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If You Go Down in the Woods Today…. How Does Forest School Influence Children's Wellbeing? Parents' Perspectives.

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Abstract: This study explores parents' subjective views of how forest school influences children's wellbeing. Forest school is a child-centered learning process, utilizing trained practitioners to develop children's self-esteem and confidence through hands-on experience in nature. It offers opportunities for holistic growth through supporting play, risk taking, independence, teamwork, exploration and inspiring curiosity. Literature on wellbeing is substantial yet often contradictory and inconsistent, with no simple definition of the concept. Parents' understanding of how forest school influences children's wellbeing may offer enhancement of the current vision of wellbeing in schools. Eighteen parents with children at a local forest school were asked to consider and rank-order statements through a Q-sorting procedure. Analysis revealed three factors. Interpretation was conducted through careful consideration of individual rankings and the configuration of statements captured in each factor array to gain an understanding of these parents' perspectives. These three main positions were "nurturing growth," "connectivity through nature" and "communicate to engage." The findings suggest parents' views are often contradictory and polarizing with differing opinions of how forest school influences children's wellbeing. Furthermore, the results underscore how a lack of theory underpinning forest school and inconsistent contextual meaning of the notion of wellbeing may be a contributing factor to these results.

Introduction

The UK national curriculum must be followed and taught, so children learn the same things in all government-maintained schools in England. It covers what subjects are taught and the standards children should reach (Department for Education [DfE], 2023). Mandatory subjects, mathematics, sciences, English, physical education, computing, relationship education, health education and religious education must be taught across four key stages (age 5-16).

Forest School provides an opportunity for pupils to utilize experiences encountered in formal education and as such can be brought back to the classroom to be fundamental in formal practices (Garden & Downes, 2023). Forest school is a form of outdoor learning promoting autonomy, predominantly run by children, (Barrable, 2019). This is

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identified by self-determination theory as an individual's intrinsic motivation and ability to make their own choices, manage themselves and think independently (Deci, 1971), a basic psychological need to flourish in any environment. However, this only happens when educators are actively supportive of the children leading themselves (Barrable, 2019), allowing choice, acknowledging feelings and perspectives which predicts internalization of values and behavior, thus enhancing wellbeing (Roth et al., 2011). It is a requirement of The Forest School Association (2018) that forest school is overseen by a qualified forest school practitioner (Karavida et al., 2020) and approaches child development and education holistically (Whincup et al., 2023).

Forest school was introduced in the United Kingdom in the early 1990s and was initially a response to a call for nature-based opportunities (Bradley & Male, 2017; Cree & Robb, 2021) benefiting cognitive and emotional function, physical activity (Cree & McCree, 2013; Sella et al., 2023), confidence, igniting problem-solving skills (Knight, 2018; Trapasso et al., 2018) and immersive experiences in nature increasing stress resilience (Dettweiler et al., 2022). Egan (2020) noted that these experiences underpin the wellbeing of children associated with forest school. Nonetheless, an ethnographic, empirical study found that no fixed meaning or theory underpins forest school (Mycock, 2020) and this makes demonstrating to parents that forest school promotes learning while being in nature difficult. This suggests that a national model of forest school may rectify this, bringing cohesion across educational settings (Leather, 2018).

Literature Review

Wellbeing has become a commonplace expression in diverse contexts and has been substantially investigated. Despite this, children's wellbeing has been described as challenging to define (Robson et al., 2019) and widely variable, leading to inconsistent definitions with no precision of use (Pollard & Lee, 2003). Recent research has shown conceptualization of wellbeing differs across cultures, as different cultures have culturally specific ways to achieve wellbeing (Lambert et al., 2020), meaning wellbeing contains shifting situational and contextual meanings (O'Brien & Guiney, 2021). It can be argued that if there is no cross-cultural understanding of wellbeing it becomes challenging to ensure children's wellbeing is supported, as not everyone has the same ideas about what wellbeing looks like. For example, a culture's traditions and values of wellbeing are encoded in language, and this shapes subjective experiences and understanding of its members (Harkins & Wierzbicka, 1997). Arguably, this renders measurement of wellbeing unreliable and possibly meaningless (O'Brien & Guiney, 2021). Furthermore, much of the literature on wellbeing focuses on gathering data from assessment of older children, as younger children may lack understanding and the reading and writing skills required (Lomas et al., 2020). A systematic literature review of child wellbeing by Pollard and Lee (2003) illustrated how children's disorders and deficits were captured in research, rather than strengths and abilities and the latter may capture core elements of wellbeing.

As previously noted, views about the characteristics of wellbeing are highly variable. Looking at one plausible reason, Ryff's (1989) multidimensional model of psychological wellbeing identified that children's wellbeing consists of six elements: environmental mastery, personal growth, purpose in life, self-acceptance, autonomy and positive relations with others. A broader perspective was adopted by Yarcheski et al. (2011) who described children's wellbeing as a construct which incorporates social, physical and psychological dimensions. It could be argued that differing perspectives highlight different features of children's wellbeing while overlapping to some extent. Therefore, it

is established that children's wellbeing encompasses many domains. However, some concerning implications may arise from this. This is illustrated by Chase and Statham (2010) who note the differing lenses through which children's wellbeing is viewed may influence how policy makers apply guidance. It is axiomatic to say that children's wellbeing is complex, resulting from individual differences, cultural, social, economic, feelings, emotions, and environmental differences.

It can be disputed that earlier research on children's wellbeing largely neglects the important link between nature and wellbeing. However, there has been increased recognition in this area in recent years and it seems that the recent Covid-19 pandemic has been a key driver of research in this area gaining momentum. Moreover, contemporary research is eminently clear that interaction with nature contributes to children's emotional wellbeing. For example, at the beginning of the decade, the UK government conducted research through the Department for Environment, Food and Rural Affairs (DEFRA) (2020) to provide children aged 8-15 with a voice; the online survey concluded that wellbeing was improved by 92% when a child learned in a natural environment, behavior improved by 85%, and social skills were enhanced by 93%. This analysis is especially pertinent in terms of outdoor interventions such as forest school, as it perpetuates the idea that nature greatly influences wellbeing. Unfortunately, due to a survey error, the sample size was smaller than in previous years, and on this basis one might question how meaningful these findings may be. However, Dabaja (2022) adds weight to the results and remarks that a lifestyle indoors disconnects a child from nature and damages physical health and wellbeing.

There is a growing body of environmental psychology research that suggests connecting with nature may regulate emotions, promote social cohesion, and have a calming effect, which are positively associated with wellbeing (Kotera et al., 2022). Several theories underpin the beneficial effects of exposure to nature on psychological functioning. For example, attention restoration theory claims that time spent in nature has a restorative effect on cognition, concentration and focus, resulting in enhanced wellbeing (Kaplan & Kaplan, 1989). Additionally, a review by McCormick (2017) found that connections with the natural environment can influence wellbeing through improved cognitive ability, improved behavior, attention restoration, engagement, and behavior. More recent investigations, assessing interventions to improve children's wellbeing through nature, found a significant link with wellbeing when children engage with their senses in nature, also known as forest bathing. One of these studies is that of McEwan et al. (2022) who assert that observing insects and immersing in craft activities using natural material, substantially improved children's behavior, decreased stress and increased self-esteem and sociality, especially when part of a group (Barton et al., 2016), In spite of the benefits, fear of risks and time constraints in schools may be a barrier to the more widespread adoption of forest bathing into the curriculum (Harris, 2018). This research highlights that when nature is accessible then interventions such as forest school may foster wellbeing.

Extensive corroborating evidence concludes that experiential learning in forest school provides endless opportunities to communicate and collaborate with peers and keeps sharpens children's thinking, imagination, and creativity (Harris, 2018; Nawaz & Blackwell, 2014; Waller et al., 2017). Likewise, Coates and Pimlott-Wilson (2018) echo that social conflict is mitigated with consolidation of social and collaborative skills fostered by forest school. It can therefore be assumed that the environment plays a pivotal role in the development of children's learning through the evolution of communication and social skills and developing social connection, inspiring and

motivating children, and expanding confidence, consequently enhancing wellbeing (Barrable & Arvanitis, 2019). Much of the discourse on children's rights stems from the United Nations Convention of Rights of the Child (UNCRC) (as cited in UNICEF, 2016). Article 29 states that a child's education should provide for the development of the child's personality, talents and abilities to their maximum potential with respect for the environment (UNICEF, 2016). Based on this, a holistic approach to children's wellbeing in an educational setting may be developed through a nature -ed approach.

It is widely believed that learning outdoors can positively influence the physical, cognitive, and socio-emotional development of children (Karavida et al., 2020; Pimlott-Wilson & Coates; 2019; Prince, 2019) and create opportunities outside of the classroom to learn (Knight, 2011). For instance, enhancing problem-solving skills, confidence (Knight, 2016), co-operation, peer relationships and self-esteem (O'Brien & Murray, 2006) are key to a child's development (Marchant et al., 2019). It is worth noting that qualitative data reveals a correlation between freedom to explore in an unstructured environment, while confronting danger and challenges, and taking supported risks, instills resilience and inspires imagination and creativity (Coates & Pimlott-Wilson, 2018; Karavida et al., 2020). This is mirrored by several qualitative studies that propose that forest school promotes critical thinking, igniting curiosity and motivation for knowledge acquisition (Harris, 2018; O'Brien, 2009; Quibell et al., 2017). This highlights an agreement across the literature that forest school has been shown to positively influence and arguably improve the wellbeing of children through facilitating intrinsic motivation in an educational context (Ryan & Deci, 2000). This evidence exhibits the importance of integrating forest school as a dominant pedagogy in education settings, consequently, providing opportunities to strengthen the holistic wellbeing of children by using freedom in nature as a classroom (Garden & Downes, 2023).

