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Babies and toddlers outdoors: a narrative review of the literature on provision for under twos in ECEC settings

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ABSTRACT

This paper reports the findings of a narrative review of international research literature about babies' and toddlers' engagement with the outdoor environment whilst attending ECEC (Early Childhood Education and Care) settings. Based on the in-depth review of 21 papers, it identifies four dominant themes in the literature: the outdoors as a space to be physically active, the outdoors as a risky space, the challenge of creating an appropriate outdoor environment and the significance of the practitioner outdoors. The article argues that there is a need to re-conceive the ways in which the youngest children engage with the outdoors and to move beyond possible narratives of exclusion.

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Babies; toddlers; outdoors; nature; early childhood education and care (ECEC)

Introduction

Very little is known about the outdoor experiences of babies (aged 0–12 months) and toddlers (aged 13–24 months) attending Early Childhood Education and Care (ECEC) despite the growing significance of formal care for under twos. There is well-documented global concern about children's lack of engagement with the outdoors and a growing consensus that schools and settings have a role to play in facilitating connections with the natural environment (Gill 2014). There is also a growing body of international research evidence that points to the benefits of learning in outdoor and natural environments (Malone and Waite 2016). However, this has tended to focus on older children; the needs and experiences of the youngest children are rarely considered (Bilton, Bento, and Dias 2017). This gap is particularly troubling given the significance of ECEC for this age group. There are distinct cultural differences in terms of how provision is organised and it is difficult to obtain specific and comparable detail on the number of under twos attending ECEC settings although the following statements offer some insight. In Norway, Kaarby and Tandberg (2018, 58) suggest that 'almost every Norwegian child now enters childcare at the age of one'. In North America, it is estimated that 17% of under twos experience some form of day care (Blaine et al. 2015) whilst in the UK, Gooch and Powell (2013, 4) have documented that '42% of babies receive care

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outside the home'. Children tend to be grouped by age with babies and toddlers typically separated from older children in specialist baby rooms although family groupings are sometimes used. Writing from the perspective of Ireland, Kernan and Devine (2010, 373) argue that:

given the increasing confinement of children in separate spaces, it is opportune to consider what value is placed on the outdoors in early childhood education and care settings and children's visibility in the outdoor domain.

Our interest is in considering these questions in relation to babies and toddlers.

The idea that simply 'being' outdoors in a natural environment is good for babies and toddlers has long roots and is recognised in the writing of various early childhood pioneers including Friedrich Froebel (1782–1852). This paper is based on a research project informed by Froebelian principles and philosophy; Froebel took for granted that children would grow up 'in' and 'with' nature from birth and that parents would spend time outdoors with their babies.

Life in and with nature . . . must be fostered at this time by the parents . . . as the chief point of reference of the whole child-life (Froebel 1826, 30).

He is clear that the earliest period of childhood has particular significance; the senses, through which the child experiences the world, require that 'the surroundings . . . should be pure and clear – pure air, clear light, clear space' (Froebel 1826, 15). Whilst Froebel's original writing was aimed at parents, the development and growth of ECEC for under twos means there is a need to consider its contemporary implications.

Within contemporary contexts there is recognition that the outdoors has changed due to industrialisation and urbanisation (Tourula, Polkki, and Isola 2013). A specific concern relates to gaseous and particulate air pollution and the effects of exposure on babies and toddlers (Klonoff-Cohen, Lam, and Lewis 2005). Yet other public health research now provides evidence for the belief that being outdoors is beneficial. Being outside (for sunlight exposure) is recognised as highly significant in addressing the public health crisis of vitamin D insufficiency or deficiency in mothers and their infants (Shin, Shin, and Lee 2013). It is also associated with lower bacterial and viral loads. Mendes et al. (2014), for example, found total bacteria concentrations were 57-fold higher in the nursery than outdoors during the season of spring in a Portuguese ECEC setting. This has particular pertinence at present when settings are seeking to find safe ways of providing ECEC during the global coronavirus pandemic.

Whilst the growth of ECEC for under twos means that there has been an associated move from the outdoors being seen solely as a parental concern to recognition that it is also a setting-based issue; the boundaries between home and setting seem to be particularly permeable in relation to the youngest children. Indeed, Rameka et al.'s (2017) in the New Zealand context, emphasises the importance of replicating family and community cultural practices in the early years setting as such pedagogies support young children in 'developing a strong sense of themselves' (21). Similarly, in Northern Finland, the cultural value that families place on being outdoors in nature means that sleeping outdoors is understood to be an integral part of good childcare, whether in the home or setting (Tourula, Polkki, and Isola 2013). Time spent outdoors has been identified as an indicator of quality in settings (Moser and Martinsen 2010, 467). However, there is

little research which focuses on what this might look like for the youngest children. The gap in knowledge this paper seeks to fill is to identify what provision there is for babies and toddlers to engage with the outdoor environment when they are attending ECEC settings.

