development of the child. It is manifested as a guidebook, rather than as seemingly isolated regulations, such as ‘don’t climb trees’ or ‘do as you please as long as you do not hurt others’. High structure provides sufficient information to the child in order to deal with personal, emotional and social challenges and is not restricted to simple rules of conduct within nature-based settings.

We further propose that a richer structure can enhance autonomy support. For example, practitioners find it easier to mobilize inner motivational resources and offer choice if they have a guiding framework that they are communicating to the child rather than only instructions. Therefore there could be delicate improvements to autonomy support while structure becomes richer. This conceptual account could also provide an explanation for why autonomy support and structure have a linear relationship. The ideal combination of structure and autonomy support is based on two-way, autonomy-supportive communication involving a guiding framework for dealing with challenges in relation to personal, social and emotional development, as well as connection to the natural world.

Table 1 Example of classification of educational tactics according to different levels of autonomy support and structure

Structure	Autonomy support		
	Low	Medium	High
Low	Non-interference	Observation, emphasis on one-way communication (offer of feedback)	Emphasis on two-way communication, (Acknowledge negative affect, use autonomy-supportive language, positive feedback)
Medium	Offer instructions	Observation, emphasis on one-way communication (rationale of instructions, and offer of feedback)	Emphasis on two-way communication, (Acknowledge conflict from instructions, use autonomy-supportive language, offer choice, positive feedback)
High	Present a guiding framework	Observation, emphasis on one-way communication (rationale of guiding framework, conveyance of a sense of purpose and direction, offer of feedback)	Emphasis on two-way communication, (Acknowledge conflict from guiding framework, conveyance of a sense of purpose and direction, use autonomy-supportive language, offer choice, positive feedback)

Most educators, especially in nature-based and early childhood contexts, are qualified to understand the basic properties of structure and autonomy support and attempt to offer them. This does not mean that they offer them in every situation and in the best way possible. Our purpose in this qualitative study was to examine how early childhood practitioners working in outdoor settings (a) think about autonomy and structure (b) apply them in everyday scenarios and (c) behave according to different types of situations.

Methods

Participants

We contacted established early childhood nature-based settings in England and Scotland through email to ask for our survey to be shared with staff. Overall, we had 18 practitioners who responded to our call. Of those 11 were female, one was male and the rest did not respond to this question. Most practitioners had more than a year of experience in teaching in outdoor settings, with 12 having taught between one and four years, three between 5 and 10 years, and three with more than 10 years of experience in such settings. One practitioner had one year of experience and the rest did not respond to this question. All of the practitioners worked with children older than three years of age, and 84% worked with children between three and five years old.

Ethics approval for the data collection and data management was given by the School of Education and Social Work, University of Dundee (approval number E2018-21). All participants were anonymous and were fully informed of the purposes of the research, the data management systems were in place, and the right to withdraw prior to completion of the questionnaire was explained before giving consent.

Instrument

A qualitative questionnaire was put together, with open-ended questions designed to elicit in-depth responses by practitioners. The qualitative questionnaire is a flexible, little-used method with great potential in social research (Braun et al., 2021). According to Braun et al. (2021), “qualitative surveys consist of a series of open-ended questions, crafted by a researcher and centered on a particular topic” (p. 641). In this way they provide the researcher with rich and complex responses (maintaining the strength of other qualitative approaches), while giving access to the participants’ experiences and narratives. At the same time, qualitative questionnaires have advantages over face-to-face methods, such as interviews or focus groups, in accessing sensitive topics, as well as potentially partially mitigating social desirability bias.

In this instance, we designed a qualitative questionnaire of three parts. In the first part, practitioners were asked about the sort of practices that they undertake within their setting, directly focusing on the manifestations of autonomy within early childhood outdoor settings. These results will be presented in a future paper. The second part consisted of the four scenarios outlined in Table 2, whose responses form the basis for this paper. Finally, in the third part of the questionnaire, participants were asked to give some demographic information about themselves, as well as some information concerning the type of setting and their experience teaching in outdoor settings.

Table 2 Hypothetical scenarios to which the participants were asked to respond

Scenario	Context	Situation
Scenario 1	Play	The children are playing freely. One child is persistently playing on her own, preferring to collect sticks and building her own small shelter. How do you react?
Scenario 2	Transition	The children are getting ready for their lunch. One of the children is not willing to join in and wants to continue playing. How do you communicate with him?
Scenario 3	A walk	The group is scheduled to take a walk in another part of the woods. Some children don't want to join. How do you deal with the situation?
Scenario 4	Misbehavior	An older child is acting in a way that is upsetting two of the younger children in the group. How do you deal with her?

