Exploring the Forest School Experience of Children with a Diagnosis of ADHD: A Photovoice Study

Jozsef Christopher Szabo-Hemmings

Submitted in Requirement for the Doctorate in Educational Psychology (EdPsyD)

School of Education and Lifelong Learning

University of East Anglia

August 2023

Amended April 2024

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Acknowledgements

It is impossible to truly express my gratitude to my family and how they have directly and indirectly contributed to this thesis and doctorate. I would certainly not be submitting this without the support of their love. I am eternally grateful for my parents and their dedication and sacrifices which allowed me opportunities to explore, grow and learn throughout my life. To my mum for her immoveable belief in my abilities and always putting my brother and I first. To my dad for nurturing a love of nature and his unquestioning support of my life decisions (and his proofreading). To my brother Tom for always being there and a great friend. To my partner Abbie for her incredible warmth and empathy whilst I navigated this thesis and for keeping me alive with her cooking. To my grandfather Papa for his unwavering commitment to his grandchildren and pride in us. To my beloved late grandmother Mama for absolutely everything, and with whom I sorely wish I could discuss this thesis.

I am hugely thankful to my research supervisor Dr Andréa Honess, who has been consistently patient, flexible and compassionate throughout this process. At times where we could have panicked or lost belief, she was always motivating, pragmatic and reassuring. Her (and the course team's) encouragement of critical reflection and thought contributed centrally to this thesis. I would also like to thank my university tutor Ryan Cullen for his warm and personal approach in supporting me.

The impact of feeling that I can count on my friends and TEP colleagues cannot be overstated. They have been incredibly supportive, both practically and emotionally. I am especially thankful for my Norfolk TEP colleagues and friends Megan and Max (the OMSC) for always being there to provide humour and playful cynicism which made even the toughest moments bearable.

I am thankful for the ongoing understanding and empowerment from the EPSS team in Norfolk, especially from my fieldwork supervisors Dr Ian Mann and Dr Sue Ackerley. I would also like to thank Dr James Thatcher for continually listening and supporting.

Massive acknowledgement and thanks should be given to the Forest School practitioners and the young people who engaged with this research. I am thankful to the Forest School practitioners who gave their time in the early stages, who helped me develop my understanding of Forest School and the direction for this research. I am especially thankful to the enthusiastic Forest School leaders who were directly involved in the participant recruitment for this research and who welcomed me warmly into their Forest School settings. I am also very grateful to the Forest School Association for their support in participant recruitment. Perhaps most directly importantly to this research, I will be forever grateful to the participants who were so open, articulate and thoughtful in sharing their experiences. The meaningful and rich information they contributed to this research exceeded all expectations and this thesis would be nothing without them and their efforts.

Overview

This thesis is compartmentalised into three chapters: a narrative literature review, an empirical paper and a reflective chapter.

The narrative literature review chapter seeks to illustrate the existing understandings of the subjects of attention deficit hyperactivity disorder (ADHD) and Forest School. This review identifies the dominant prevailing understandings of ADHD and the critical perspectives on this topic. The current literature related to Forest School is also reviewed. The review then combines these two topics to examine the existing literature around the impact and experience of nature and Forest School on children and young people diagnosed with ADHD.

The empirical paper chapter illustrates the current research. This chapter outlines the methodology and findings of this study. This is framed within a social constructionist epistemological position and the findings of the study are discussed through this lens. Potential implications of the findings for educational psychology theory and practice will also be discussed along with the research's limitations.

The final reflective chapter explores the researcher's experience of the research process and conclusions. This includes reflections on the epistemological position and its place in this research, as well as personal and professional reflections.

The appendices will include relevant documents such as ethics approval forms and various documents used in the research process.

Chapter 1: Literature Review

Introduction

This chapter outlines the evidence basis for the current research, tentatively summarising the current understandings around attention deficit hyperactivity disorder (ADHD) and Forest School. These areas will be explored with thought given to the importance of contextual factors in the understanding of ADHD and inspecting prevailing critical debates and discourse. Furthermore, the relevance of this research within the national and local context will be considered. This chapter will also include the researcher's motivation and rationale for this research and employ literature to illustrate how this research could contribute to educational psychology.

A note on terminology. Throughout this chapter and thesis, children/child and/or young people/person (CYP) who have received a diagnosis of attention deficit hyperactivity disorder (ADHD) will be referred to as 'CYP diagnosed with ADHD'. Considering the importance of language in creating meaning (Burr, 2015), as espoused by this paper's social constructionist epistemological position, the researcher felt that the terminology used throughout this paper required careful consideration. The terminology chosen seeks to describe this population in a way which was resistant to significant influence from a single psychological, social or medical discourse. Whilst potentially cumbersome for the reader, 'CYP diagnosed with ADHD' aims to provide a level of objectivity to the terminology by considering the three characteristics shared by this population: they are a child or young person, they have received a diagnosis, and the diagnosis has been labelled as ADHD. Other frequently used terms such as 'CYP with ADHD' may assume confidence in the legitimacy of the medical view that ADHD is a discrete disorder that a CYP 'suffers' with (Rafalovich, 2015). Additionally, terms such as 'ADHD CYP' may suggest that CYP can be defined by their diagnosis of ADHD, and whilst there is existing literature to suggest that ADHD can become an important and central part of a CYP's identity, it may be presumptuous to suggest that all CYP diagnosed with ADHD share this experience (Ringer, 2020; Halleröd, Anckarsäter, Råstam, & Scherman, 2015). Thus, 'CYP diagnosed with ADHD' attempts to offer a term which describes a population independently from (or at least mindful of) the assumptions of dominant discourses.