The paper starts by presenting the methodology for its narrative review of the existing research literature. Thematic analysis is then undertaken on the 21 papers identified in the review process. This reveals that research focused on the experiences of babies and toddlers outdoors in settings is sparse. It identifies four themes in the literature: the outdoors as a space to be physically active; the outdoors as a risky space; the challenge of creating an appropriate outdoor environment; and the significance of practitioners outdoors. We argue that there are two dominant narratives about babies and toddlers being outdoors when attending formal childcare settings. For babies, the focus is on safeguarding and risk management; the dominant narrative relates to 'being safe'. For toddlers, the focus is on preventing obesity and the discourse is one of 'being physically active'. We suggest a need for more inclusive narratives which value the outdoors as a place for babies, and which recognise additional 'ways of being' outdoors for the youngest children. This raises pedagogical questions about how to provide an outdoor environment for under twos which can support more diverse 'ways of being' and what the role of the practitioner could be when engaging with young children in those environments. This review is of significance for those working and researching in the fields of ECEC and outdoor learning as the experiences of babies and toddlers are underrepresented in both.

Method

This paper draws upon the first stage of a research study which has interpreted and synthesised previously published research relating to outdoor provision for under twos in ECEC settings. An initial scoping of the literature revealed a paucity of research in this area and the need to deepen and extend understanding. Drawing upon the ideas of Greenhalgh, Thorne, and Malterud (2018), this suggested a narrative review would be the most appropriate approach as it offers an 'interpretive and discursive synthesis of existing literature' that can provide new insights and raise new questions (2). Critiques of narrative review methodologies tend to focus on the 'lack of systematic methods' used to construct them and the associated bias (Green, Johnson, and Adams 2001, 103). However, narrative and systematic do not need to be alternatives; a review can draw on the strengths of both these approaches. We have therefore sought to be transparent and explicit in relation to both our positionality and our methods.

Our position

The narrative review was conducted by two researchers, one with a background in ECEC and the other with a background in outdoor learning. The diversity of perspective and our knowledge of different fields of literature was felt to offer strength and rigour to the review process. Regular reflection throughout the research process provided important opportunities to consider our relative perspectives and interpretation of the data.

Greenhalgh, Thorne, and Malterud (2018) suggest that this can add to the quality of interpretive research.

Search strategy

Internationally published literature was searched using six databases (LibrarySearch; Ingenta Connect; the British Educational Index; Child Development and Adolescent Studies; Education Resources Information Center and Google Scholar) and the following search terms were used: babies; toddlers; infants; under twos; baby rooms; day care; outside; outdoors; nature; physical activity; sleep; physical development (to include titles and keywords). No time limit was placed on date of publication. Table 1 demonstrates the different combinations of these search terms used and the subsequent hits.

In addition to the database search, personal contacts/authors and experts in the field were consulted to check for additional sources as recommended by Green, Johnson, and Adams (2001).

The abstracts of all hits/recommendations were reviewed. Papers were eliminated if:

- there was no reference to children under two;
- there was no reference to the outdoors;

Table 1. Summary of search process.

Search terms	LibrarySearch	CDAS	BEI	Google scholar	Ingenta Connect
'babies or infants or newborns' and 'outdoors, outside or nature'		38 hits: 2 relevant	2 hits – 1 relevant (already found)		
'toddlers or infants' and 'outdoors, outside or nature'		37 hits but all found in search above	2 hits: 1 new, 1 already found		
Babies or toddlers and outdoors	6 hits: 2 relevant				8 hits: 2 relevant (but already found)
'babies or infants or newborns' and 'physical activity'		6 hits: 1 relevant.	2 hits: 0 relevant		30 hits: 1 relevant (already found)
babies or infants or newborns' and 'physical development'		16 hits: 0 relevant	2 hits: 0 relevant		
'babies or infants or newborns' and 'Sleep'		204 hits: 0 relevant	4 hits: 0 relevant		
'babies or infants or newborns' and 'Sleep' Plus 'outdoors or outside or nature'	6 hits: 1 relevant	3 hits none relevant		3 hits: 3 relevant	
babies or infants or newborns & 'babyroom'		0 hits	3 hits: 0 relevant		
'under twos' and 'outdoors or outside or nature'			10 hits: 0 relevant		
'under twos' and 'Outdoors and health'			2 hits: 0 relevant		
'daycare' and 'outdoors'	6 hits: 1 relevant				6 hits: 1 relevant
ECE and outdoors					31 hits: 3 relevant
ECE and under threes			1 hit: 1 relevant		

The Education Resources Information Center (ERIC) yielded no hits so is not included in the table.

- there was no reference to the ECEC setting;
- they were not peer-reviewed and/or were not published in an academic journal;
- they were not written in English.

The references of the remaining papers were also reviewed and assessed for relevance.