Earlier perspectives discuss how social relationships are promoted through greater freedom to interact. They explain that nature bolsters resilience and conclude that children who do not have access to nature are less able to cope with adversity, thus affecting wellbeing (Corraliza et al., 2012; Whitebread, 2017). This illustrates that a child's environment has a link with their autonomy and that restricted access to the outdoors may hinder wellbeing. Additionally, qualitative research exploring children's perspectives of the benefit of nature on their wellbeing highlighted that forest school offers an outdoor environment that is inclusive and enabling (Barrable & Arvanitis, 2019; Harris, 2018; MacEachern, 2013). However, it was found that child-led learning was challenging for some forest school practitioners (Harris, 2018). For example, confident children were found to lead the quieter children, indicating that quieter children may not prosper and wellbeing may diminish (Harris, 2018). This literature contributes toward the understanding of the role of forest school in providing opportunity for choice and independence, helping children to feel valued. It also reinforces forest school's contribution to holistic development, in turn building resilience and promoting flourishing in older children (Barrable & Arvanitis, 2019) rather than languishing. However, the wellbeing of children under the age of 8, is to a great extent ignored (Robson et al., 2019), highlighting the neglect of opportunities to establish roots for future wellbeing of children.

Seligman's (2018) positive emotion, engagement, relationships, meaning, and accomplishment (PERMA) theory, built on underpinning theories of positive psychology, provides a succinct explanation of the constructs of wellbeing that depict flourishing. Likewise, Fredrickson's (2001) broaden-and-build theory of positive emotions highlights experiencing positive emotions, builds on individual's physical,

social and psychological resources, which is fundamental to flourishing. However, this gives the notion that a cultural expectation to be positive is therefore presented as desirable and that a negative expectation is undesirable, which may be then pathologized (Lomas et al., 2020). For example, sadness, an inherent part of being human, may be construed a disorder (Held, 2002). Nevertheless, these theories were reflected in a Public Health England (PHE, 2021) survey which established 10% of children were not flourishing. Wellbeing scales revealed that children who scored low were languishing, leading to poor wellbeing (PHE, 2021). Moore et al. (2019) explain that languishing pupils have low levels of psychosocial strengths and that engagement in interventions such as forest school may support flourishing. However, limitations to this theory are pointed out by Belcher et al. (2021) and Campbell and Løkken (2023) who argue that children's wellbeing involves more than flourishing; satisfaction and good health, caring relationships, accomplishment, physical health, healthy behaviors and resilience were identified as constituting wellbeing. Likewise, Bedard et al. (2019) i note that negative social interactions, low physical activity and disruptive classrooms negatively impact wellbeing. In addition, this may offer an explanation as to why wellbeing interventions and assessments in the education system focus on containing problems rather than promoting development (Waters et al., 2021).

The recent growth of positive psychology extends beyond psychopathology, disorders, and childhood delinquency to incorporate the enabling of psychological thriving (Seligman & Csikszentmihalyi, 2000). Moreover, Harris (2018) rejects the idea of a curriculum based solely in a classroom, arguing that this environment stifles creativity, suppresses imagination and concludes that this reduces wellbeing. Additionally, it was noted that the learning space offered by forest school provided opportunities for teamwork and the building of communication skills that supported children's social and emotional development. This embraces Vygotsky's (1978) sociocultural theory of cognitive development which posits children develop behaviors based on actions of peers and authority figures, building a mental framework used to develop their autonomy. Therefore, it can be assumed traditional school environments are not always positive for a child's wellbeing. This is supported by Mann et al.'s (2021) who found that engagement in forest school has positive influence on connection with nature, wellbeing and academic attainment. These findings shed new light on how a curriculum, utilizing forest school, may develop pupils' skills (Blackham et al., 2021), allowing children to control their own learning through exploration (Barrable & Arvanitis, 2019), significantly enhancing children's wellbeing through autonomy (Ryan & Deci, 2000), and consequently protecting future wellbeing.

Lack of suitable space may increase concerns over pupil behavior (Dyment, 2015; Roth et al., 2011; Simmons, 1998) and be seen as a barrier to implementation of forest school. However, a systematic literature review identified that wellbeing was achieved through children taking personal responsibility in forest school. For example, educator encouragement to identify risks, hazards and moderate actions and behavior, generates awareness of nature and environmental issues (Garden & Downes, 2023) and offers greater utility for self-determined behavior, increasing self-esteem (Dettweiler et al., 2022). In other words, it is believed that children learn through experience and guidance in making informed choices, thus mitigating harm, building their resilience and promoting wellbeing through autonomy. Moreover, negative perceptions of risk and risk aversion negatively impact children's wellbeing (Garden & Downes, 2023). It is worth noting that who delivers education interventions and how the interventions are

delivered affects levels of children's engagement (Oades et al., 2020), influencing the outcome of children's wellbeing in forest school.

There is a growing body of literature that recognizes the importance of a holistic approach to children's wellbeing. For example, thematic analysis extracted meaningful data from interviews with children who had recently completed a six-week forest school program, revealing that forest school is a contributor to children's social, cognitive, emotional, and physical development of skills and supports communication and positive attitudes to learning (Coates & Pimlott-Wilson, 2018). Therefore, it may be claimed that forest school makes a positive contribution toward enhancement of wellbeing (O'Brien & Murray, 2006; Tiplady & Menter, 2020) while fulfilling a large proportion of the primary curriculum in an alternative learning environment (Cumming & Nash, 2015; Whincup et al., 2023). A systematic literature review revealed recurrent themes through observation and interviewing older primary age children. Interestingly, a broader narrative to wellbeing was revealed, finding that growth in a child's strengths and capabilities leads to long lasting happiness (Mann et al., 2021; Pollard & Lee, 2003; Tillmann et al., 2018). Although this claim is relevant, Cormier and Rossi (2019) argue that what defines children's happiness is unclear as it is beyond a young child's capacity to understand or explain, other than through behavior (Roth et al., 2011).

A qualitative review (DfE, 2018) analyzed the content of 45 UK primary school policies for example behavior policy to measure the extent each policy addressed areas of wellbeing. It was identified that wellbeing interventions supported children with observable poor behavior, in a minority of children, in a minority of schools. It therefore could be said that failure to recognize and address hidden issues and underlying problems may indicate that children's wellbeing needs may be undetected. Conversely, Banaschewski (2010) explains that natural development may be pathologized if developmental deviance, transient manifestation, behavioral variation, normative misbehaviors and the environment are also not accounted for. Additionally, Waters et al. (2021) explain how neuroplasticity and brain growth in the first six years of a child's life makes a child receptive to the benefits of positive environments and vulnerable to the long-term effects of dysfunction. Accordingly, these findings highlight the importance of open communication between the school and home and the influence of the environment on wellbeing.

As noted earlier, without a cross-cultural understanding of wellbeing measures, alternative educational settings may be meaningless. However, government policy is committed to better education through investment in alternative channels of learning (Department for International Development, 2018; Foreign Commonwealth & Development Office, 2018) that may build social cohesion and wellbeing. In spite of the promised investment, only interventions which provide measurable improvements in educational assessments are likely to be introduced, highlighting that education policy is driven by attainment (Hargreaves et al., 2021) and achieving national targets rather than the holistic wellbeing of a child. In addition, a parental focus on academic attainment and reaching curricular goals and targets (Gonzalez-DeHass et al., 2005) may also be discourage a focus in interventions which are not driven by improving metrics. It can also be argued that where and how these policies are implemented may play a pivotal role in achieving desirable outcomes for wellbeing. This literature review strikingly highlights that children's and educator's perspectives are highly represented through qualitative research. However, parents' subjective perspectives seem to be predominantly excluded. Therefore, cultural diversity and minority voices may be marginalized. Fasel et al. (2013) point out that parental perspectives may increase

cohesion, minimize division and maximize inclusion between school and home, considering individual differences of a contemporary society. This gap indicates new research is required to build upon existing evidence and potentially improve communication between school and home, hear hidden voices, and gain further understanding. Effective communication may open channels, with parents' views providing a different perspective.

To explore parents' perspectives of children's wellbeing in forest school, this research employed Q methodology because it offered an approach, which combined the identification of shared perspectives and the interpretation of those using subjective insight to categorize and interpret cross cutting commonalities (Lundberg, 2019; Stephenson, 1972; Yates et al., 2001). The findings provide an understanding, rather than measurement, of parents' subjective viewpoints (Wester et al., 2021) and add to existing literature into how forest school may be a positive intervention to support wellbeing of children and expand on the dearth of research of parent perspective in this topic.