Narrative Literature Review

The type of review used in this paper is in the style of a narrative literature review. Narrative reviews aim to critically summarise the existing published literature relevant to the research topics and seek to identify gaps in the existing research which present opportunities for further study (Ferrari, 2015). The review considers the existing understandings from a variety of sources and synthesises them within a narrative to present an integrated picture of the current state of the field. This type of review attempts to provide a formulation of existing evidence in a readable and discernible manner to the reader (Sarker & Bhatia, 2021). These reviews are flexible and not static, meaning that the review can be revisited and revised if further relevant literature emerges during the research process which may change or challenge the narrative initially formulated. Narrative reviews are written from the perspective of the researcher and directs the review to literature which is felt relevant to the current research questions. As the literature reviewed is directed by the researcher, it provides a basis for validating the informed understandings and assumptions held by the researcher. Whilst this is effective for narrowing the literature review in a manageable way relevant to the research aims, there is an important consideration that this type of review may be particularly vulnerable to researcher bias (Green, Johnson, & Adams, 2006). This potential limitation of narrative reviews will be discussed further in the discussion section of the current chapter. The researcher aims to provide rationale for the inclusion of any literature reviewed.

To present the literature review, the 'general framework of narrative reviews' outlined by Ferrari (2015) was followed:

> *Introduction: describe rationale, structure and limitations.*
>
> *Literature search: outline search strategy, databases searched, search terms and inclusion/exclusion criteria.*
>
> *Central body: discuss and evaluate key concepts from included literature. Summarise literature in relation to research query.*
>
> *Conclusions: highlight main points, connect with research needs.* (Ferrari, 2015)

The following paragraph illustrates the rationale for employing a narrative style literature review rather than a systematic review. Narrative reviews can be seen to differ from systematic literature reviews in their flexibility to the researcher and accessibility to the reader. Systematic reviews employ rigid inclusion criteria which place an emphasis on 'high quality' evidence which often leads to certain types of studies to be excluded (Sarker & Bhatia, 2021). This is relevant to the current area of research where there is a sparsity of existing evidence relevant to the research topics. Where relevant literature exists, this is largely limited to small-scale studies which may be less likely than larger scale empirical papers to satisfy the rigorous scrutiny demanded by a systematic review's inclusion criteria. A narrative review allows the sparse existing evidence to be incorporated into a narrative to synthesise a wider picture whilst identifying the need for further research in these areas (Ferrari, 2015). Narrative literature reviews are particularly well-suited to reviewing qualitative research, where methods and data may be less readily defined and appraised within parameters of a systematic review than quantitative research (e.g. statistical significance) (Siddaway, Wood, & Hedges, 2019). Narrative reviews do not disregard quantitative studies but employ them in contributing to the overarching narrative which emerges from the review of the literature. This allows the review to consider literature that uses various methodologies and examine different theoretical conceptualisations and constructs (Baumeister 2013). The consideration of various conceptualisations and constructs is vital to developing an understanding of existing discourses, which is a central tenet of the social constructionist epistemological position of the researcher (Burr, 2015).

Assimilating the existing literature into the narrative allows for increased accessibility for the reader as the relevance of the literature to the wider research topics are explicitly expressed, providing direction in how methods and findings may be interpreted within the contexts of their publishment and the current review. This is in contrast to systematic reviews which often require the reader to disseminate the relevance of the literature reviewed, based on the researcher's appraisal of the quality of the literature. Questions which arise through the review of the literature can be flexibly explored within the narrative, such questions are often left unanswered in systematic reviews (Sarker & Bhatia, 2021). This rationale is related to the researcher's social constructionist epistemological position, which demands the context of knowledge to be considered and interrogated (Burr, 2015).

Navigating the literature review

This introduction seeks to provide a road map for the reader to support in navigating the current narrative literature review.

The first section will outline the methodology and approach employed by the researcher. This includes details of the literature search, inclusion criteria and focus of topics covered.

The results of the literature search will then be presented in narrative form. This will begin by giving an overview on the current understanding of ADHD in the literature. This will explore the current and historical understanding of the diagnosis of ADHD and situate this understanding within both the clinical and education system. Additionally, the existing literature around interventions related to ADHD (both clinical and school-based) will be discussed. In line with the social constructionist epistemology applied throughout this thesis, the literature covering discourses around ADHD will be then explored, considering both mainstream discourses and critical perspectives. The relevance of these critical perspectives to the current thesis will be discussed there. Following this, the focus of the literature review will shift to the other main research topic: Forest School. The current literature related to Forest School will be summarised. This will include literature which describes the concept of Forest School, the existing findings around the impact of Forest School on CYP and literature which critiques Forest School. The two research topics of ADHD and Forest School will then be combined by considering literature which explores findings around the impact and experience of Forest School/nature/outdoor education and interventions for CYP diagnosed with ADHD.

The findings will be integrated and summarised to illustrate the wider picture of the current understandings related to the research topics. Themes which emerge throughout the literature review will be identified. The relevance of the literature covered by the review will be considered and will contribute to the rationale of the current research. Limitations of the review will also be discussed.

Overview and methods

This literature review provides an overview of current perspectives on ADHD and Forest School. It also casts its net over related critical issues, theory and concepts, with weight given to social, political and historical context and discourse.

This literature review initially aimed to answer the following questions:

1. *What is currently understood about the Forest School experience of CYP diagnosed with ADHD?*
2. *What are the gaps in the related literature and how can the current research fill these and complement existing evidence?*

Literature search parameters. A literature search was conducted by the researcher between May 2022 and February 2023 (then revisited and revised until August 2023). The databases used for this search included: the University of East Anglia (UEA) library and catalogue (which uses the EBSCO search engine), Google Scholar, Education Resources Information Centre (ERIC) and Educational Psychology in Practice (EPIP).