Each scenario presented the practitioner with a realistic situation that could take place during a normal session within the setting. Participants were asked to respond in terms of how they would react in this particular situation. These scenarios were chosen as commonly occurring and offering challenges to a practitioner within nature-based settings. Although these scenarios also can occur in indoor settings, the nature of an outdoor setting and the geography of it present a more challenging situation to the practitioner because of aspects such as geographical distance with the child or risks that can be present. Moreover, the design of the scenarios took into account the child-led pedagogical principles in forest schools and other nature-based settings in order to present dilemmas for practitioners. These child-led principles would more readily conflict with a high need for intervention on the part of the practitioner, when there is a contextual requirement to ensure the safety and physical and emotional wellbeing of the child and others. The scenarios specifically offered different levels for the need for practitioner intervention.

The use of hypothetical scenarios such as these, or ‘vignettes’, can allow the participant to explore a situation in their own terms, but also to probe sensitive situations in a less personal way (Barter & Renold, 1999). The purpose in this case was to examine the extent and the ways in which practitioners would use both autonomy support and structure in these hypothetical situations. Participant responses in the scenarios ranged from very short (two words) to several paragraphs (more than 600 words).

Procedure

Having established relationships with several high-quality outdoor early childhood education settings throughout England and Scotland, we recruited practitioners through managers at seven of those settings. A request was made to share the questionnaire with all of the practitioners at these settings—the low response rate was attributed by managers to time pressures for practitioners and the length of the questionnaire. Those who responded, however, tended to give long and comprehensive answers.

Data analysis

We employed thematic analysis using a deductive ‘top-down’ approach. All participants’ responses were initially mapped on the two dimensions of autonomy support and structure drawing from SDT as portrayed in Table 1 and using three levels for each (low, medium, high). We used the template of Table 1 to map the responses before analyzing the content of these responses to approach the specific strategies that were employed by the practitioners in each of the scenarios.

Table 3 Classification of educational tactics according to different levels of autonomy support and structure in Scenario 1

Structure	Autonomy support		
	Low	Medium	High
Low		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Medium		<input checked="" type="checkbox"/>	
High			<input checked="" type="checkbox"/>

Analysis

Scenario 1

In Scenario 1, practitioners reported responses that were autonomy supportive on a medium or high level (there is no low autonomy support response) and structure does not seem to be prioritized. In Table 3, we report the types of educational tactics that were identified in the practitioners' responses (marked by the ticks in the box). Below we discuss these responses in further detail.

Medium autonomy support/low structure

Observation emerges as important in this instance, where practitioners leave the child to continue a chosen activity. Practitioners discuss the need to attune to the child and her interests, but do not offer any input or information to the child. In all cases, the practitioners are available, observe and stay on hand to be able to provide support if the child needs them:

Leave her to choose. If she wants to play alone, this is fine. Ensure an adult is accessible and attuned to the child.

Monitor her interaction with her chosen activity, if appropriate engage her in discussion about her purposes. If she is flow and chatting to herself, listen.

High autonomy support/low structure

The focus in this case is on practitioners' considerable efforts to understand the child and her interests, as well as on the accumulation of knowledge about the child's habitual behavior, temperament, and current facial expressions; practitioners intend to engage in conversation to understand more about the child. As in the previous examples, offering structure (i.e. information of some sort) to the child is missing:

[...] that those children who crave time alone can have the freedom to take advantage of this. I would ask a leading question about what she's doing without criticism then I would judge from her answer as to whether she may need help in socializing more of course it would depend to as to what is 'normal for her to. So I would speak with her teacher.

No reason to intervene if I know this to be her/his abitual behaviour reflecting his/her temperament. If it is unusual I would observe other signs, as facial expression, and ask if everything is all right if in doubt. If I see this for some days I would tell other adults and the parents to know if they have some information on what's happening. If something is wrong I would adress that and not tha fact tah he/she is playng alone.