Method

Research Design

Q methodology allows for subjective viewpoints and unique opinions, revealing correlations between and differences among participants' viewpoints. In this research, corroborating and opposing opinions are interpreted to assess how forest school influences children's wellbeing from parents' perspectives. More specifically, Bashatah (2016) posits Q methodology has a mathematical thoroughness capable of capturing personal perspectives.

Moreover, Q methodology offers an adaptable and structured approach representing a relational subjective viewpoint, which may be useful in guiding interventions that support children's wellbeing (Lundberg et al., 2020; Yang & Montgomery, 2013). Parents' voices are often overlooked in educational settings internationally. According to Koch (2022), deliberate interaction with parents fosters stronger collaboration between school and home and provides a better understanding of family culture, sociodemographic issues, and diversity. However, if schools fear that parents might request something that cannot be provided, communication may break down. Nevertheless, their voices can be heard through Q methodology (Lundberg et al., 2020). This suggests that the personal interpretation and individual contexts of the meaning of statements may produce diverse perspectives, instrumental in creating rich opportunities for learning environments.

Concourse Development, and Preparation for the Q sort

This study used Q methodology to assess the provision of forest school on children's wellbeing from parent perspectives. Opinions are measured by assessing and categorizing the perspectives of parents' subjective opinions. These opinions are obtained through ranking 25 statements in a Q sort. Firstly**,** a concourse of 105 statements was identified from a variety of sources i.e., research papers, wellbeing measures, newspapers and magazines, to obtain a variety of societal viewpoints. Eight parents read and reviewed the concourse of statements. They identified and evaluated which statements were easy to understand and which offered balance to the research, enabling ambiguous, duplicated, unclear or irrelevant statements to be eliminated, changed or altered (Moore et al., 2011). The feedback from the parent panel also

influenced the decision to limit the number of statements to 25. This decision to use a smaller than usual sample of statements was taken to increase accessibility and reduce the potential for withdrawal due to time constraints and participants' perceptions of the length and scale of task as onerous. A Q sample is a subset of the concourse; it is tailored to capture the variation in subjective viewpoints (Coogan & Herrington, 2011; Woods, 2012), to seek the answer to the research question (Stephenson, 1972) and help capture different perspectives on the topic. The statements reflect a range of views and encapsulate the essence of a parent's perspective of the influence of forest school on children's wellbeing. A Qualtrics web-based survey tool was utilized as a platform for the study. The Q sample is listed in Appendix A.

Participants

Participants were recruited via email. A link took each participant to a Qualtrics online survey platform where relevant forms and information were provided for recruitment. Recruitment was conducted at one site due to lack of accessible forest schools in the area. The inclusion criteria required participants to be parents, over the age of 18 and having their child at the school in question. Children enrolled at the school were age 2-11 and mixed gender. Exclusion criteria were defined as family, relatives, friends, nannies, or childminders. Connelly (2020) posits that appropriate inclusion and exclusion criteria help create deal conditions for relevant data in relation to the research question. Q methodology enabled a reflective approach with an opportunity to communicate lived experience (Bernard, 2002).

Data Collection

The participants were provided access to a blank Q-sort grid and the Q sample via a Qualtrics survey link. KADE software was used for the entry of the data and to conduct the analysis. This study used a recognized framework for Q-methodology (Q sort grid) to place a series of statements (Q sample) into a rank order. This grid was made of a symmetrical quasi-normal pattern numbered 0 at the midpoint and -4/+4 at the two opposite endpoints where strong viewpoints are captured. The participants were asked to consider the degree to which they agreed or disagreed with the statement in response to the question by placing statement numbers in the grid to indicate their ranking from strongly agree (+4) to strongly disagree (-4). .

Data Analysis

All data collected was entered into a dedicated Q methodology software program (KADE) to quantitatively analyze the data. Eight principal components were extracted before a varimax rotation was performed. Although five factors had eigenvalues over 1, only the strongest three factors were retained and interpreted, with 17 of the 18 participants significantly loaded onto these factors, therefore representing the main ways in which parents conceptualized wellbeing and forest schools as well as the continuum of parents' perspectives. Composite Q-sort grids were generated for these factors, revealing contrasting and shared views across participants responses (Banasick, 2019). Interpretation of each factor was carried out through clustering statements at the extremes of each factors and identifying commonalities in semantic and latent meaning across clustered statements (Braun et al., 2021). In addition, distinguishing statements were analyzed in relation to general patterns across factors. The composite grid for Factor 1 can be found in Appendix C.

Results

Table 1 below lists the Q-sample statements, the factor scores and the distinguishing statements. Appendix B provides the factor loadings.

Table 1

Factor Arrays

No.	Statement	Factor 1	Factor 2	Factor 3
1	Freedom in Forest School allows children to express themselves and be more open.	0	**2**	-1
2	Forest School fuels disruptive behavior.	-4	-4	**4**
3	Behavior is improved because of the physicality that Forest School provides.	**-1**	**2**	**0**
4	Forest School equips children with resilience.	0	0	-2
5	Forest School stimulates creativity, leading children to flourish.	1	0	**-3**
6	Frustration at being given boundaries in the Forest School environment decreases motivation.	-2	-2	**3**
7	Forest School encompasses all abilities.	-2	-3	-3
8	Children are more questioning and curious because of Forest School.	1	0	0
9	Forest School moderates stress.	-1	**1**	-2
10	Forest School enhances self-esteem by providing an environment that develops skills.	3	**1**	**-1**
11	Children's concentration is improved through being outdoors.	**-1**	**4**	**2**
12	Forest School promotes emotional connection with other children.	0	1	0
13	Teamwork activities, incorporated into Forest School, promotes adaptive skills.	2	1	1
14	Forest School decreases negative social interaction with peers.	-2	-1	**1**
15	Children working on a mutual activity encourages negotiation and diplomatic skills.	1	2	2
16	Forest school provides children with responsibility for their own learning.	0	**-2**	1
17	Social boundaries are easier when in Forest school.	-3	-1	-1
18	Children are more able to identify risks because of autonomy in Forest School.	2	-3	-2
19	Most children enjoy being outside in nature.	-1	**3**	**0**
20	Child initiated learning, in forest school, motivates children.	0	-1	1

No.	Statement	Factor 1	Factor 2	Factor 3
21	Forest School develops new ways to solve problems.	**3**	-1	**-4**
22	Forest school promotes positive attributes, such as strengths and capabilities, of the child.	4	0	0
23	Connectedness with peers promotes wellbeing through a sense of belonging.	2	3	2
24	Forest school motivates children and directs personal growth.	**1**	0	-1
25	Forest school is too open to inspire decision making.	-3	-2	**3**

Note: Distinguishing statements are highlighted in bold.

Factor 1*:* Enhancing Wellbeing Through Nurturing Skills Development

Five participants were flagged as loading significantly onto this factor, statement positions on this factor are illustrated in Table 2.

Table 2

Statements at Positive and Negative Ends of Factor 1

No.	Statements participants "strongly agree with"	Array
22	Forest school promotes positive attributes, such as strengths and capabilities, of the child.	**4**
21	Forest School develops new ways to solve problems.	**3**
10	Forest School enhances self-esteem by providing an environment that develops skills.	3
13	Teamwork activities, incorporated into Forest School, promotes adaptive skills.	2
18	Children are more able to identify risks because of autonomy in Forest School.	2
	Statements participants "strongly disagree with"	
6	Frustration at being given boundaries in the Forest School environment decreases motivation.	-2
14	Forest School decreases negative social interaction with peers.	-2
17	Social boundaries are easier when in Forest school.	3
25	Forest school is too open to inspire decision making.	-3
2	Forest School fuels disruptive behavior.	-4
24	Forest school motivates children and directs personal growth.	**1**
11	Children's concentration is improved through being outdoors.	**-1**
3	Behavior is improved because of the physicality that Forest School provides.	**-1**

Parents who load significantly onto this factor have a set of beliefs that forest school influences children's wellbeing by utilizing the environment to reveal children's talents and abilities. There is a strong belief that forest school influences children's wellbeing by focusing on strengths and capabilities (22)[1] and enhancing self-esteem through behavioral mastery and skills development (10). Parents agreed that forest school facilitates children's intrinsic tendencies and growth leading to motivation, happiness, and wellbeing. It appears parents feel strongly that forest school influences children's wellbeing by problem solving skills (21) expressing the opinion that creativity is ignited through curiosity. In this factor, forest school influences children's wellbeing through building on intrinsic strengths and arousing an inquisitive mind through a natural environment, increasing self-esteem.

To a lesser extent, parents also agree that the children's sense of belonging promotes wellbeing. Parents with a significant loading onto this factor align sense of belonging with teamworking (13) and skills developed from engaging in mutual activities (15), hence constructing the influence of the social relationships on wellbeing as one which primarily enhances social skills and competencies. These parents' views suggests that forest school is a driver of teamwork, helping build children's wellbeing through developing skills and raising self-esteem.

This viewpoint strongly disagrees with statements which cluster around the conventional criticisms of forest schools as fueling disruptive behavior (2) and its openness does not inspire decision making (25) as autonomy is supported. It appears that individual differences and cultural and social elements play a key role in how forest school influences children's wellbeing from the parent's perspective which disagrees that social boundaries are ameliorated by forest schools (17).