Search terms were initially made up from combinations of the following words: "ADHD", "ADD", "attention deficit hyperactivity disorder", "Forest School" and "experience". However, it became apparent that there was limited literature which directly explored ADHD and Forest School together. Thus, the following terms were added to the potential combinations: "nature" and "outdoor learning". Furthermore, the researcher's inclusion process held a preference for literature which promotes critical perspectives and considers the contextual issues of these topics. Therefore, "critical" and "social (construction[ism])" were added to the search terms.

Questions for literature review. After the search parameters were updated and widened the aforementioned literature review questions were updated to the following:

1. *What is the current understanding around the concepts of ADHD and Forest School?*
2. *What are the current perspectives on the experiences of CYP diagnosed with ADHD in relation to Forest School, nature and/or outdoor learning?*
3. *How do critical perspectives on ADHD, Forest School, nature and/or outdoor learning contribute to the current understanding of the experiences of CYP diagnosed with ADHD?*
4. *What are the gaps in the related literature and how can the current research complement and add to existing evidence and theory?*

Inclusion criteria. The researcher gave priority to research undertaken in the United Kingdom (UK) and literature which draws on issues within UK education and society more widely.

However, as the UK related literature is limited, a wider search was necessary. Where chosen literature is focused outside of the UK, its relevance is considered and reflected on within this chapter.

The inclusion criteria for the literature review dictates that literature would be considered if it was published within the previous 10 years from the time of review (since 2012). Some leniency was given to this, where highly relevant research published earlier than 2012 are included. It is felt important that this literature review presents the most current understandings possible, especially when considering subjective experience. When exploring 'experience', older research may be less likely to be representative of the current experiences within a population, as it is likely to be situated within a different social, political and historical context (Burr, 2015). Older literature relating to theories and frameworks which remain relevant and helpful in supporting thinking and discussion is included, but any perceived limitations arising from the context of their publishment is reflected on within this chapter.

Literature search. The steps undertaken in this narrative literature review were informed by narrative literature review methodology guidance from Ferrari (2015) and Sarker & Bhatia (2021). The steps are illustrated in figure 1 below.

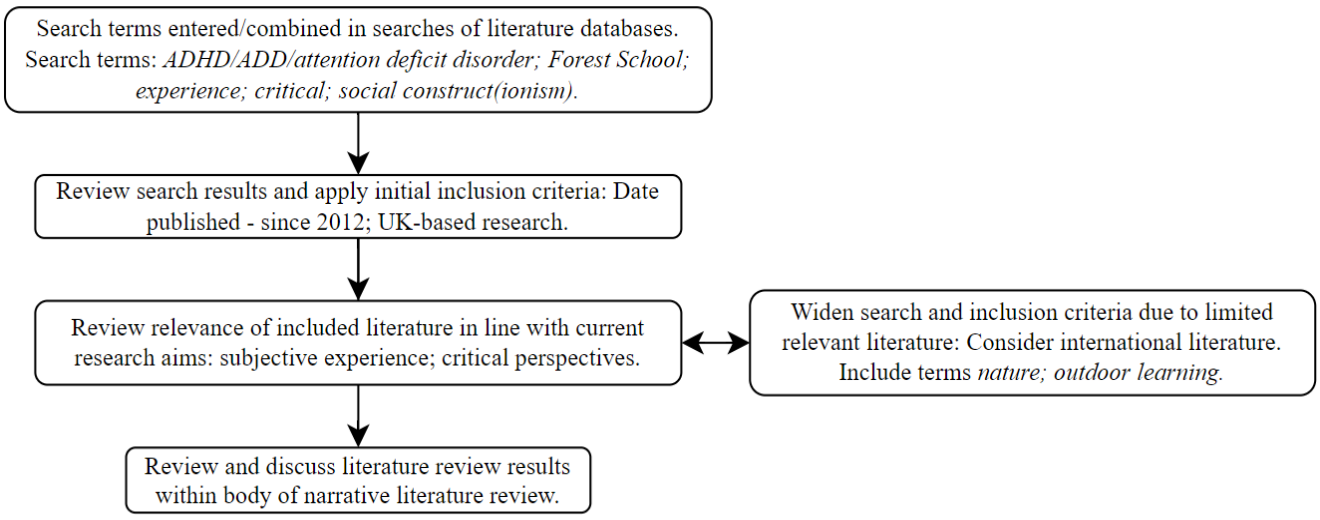

Figure 1. Narrative literature search and review process

Literature review results

ADHD context

This section seeks to illustrate the current understanding of ADHD as demonstrated by the findings of the literature review. As there are numerous and varied conceptualisations, debates and discourses around ADHD, the literature search was narrowed, giving priority to (but not exclusivity to) UK-based research and statistics, and critical perspectives on ADHD. This approach was taken as these parameters align with the context of the current research presented in chapter two; the empirical paper.

Widely held definition. Attention deficit hyperactivity disorder is a clinical diagnosis given to children and adults who present with behavioural patterns of hyperactivity, impulsivity and/or inattention. There are three subtypes of ADHD according to the DSM-V (American Psychiatric Association, 2013): inattentive (often referred to as attention deficit disorder (ADD)), hyperactive-impulsive, or combined. The literature also suggests that there is an emerging debate in psychiatry regarding the classification of ADHD in terms of unitary sub-types as opposed to a spectrum condition (Zayats & Neale, 2019; Heidbreder, 2015).