Medium autonomy support/medium structure

While attunement and attention to the cues of the child are still important here, practitioners in this scenario attempt to offer an initial interactional structure (but communication is still one-way). This takes place through either direct explorations with the child or inviting others to peripherally participate, if interested, or through parallel play as a means to interact:

Go and talk to her and ask what her ideas are with building her own shelter.

I would chat with her to make sure she is happy and not feeling left out for any reason, then I would invite the rest of the group to come and look at her amazing shelter, they may feel inspired to build their own and make it into a village, I would always follow the cues of the child.

High autonomy support/high structure

In this condition of high autonomy support and high structure, practitioners make considerable effort to attune to the child as well as to build a plan and offer structure for interacting with other children. This typically involves gaining insights and thoroughly understanding the emotions and intentions of the child who is playing alone through two-way communication and, moreover, looking to cater for the underlying need of children in a gentle way:

Observe in the first instance. There's not necessarily a problem with the child choosing to play by herself and I would see it as a positive thing depending on the context / history, etc. I would only intervene if after repeated observation I was of the view that this child was avoiding playing with other children out of fear / some other negative experience or feeling. In that situation I might gently encourage the child towards the other children without forcing, being prepared to listen to feelings. I might also if appropriate and welcome join the child in her play to build connection / safety and to gain more insight.

Scenario 2

Table 4 classifies the tactics that were reported by practitioners for Scenario 2. As in Scenario 1, practitioners mention educational tactics that are autonomy supportive (there is no low autonomy support response) but, in this case, structure is given a little more value (especially illustrated by medium autonomy support/high structure responses). More explanation is provided below.

Medium autonomy support/low structure

There is care to support autonomy in this case, expressed in terms of the need to ensure that there is time to accommodate activities as prioritized by the child—typically ensured through one-way supportive communication. There is no attempt to offer structure:

Ensure he can play and have lunch when he is ready.

Table 4 Classification of educational tactics according to different levels of autonomy support and structure in Scenario 2

Structure	Autonomy support		
	Low	Medium	High
Low		<input checked="" type="checkbox"/>	
Medium		<input checked="" type="checkbox"/>	
High		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Medium autonomy support/medium structure

Balancing between some medium level of structure and autonomy support means that practitioners attempt to offer structure by offering instructions, namely, mentioning that it is time to have lunch, while at the same time, reassuring the children that they can return to play:

Depending on the child, promise they can return to the play, or make a joke, pretend to chase and tickle them to distract them – it really depends on the child.

Ask them to put everything together and explain we will leave it there and come back to it after lunch.

Medium autonomy support/high structure

In this case, providing structure becomes the dominant aspect in the responses. Practitioners insist on following the principles of the guiding framework (in some cases expressed in the form of routines as in the example below), while they recognize the children's interests; however, they do not go as far as engaging in two-way supportive interactions:

Explain time – what's happened – hand washing, toileting etc., and offer reassurance that play will be revisited.

Reiterate the routine and meal times rules. Include child and give responsibility such as being a lunch time helper.

High autonomy support/high structure

In cases in which practitioners offer high autonomy support and high structure, they seem to make significant effort to empathize with the child and their needs while maintaining structure. The structure in this case does not entail a simple rule 'now is time for lunch', but rather guidance as to how children should operate within groups. The range of approaches discussed to maintain high autonomy support and structure include proposing compromises, offering reassurance that the children can return to their play next and expect big feelings, and helping children to work out how to meet their own and group needs—all entailing two-way communication:

I would go over and join him for a moment in his play, coming down to his level, acknowledging what he's doing and how much he's enjoying it. After a few moments I would point out that it's lunch time, asking him to join the other children. If he was reluctant I would stick with the limit, having empathy for his desire to play, but staying with the fact that he's part of the group and it's lunch time now. Reassuring that there will be time to play after lunch. Expecting that big feelings might arise and being prepared to listen through them.

Tell child that it's lunch time and explore what is preventing child from coming for lunch. May be possible to reach some sort of negotiation with child. What is child doing? Is it something that is easy or hard to leave eg if making a dam and pausing

Table 5 Classification of educational tactics according to different levels of autonomy support and structure in Scenario 3

Structure	Autonomy support		
	Low	Medium	High
Low	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Medium	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
High			<input checked="" type="checkbox"/>

for lunch would mean water gets in and ruins progress, then more likely to be flexible re lunch time if possible. If not possible, then use hand in hand tools—active listening, empathising with their feelings, offer quality time to be with them during lunch and see how we can problem solve to help meet needs of individual and group.