Overall parents who load onto this factor prioritize psychological factors and skills development as key elements of the forest school experience in enhancing children's well-being

Factor 2: Enhancing Wellbeing Through the Freedom of the Outdoor Environment

Six participants were flagged as significantly loading on this factor. These participants generally placed high value on the nature-based aspects of forest schools and the positive influence this has on connectedness and belonging (23). Statement positions on this factor are shown in Table3.

Table 3

Statements at Positive and Negative Ends of Factor 2

No.	Statements participants "strongly agree with"	Array
11	Children's concentration is improved through being outdoors.	**4**
19	Most children enjoy being outside in nature.	**3**
23	Connectedness with peers promotes wellbeing through a sense of belonging.	3
1	Freedom in Forest School allows children to express themselves and be more open.	**2**

[1] Statement numbers are in brackets.

No.	Statements participants "strongly agree with"	Array
3	Behavior is improved because of the physicality that Forest School provides.	**2**
	Statements participants "strongly disagree with"	
6	Frustration at being given boundaries in the Forest School environment decreases motivation.	-2
16	Forest school provides children with responsibility for their own learning.	-2
7	Forest School encompasses all abilities.	-3
18	Children are more able to identify risks because of autonomy in Forest School.	**-3**
2	Forest School fuels disruptive behavior.	-4
	Other distinguishing statements	
12	Forest School promotes emotional connection with other children.	**1**
9	Forest School moderates stress.	**1**

According to Factor 2, parents believe that outdoor activity improves concentration (11) and that being outdoors is something enjoyed by most children (19). The physicality of outdoors activity is viewed as a key driver for improvements in children's behavior (3). In addition, the freedom offered by outdoor education enables children to be open and expressive (9). This combination of freedom, expressiveness and physicality is linked with agreements by parents with the benefits of moderating stress (1) and improving behavior (3) and improving emotional connectedness (12) for children in forest school environments. This view leads to the notion that nature fosters opportunity to build social relationships utilizing interpersonal dimensions fostered by forest school and confirm that emotional connection with other children enhances self-esteem and team work (10).

This viewpoint also acknowledges the risks of the forest school approach in disagreeing that forest schools give children responsibility for their learning (16). This disagreement over autonomy in relation to learning aligns with additional disagreement around children being able to identify risks as a result of autonomy (18).

These opinions are consistent with arguments around the risks of outdoor education and removal of classroom boundaries which may be detrimental to children's wellbeing. There is strong disagreement that is inclusive and encompassing of all abilities (7) suggesting forest school may negatively impact some children's wellbeing if their individual needs are not met.

Overall parents who load onto this factor prioritize biological/physiological factors inherent in active outdoor education and the influences on stress and well-being for children educated in the forest school environment.

Factor 3: The Forbidden Forest

Six participants loaded onto this factor and provide a different perspective on influence of forest schools on wellbeing and behavior, statement positions are shown in Table 4.

Table 4

Statements at Positive and Negative Ends of Factor 3

No.	Statements participants "strongly agree with"	Array
2	Forest School fuels disruptive behavior.	**4**
6	Frustration at being given boundaries in the Forest School environment decreases motivation.	**3**
25	Forest school is too open to inspire decision making.	**3**
11	Children's concentration is improved through being outdoors.	2
15	Children working on a mutual activity encourages negotiation and diplomatic skills.	2
23	Connectedness with peers promotes wellbeing through a sense of belonging.	2
	Statements participants "strongly disagree with"	
21	Forest School develops new ways to solve problems.	**-4**
5	Forest School stimulates creativity, leading children to flourish.	**-3**
4	Forest School equips children with resilience.	**-2**
9	Forest School moderates stress.	-2
	Other distinguishing statements	
14	Forest School decreases negative social interaction with peers.	**-1**
10	Forest School enhances self-esteem by providing an environment that develops skills.	**-1**

Parents who load onto this factor represent the strongest loadings with four of the parents who loaded positively onto this factor having loadings above 0.8. Most of statements in this factor are distinguished from one or both of the previous factors (as indicated by the bolded statement positions in Table 4) demonstrating the distance between viewpoints across factors and amongst parents whose children attend forest school.

In contrast to Factor 2, parents who load onto Factor 3 disagree with the physiological and cognitive benefits of forest schools. The freedom and lack of boundaries of forest school is not seen as moderating stress (9), enhancing resilience (4) or improving problem solving and decision-making skills (21; 25). Although parents on this factor agree that being outdoors can support children to improve concentration (2), the lack of boundaries and freedom forest schools provide is viewed as problematic and leads to frustration (6) and disruptive behavior (2).

Alongside these extreme juxtapositions with other factors, parents who load onto this factor do perceive some benefits and positive influences on well-being primarily through forest schools enhancing connectedness (23) and social communication skills through mutual working (15).

Overall parents who load onto this factor, do recognize the benefits of being outdoors on children's being but strongly reject the perceived cognitive benefits of the forest school model of outdoor education, while acknowledging enhancements to social skills and connectedness.

Discussion

This study focused on understanding parents' perspectives on the influence of forest school on children's wellbeing.

In relation to perceptions of the ways forest schools influence children's wellbeing, the three factors holistically demonstrate the range of parental positions and viewpoints, from those who note the benefits of forest schools and reject the main criticisms of the approach to those who disagree with most of the perceived cognitive and behavioral benefits of forest schools. This range of perceptions mirrors the lack of a cohesive and clear theoretical basis for the benefits of forest schools as well as the divisions between mainstream didactic and more experiential approaches to children's learning.

Factor 1 participants were the only parents who thought forest school influenced wellbeing through developing problem-solving skills. They suggest forest school influences wellbeing through curiosity and creativity, which motivates children to find and fix problems, and aligns with Seligman's (2018) PERMA theory of wellbeing. As noted in the literature review, it was found that experiential learning in forest school provides endless opportunities to communicate and collaborate with peers, which keeps children's thinking, imagination and creativity attentive (Harris, 2018; Nawaz & Blackwell, 2014; Waller et al., 2017). Previous studies have alluded to the benefits that come when educators are actively supportive of children leading themselves, with freedom to explore in an unstructured environment, while confronting danger, challenges and taking supported risks. This also inspires imagination and creativity (Barrable, 2019; Coates & Pimlott-Wilson, 2018 & Karavida et al., 2020), leading to growth in strengths and capabilities (Mann et al., 2021; Pollard & Lee, 2003; Tillmann et al., 2018) and emphasizes the importance of the Learning Outside the Classroom manifesto (DfE, 2006). Accordingly, it appears that creating opportunities outside of the classroom enhances problem solving skills and confidence (Knight, 2016).

Parents who load onto Factor 1 are of the opinion that educators actively supporting the child leading themselves promotes autonomy; a basic psychological need required to flourish (Barrable, 2019). Accordingly, these parents provide an insight into their opinion that forest school influences wellbeing through educator encouragement which moderates behavior and generates awareness (Garden & Downes, 2023), revealing talents and abilities. These parents advocate that allowing choice, acknowledging feelings and perspectives influences behavior, enhancing wellbeing and helping children feel valued (Roth et al., 2011).

By contrast, Factor 2 and Factor 3 parents pointed to an opposing opinion of the influence of forest school on children's wellbeing. This was explained in the literature by Harris (2018) and McEwan et al. (2022) in terms of the fear of risks and time constraints in schools leaving little time for engaging with the senses in nature. Research by Harris (2018), O'Brien and Murray (2006) and Quibell et al. (2017) places importance on forest school promoting critical thinking by igniting innate curiosity, enthusiasm and motivation for knowledge, and improving the wellbeing of children through facilitating intrinsic motivation (Ryan & Deci, 2000). However, Moore et al. (2019) suggest that languishing pupils have low levels of engagement with interventions. This may relate to who delivers education interventions, how it is delivered, and how it affects levels of children's engagement (Oades et al., 2020). Accordingly, Harris (2018) alluded to the fact that child-led learning was challenging for some forest school practitioners.

However, it has been seen there are different perspectives on how nature influences children's wellbeing in forest school. Factor 2 and 3 parents believe that nature positively influences children's wellbeing through both physicality and being outdoors in nature. It appears that parents loading on these factors agree with Attention Restoration Theory which claims that time spent in nature has a restorative effect on concentration and focus (Kaplan & Kaplan, 1989). More specifically, connections with the natural environment can influence wellbeing by restoring attention and engagement (McCormick, 2017), strengthening holistic wellbeing by using nature as a classroom (Garden & Downes, 2023). A curriculum based solely in a classroom stifles individual's creativity, solicits imagination and reduces wellbeing (Harris, 2018). However, Factor 1 parents have a contrasting opinion. This could be explained by the many studies that show how removal of classroom boundaries may be detrimental to some children's wellbeing (Dabaja, 2022; Lundberg, 2020; Marchant et al., 2019; Public Health England, 2021). These parents' views reveal how boundaries work differently for individual children. The view of these parents seems to reflect Mycock's (2020) view that no fixed meaning or theory underpins forest school making it difficult to demonstrate to parents that forest school facilitates learning while being in nature. This may be due to forest school lacking adequate measures in a culture of performativity and may be detrimental to school performance (Whincup et al., 2023). Therefore, children's wellbeing may be compromised.