Historical context of ADHD and education. Medical and psychiatric categories which seek to explain human behaviours that deviate from social norms have been widely used in the western world since the late nineteenth century (Horton-Salway & Davies, 2018). At this time, the developing knowledge within medical science converged with the start of mass education in Britain through the 1870 and 1880 Education Act which introduced compulsory school attendance (Grossman, 2006). Before this, access to school education was limited, especially for children from poorer backgrounds, and schools in Britain were largely run by the church and promoted Christian morals and beliefs. As one of the main aims of mass education was to promote ‘morality’ in the wider population (Wright, 2012), medical discourses and morality discourses became aligned to assess the behaviour of children. Educational institutions adopted these discourses and developed methods to measure and categorise children’s behaviours that were considered problematic or inappropriate by schools (Timimi & Timimi, 2015). The ‘medicalisation’ of behaviours in this period is explained by Foucault (1973) as an instrument for social control. Developing medical understandings around restlessness, fidgetiness

and poor attention at school were explained as “psychical conditions” associated with “an abnormal defect of moral control in children” (Still, 1902, p. 1008). Children who presented with these behaviours could be given the label ‘moral imbecile’. This conceptualisation of hyperactive and inattentive behaviours is widely understood to be the ‘scientific starting point’ of the development of the contemporary understanding of ADHD (Lange, Reichl, Lange, Tucha, & Tucha, 2010).

In the time between the constructs of the ‘moral imbecile’ and ADHD, there have been at least 20 ‘scientific’ conceptualisations related to the current medical understanding of ADHD (Mayes & Rafalovich, 2007). In the 1930s, German physicians described ‘hyperkinetic disease’, a disorder characterised by heightened motor activity, distractibility and difficulties completing learning tasks (Kramer & Pollnow, 1932). The main ‘symptoms’ described by Kramer & Pollnow closely reflect the contemporary medical concept of ADHD. In 1937, Charles Bradley discovered that stimulant medication produced increased motivation, school performance, and notably, a ‘subduing’ effect on a number of boys institutionalised with various mental health and behavioural issues (Bradley, 1937). This produced the revolutionary hypothesis that hyperactivity and inattention was caused by a physiological condition in the brain which could be treated with medication. This finding was seen to reinforce the pathological explanation for hyperactivity as espoused by aforementioned moral, educational and medical discourses (Rafalovich, 2015). This prompted further exploration of the use of stimulant medication to regulate hyperactivity, and the medical community suggested that the apparent success of Ritalin provided evidence that there was a biological basis for the disorders of hyperactivity and inattention (Mayes & Rafalovich, 2007). However, despite theories emerging around physiological explanations for these behaviours (e.g. minimal brain damage [Knobloch, 1959]), there was a shift back to describing and identifying these conditions by their behaviours rather than their aetiology as research failed to find discrete biological causes. In 1968, a disorder characterised by overactivity, restlessness, distractibility and short attention span was incorporated into the second edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-II, American Psychiatric Association, 1968) and labelled 'Hyperkinetic Reaction of Childhood’. In the following editions of the DSM, this evolved into attention deficit disorder (DSM-III, 1980) and attention deficit hyperactivity disorder (DSM-IV, 1994 & DSM-V, 2013). Criteria for diagnosis

became, and remains, centred on a behavioural profile characterised by hyperactivity, impulsivity and/or inattention which are valued as outside of social expectations (Hawthorne, 2010). Despite the large volume of medical and psychological research since the conception of ADHD (or otherwise-named disorder), there has been a lack of consistent empirical evidence to identify a distinctive genetic, biological or neurological aetiology. Thus, considerable debate remains around the legitimacy of ADHD as a unique medical disorder and concept.

Whilst psychiatric constructs of ADHD became established in increasingly mainstream medical discourse, further biological, psychological, environmental and social theories around the causes of ADHD emerged. Artificial food additives, nutrition, television screen exposure, gaming, permissive parenting, maternal alcohol use in pregnancy, amongst many others have been proposed as aetiologies for ADHD by clinical researchers (Timimi & Timimi, 2015). In more recent years, research has developed an increased focus on the impact of social processes on ADHD (Singh, 2008). The social discourses around ADHD have largely focused on the social processes of family and parenting, and the impact of wider systemic forces such as socio-economic-status (SES) (Hire, Ashcroft, Springate, & Steinke, 2015). This area of research has also highlighted the global variations in the understanding and diagnosis of ADHD within different political, cultural and educational systems (Bergey, Filipe, Conrad, & Singh, 2018). For instance, whilst the diagnosis of ADHD in the UK is disproportionately associated with lower SES, in the U.S., ADHD diagnoses are associated with young people from middle SES backgrounds (Singh, 2008). Furthermore, in Denmark (the birthplace of Forest School), research has suggested that SES is not associated with ADHD diagnoses, but population density is (Madsen, Ersbøll, Olsen, Parner, & Obel, 2015). The variations in the understanding of ADHD have prompted questions about the objectivity of ADHD ‘fact’. Thus, the contemporary literature, whilst still weighted towards medical explanations, largely acknowledges that the construct of ADHD represents a complex interplay of various medical and environmental factors. The biopsychosocial approach refers to relatively recent literature and research which is critical of overly biological explanations and seeks to give a holistic consideration to various factors when conceptualising ADHD (Horton-Salway & Davies, 2018). Critical debates and discourses will be explored further in the ‘ADHD discourse and critical perspectives’ section of this chapter.

As in the early years of classifying these behaviours, school-based concerns over 'problematic' behaviours remain a major contributor to the identification and diagnosis of ADHD (Singh, 2008). Singh (2008) suggests that school exists as "a culture in which children's development intersects with prevailing expectations and values in relation to their behaviour, performance and achievement" (p.354). The historical and modern medicalisation of the behaviours related to ADHD remain but appear to uphold different interests. The behaviours which were seen to transgress moral expectations in the late nineteenth century (in the context of religious influence on education) are now deemed to be a barrier to compliance and academic success (a prime focus of education in modern neo-liberal societies) (Horton-Salway & Davies, 2018). Although there is a growing biopsychosocial understanding of ADHD, the constraints of resources, and subsequent limits to inclusive provision, have prompted educators to increasingly seek medical explanations and solutions to uphold educational policies and targets related to behaviour and attainment.