Selection of studies for in-depth review

Our final sample consisted of 21 papers. The search process confirmed our suspicion that there is very little research focused on outdoor provision for under twos in ECEC settings. We found no sources within the context of the UK and only a small body of work based in Scandinavia, USA, Canada, Australia, Portugal and Ireland. A thematic analysis informed by Braun and Clarke (2006) framework was undertaken; this involved multiple readings of the papers by both researchers to identify both semantic (explicit) and latent (implicit) themes; the latter being central to an interpretivist narrative review since it can reveal the 'underlying ideas, assumptions, and conceptualisations – and ideologies – that are theorised as shaping or informing the semantic content of the data' (84).

Limitations of our approach

Although the search was international in scope, we acknowledge our own position as academics working in the English context, accessing only texts written in English. We are also mindful of the danger of presenting single narratives, particularly in relation to specific countries based on limited sources. In addition, during the search process, we found considerable diversity in terminology for key concepts and cannot be sure we covered all cultural and geographical variations. It should be noted that our aim was to provide 'a reasonable breadth and depth' of coverage (Green, Johnson, and Adams 2001, 107) rather than to claim completeness.

Findings

Four themes were identified in the 21 papers reviewed: the outdoors as a space to be physically active; the outdoors as a risky space; providing an appropriate outdoor environment; the role of the practitioner. These themes will be discussed individually below.

The outdoors as a space to be physically active

Although limited, much of the existing research on under twos in ECEC associates being outside with physical activity. Ulla (2017) identifies the physically active child as the 'ideal' child in relation to ECEC. One of the reasons for this interest in physical activity derives from the positioning of ECEC settings to address public health concerns. Benjamin Neelon et al. (2015) argue that settings are 'important targets for obesity prevention' (33). The idea that the purpose of ECEC may be to deliver public health policy is a dominant theme in the literature with several studies exploring the extent to which physical activity guidelines are followed (Byrd-Williams et al. 2019; Reunamo et al. 2014). Hewitt et al. (2018), for example, explore the extent to which national guidelines

are adhered to by settings in Australia, USA and Canada. Whilst compliance in terms of providing suitable outdoor areas was high (93% overall), it was much lower (62%) in terms of opportunities to move freely under adult supervision to explore the outdoor environment, particularly at the US settings. Hewitt et al. (2018) recommend limiting the use of equipment that restricts movement and providing more education to practitioners about physical activity.

Within this research relating to physical activity, there is an implicit assumption that the outdoors is only relevant for toddlers and children who are walking. For example, in Dinkel et al.'s (2019) US-based study of babies and toddlers there is a prioritisation of physical mobility (climbing, running, sitting, squatting and standing). Although both settings included in the research cater for babies from 6 weeks old, they are not included in the analysis. Similarly, in Byrd-Williams et al.'s (2019) study of non-Head Start/funded ECE settings in Texas, the questions asked about the physical activity of babies make an implicit assumption that they will be indoors, and it is only toddlers and pre-schoolers for whom the outdoor environment is considered relevant. Bento and Costa (2018, 298) consider possible pedagogical outcomes of being outside using the Portuguese Pedagogical Guidelines for working with birth to threes for analysis. Specifically, they analysed observation records and interviews collected over a nine-month period in relation to the three key educational goals (self-esteem, curiosity, social skills). They found that the outdoors supported all these aspects, yet the focus of the research was still implicitly on mobile children. Indeed, although the guidelines specifically refer to birth to threes, the children in this study were mainly two to three years old. The only mention of younger children is in relation to an observation which notes, 'the younger children in the group were a bit insecure outside. They showed some difficulties . . . they hardly explored the space autonomously' (294). None of the research we reviewed in relation to physical activity considered the experiences of the youngest children neither did it specifically consider the outdoors as an arena for broader physical development and learning for the youngest age group.

The outdoors as a risky space

The idea that the outdoors is a risky space for babies is highlighted by their absence from the research literature. Throughout this review, we read papers which promised a focus on under twos but found a sustained focus on toddlers which led us to ask, 'where are the babies?'. One of the reasons for this emerged as we read and re-read the literature. For example, Rouse (2015) conducted research at a day care centre in Australia where children are grouped as under 3 or over 3 but share a large outdoor learning space. Semi-structured interviews with practitioners revealed that they all saw the multi-age aspect of the outdoor learning space as a significant strength. However, closer analysis revealed their concerns about the safety of the youngest children and their ability to supervise as the older children played on bikes around them. The result was that the youngest children became 'isolated in a small play space to keep them safe.' (748). The connection between the prioritisation of risk management and the invisibility of young children in outdoor spaces is made by Kernan and Devine (2010) in relation to ECEC in Ireland. They note that one participant, with experience of more than 200 settings, 'remarked that she had never

actually seen babies under about 15 months outdoors in any early year's services she visited' (379).