Parents in Factors 2 and 3 disagree that forest schools improve risk awareness through autonomy, whereas Factor 1 parents opposed this. Factor 2 and 3 opinions reflect the importance on Vygotsky's (1978) sociocultural theory of cognitive development, which posits that children develop behaviors based on actions of peers and authority figures. In other words, these parents believe that children learn through guidance in making informed choices and educator encouragement to identify risks, hazards, moderate actions, and behavior (Garden & Downes, 2023). It appears that these parents are of the opinion that problems may arise as younger children may lack the understanding to identify risks. It could therefore be said that these parents believe there needs to be an understanding that language shapes experiences (Harkins & Wierzbicka, 1997). This may further explain Factor 1 parents' opinion, as it can be argued they may be parents of older children. However, these parents are of the opinion that autonomy is only created when educators are actively supportive of the children leading themselves (Barrable, 2019), which is identified as a basic psychological need in order to flourish. This dovetails with the idea that a curriculum utilizing forest school, may develop pupils' skills (Blackham et al., 2021), impacting psychological and physical growth (Sackville-Ford & Davenport, 2019) and allowing children to control their own learning through exploration (Barrable & Arvanitis, 2019), an idea corresponding with Ryan and Deci (2000) who suggest this enhances children's wellbeing through autonomy. It can also be said that these parents are of the view that self-determined behavior increases motivation and self-esteem (Dettweiler et al., 2022).

Opinions varied on whether forest school influenced children's wellbeing. Factor 2 participants reject the opinion of Factor 1 parents claiming that being outdoors is enjoyed by most children. In spite of this, Factor 2 parents believe that forest school influences wellbeing as being outdoors can have a positive influence on the physical, cognitive and socio-emotional development of children (Karavida et al., 2020; Pimlott-Wilson & Coates, 2019; Prince., 2019). Factor 1 parents feel this was less influential and Factor 3 parents have not attached importance to this statement. It has been observed that Factor 1 parents reject the idea that children who do not have access to nature are

less able to cope with adversity, thus affecting wellbeing (Corraliza et al., 2012; Whitebread, 2017). This indicates that Factor 2 parents attach importance to children connecting with nature believing that immersing in craft activities using natural material improves behavior and increases sociality which are effective means of influencing wellbeing, as shown in the literature (Kotera et al., 2022).

There was consensus, in varying degrees, among participants on all three factors that forest school influences children's wellbeing through a sense of belonging and enhancing connectedness and the social skills developed in team working. This finding supports previous research that indicated that forest school encourages positive relationships enhancing wellbeing (Karavida et al., 2020). Additionally, these parents' opinions align with Barrable and Arvanitis's (2019) explanation of the evolution of communication and social skills, develops social connection, expands confidence and enhances wellbeing. These parents acknowledge that being in nature provides a multi-sensory experience and provides opportunities to interact with others which contributes to improved wellbeing (Soga et al., 2021). This has been shown to create opportunities to learn outside of the classroom (Knight, 2011). These findings also support learning theories that have shaped the UK curriculum (Bandura, 1977; Dewey, 1938; Piaget, 1962; Vygotsky, 1978) suggesting that cognitive development occurs through interaction, communication and collaboration with others and behavior patterns are acquired by direct experience or observing behavior, attitudes and emotions of others. It appears that these parents are of the view that forest school influences children's wellbeing, as social conflict is mitigated with a consolidation of social and collaborative skills as proposed by Coates and Pimlott-Wilson (2018).

Importantly, parents on all three factors disagreed with the idea that forest school could encompass all abilities, suggesting that wellbeing of children is influenced in forest school only if integrity of an individual character is recognized or accounted for. This closely links with UNICEF (2016) that a child's education should provide for diverse individual personalities. In this context it can be said that these findings may assist the evolution of the forest school provision and benefit future cognitive and emotional functioning (Sella et al., 2023). There was also consensus against the notion that social boundaries were easier to manage in forest schools. These parents provide an insight into their perceived opinion that if children's individual differences were explored further and accounted for, then this may further enhance children's wellbeing and support a whole-school approach to wellbeing, as required by DfE (2017). In addition, these opinions may offer an explanation as to why wellbeing interventions in the education system focus on containing problems rather than promoting individual development (Waters et al., 2021) and strikingly highlight the necessity of enabling psychological thriving rather than pathologizing behavior (Seligman & Csikszentmihalyi, 2000).

Study Evaluation

Q methodology provides a robust and systematic procedure (Gao & Soranzo, 2020) to reveal similarities and contrasts between participants' viewpoints (Stephenson, 1972), enabling the detection of individual differences and capturing rich, meaningful and unique perspectives of "quiet" voices in society. Additionally, clusters of viewpoints were revealed during analysis. The Q sorting procedure actively engages participants, is less time consuming than other methods (Kloosster et al., 2008) and minimizes order effects, therefore obtaining a more coherent and accurate analysis (Gao & Soranzo,

2020). However, there are limitations to using Q methodology in understanding parent opinions of how forest school influences children's wellbeing.

Statements were placed on the grid according to where the participant wishes them to go. However, parents may offer a different perspective depending on their experience or circumstance of that day (Valenta & Wigger, 1997). Future research should address the possibility that subjective opinions may potentially change daily. Accordingly, a longitudinal study may offer a more nuanced outcome. For example, offering Q sort grids at the beginning and end of an academic year of forest school may yield different results. Targeted sampling may produce a set of factors that are more favorable to the organization, but participants may not respond truthfully (Oppenheim, 2000; Watts, 2013). Nevertheless, this was partially addressed by utilizing a pilot study to achieve a wide range of statements. Additionally, parents' understanding of what wellbeing is may affect results (Robson et al., 2019), leading to misinterpretations. Potential areas for future research related to forest school could be in exploring and understanding the shifting situational and contextual meanings of wellbeing (O'Brien & Guiney, 2021). In addition, knowing more about culture-specific ways to achieve wellbeing (Lambert et al., 2020) may elicit deeper understanding of parent perspectives of the influence forest school has on children's wellbeing.

Conclusion

This research focused on parents' perspectives of the influence of forest school on children's wellbeing, revealing many differences in parent's opinions. The findings suggest that as no set theories underpin the idea of a forest school then the ethos may provide the general public with a romanticized ideal of forest school. Furthermore, the varying meanings and conceptualization of wellbeing are rooted in the inherently subjective experiential contexts of individual parents and along with competing pressures on schools to achieve targets reflecting a parental focus on academic attainment, may have an impact on the opinions expressed. These findings show it is pertinent that cultural awareness and awareness of individual differences may change attitudes and behaviors of educators, potentially enhancing the functioning of forest schools in engaging children and providing a foundation for wellbeing. Additionally, clearer communication between parents and school on what parents and children expect from forest school may offer a clearer vision in future studies. It is hoped that this research will contribute to the development of a forest school environment that provides a gateway to new ideas and which aims to envelop the child holistically by considering the importance of individual differences. These results indicate that if the whole school community engages in recognizing such individual differences, this may further promote wellbeing through inclusive practice in a supportive environment, while at the same time fulfilling government requirements.

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References

Andrade, C. (2021). The inconvenient truth about convenience and purposive samples. *Indian Journal of Psychological Medicine*, *43*(1), 86-88. https://doi.org/10.1177/0253717620977000

Banaschewski, T. (2010). Editorial: Preschool behavior problems — Over-pathologised or under-identified? A developmental psychopathology perspective is needed. *Journal of Child Psychology and Psychiatry, 51*(1), 1–2. https://doi.org/10.1111/j.1469-7610.2009.02206.x

Banasick, S. (2019). KADE: A desktop application for Q methodology. *Journal of Open-Source Software, 4(*36), 1360. https://doi.org/10.21105/joss.01360

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, *84*(2), 191. https://psycnet.apa.org/doi/10.1037/0033-295X.84.2.191

Barrable, A. (2019). The case for nature connectedness as a distinct goal of early childhood education. *International Journal of Early Childhood Environmental Education*, *6*(2), 59-70. https://naturalstart.org/sites/default/files/journal/8._barrable_formatted_0.pdf

Barrable, A., & Arvanitis, A. (2019). Flourishing in the forest: Looking at Forest School through a self-determination theory lens. *Journal of Outdoor and Environmental Education, 22(*1), 39–55. https://doi.org/10.1007/s42322-018-0018-5

Barton, J., Bragg, R., Pretty, J., Roberts, J., & Wood, C. (2016). The wilderness expedition: An effective life course intervention to improve young people's well-being and connectedness to nature. *Journal of Experiential Education*, *39*(1), 59-72. https://doi.org/10.1177/1053825915626933

Bashatah, L. (2016). Q-methodology: What and how? *Journal of Research and Method in Education, 6*(5), 37-43. https://www.iosrjournals.org/iosr-jrme/papers/Vol-6%20Issue-5/Version-5/G0605053743.pdf