Scenario 3

Table 5 classifies the tactics reported by practitioners for Scenario 3. Compared with Scenario 1 and 2, practitioners mention potential responses that are more widely distributed across the spectrum. The nature of group VS individual interaction might have played a role in the practitioners proposing tactics that are not autonomy supportive. More details are provided below.

Low autonomy support/low structure

In this scenario, we encountered responses in which practitioners attempt neither to offer structure nor attune to students' feelings. Instead, one practitioner proposed to engage in a mild form of teasing/punishment, a behavior that is by definition low in autonomy support, without really offering information to the child:

Depending on staffing leave those children and then when we get back explain what a great time we had – next time they would come.

Medium autonomy support/low structure

The approach to tackle the case of the scenario for some practitioners allows the children to do what they ask for, and therefore provides medium autonomy support but no structure:

Ensure the children who don't wish to walk, can stay.
Take only the children who want to go.

Low autonomy support/medium structure

By contrast, the practitioners in the case presented in the excerpts below persist in the plan and use a majority rule or their own authority to convince children to go along, thereby offering the children medium structure but no real autonomy support:

Vote, majority choice decides or say we can have 5/10 more minutes nurse and then take the walk.

Give them a task to carryout on the way (e.g. we have a colour of the week and we look for that colour or ask the to be a helper).

Medium autonomy support/medium structure

Behaviors of medium autonomy support and medium structure in this instance mean that the practitioners exhibit flexibility and negotiate a plan while trying to maintain a structure of togetherness for the children:

Maybe get them to link hands or have a blind trail. Encourage trust and interest in other children and the woods.

Again, this would depend on staffing ratios, if it was viable to leave them to their own play, that would be ok, if it was going to affect the rest of the group, a discussion would need to be had to make it fair for everyone.

If have staff so can separate group and still meet appropriate ratios, then that’s fine. Can do different things. If need to keep all children together, then need to explain why this is the case and hear their concerns.

High autonomy support/high structure

When looking at behaviors that are high in both structure and autonomy support, we find practitioners engaged in helping children achieve what seems to be interesting and important to them through deliberative and carefully planned collective action (through engaging them in two-way supportive communication):

Divide adults into safe group one to stay one to hike, explain the value of moving as a group and ask the children to brainstorm what they may see along the way to encourage others, or do not go on a walk.

Discuss if safe to split up. See if the children can negotiate a compromise. Lean my questioning towards a possible solution, but try to see if the children can come up with it.

Table 6 Classification of educational tactics according to different levels of autonomy support and structure in Scenario 4

Structure	Autonomy support		
	Low	Medium	High
Low			☑
Medium	☑	☑	☑
High		☑	☑

Scenario 4

Table 6 classifies the tactics mentioned by practitioners in Scenario 4. In this scenario, practitioners mention responses that are even more widely distributed across the spectrum. Both dimensions of structure and autonomy support seem of equal importance. Details are discussed below.

High autonomy support/low structure

Potentially because of the level of the challenge that the children of this scenario face, practitioners might choose to abandon structure and focus only on autonomy support. This is expressed in terms of the practitioner interacting with and showing empathy to the child:

Empathise, use prior knowledge of the child to support the child and her feelings. Accept her feelings by asking her how she is feeling and explaining that you understand.

Low autonomy support/medium structure

In other cases, structure takes precedence over autonomy support. Practitioners choose to maintain some type of order through providing some (medium) structure but do not essentially provide autonomy support. In this case, there is evident lack of attunement to the children's feelings and needs, even to the point of resorting to mild punishment:

Leave for as long as possible and hope the children work it out themselves, but if the younger children are very upset and unable to stop the older child, explain the impact their behaviour is having (encourage the younger children to try to explain) then try to distract the older child with something interesting away from the younger children.

Time out say if they continued with this misbehaviour there will be less time to do other play activities. Also ask the older child to be more caring to the younger ones.

Medium autonomy support/medium structure

When a medium level of autonomy support and structure is pursued by practitioners, talking with the children and attunement to their feelings complement structure in the form of social expectations and norms (e.g. 'be nice to others'):

Speak to her about how the other children might be feeling. Talk about how she could do or say things differently next time. Suggest that she asks the other children if there is something she could do to make them feel better.

Discuss the scenario, allow child to be responsible for actions and possibly offer opportunities for older child to be given a caring role towards the younger children.