Prevalence. Although no robust statistics around prevalence have been published within the last 10 years, it is estimated up to 5% of the school-age population in the UK have received a diagnosis of ADHD (ADHD UK, 2022). The gender ratio is around 4:1, with boys significantly more often receiving a diagnosis (Hire, Ashcroft, Springate, & Steinke, 2015). However, some researchers argue this data could be skewed as school-age identification of ADHD is more commonly associated with externalised hyperactive and impulsive behaviours which are more often seen in boys (Ramtekkar, Reiersen, Todorov, & Todd, 2010). There are also social demographic differences related to the prevalence of ADHD. There is a significant difference in the incidence of diagnoses depending on socioeconomic status, with higher levels of ADHD diagnoses being associated with socioeconomic deprivation in the UK (Hire, Ashcroft, Springate, & Steinke, 2015).

The literature suggests that the prevalence of ADHD diagnoses in the UK is rising. There has been a steep increase in the rates of diagnoses of ADHD in the UK over the last 3 decades. Although the total number of diagnoses is uncertain, research found a 34-fold increase in the use of ADHD medication between 1992 and 2013 which can be seen as indicative of the increase in diagnoses in Britain (Beau-Lejdstrom, Douglas, Evans, & Smeeth, 2016).

Pharmacological intervention. A large proportion of the existing literature explores the use of medication to 'treat' ADHD. The most common intervention for ADHD is the use of stimulant medication (ADHD UK, 2022). National guidelines for managing ADHD in CYP advise both pharmacological and non-pharmacological interventions, these guidelines advocate for a "comprehensive and holistic management plan which addresses psychological, behavioural and occupational or educational needs in conjunction with patients and their families or carers" (NICE, 2018). However, in a survey of child psychiatrists and paediatricians, 98% of the respondents stated that using stimulant medication with therapy for CYP diagnosed with ADHD constituted the most effective treatment (ADDIS, 2003). This is in contrast to the literature related to school professionals' views of effective interventions, with one study finding only 13% of teachers reporting that medication would be helpful and largely report being strongly opposed to pharmacological interventions (Moldavsky, Groenewald, Owen, & Sayal, 2013).

Studies have suggested that although medication is highly effective at immediately managing the behaviours related to ADHD, there is little evidence to suggest that it benefits most children in the long term (Molina et al., 2009). Furthermore, it is not efficacious in all cases, and there are many common adverse side-effects associated with the use of stimulant medication including irritable mood, disturbed sleep, reduced appetite and increased blood pressure (Mechler, Banaschewski, Hohmann, & Häge, 2022).

School Context. Existing literature related to ADHD in the school context often focuses on the educational (including behavioural, cognitive and social) 'deficits' faced by CYP diagnosed with ADHD, how these present and how they are managed (e.g., DuPaul, Eckert, & Vilardo, 2012). Educational outcomes for CYP diagnosed with ADHD also feature frequently in associated literature. Academic 'underachievement' was consistently found to be associated with ADHD (Tarver, Daley, & Sayal, 2014; Daley & Birchwood, 2010). Issues with planning and organising, inattention, and hyperactivity were the features suggested by current research to have the greatest impact on academic attainment for CYP diagnosed with ADHD (Colomer, Berenguer, Roselló, Baixauli, & Miranda, 2017). Furthermore, research has suggested that ADHD is related to being diagnosed with

cooccurring learning difficulties and disabilities across language, literacy and numeracy (DuPaul, Gormley, & Laracy, 2013).

ADHD is highly related to exclusion from school in the UK, with disruptive behaviour identified as the main reason for exclusion (O'Regan, 2010). A study by the National Attention Deficit Disorder Information and Support Service (ADDISS, 2006) suggested 39% of CYP diagnosed with ADHD in the UK had been excluded from school. Teachers and school professionals have generally been found to feel they lack an understanding of ADHD and how to manage and/or support these students appropriately and inclusively (McDougal et al., 2022). Related to inclusion, CYP diagnosed with ADHD are highly represented at specialist educational settings (Sayal, Prasad, Daley, Ford, & Coghill, 2018).

Although many studies outline the issues ADHD presents to CYP in education, a systematic review of related qualitative research by Gwernan-Jones et al. (2016) switches the directionality and argues that it may be the school context which aggravates ADHD 'symptoms', resulting in these issues. They argue that the increasing presentation of these behaviours represents a communication of need which should prompt education systems and environments to adjust, rather than focused on how CYP should be 'managed' at an individual level.

School experience. In exploring the experience of CYP diagnosed with ADHD and their perceptions of the diagnosis, Singh (2011) found that CYP diagnosed with ADHD in the UK viewed ADHD as a "disorder of anger and aggression" and frequently referred to behavioural self-regulation difficulties as a trait. Participants felt the ADHD was an issue with their behaviour more than with academic attainment or learning. This is in contrast to studies based in the US, where CYP diagnosed with ADHD largely reported difficulties they experienced at school related to school performance. Furthermore, the study found that the UK perception of ADHD was also shared by the peers and parents of the CYP diagnosed with ADHD sample and that subsequent treatment was aimed at managing behaviour rather than supporting educational needs. Doctoral research by Codling (2022) exploring the school experience of CYP diagnosed with ADHD suggested participants found it difficult to make sense of their diagnosis, but generally attributed it to social and educational problems originating in themselves. The CYP diagnosed with ADHD in Codling's study largely felt

they were not receiving the support they need and perceived school as an inflexible and punitive environment. This supported the findings of Richardson et al.'s (2015) review of ADHD experiences at school which found that CYP diagnosed with ADHD expressed confusion around their diagnosis, especially related to sociological and psychological aspects. They also found that CYP diagnosed with ADHD experience a lack of agency at school and hold low self-esteem and negative perceptions about their identity. The review also indicated that CYP diagnosed with ADHD often reported that they found the classroom a difficult conxtext in which to learn and that they enjoyed learning but usually outside of the school context. This review gathered its data from research which gathered the views of CYP diagnosed with ADHD, their parents and teachers.