The concern about managing risk is reflected in the type of outdoor spaces being provided for the youngest children. In their case study research of a setting in Australia, Morrissey, Scott, and Wishart (2015, 31) note the proliferation of 'artificial, "safe" and non-challenging play environments' for the youngest children. The prioritisation of risk management is also reflected in measures of 'quality' in relation to outdoor provision for babies and toddlers in ECEC. The Infant and Toddler Environmental Rating Scale – Revised (ITERS-R) is one of the most commonly employed and was developed as a way of assessing the quality of setting provision based on a suite of indicators relating to the physical, mental and emotional needs of infants and toddlers (Harms, Cryer, and Clifford 2006). The indicator for quality in outdoor provision is 'an easily accessible outdoor area where infants/toddlers are separated from older children'. This immediately suggests that the youngest children need to be protected from older children and does not recognise the potential benefits of younger children being able to watch and engage with older children 'being' outdoors (Kleppe 2018; Rouse 2015). It also categorises natural features (such as exposed tree roots) as a minor hazard which suggests a problematising of the natural environment in relation to the youngest children. Some researchers have argued that the emphasis on structural issues in the ITERS-R guidelines may be contributing to the growth of uninspiring environments for infants and toddlers and question whether it is an appropriate way of assessing the quality of outdoor provision. Kaarby and Tandberg (2018), for example, note that in Norway not all kindergartens divide children according to age so the indicator relating to infants and toddlers being separated may not reflect quality. In contrast, Kleppe's (2018) study among one- to three-year olds, in three Norwegian settings, is supportive of risky play. His aim was to understand where and when risky play occurs for under threes. He found that subjective rather than objective risk is important to the very youngest children and recommended that 'playing with risky elements' should be added to Sandseter's (2007) categories of risk. He found relatively low frequencies of risky play outside amongst the youngest children which he argued may be due to the nature of the provision as well as the children's preference for indoor play.

The challenge of creating an appropriate outdoor environment for babies and toddlers

There are recognised challenges in providing appropriate outdoor environments for babies and toddlers in ECEC as such spaces 'need to accommodate the needs of young babies, crawling infants, new walkers and active climbers' (Thigpen 2007, 20). Research interest has focused on how particular elements within an environment might provide specific opportunities for interaction drawing upon Gibson's concept of affordances (Gibson 1977) (Morrissey, Scott, and Wishart 2015; Kleppe 2018). A distinction is made between potential and actualised affordances (Kyttä 2002); this is important when considering birth to twos as there will be differences in development and risk tolerance. Kleppe (2018) argues that, 'appropriate affordance for 1-3-year olds' risky play consists of versatile, flexible and complex environments'. Versatility relates to the range of potential experiences, flexibility to the extent to which children can manipulate the environment while complexity relates to the variation within an environment. Kleppe's research also

suggests a connection between ITERS-R and affordances. He notes that whilst natural environments are important, they alone may not offer enough variation and diversity for the youngest children. He therefore recommends a combination of 'natural environments and contemporary equipment' to support appropriate risky play for under threes (270). Dinkel et al.'s (2019) study confirms that the type of environment influences child behaviours. Specifically, they found that open play and gross motor play areas were associated with higher amounts of physically active play and recommend that settings provide such spaces to promote physical activity. In contrast, Morrissey, Scott, and Wishart (2015) highlight the importance of features such as edging and inclines finding that the young children in their study were more physically active and used the space more fully when these were present. Hall et al. (2014) similarly emphasise the importance of 'provocative' ground surfaces and structures such as mounds of grass given the amount of time babies and toddlers spend on the ground.

Researchers are starting to explore the way in which the outdoor environment provided might influence physical activity. One example is Byrd-Williams et al.'s (2019) review of Texan ECEC provision as part of the Preventing Obesity by Design (POD) project. Using the Natural Learning Initiative's Best Practice Indicators for a Model Outdoor Learning Environment Toolkit developed by Moore and Cosco (2014), they found that one-third of centres reported fewer than 4 of the 12 best practice indicators. They concluded that the quality of outdoor learning environments was generally quite poor and there was significant potential for improvement. A study in Australia by Morrissey, Scott, and Wishart (2015) compares the responses of infants and toddlers to natural and built play space using behaviour mapping and child tracking. The redesign of the space introduced planting and other natural elements and features; the researchers found that the children used the features to physically challenge themselves. They also spent more time engaged in a wide variety of physical activities as well as using the space for quiet and sedentary activities. The study also noted increased sensory engagement with the natural world.