High autonomy support/medium structure

In this case involving high autonomy support and medium structure, practitioners make considerable effort to engage children in two-way communication, when they attune to children, acknowledge emotional conflicts, and offer structure that takes on the form of social expectations:

Inquire into her well being, if she is comfortable, has needs met, is bored, has unaddressed emotional state, resolve issues w leading questions, inquire if she's bored and what she would like to do, make an activity suggestion that constructively develops observed misbehavior.

Give her an opportunity to be away from the other children. Ask the younger ones for their feelings, discuss with the older one what you have seen, how they feel. Ask the older one how they feel. Listen and give it time. Don't ask the older one to apologise to the younger ones, they should do so in their own time if they are ready.

Medium autonomy support/high structure

In other cases, practitioners talk about structure both in an attempt to explain what is acceptable or not and also in terms of consequences. This would be classified as low autonomy support but, when a practitioner (as in the excerpt below) makes an effort to convey choice, medium autonomy support is achieved:

I believe in giving a warning first but as friendly as I am the children know they get one chance. So I would talk to the older child as I believe all behaviour has a cause and try to establish why they're behaving in an unacceptable way I'd make it clear that this is their opportunity to change or their will be a consequence ie t minutes in base camp, then stages consequences ultimately leaving the session. But to me it's important that the older child feels they have a choice. That choice would be limited to perhaps something like finding something else to do or having the consequence. The younger children should not be forgotten in this either and I would ensure they were ok.

High autonomy support/high structure

There is the case here too of practitioners making a considerable effort both to attune to the children and build structure that is appropriate. This translates into a number of strategies, from getting the whole story and dealing with all parties to building a group and dealing with unmet needs:

We may find that we need to have better auditory monitoring of exchanges between children, group "camp" meetings - not to go over rules, but to share enough to create a more positive dynamic going into sessions, as part of forming a culture of shared objectives. All kinds of efforts build the group. Stories that illuminate how to express differences without domination, ultimatums or over-control, easy shared phrases, even small celebrations etc.

After observing, take older child aside gently and ask what is happening from their perspective. If they have unmet needs, deal with these as priority. Eg cold, hungry,

upset, need to vent. It's not possible to reason with someone who's not in a place emotionally to hear what you are saying. Ask how they think the others feel re what happening and get their perspective. [...] If the actions need a more immediate reaction eg the older child is hitting them, then intervene and separate immediately and deal with comforting the others (while radioing another staff member to see if they can possibly simultaneously provide support to the older child) and work together with all 3 children to get solution - possibly using restorative justice tools. Play listening may also be helpful as a strategy. If the child's behaviour is persistently upsetting other children, then an additional support plan may be beneficial.

Discussion

The purpose of our research was to examine the manifestations of autonomy support and structure in situations where outdoor education practitioners are called upon to deal with children who do not follow instructions or behave in line with educational and school norms. Our theoretical framework of Self-Determination Theory can potentially be of significant use in outdoor pedagogical child-led practices (e.g. Barrable & Arvanitis, 2019).

Children who do not follow the norms of the school might be doing so because they are drawing from their intrinsic tendencies and interests, or because of external and internal pressures. On the one hand, it is the job of the practitioner to be autonomy supportive, that is, to attune to the children, understand the motives for their behavior, acknowledge possible conflicts, alleviate concerns, offer choice, and help them to see the value of the behavior in which they refuse to engage. All practitioners in our sample speak of doing this in one form or another. It is important to note that leaving children to do what they ask for is not necessarily supporting their autonomy, especially if their behavior is dictated by internal or external pressures. Even if it is dictated by their interests, there are cases in which these should be put on hold for other beneficial activities or for avoiding harm to themselves or others. On the other hand, it is also the job of the practitioner to provide structure, that is, contextual information, specific directions and guidance that children can use to navigate themselves in the setting in a predictable manner that ultimately helps in achieving desirable outcomes, while also keeping everyone safe and healthy. Although structure and autonomy support have a linear relationship (Jang et al., 2010), this does not mean that high autonomy support goes hand-in-hand with high structure in every case or that this would be an easy task. Our purpose, therefore, was to see how practitioners can balance the two in different situations.