Taneja-Johansson's (2023) review of the research into school experiences of CYP diagnosed with ADHD highlighted the limited number of studies which explore these CYP's subjective school experience in the UK, but suggested that the amount of relevant literature has been increasing in recent years. Aside from elements of the research discussed, throughout the literature search, there was limited research focusing on CYP diagnosed with ADHD's voice and their subjective experiences of school and learning compared to the focus on outcome variables and parent/teacher report measures (Taneja-Johansson, 2023). The bulk of ADHD educational research appears to be related to how to best make CYP diagnosed with ADHD fit within the classroom setting through behaviour management, self-management techniques and medication (e.g., Prasad et al., 2013; Harrison, Soares, Rudzinkski, & Johnson, 2019). As an exception, Russell et al.'s (2023) recent study explores the school experience of 64 CYP diagnosed with ADHD in the UK. Their main findings suggested that the school difficulties experienced by their participants could be attributed to demands and limitations of the school context. Furthermore, they found that after these learners were educated in an alternative educational environment (mainstream or otherwise) which could adapt to meet their needs facilitated 'positive progression' through education and promoted positive subjective school experiences (Russell et al., 2023). This is one of the few studies exploring the impact of the educational systems and environment on the experience CYP diagnosed with ADHD, highlighting a gap in the literature which the current thesis seeks to contribute to. This study is highly relevant to the current thesis which

seeks to explore the experience of CYP diagnosed with ADHD in an alternative educational environment (Forest School).

School-based interventions. DuPaul, Eckert & Vilardo (2012) published a meta-analysis exploring the effectiveness of school-based interventions for ADHD from 1996 to 2010. They found that contingency management, academic intervention and cognitive-behaviour interventions were all associated with positive effects for ADHD learners. However, the impact of these interventions was determined through measures of behaviour and academic performance (usually reported by an adult) and did not take the CYP's subjective experience into account. This is reflective of much of the education research into ADHD and potentially raises questions around which discourses define and determine 'success' through these interventions.

Richardson et al. (2015) published a large-scale meta-review of school-based interventions for ADHD. They synthesised an understanding of the current picture by reviewing qualitative and quantitative literature around effectiveness, attitudes and experience of school-based ADHD interventions, incorporating responses from CYP, parents and teachers. Their findings illustrated that although there is some evidence to suggest non-pharmacological school-based interventions produced beneficial effects in reducing ADHD symptoms, there is an inconsistency in these results across studies. They found that the effectiveness of the implementation of these interventions depended on a range of contextual factors including attributional beliefs that teachers and pupils hold about ADHD, the quality of pupil-teacher and parent-teacher relationships, and stigma experienced by CYP diagnosed with ADHD around their diagnosis. Furthermore, they felt the findings indicated that power plays a significant role in the effectiveness of the intervention and that support and policy which promote school-based interventions need to come from each system; from the school to the sociopolitical level. The researchers also identified pupil outcomes which were considered important and deserving of further exploration: attitude towards school, self-concept, perceived stigma and attributions about ADHD. These identified outcomes provide future researchers alternative directions when exploring interventions compared to measuring the impact on symptoms and attainment.

ADHD discourse and critical perspectives

In this section the literature which takes a critical view of the widely held understanding of ADHD will be explored.

ADHD discourse. The childhood behaviours associated with what is currently considered ADHD have been described for centuries (Lange, Reichl, Lange, Tucha, & Tucha, 2010). However, there is an increasing demand for identification and treatment of ADHD as a specific condition. The evolution of the concept and understanding of ADHD has caused an immense amount of debate with various conceptualisations emerging, as well as theories questioning its existence as a discrete diagnosis (Moncrieff & Timimi, 2013). In contemporary psychological research ADHD is inconsistently referred to as a neurodevelopmental disorder, a behavioural disorder, an executive functioning issue, as well as a social construction, amongst others (Zayats & Neale, 2019; McLennan, 2016; Champ, Adamou, & Tolchard, 2021). Generally, the medical neurodevelopmental construct is the prevailing conceptualisation of ADHD adopted by psychological and medical research (Mahone & Denckla, 2017).

The varied and changing conceptualisations can be explored through the lens of discourse. Discourse refers to the language, understanding or representations which are created within a social and historical context to create meaning in the world (Burr, 2015). Foucault (1980) stated that discourse is constructive of truth and what is knowable. This includes the knowing of how to behave within society. Foucault argues that power and knowledge work together within discourse to direct our 'way of being'. The Foucauldian perspective argues that power is intrinsic to knowledge as everything exists within a social and historical context and that although new truths emerge, old knowledge rarely disappears from a discourse due to powers that benefit from it remaining (Foucault, 1980). These understandings are aligned with (and perhaps the basis for) the social constructionist epistemological position of the current thesis and prompts the researcher to critically question the widely held 'knowledge' which has been explored in the literature review thus far.