Bedard, C., St John, L., Bremer, E., Graham, J., Cairney, J., & Erwin, H. (2019). A systematic review and meta-analysis on the effects of physically active classrooms on educational and enjoyment outcomes in school age children. *Public Library of Science*, *14(*6). https://doi.org/10.1371/journal.pone.0218633

Belcher, B., Zink, J., Azad, A., Campbell, C., Chakravartti, S., & Herting, M. (2021). The roles of physical activity, exercise, and fitness in promoting resilience during adolescence: Effects on mental well-being and brain development. *Biological Psychiatry: Cognitive Neuroscience and Neuroimaging*, *6*(2), 225-237. https://doi.org/10.1016/j.bpsc.2020.08.005

Bernard, H. (2002). *Research methods in anthropology: Qualitative and quantitative approaches*. Altamira Press. https://www.bloomsbury.com/us/research-methods-in-anthropology-9781442268883/

Bishop Grosseteste University. (2020). *Research Ethics and Integrity.* https://www.bgu.ac.uk/student/research/research-ethics-and-integrity

Blackham, L., Cocks, A., & Bunce, L. (2021). "Our forest school isn't just the trees." Forest schools: Micro-communities for social and emotional development. *Journal of Adventure Education and Outdoor Learning, 23(*2). 1-6. https://doi.org/10.1080/14729679.2021.1984964

Bradley, K., & Male, D. (2017). "Forest School is muddy and I like it": Perspectives of young children with autism spectrum disorders, their parents and educational professionals. *Educational and Child Psychology, 34(*2), 80-96. https://doi.org/10.53841/bpsecp.2017.34.2.80

Braun, V., Clarke, V., Boulton, E., Davey, L., & McEvoy, C. (2021). The online survey as a qualitative research tool. *International Journal of Social Research Methodology*, *24*(6), 641-654. https://www.tandfonline.com/doi/full/10.1080/13645579.2020.1805550

Campbell, J., & Løkken, I. (2023). Inside out: A scoping review on optimism, growth mindsets, and positive psychology for child well-being in ECEC. *The Journal of Positive Psychology*, *13*(1), 29. https://doi.org/10.3390/educsci13010029

Chase, E., & Statham, J. (2010). *Childhood wellbeing: A brief overview*. London Childhood Wellbeing Research Centre. https://ora.ox.ac.uk/objects/uuid:29329299-94c7-4d8a-8fc2-b3c3c75e17ee

Coates, J., & Pimlott-Wilson, H. (2018). Learning while playing: Children's forest school experience in the UK. *British Educational Research Journal, 45(*1), 21-40. https://doi.org/10.1002/berj.3491

Connelly, L. (2020). Inclusion and exclusion criteria. *Medical Surgical Nursing*, *29*(2). https://www.proquest.com/openview/46ad1457b17d5d5995f448f9133109fa/1.pdf?pq-origsite=gscholar&cbl=30764

Coogan, J., & Herrington, N. (2011). Q-methodology. *Research in Secondary Teacher Education, 13(*2). https://doi.org/10.15123/uel.8604v

Cormier, A., & Rossi, M. (2019). Is children's wellbeing different from adults' wellbeing? *Canadian Journal of Psychology, 49(*8), 1146-1168. https://doi.org/10.1080/00455091.2019.1619354

Corraliza, J., Collado, S., & Bethelmy, L. (2012). Nature as a moderator of stress in urban children. *Procedia-Social and Behavioral Sciences, 38(*2), 253-263. https://doi.org/10.1016/j.sbspro.2012.03.347

Cree, J., & McCree, M. (2013). A brief history of forest school in the UK – Part 2. *Horizons*, *62*(3), 32-35. http://www.forestschoolassociation.org/history-of-forest-school

Cree, J., & Robb, M. (2021). *The essential guide to forest school and nature pedagogy*. Routledge. https://bishopg.on.worldcat.org/oclc/1201694659

Cumming, F., & Nash, M. (2015). An Australian perspective of a forest school: Shaping a sense of place to support learning. *Journal of Adventure Education and Outdoor Learning, 15 (*4), 296–309. https://doi.org/10.1080/14729679.2015.1010071

Dabaja, Z. (2022). The forest school impact on children: Reviewing two decades of research, *Education, 50*(5), 640-653. https://doi.org/10.1080/03004279.2021.1889013

Deci, E. (1971). Effects of externally mediated rewards on intrinsic motivation. *Journal of Personality and Social Psychology, 18(*1) 105-115. https://psycnet.apa.org/doiLanding?doi=10.1037%2Fh0030644

Department for Education (DfE). (2006). *Learning outside the classroom manifesto.* GOV.UK. https://thegrowingschoolsgarden.org.uk/downloads/lotc-manifesto.pdf

Department for Education (2023). *The National Curriculum*. GOV.UK. https://www.gov.uk/national-curriculum

Department for Environment, Food & Rural Affairs. (2020). GOV.UK https://www.gov.uk/government/statistics/the-people-and-nature-survey-for-england-child-data-wave-1-experimental-statistics/the-people-and-nature-survey-for-england-childrens-survey-experimental-statistics

Department for International Development. (2018). *Education policy 2018: Get children learning.* GOV.UK. https://www.gov.uk/government/publications/dfid-education-policy-2018-get-children-learning

Dettweiler, U., Gerchen, M., Mall, C., Simon, P., & Kirch, P. (2022). Choice matters: Pupils' stress regulation, brain development and brain function in an outdoor education project. *British Journal of Educational Psychology, 39(*51), 152-173. https://doi.org/10.1111/bjep.12528

Dewey, J. (1938). *Experience and education*. Free Press https://www.simonandschuster.co.uk/books/Experience-And-Education/John-Dewey/9780684838281

Dyment, J. (2015). Green school grounds as sites for outdoor learning: Barriers and opportunities. *International Research in Geographical & Environmental Education, 14*(1), 28-245. https://doi.org/10.1080/09500790508668328

Egan, D. (2020). *An exploration of psychological wellbeing in Irish forest schools.* Doctoral theses, Mary Immaculate College. https://www.dspace.mic.ul.ie/handle/10395/2913

Fasel, N., Green, E., & Sarrasin, O. (2013). Facing cultural diversity. *European Psychologist. 18*(4), 1-5. https://doi.org/10.1027/1016-9040/a000157

Forest School Association. (2018). What is forest school? www.forestschoolassociation.org/what-is-forest-school

Fredrickson, B. (2001). The role of positive emotions in positive psychology: The broaden-and-build theory of positive emotions. *American Psychologist*, *56*(3), 218. https://doi.org/10.1037/0003-066X.56.3.218

Gao, J., & Soranzo, A. (2020). Applying Q methodology to investigate people's preferences for multivariate stimuli. *Frontiers In Psychology, 11*(55), 36-49. https://doi.org/10.3389/fpsyg.2020.556509

Garden, A., & Downes, G. (2023). New boundaries, undecided roles: Towards an understanding of forest schools as constructed spaces. *Educational Psychology Review, 3*(13), 1-17. https://doi.org/10.1080/03004279.2023.2170187

Gonzalez-DeHass, A. R., Willems, P. P., & Holbein, M. F. D. (2005). Examining the relationship between parental involvement and student motivation. *Educational Psychology Review*, *17*, 99-123. https://doi.org/10.1007/s10648-005-3949-7

Hargreaves, E., Quick, L., & Buchanan, D. (2021). Systemic threats to the growth mindset: Classroom experiences of agency among children designated as 'flower attaining.' *Cambridge Journal of Education, 51*(3), 283-299. https://doi.org/10.1080/0305764X.2020.1829547

Harkins, J., & Wierzbicka, A. (1997). Language: A key issue in emotion research. *Innovation: The European Journal of Social Science Research, 10*(4), 319-331. https://doi.org/10.1080/13511610.1997.9968537

Harris, F. (2018). Outdoor learning spaces: The case of forest school. *Area, 50*(2), 222-231. https://doi.org/10.1111/area.12360

Held, B. (2002). The tyranny of the positive attitude in America. *Journal of Clinical Psychology, 58*(9), 965–991. https://doi.org/10.1002/jclp.10093

Kaplan, R., & Kaplan, S. (1989). *The experience of nature: A psychological perspective.* Cambridge University Press. https://psycnet.apa.org/record/1989-98477-000

Karavida, V., Tympa, E., & Charissi, A. (2020). Forest schools: An alternative learning approach at the preschool age. *Journal of Education & Social Policy*, *7*(4), 115-120. https://doi.org/10.30845/jesp.v7n4p12

Kloosster, P., Visser, M., & De Jong, M. (2008). Comparing two image research instruments: The Q-sort method versus the Likert attitude questionnaire. *Food Quality Preference, 19(*10), 511-518. https://doi.org/10.1016/j.foodqual.2008.02.007

Knight, S. (2011). *Forest school for all.* Sage. https://uk.sagepub.com/en-gb/eur/forest-school-for-all/book235112

Knight, S. (2016). *Forest school in practice: For all ages*. Sage. https://us.sagepub.com/en-us/nam/forest-school-in-practice/book249142

Knight, S. (2018). Translating forest school: A response to Leather. *Journal of Outdoor and Environmental Education*, *21*(1), 19-23. https://doi.org/10.1007/s42322-017-0010-5