The significance of practitioners outdoors

Within the studies reviewed, the role of the practitioner is highlighted as a significant factor influencing the experiences of babies and toddlers in outdoor environments. Even within the context of countries such as Norway (generally perceived as being more advanced in terms of outdoor learning practice) there is an implicit critique of practitioners and the passive surveillance role they can assume outdoors (Moser and Martinsen 2010). Kaarby and Tandberg (2017) also found that practitioners in the Norwegian setting they studied were less involved outdoors reporting that being outside was enough. In their study of two US settings, Dinkel et al. (2019) also noted limited observations of teachers prompting activity and found that 91.2% of play was initiated by children without any adult intervention. However, their study highlights the need to find a balance between promoting opportunities for free, unstructured play and other ways of being outdoors. Hall et al. (2014, 200) highlight the importance of detailed and continual observation of infants and toddlers outdoors to understand 'what they do' and how they behave so that 'a web of inter-related encounters' is supported. In her study of the outdoor learning experiences at a setting in Australia, Rouse (2016) highlights the

need for practitioners to document the outdoor experiences of babies and toddlers – to make outdoor learning more visible so that it is valued in the same way as indoor learning.

In some cases, the role of the practitioner is not felt to be merely passive but actively to prevent the positive engagement of babies and toddlers with the outdoor environment. In Morrissey, Scott, and Wishart's (2015) study of a suburban setting in Melbourne, Australia, the researchers found that not only did practitioners not always encourage exploration of the greened outdoor space, but that there were times when this was actively discouraged; specific reference was made to a stick shelter which was felt to be unsafe by practitioners; children were also pulled away from plants. Other research suggests such negative practice may be the result of a fear of possible outdoor hazards (Bento and Dias 2017). Rouse (2015) argues the case for moving from a pedagogy based on developmentally appropriate practice to a socio-cultural perspective. In her study of an ECEC setting in Australia which employs mixed age groups, she found that educators saw their role in terms of supervision because they saw the youngest children as needing their care and protection. This is also mirrored in Kernan and Devine's (2010) research in Ireland where practitioners prioritised safety.

There is agreement that practitioners need to feel comfortable outdoors and to be able to be attuned to the experiences of the youngest children. Hall et al. (2014) suggest practitioners lie on the ground and imagine what it would be like to experience the space as a child. They claim that 'children's developmental growth in outdoor spaces is supported when adults themselves delight in the learning that occurs in the natural world' (202). Bento and Dias (2017, 159) highlight the importance of 'attentive and responsive' adults in their three-year outdoor education project in a Portuguese ECEC setting. They conclude that 'it is fundamental to promote conditions for adults to feel comfortable and motivated during the time spent outside. Adult involvement will influence the type of experiences that children have access to'. A later paper based on the same research (Bento and Costa 2018) found that educators were frequently involved in the children's play and they seemed happy to be outside which suggested that the project had been successful.

Discussion: moving from narratives of exclusion to inclusion

The aim of this review is not only to provide a synthesis of relevant literature, but also to surface underlying ideas, assumptions and narratives about babies and toddlers outdoors. This is important because as Kernan and Devine (2010, 372) note, narratives 'define what is "good" (normal)' and result in 'institutional practices which regulate time, space and the body'. Our analysis suggests that there are two dominant contemporary narratives about babies and toddlers outdoors when attending formal childcare settings:

- For babies, the focus is on safeguarding and risk management; the dominant narrative relates to 'being safe'.
- For toddlers, the focus is on preventing obesity and the narrative is one of 'being physically active'.

These narratives are not mutually exclusive and 'being safe' certainly extends to toddlers as well as babies in the same way that 'being physical' applies to infants.

They are however oppositional: one about safety, protection and adult control; the other about physical activity, freedom and autonomy. This contradiction is explored by Kernan and Devine (2010) who argue that the institutionalisation of early childhood, together with moral panics about risk and obesity, is resulting in increased regulation of young children's time and space in settings. At the same time, a growing culture of individualisation and agency is seeking to empower children and offer greater freedom of choice.

The significant point, in relation to the very youngest children, is that the dominant contemporary narratives effectively operate to exclude them from the outdoors. We argue that these narratives are based on concepts of the 'ideal' child within ECEC, i.e. a child who is physically mobile, active and awake (Ulla 2017). This means that non-walking babies and physically inactive children (including those who are sleeping) are, in the words of Kernan and Devine (2010), 'confined within' the setting and are neither visible nor valued outdoors. This is demonstrated by their absence in the research literature. Our analysis demonstrates some of the ways in which these narratives are regulating institutional practices in relation to outdoor provision for babies and toddlers. Outdoor spaces are characterised by their separation and safety; pedagogy is reduced to supervision and control and being physically active is prioritised over other 'ways of being'.