Many critical researchers use Foucault's reflections on power and knowledge as a basis for challenging widely held conceptualisations of ADHD (e.g. Rafalovich, 2015; Bailey & Thomson, 2009). Rafalovich (2015) provides a useful analysis of the current understandings of ADHD and

proposed they could be divided into three discourses: the medical viewpoint, which views ADHD as a physiological ailment that can be treated with medication; the psychodynamic viewpoint, which views ADHD as a developmental disorder that should be treated through therapeutic interventions involving the family; and the social viewpoint, which views ADHD as dependent on the context in which it is situated. Rafalovich (2015) argues that analysing differing discourses around ADHD provides ample rationale for questioning any individual understanding of ADHD, thus promoting the importance of critical perspectives. He argues that the competing nature of the discourses undermine the validity and reliability of positivist stances on ADHD and suggests the social viewpoint allows for an understanding of the contextual forces that contribute to understanding ADHD.

ADHD as a social construction. Critical psychology and psychiatry research and theory questions many of the assumptions made by the prevailing perspectives and understandings of ADHD. These ideas challenge the hypothesis that there is an ADHD 'truth' based in biological and medical evidence as well as reflecting on the systems of power which create these 'truths'. A dominant critical theorist in this field is Sami Tamimi. Tamimi advocates for a position which views ADHD as a social construction, with an understanding that the meaning of ADHD is dependent on social, cultural and theoretical positions (Timimi & Timimi, 2015). Moncrieff and Timimi (2013) argue that the current predominant view that ADHD is a valid concept and a disorder which can be treated by medication 'is shaped more by human interests and power dynamics than objective data'. Cohen (2013) goes further to argue that one of the main functions of Western psychiatry and psychiatric diagnosis is to pathologize dissent and those who act outside of social norms. ADHD has long been seen as the presentation of behaviours outside of accepted norms.

Critical perspectives have also arisen from findings which do not fit the prevailing positivist, realist medical models. From the medical positivist perspective, knowledge about reality can be gained through empirical scientific proof. The critical psychology perspective highlights ADHD 'facts' which have not been explained by 'science' without the influence of context e.g., the significant impacts of birth month or gender on the likelihood of an ADHD diagnosis (te Meerman, Batstra, Grietens, & Frances, 2017). Such discrepancies are critically questioned by Pérez-Álvarez (2017) who suggests that inconsistencies and heterogeneity in the mainstream medical findings and

understanding of ADHD demonstrate a lack of firm scientific evidence around the nature of ADHD. It is highlighted that unlike the scientific understanding for medical conditions such as heart disease or cancer, which can be objectively measured, tested and diagnosed through scientific means, there is no such test for ADHD (Kapur, Phillips, & Insel, 2012). Instead, in line with Foucault (1980), critical psychologists suggest that these diagnoses are purely a convergence of a variety of data and an agreement and consensus from a variety of powers in whose interest it is to maintain the medical understanding (Pérez-Álvarez, 2017; Moncrieff & Timimi, 2013).

Medicalisation of childhood. A primary theme which emerged from the literature review was the 'medicalisation of childhood'. Many of the critical psychology authors suggest that the identification of ADHD and the management of ADHD-related behaviour could be seen as pathologizing natural childhood behaviours such as exploration, excitability and distractibility when they do not meet contemporary social expectations (e.g., Timimi & Timimi, 2015; Cohen, 2013; Bailey & Thomson, 2009). The arguments attached to this theme generally suggest that rather than being a within-child issue, wider societal forces create the boundaries of what is considered acceptable and expected, and behaviours which lie outside these boundaries are pathologized under labels such as ADHD (Moncrieff & Timimi, 2013). This can be demonstrated by the difference in school experience reported by CYP diagnosed with ADHD in the US compared to the UK as previously discussed. Singh (2011) suggests that US CYP diagnosed with ADHD are more likely to understand their difficulties in relation to their performance because the systems in their educational context place great importance on performance. Meanwhile UK CYP diagnosed with ADHD are more likely to understand their difficulties through their behaviour as the UK educational context places more importance on conformity to behavioural expectations. Singh (2011) further argues that academic performance difficulties in the US are more likely to result in a diagnosis of ADHD than in the UK where an ADHD diagnosis is more likely to arise from a CYP's behaviour. Thus, demonstrating the power of the systems in whose interest it is to medicalise these experiences to maintain preferred and existing norms and expectations (Pérez-Álvarez, 2017). This view suggests that a change in societal views and expectations may be more appropriate

in supporting children with ADHD than intervention at the individual level such as stimulant medication (Swanepoel, Music, Launer, & Reiss, 2017).

Evolutionary psychology. An alternative kind of critical perspective on the understanding of ADHD is offered by evolutionary psychologists and theorists. Theory in evolutionary psychology has suggested that society should review its understanding of ADHD from a medical model to an 'evolutionary mismatch' (Swanepoel, Music, Launer, & Reiss, 2017). Theorists adopting this view suggest that modern environmental demands on children do not align with what humans have evolved to cope with over tens of thousands of years (Jensen et al., 1997). The researchers argue it may not have been evolutionarily adaptive for children to sit still for many hours a day and that more adventurous, novelty-seeking behavioural traits (similar to those which describe the presentation of CYP diagnosed with ADHD) may have had adaptive value which aided the survival and success of ancient ancestors (Williams & Taylor, 2006). It should be noted that whilst reviews of the associated literature have recognised this evolutionary perspective of ADHD, these theories have not been empirically tested (Thagaard, Faraone, Sonuga-Barke, & Østergaard, 2016). Nevertheless, Swanepoel et al., (2017) argue that adopting an 'evolutionary mismatch' understanding of ADHD would allow clinicians and legislators to take both child and environment more readily into account when considering the design of educational settings and approaches. One educational environment which considers the context of human evolution is Forest School (Cree & Robb, 2021).

Forest School

This section seeks to illustrate the current understanding of Forest School identified by the findings of the literature review.