Koch, A. (2022). Child well-being in early childhood education and care during COVID-19: Child sensitivity in small, fixed groups. *Children & Society*, *36*(6), 1234-1249. https://doi.org/10.1111/chso.12569

Kotera, Y., Richardson, M., & Sheffield, D. (2022). Effects of shinrin-yoku (forest bathing) and nature therapy on mental health: A systematic review and meta-analysis. *International Journal of Mental Health, 20*(1), 337–361. https://doi.org/10.1007/s11469-020-00363-4

Lambert, L., Lomas, T., van de Weijer, M., Passmore, H. A., Joshanloo, M., Harter, J., & Diener, E. (2020). Towards a greater global understanding of wellbeing: A proposal for a more inclusive measure. *International Journal of Wellbeing*, *10*(2), 1-18. https://doi.org/10.5502/ijw.v10i2.1037

Lazard, L., & McAvoy, J. (2020). Doing reflexivity in psychological research: What's the point? What's the practice? *Qualitative Research in Psychology*, *17*(2), 159-177. https://doi.org/10.1080/14780887.2017.1400144

Leather, M. (2018). A critique of 'forest school' or something lost in translation. *Journal of Outdoor and Environmental Education, 21*(2), 5-18. https://doi.org/10.1007/s42322-017-0006-1

Lomas, T., Waters, L., Williams, P., Oades, L., & Peggy, K. (2020). Third wave positive psychology: Broadening towards complexity. *Journal of Positive Psychology,* 15(5), 660-674. https://doi.org/10.1080/17439760.2020.1805501.

Lundberg, A. (2019). Teachers' beliefs about multilingualism: Findings from Q method research. *Current Issues in Language Planning*, *20*(3), 266-283. https://doi.org/10.1080/14664208.2018.1495373

Lundberg, A., de Leeuw, R., & Aliani, R. (2020). Using Q methodology: Sorting out subjectivity in educational research. *Educational Research Review*, *31*(1). 100-361. https://doi.org/10.1016/j.edurev.2020.100361

Lundberg, O. (2020). Next steps in the development of the social determinants of health approach: The need for a new narrative. *Scandinavian Journal of Public Health*, *48*(5), 473-479. https://doi.org/10.1177/1403494819894789

MacEachern, Z. (2013). The Canadian forest school movement. *Learning Landscapes, 7*(1), 1-5. https://doi.org/10.36510/learnland.v7i1.639

Mann, J., Gray, T., Truong, S., Sahlberg, P., Bentsen, P., Passy, R., Ho., S., Kumara, W., & Cowper, R. (2021). A systematic review protocol to identify the key benefits and efficacy of nature-based learning in outdoor educational settings. *International Journal of Environmental Psychology, 18*(3), 1199. https://doi.org/10.3390/ijerph18031199

Marchant, E., Todd, C., Cooksey, R., Dredge, S., Jones, H., Reynolds, D., & Brophy, S. (2019). Curriculum-based outdoor learning for children aged 9-11: A qualitative analysis of pupils' and teachers' views. *Public Library of Science One, 14*(5): e0212242. https://doi.org/10.1371/journal.pone.0212242

McCormick, R. (2017). Does access to green space impact the mental well-being of children? A systematic review. *Journal of Pediatric Nursing*, *37*(1), 3-7. https://doi.org/10.1016/j.pedn.2017.08.027

McEwan, K., Potter, V., Kotera, Y., Jackson, J., & Greaves, S. (2022). "This Is what the colour green smells like!": Urban forest bathing improved adolescent nature connection and wellbeing. *International Journal of Environmental Psychology, 19*(23), 15594. https://doi.org/10.3390/ijerph192315594

Moore, D., Rickey, E., Carter, D., Paul., W., & Stewart, D. (2011). Recommendations for planning pilot studies in clinical and translational research. *Clinical and Translational Science, 4*(5), 332-337. https://doi.org/10.1111/j.1752-8062.2011.00347.x

Moore, S., Mayworm, A., Stein, R., Sharkey, J., & Dowdy, E. (2019). Languishing students: Linking complete mental health screening in schools to Tier 2 intervention. *Journal of Applied School Psychology*, *35*(3), 257-289. https://doi.org/10.1080/15377903.2019.1577780

Mycock, K. (2020). Forest schools: Moving towards an alternative pedagogical response to the Anthropocene? *Discourse: Studies in the Cultural Politics of Education*, *41*(3), 427-440. https://doi.org/10.1080/01596306.2019.1670446

Nawaz, H., & Blackwell, S. (2014). Perceptions about forest schools: Encouraging and promoting Archimedes Forest Schools. *Educational Research and Reviews, 9*(15), 498-503. https://doi.org/10.5897/err2014.1711

O'Brien, L. (2009). Learning outdoors: The forest school approach. *Education, 37*(1), 45-60. https://doi.org/10.1080/03004270802291798

O'Brien, L., & Murray, R. (2006). A marvellous opportunity for children to learn. A participatory evaluation of forest school in England and Wales. https://www.forestresearch.gov.uk/publications/a-marvellous-opportunity-for-children-to-learn/

O'Brien, T., & Guiney, D. (2021). Wellbeing: How we make sense of it and what it means for teachers. *Support For Learning, 36*(3), 342-355. https://doi.org/10.1111/1467-9604.12366

Oades, L., Ozturk, C., Hou, H., & Slemp, G. (2020). Well-being literacy: A language use capability relevant to well-being outcomes of positive psychology interventions. *Journal of Positive Psychology, 15*(5), 696–700. https://doi.org/10.1080/17439760.2020.1789711.

Oppenheim, A. (2000). *Questionnaire design, interviewing and attitude measurement.* Bloomsbury Publishing. https://www.bloomsbury.com/uk/questionnaire-design-interviewing-and-attitude-measurement-9780826451767/

Piaget, J. (1962). *Play, dreams and imitation in childhood*. Routledge. https://www.taylorfrancis.com/books/mono/10.4324/9781315009698/play-dren

Pimlott-Wilson, H., & Coates, J. (2019). Rethinking learning? Challenging and accommodating neoliberal educational agenda in the integration of forest school into mainstream educational settings. *The Geographical Journal*, *185*(3), 268-278. https://doi.org/10.1111/geoj.12302

Pollard, E., & Lee, P. (2003). Child well-being: A systematic review of the literature. *Social Indicators Research*, *61*(1), 59-78. https://www.proquest.com/scholarly-journals/child-well-being-systematic-review-literature/docview/197671699/se-2

Prince, H. (2019). Changes in outdoor learning in primary schools in England, 1995 and 2017: Lessons for good practice. *Journal of Adventure Education and Outdoor Learning*, *19*(4), 329-342. https://doi.org/10.1080/14729679.2018.1548363

Public Health England (2021). *Promoting children and young people's mental health and wellbeing.* GOV.UK. https://www.gov.uk/government/publications/promoting-children-and-young-peoples-emotional-health-and-wellbeing

Quibell, T., Charlton, J., & Law, J. (2017). Wilderness schooling: A controlled trial of the impact of an outdoor education programme on attainment outcomes in primary school pupils. *British Educational Research Journal, 43*(3), 572-587. https://doi.org/10.1002/berj.3273

Robson, S., Brogaard-Clausen, S., & Hargreaves, D. (2019). Loved or listened to? Parent and practitioner perspectives on young children's well-being. *Early Child Development and Care, 189*(7), 1147-1161. https://doi.org/10.1080/03004430.2017.1369976

Rodriguez-Ayllon, M., Cadenas-Sánchez, C., Estévez-López, F., Muñoz, N., Mora-Gonzalez, J., Migueles, J., & Esteban-Cornejo, I. (2019). Role of physical activity and sedentary behavior in the mental health of pre-schoolers, children and adolescents: A systematic review and meta-analysis. *Sports Medicine*, *49*(9), 1383-1410. https://doi.org/10.1007/s40279-019-01099-5

Roth, G., Kanat-Maymon, Y., & Bibi, U. (2011). Prevention of school bullying: The important role of autonomy-supportive teaching and internalization of pro-social values. *British Journal of Educational Psychology*, *81*(4), 654-666. https://doi.org/10.1348/2044-8279.002003

Ryan, R., & Deci, E. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, *55*(1), 68. https://doi.org/10.1037/0003-066X.55.1.68

Ryff, C. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology, 57*(6), 1069–1081. https://doi.org/10.1037/0022-3514.57.6.1069

Sackville-Ford, M., & Davenport, H. (2019). *Critical issues in forest schools*. SAGE. https://sk.sagepub.com/book/mono/critical-issues-in-forest-schools/toc

Seligman, M. (2018). PERMA and the building blocks of well-being. *The Journal of Positive Psychology*, *13*(4), 333-335. https://doi.org/10.1080/17439760.2018.1437466

Seligman, M. E., & Csikszentmihalyi, M. (2000). Positive psychology: An introduction. *American Psychologist*, *55*(1), 5–14. https://doi.org/10.1037//0003-066x.55.1.5

Sella, E., Bolognesi, M., Bergamini, E., Mason, L., & Pazzaglia, F. (2023). Psychological benefits of attending forest school for pre-school children: A systematic review. *Educational Psychology Review, 35*(10), 1-23. https://doi.org/10.1007/s10648-023-09750-4