We argue that connecting with alternative narratives about babies and toddlers outdoors might offer a good starting point for developing more inclusive outdoor pedagogies. We started this paper with the long-established Froebelian narrative that the earliest period of childhood is a time that should be spent 'in and with nature' and questioned its contemporary relevance in ECEC. Based on this review, we suggest that it is timely and relevant to reengage with this narrative within the context of ECEC and to explore its implications. Whilst limited, the international research literature offers some insights for developing nature pedagogies based upon the key modes in which babies and toddlers learn and develop – through sensory engagement, sleeping and through movement. Practitioner research undertaken at a setting in Colorado, USA, by Hall et al. (2014) found that the setting environment became 'a place for hands-on learning about the world of nature' (206). Close observation of babies by the practitioners revealed how 'they used their eyes, hands, feet, mouths and entire bodies to experience the minutia' (198). The authors suggest that these embodied interactions with the natural environment provide multi-sensory stimulation which has a different impact on the nervous system to an indoor environment and supports healthy development. Equally, Ulla's (2017) analysis of a Norwegian setting suggests opportunities for sleeping to be included as part of pedagogical practice. Research in Finland is starting to provide evidence about the benefits of the cultural practice of sleeping outdoors (Tourula, Polkki, and Isola 2013). In terms of movement, the link between physical activity and the public health agenda has tended to prioritise children who are walking. In the UK, for example, the revised physical activity guidelines (DoHSC, 2019) make no reference to babies being outdoors. However, this international review has highlighted good practice from other countries which recognise the need to limit practices which restrict the movement of babies outdoors and to provide more opportunities for free movement both indoors and outdoors. This research starts to challenge the 'ideal' concept of the child identified by Ulla (2017) and has direct implications for practice.

For practitioners, our findings suggest the importance of facilitating more inclusive 'ways of being' outdoors for babies and toddlers and moving from a developmental to a socio-cultural view of children which prioritises the planning of learning rather than spaces (Rouse 2015). It also demands practitioners challenge the belief that 'real' learning is what takes place indoors (Kernan and Devine 2010; Rouse 2015). Outdoor pedagogy then becomes a question of active engagement rather than supervision and risk management (Bento and Costa 2018). Finally, Hall et al. (2014, 202) argue that 'children's developmental growth in outdoor spaces is supported when adults themselves delight in the learning that occurs'. The importance of being comfortable in the outdoor environment is increasingly understood as foundational to nature connectedness in both adults and children (Giusti et al. 2018).

For settings, our findings suggest the importance of rethinking the nature and extent of outdoor space provided for the youngest children. This may mean a move away from quality frameworks, such as ITERS-R, which not only encourage separation but also categorise natural features as hazards and problematise the natural environment in relation to the youngest children. This reinforces the view that the outdoors is somehow not as safe as indoors and that the youngest children need to be protected from older children and from the wider environment. Research is starting to recognise the potential benefits of younger children being able to watch and engage with older children 'being' outdoors and for older children to take responsible for the wellbeing of others (Kleppe 2018; Rouse 2015). The importance of accessing rich and diverse local ecosystems 'beginning in the first year of life' (Moore and Cosco 2014, 170) is also increasingly acknowledged. The Model Outdoor Learning Environment Toolkit supports the naturalisation of the outdoor learning environment to promote human health and ecological restoration. The twelve indicators recognise the importance of natural features such as looping pathways, shade, trees, edible landscapes, vegetable gardens, loose parts and outdoor classrooms and storage. It suggests that, 'to stimulate all developmental domains, children attending childcare need hands-on, interactive, fluid, affordance-rich spaces that can be manipulated in multiple ways to serve developmental outcomes' (Moore and Cosco 2014, 172). Head Start Body Start (2012) Infant and Toddler Outdoor Play Assessment makes very similar recommendations and specifically acknowledges the importance of a flexible and varied design with the inclusion of natural features. This is well summarised by Woolley and Lowe (2013) literature-derived five environmental characteristics of space (enticing, stimulating, challenging, educational and inclusive) as a way of understanding the potential value of outdoor environments.

Conclusion

This narrative review has initiated a research conversation that is both timely and significant. Outdoor provision for babies and toddlers is an underdeveloped dimension of both ECEC and outdoor learning; it is of significance within both fields of research and practice. Although existing research is sparse, our review extends and deepens understanding and provides a synthesis of what is known and what needs further exploration. We have identified two oppositional narratives at play, both underpinned and maintained by public policy: being safe and being physically active. They are, however, narratives of exclusion. Alternative narratives which value the outdoors as a place for diverse ways of

being need to be considered. There is a need to understand the importance of outdoor sensory stimulation as a key mode of learning for the youngest children alongside sleeping and movement and to provide environments that support holistic learning and development. Practitioners can play a crucial role in supporting these diverse 'ways of being' that foster connections to self, others and the environment.

Importantly, our paper highlights the need for further empirical research in relation to outdoor provision for the youngest children in ECEC. This review is the first stage of a funded research project which involves auditing outdoor provision within one county in England and undertaking case studies of practice. The results of these subsequent stages will be published in due course and we hope that this paper will initiate further interest in this previously neglected area of practice.