Our scenarios had specific norms that needed to be followed: interaction with other children (Scenario 1), transition from play to eating lunch (Scenario 2), going on a group walk (Scenario 3), and behaving in an agreeable manner to other children (Scenario 4). All these behaviors are considered beneficial for children and persistent abstention might hinder valued educational outcomes. What in essence was expected from practitioners was two-fold: (a) to provide some sense of guidance and information that would orient children toward valued activities or to prevent harm to themselves or others (structure), and (b) to attune to the children, acknowledge the conflict, and offer choice and flexibility (autonomy support).

Practitioners' responses did not exhibit the same properties across all situations. Scenarios 1 and 2 were perceived as not requiring structure, at least not to the extent that scenario 3 and, more so, scenario 4 required. In these scenarios, practitioners generally showed great care in providing autonomy support, probably because of the pedagogical

approaches used in nature-based settings which are often child-led (Barrable, 2019; Harris, 2018). However, this autonomy support seemed often to take the *laissez-faire* form of 'let the child do as she asks' without in-depth attunement to the child. This passive form of autonomy support does not necessarily benefit the child. Outdoor education practitioners might find it useful to keep in mind that autonomy support requires being actively involved even in situations that seem to be adequately led by the child. Sometimes educational goals require subtle interventions.

In scenario 3, our analysis revealed educational tactics that were less autonomy supportive and more forceful toward children. This is an interesting finding because a main difference with scenario 2 is that it involved a group of children rather than an individual child. We should take into account that using the power of majority or voted rules is a democratic process that finds acceptance among many children, but also it is found oppressive by some children, especially if they are often on the side of the minority. Practitioners' care for autonomy support should find its way in managing the group of children by using group decision making in a way that acknowledges potential conflict and offers choice and flexibility.

In scenario 4, our analysis identified responses scattered across the spectrum of autonomy support and structure. In cases of misbehavior, some practitioners primarily leaned in the direction of understanding and helping the child who was misbehaving, whereas other practitioners focused on enforcing rules. The best of both worlds seemingly exists when children, in time, negotiate and actively endorse the rules necessary for their interaction under the supervision of the practitioner. From the wealth of the responses in our research, situations like misbehaving for which practitioner intervention is necessary, reveal the difficulty in juggling autonomy support and structure at the same time.

Limitations and implications

Our qualitative research focused on the completion of questionnaires presenting four situations with the aim of examining how practitioners might respond to each of four different situations. Presenting the same set of scenarios in face-to-face interviews would have allowed an in-depth exploration and understanding of participants' responses, which the completion of questionnaires could not grant. This is a limitation of the approach taken here. In addition, through this research, we offered a typology of structure/autonomy support, but we did not offer a similar typology of situations. In particular, the underlying dimension of these situations was the contextual requirement for practitioner intervention. The guiding principle in progressing from Scenario 1 to Scenario 4 was that the requirement for intervention for the practitioner became greater. There are two main take-away messages for practitioners based on this research: (a) a low requirement for intervention can lead to a passive educational stance that is not autonomy supportive and lacks structure and (b) a high requirement for intervention might bring forward an imposition of structure that comes at the expense of autonomy support. In line with these points, practitioners should keep in mind that there are different types of situations that require delicate uses of autonomy support and structure. However, this evidence is and should be treated as preliminary given the limitations imposed by the scenarios employed in this research (i.e. four scenarios presenting typical situations encountered in outdoor learning). To this end, further research is needed for creating a typology of situations appropriate for the study of structure and autonomy support in the context of outdoor learning, measuring the contextual requirement for intervention, and testing and expanding on the ideas outlined here.

Conclusion

In child-led outdoor educational settings, it might seem easy for practitioners to be autonomy supportive to children. Structure might seem less significant. Our study examined situations that need both autonomy support and structure to differing degrees. Practitioners' responses revealed the intricate relationship between the two concepts, especially if the different requirements of situations are taken into account. Practitioners need to keep in mind that low-requirement intervention situations are not necessarily autonomy supportive and indeed could need structure, and that high-requirement intervention situations, while requiring structure, can often lead to overcontrolling the children. More research is needed into the effects of the different types of situations.

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Declarations

Conflict of interest The authors declare no conflict of interest.

Ethical approval Ethical approval for the data collection and data management was given by the School of Education and Social Work, University of Dundee (approval number E2018-21). All participants were anonymous and were fully informed of the purposes of the research, the data management systems in place and the right to withdraw prior to completion of the questionnaire before giving consent.

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