Simmons, D. (1998). Using natural settings for environmental education: Perceived benefits and barriers. *Journal of Environmental Education, 29*(3), 23–31. https://doi.org/10.1080/00958969809599115

Soga, M., Evans, M., Tsuchiya, K., & Fukano, Y. (2021). A room with a green view: The importance of nearby nature for mental health during the COVID-19 pandemic. *Ecological Applications*, *31*(2), 2248. https://doi.org/10.1002/eap.2248

Stephenson, W. (1935). Technique of factor analysis. *Nature, (36*)4, *136*, 297. https://doi.org/10.1038/136297b0

Tillmann, S., Tobin, D., Avison, W., & Gilliland, J. (2018). Mental health benefits of interactions with nature in children and teenagers: A systematic review. *Journal of Epidemiology and Community Health Community Health*, *72*(10), 958-966. http://dx.doi.org/10.1136/jech-2018-210436

Tiplady, S., & Menter, H. (2020). Forest school for wellbeing: An environment in which young people can "take what they need." *Journal of Adventure Education and Outdoor Learning, 21*(2), 99-114. https://doi.org/10.1080/14729679.2020.1730206

Trapasso, E., Knowles, Z., Boddy, L., Newson, L., Sayers, J., & Austin, C. (2018). Exploring gender differences within forest schools as a physical activity intervention. *Children*, *5*(10), 138-139. https:// doi.org/ 10.3390/children5100138

UNICEF. (2016). The United Nations Convention on the Rights of the Child (UNCRC). https://www.unicef.org.uk/what-we-do/un-convention-child-rights

Valenta, A., & Wigger, U. (1997). Q-methodology: Definition and application in health care informatics. *Journal of the American Medical Informatics Association*, *4*(6), 501-510. https://doi.org/10.1136/jamia.1997.0040501

Vygotsky, L. (1978). *Mind in society: The development of higher psychological processes*. Harvard University Press. https://www.hup.harvard.edu/books/9780674576292

Waller, T., Ärlemalm-Hagsér, E., Sandseter, E., Lee-Hammond, L., Lekies, K., & Wyver, S. (Eds.). (2017). *The Sage handbook of outdoor play and learning*. SAGE. https://sk.sagepub.com/hnbk/edvol/the-sage-handbook-of-outdoor-play-and-learning/toc

Waters, L., Dussert, D., & Loton, D. (2021). How do young children understand and action their own wellbeing? Positive psychology, student voice, and well-being literacy in early childhood. *International Journal of Applied Positive Psychology, 7*(1),91-117. https://doi.org/10.1007/s41042-021-00056-w

Watts, S. (2013). User skills for qualitative analysis: Perspective, interpretation and the delivery of impact. *Qualitative Research in Psychology, 11*(2), 1-14 https://doi.org/10.1080/14780887.2013.776156

Wester, K., Morris, C. W., Trustey, C., Cory, J., & Grossman, L. (2021). Promoting rigorous research using innovative qualitative approaches. *Journal of Counselling & Development*, *99*(2), 189-199. Https://doi.org/10.1002/jcad.12366

Whincup, V., Allin, L., & Greer, J. (2023). Challenges and pedagogical conflicts for teacher- forest school leaders implementing forest school within the UK primary

curriculum. *International Journal of Primary, Elementary and Early Years Education, 51*(1),1-12. https://doi.org/10.1080/03004279.2021.1942948

Whitebread, D. (2017). Free play and children's mental health. *The Lancet Child & Adolescent Health, 1*(3), 167-169. https://doi.org/10.1016/S2352-4642(17)30092-5

Woods, C. (2012). Exploring emotion in the higher education workplace: Capturing contrasting perspectives using Q-methodology. *The International Journal of Higher Education and Educational Planning, 64*(6), 891-909. https://doi.org/10.1007/s10734-012-9535-2

Yang, Y., & Montgomery, D. (2013). Gaps or bridges in multicultural teacher education: A Q-study of attitudes toward student diversity. *Teaching and Teacher Education*, *30*, 27-37. https://doi.org/10.1016/j.tate.2012.10.003

Yarcheski, A., Mahon, N., & Yarcheski, T. (2011). Stress, hope and loneliness in young adolescents. *Psychological Reports, 108*(3). https://doi.org/10.2466/02.07.09.PR0.108.3.919-922

Yates, S., Taylor, S., & Wetherell, M. (2001). *Discourse as data: A guide for analysis*. SAGE. https://us.sagepub.com/en-us/nam/discourse-as-data/book211516

Appendices

Appendix A

Q Sample Statements

1. Freedom in Forest School allows children to express themselves and be more open.
2. Forest School fuels disruptive behavior.
3. Behavior is improved because of the physicality that Forest School provides.
4. Forest School equips children with resilience.
5. Forest School stimulates creativity, leading children to flourish.
6. Frustration at being given boundaries in the Forest School environment decreases motivation.
7. Forest School encompasses all abilities.
8. Children are more questioning and curious because of Forest School.
9. Forest School moderates stress.
10. Forest School enhances self-esteem by providing an environment that develops skills.
11. Children's concentration is improved through being outdoors.
12. Forest School promotes emotional connection with other children.
13. Teamwork activities, incorporated into Forest School, promotes adaptive skills.
14. Forest School decreases negative social interaction with peers.
15. Children working on a mutual activity encourages negotiation and diplomatic skills.
16. Forest school provides children with responsibility for their own learning.
17. Social boundaries are easier when in Forest school.
18. Children are more able to identify risks because of autonomy in Forest School.
19. Most children enjoy being outside in nature.
20. Child initiated learning, in forest school, motivates children.
21. Forest School develops new ways to solve problems.
22. Forest School promotes positive attributes, such as strengths and capabilities, of the child.
23. Connectedness with peers promotes wellbeing through a sense of belonging.
24. Forest school motivates children and directs personal growth.
25. Forest School is too open to inspire decision making.

Appendix B

Factor Loadings with Defining Sorts Flagged

Part. No.	Q sort	Factor Group	Factor 1	F1	Factor 2	F2	Factor 3	F3
2	P2	F1-1	0.8567	Flagged	0.0999		−0.2554	
4	P4	F1-2	0.8442	Flagged	0.2289		−0.1012	
15	P15	F1-3	0.7934	Flagged	0.0478		−0.4042	
11	P11	F1-4	0.5953	Flagged	0.443		0.0182	
7	P7	F1-5	0.5722	Flagged	0.1419		−0.1581	
12	P12	F2-1	0.0422		0.8104	Flagged	0.1119	
5	P5	F2-2	0.3633		0.7135	Flagged	0.031	
8	P8	F2-3	0.1339		0.6813	Flagged	−0.2242	
3	P3	F2-4	−0.1015		0.5998	Flagged	0.2849	
6	P6	F2-5	0.3459		0.5563	Flagged	−0.3669	
17	P17	F2-6	0.2303		0.4793	Flagged	0.0049	
13	P13	F3-1	−0.1033		0.0833		0.8289	Flagged
10	P10	F3-2	−0.1028		−0.0769		0.8267	Flagged
18	P18	F3-3	−0.1913		0.1054		0.7897	Flagged
9	P9	F3-4	0.1288		0.464		−0.6848	Flagged
16	P16	F3-5	0.4065		0.0345		−0.6706	Flagged
1	P1	F3-6	0.4213		−0.3865		0.5393	
14	P14	F3-7	0.1705		−0.2053		-0.5117	Flagged

Appendix C

Composite Sort for Factor 1: Nurturing Growth

-4	-3	-2	-1	0	+1	+2	+3	+4
2 Forest School fuels disruptive behaviour	*◀ 17 Social boundaries are easier when in Forest School	6 Frustration at being given boundaries in the Forest School environment decreases	19 Most children enjoy being outside in nature	* 1 Freedom in Forest School allows children to express themselves and be more open	**◀ 24 Forest School motivates children and directs personal growth	13 Teamwork activities incorporated into Forest School promotes adaptive skills	**◀ 21 Forest School develops new ways to solve problems	**◀ 22 Forest School promotes positive attributes such as strengths and capabilities of the child
	*◀ 25 Forest School is too open to inspire decision making	7 Forest School encompasses all abilities	**◀ 11 Children's concentration is improved through being outdoors	4 Forest School equips children with resilience	15 Children working on a mutual activity encourages negotiation and diplomatic skills	**◀ 18 Children are more able to identify risks because of autonomy in Forest School	*◀ 10 Forest School enhances self-esteem by providing an environment that develops skills	
		14 Forest School negative social interaction with peers	* 9 Forest School moderates stress	20 Child initiated learning in Forest School motivates children	8 Children are more questioning and curious because of Forest School	23 Connectedness with peers promotes wellbeing through a sense of belonging		
			**◀ 3 Behaviour is improved because of the physicality that Forest School provides	12 Forest School promotes emotional connection with other children	5 Forest School stimulates creativity, leading children to flourish			
				16 Forest School provides children with responsibility for their own learning				

Legend

*Distinguishing Statement at P<0.05

**Distinguishing Statement at P<0.01

z-Score for the statement is higher than in all other factors

z-Score for the statement is lower than in all other factors