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References

- Benjamin Neelon, S., C. Schou Andersen, C. Schmidt Morgen, M. Kamper-Jorgensen, E. Oken, M. Gillman, and T. Sorensen. 2015. "Early Child Care and Obesity at 12 Months of Age in the Danish National Birth Cohort." *International Journal of Obesity* 39 (1): 33–38. doi:10.1038/ijo.2014.173.
- Bento, G., and J. Costa. 2018. "Outdoor Play as a Mean to Achieve Educational Goals – A Case Study in a Portuguese Day-care Group." *Journal of Adventure Education and Outdoor Learning* 18 (4): 289–302. doi:10.1080/14729679.2018.1443483.
- Bento, G., and G. Dias. 2017. "The Importance of Outdoor Play for Young Children's Healthy Development." *Porto Biomedical Journal* 2 (5): 157–160. doi:10.1016/j.pbj.2017.03.003.
- Bilton, H., G. Bento, and G. Dias. 2017. *Taking the First Steps Outside*. Oxon: Routledge.
- Blaine, R., K. Davison, K. Hesketh, E. Taveras, M. Gillman, and S. Benjamin Neelon. 2015. "Child Care Provider Adherence to Infant and Toddler Feeding Recommendations: Findings from the Baby Nutrition and Physical Activity Self-assessment for Child Care." *Childhood Obesity* 11 (3): 304–313. doi:10.1089/chi.2014.0099.
- Braun, V., and V. Clarke. 2006. "Using Thematic Analysis in Psychology." *Qualitative Research in Psychology* 3 (2): 77–101. doi:10.1191/1478088706qp063oa.
- Byrd-Williams, C., E. Dooley, C. Thi, C. Browning, and D. Hoelscher. 2019. "Physical Activity, Screen Time, and Outdoor Learning Environment Practices and Policy Implementation: A Cross Sectional Study of Texan Child Care Centers." *BMC Public Health* 19 (1): 274. doi:10.1186/s12889-019-6588-5.
- Department of Health and Social Care (2019) *UK Chief Medical Officers' Physical Activity Guidelines* Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/832868/uk-chief-medical-officers-physical-activity-guidelines.pdf
- Dinkel, D., K. Snyder, T. Patterson, S. Warehime, M. Kuhn, and D. Wisneski. 2019. "An Exploration of Infant and Toddler Unstructured Outdoor Play." *European Early Childhood Education Research Journal* 27 (2): 257–271. doi:10.1080/1350293X.2019.1579550.
- Froebel, F. 1826. *The Education of Man*. Translated by Jarvis 1885. New York: A. Lovell and Company.

- Gibson, J. 1977. "The Theory of Affordances." In *Perceiving, Acting, and Knowing: Toward an Ecological Psychology*, edited by R. Shaw and J. Bransford, 67–82. Hillsdale, NJ: Erlbaum.
- Gill, T. 2014. "The Benefits of Children's Engagement with Nature: A Systematic Literature Review." *Children, Youth and Environments* 2 (24): 10–34. doi:10.7721/chilyoutenvi.24.2.0010.
- Giusti, M., U. Svane, C. Raymond, and T. Beery. 2018. "A Framework to Assess Where and How Children Connect to Nature." *Frontiers in Psychology* HYPERLINK 8. doi:10.3389/fpsyg.2017.02283.
- Goouch, K., and S. Powell. 2013. *The Baby Room*. Maidenhead: Open University Press.
- Green, B., C. Johnson, and A. Adams. 2001. "Writing Narrative Literature Reviews for Peer-reviewed Journals: Secrets of the Trade." *Journal of Sports Chiropractic Rehabilitation* 15: 5–19.
- Greenhalgh, T., S. Thorne, and K. Malterud. 2018. "Time to Challenge the Spurious Hierarchy of Systematic over Narrative Reviews?" *European Journal of Clinical Investigation* 48 (6): 1–6. doi:10.1111/eci.12931.
- Hall, E., S. Linnea Howe, S. Roberts, L. Foster Shaffer, and E. Williams. 2014. "What Can We Learn through Careful Observation of Infants and Toddlers in Nature?" *Children, Youth and Environments* 24 (2): 192–214. doi:10.7721/chilyoutenvi.24.2.0192.
- Harms, T., D. Cryer, and R. Clifford. 2006. *Infant/Toddler Environment Rating Scales. Revised Edition*. New York: Teachers College Press.
- Head Start Body Start 2012. *Infant and Toddler Play Space Assessment*. <https://eclkc.ohs.acf.hhs.gov/sites/default/files/pdf/infant-toddler-play-space-assessment.pdf>
- Hewitt, L., S. Benjamin-Neelon, V. Carson, R. Stanley, I. Janssen, and A. Okely. 2018. "Child Care Centre Adherence to Infant Physical Activity and Screen Time Recommendations in Australia, Canada and the United States: An Observational Study." *Infant Behavior & Development* 50: 88–97. doi:10.1016/j.infbeh.2017.11.008.
- Kaarby, K., and C. Tandberg. 2017. "The Belief in Outdoor Play and Learning." *Journal of the European Teacher Education Network* 12: 25–36.
- Kaarby, K., and C. Tandberg. 2018. "ITERS-R as A Tool for Improving Quality in Norwegian ECEC Settings: A Critical Reflection." *Journal of the European Teacher Education Network* 13: 58–70.
- Kernan, M., and D. Devine. 2010. "Being Confined Within? Constructions of the Good Childhood and Outdoor Play in Early Childhood Education and Care Settings in Ireland." *Children & Society* 24: 371–385.
- Kleppe, R. 2018. "Affordances for 1-3-year Olds' Risky Play in Early Childhood Education and Care." *Journal of Early Childhood Research* 16 (3): 258–275. doi:10.1177/1476718X18762237.
- Klonoff-Cohen, H., P. Lam, and A. Lewis. 2005. "Outdoor Carbon Monoxide, Nitrogen Dioxide and Sudden Infant Death Syndrome." *Archives of Disease in Childhood* 90 (7): 750–753. doi:10.1136/adc.2004.057091.
- Kyttä, M. 2002. "The Affordances of Children's Environments." *Journal of Environmental Psychology* 22 (1–2): 109–123. doi:10.1006/jevp.2001.0249.
- Malone, K., and S. Waite. 2016. *Student Outcomes and Natural Schooling*. Plymouth: Plymouth University. <http://www.plymouth.ac.uk/research/oelres-net>
- Mendes, A., D. Aelenei, A. Papoila, P. Carreiro-Martins, L. Aguiar, and C. Pereira. 2014. "Environmental and Ventilation Assessment in Child Day Care Centres in Porto." *Journal of Toxicology and Environmental Health* 77(14–16): 931–943. doi: 10.1080/15287394.2014.911134
- Moore, R., and N. Cosco. 2014. "Growing up Green: Naturalization as a Health Promotion Strategy in Early Childhood Outdoor Learning Environments." *Children, Youth and Environments* 24 (2): 168–191. doi:10.7721/chilyoutenvi.24.2.0168.
- Morrissey, A., C. Scott, and L. Wishart. 2015. "Infant and Toddler Responses to a Redesign of Their Childcare Outdoor Play Space." *Children, Youth and Environments* 25 (1): 29–56. doi:10.7721/chilyoutenvi.25.1.0029.
- Moser, T., and M. Martinsen. 2010. "The Outdoor Environment in Norwegian Kindergartens as Pedagogical Space for Toddlers' Play, Learning and Development." *European Early Childhood Research Journal* 18 (10): 457–471. doi:10.1080/1350293X.2010.525931.
- Rameka, L., A. Glasgow, P. Howarth, T. Rikihana, C. Wills, T. Mansell, F. Burgess, S. Fiti, B. Kauraka, and R. Iosefo 2017. *Te Whātu Kete Mātauranga: Weaving Māori and Pasifika infant and toddler theory*

- and practice in early childhood education. http://www.tlri.org.nz/sites/default/files/projects/TLRI%20Summary_Rameka.pdf
- Reunamo, J., L. Hakala, L. Saros, S. Lehto, A. Kyhala, and J. Valtonen. 2014. "Children's Physical Activity in Day Care and Preschool." *Early Years* 34 (1): 32–48. doi:10.1080/09575146.2013.843507.
- Rouse, E. 2015. "Mixed-age Grouping in Early Childhood – Creating the Outdoor Learning Environment." *Early Child Development and Care* 185 (5): 742–751. doi:10.1080/03004430.2014.953138.
- Rouse, E. 2016. "Making Learning Visible – Parents Perceptions of Children's Learning Outdoors." *Early Child Development and Care* 186 (4): 612–623. doi:10.1080/03004430.2015.1048510.
- Sandseter, E. 2007. "Categorising Risky Play – How Can We Identify Risk-taking in Children's Play?" *European Early Childhood Education Research Journal* 36 (5): 439–446. doi:10.1007/s10643-009-0307-2.
- Shin, Y., H. Shin, and Y. Lee. 2013. "Vitamin D Status and Childhood Health." *Korean Journal of Paediatrics* 56 (10): 417–423. doi:10.3345/kjp.2013.56.10.417.
- Thigpen, B. 2007. "Outdoor Play: Combatting Sedentary Lifestyles". *Zero to Three*. <https://www.bowdoin.edu/childrens-center/pdf/outdoor-play-thigpen.pdf>
- Tourula, M., T. Polkki, and A. Isola. 2013. "The Cultural Meaning of Children Sleeping Outdoors in Finnish Winter: A Qualitative Study from the Viewpoint of Mothers." *Journal of Transcultural Nursing* 24 (2): 171–179. doi:10.1177/1043659612472200.
- Ulla, B. 2017. "Reconceptualising Sleep: Relational Principles inside and outside the Pram." *Contemporary Issues in Early Childhood* 18 (4): 400–408. doi:10.1177/1463949117742781.
- Woolley, H., and A. Lowe. 2013. "Exploring the Relationship between Design Approach and Play Value of Outdoor Play Spaces." *Landscape Research* 38 (1): 53–74. doi:10.1080/01426397.2011.640432.