What is Forest School? Forest School is an educational practice developed in the UK, which situates learning within the natural world. Forest School was first introduced in the UK in 1993 when a group of nursery staff developed their own 'Forest School' following a visit to Denmark to explore examples of alternative early-years practice (Cree & Robb, 2021). The Nordic concept of 'friluftsliv' ('open air life' in English) refers to the cultural engagement between people and the natural environment and is central to the philosophical underpinnings of Forest School (Knight, Coates, Lathlean, & Perez-del-Aguila, 2023). Friluftsliv is concerned with human freedom and openness in

nature and free and open access to nature (Jorgensen, Blenkinsop, Heggen, & Neegaard, 2022). Engagement in non-competitive activities and recreation in wild spaces is incorporated into this concept. Friluftsliv is a wider cultural concept in Scandinavia, but it has been established into education systems and national curricula to facilitate a caring relationship with the environment (Henderson & Vikander, 2007). Critics of Forest School have questioned the applicability of the concept of friluftsliv to British education, citing that this concept is deeply engrained into Nordic culture due to relatively sparse populations and natural spaces being widely free to access, unlike in Britain (Leather, 2018). Forest School proponents argue that the concept of friluftsliv can be both used to describe the cultural foundations of Forest School practice in Britain and legitimately applied to local landscapes through a shared emphasis on the relationship between people and their natural environments (Knight & Luff, 2018). The practice and conceptualisation of Forest School has developed to suit British cultural and educational systems but remains heavily influenced by Scandinavian approaches and pedagogy (Knight, 2011).

The current definition of Forest School can be illustrated by the six principles of Forest School, as identified by the UK Forest School Association (FSA, 2023), summarised below:

Principle 1. Forest School is a long-term process of frequent and regular sessions, rather than a one-off visit.

Principle 2. Forest School takes place in woodland or natural wooded environment to support the development of a relationship between the learner and the natural world.

Principle 3. Forest School aims to promote the holistic development of learners.

Principle 4. Forest School offers learners the opportunity to take supported risks.

Principle 5. Forest School is run by qualified Forest School practitioners.

Principle 6. Forest School uses a range of learner-centred processes to create a community for development.

These principles act as a framework for Forest School practice in the UK. This practice is being increasingly adopted by early years settings in Britain, with UK education systems embracing the benefits of play and outdoor learning for young children (Palmer, 2016). However, tensions often emerge when Forest School is introduced further up the school system into primary and secondary

settings. Forest School proponents feel these tensions arise from the difficulties in implementing a "holistic community nature-based programme in an outcome-based, 'instrumental', fragmented UK education system and curriculum" (Cree & Robb, p.27, 2021).

Nature pedagogy is an emerging area of educational theory and research. It refers to the practice of teaching alongside nature and the learner. It takes the best practice characteristics of pedagogy and situates learning in the natural world. It is highly participatory, uses many play-based approaches and seeks to create a boundaried, emotionally safe space to develop cognitive and social-emotional skills whilst immersed in nature (Cree & Robb, 2021). Nature pedagogy acts as a basis for Forest School theory and development. The meaning and power associated with traditional learning resides with the adult instructor. In Forest School however, the learning is play-based, child-initiated and child-led (Knight, 2011). Beyond the 'place and space' theories of Forest School, there is a drive by Forest School advocates to contribute to a paradigm shift within UK education, from top-down, passive learning to a collaborative participatory education system.

There has been increased attention on outdoor education, access to nature and environmental issues in recent years. The literature suggests this increased interest may be related to growing awareness of climate change, limited access to outdoors during the COVID-19 lockdown, and local and global environmental degradation concerns (e.g. Guardian, 2021; Cudworth & Lumber, 2021). School-based measures designed at combatting these concerns have arisen as a result of this, one being a new GCSE subject being introduced to the national curriculum in 2025 focusing on environmental awareness and a connection to local nature and green spaces (UK GOV, 2022). A survey of 200 Forest Schools found that two thirds of the settings reported increased demand for places from 2020 to 2021 (FSA, 2023).

Critique of Forest School. "Just by calling an experience Forest School, it does not automatically resemble other practice called the same" (McCree, 2019). Researchers exploring Forest School suggest there has long been significant inconsistency in Forest School practice (Sackville-Ford & Davenport, 2019) . Exploring this, McCree (2014) developed the following useful conceptualisations to represent the variance in practice: *Full Fat Forest School*, settings which employ the principles of Forest School fully; *Forest School Lite*, practice where some principles are

missing and *Forest School Ultra Lite*, a misbranded experience which follows few of the Forest School principles. With regard to the current study, the limitations in this section are important to consider as any findings will be inextricably linked to the type of Forest School practice the small sample of participants attend and experience.

McCree (2019) and Davenport (2019) warn that as Forest School becomes increasingly popular and "fashionable", more *Lite* and *Ultra Lite* practices will use the Forest School title as it is "highly marketable". This may impact on the experience and outcomes for CYP attending these Forest Schools, and substandard Forest School practice may begin to devalue the wider Forest School approach. These researchers also argue that Forest School principles are often compromised throughout many layers of the related systems; from teacher and staff beliefs about Forest School, through to major political decisions and British culture more widely.

Furthermore, unlike Knight (2011), who suggests Forest School is effective at creating a child-led, bottom-up and holistic environment for learning, Waite et al., (2016) argue that UK Forest School remains a top-down learning system, with specialist leaders directing the learning and activities. They feel this is related to the culture of the education system in Britain more widely, with a high level of neo-liberal control over education. McCree (2019) argues that to truly implement *Full Fat* Forest School and promote its potential positive impact and outcomes, a cultural shift within the education system is required. However, within the present educational context, the restraints of funding cuts due to austerity measures, and the pressure to deliver the curriculum and academic attainment can lead to Forest School compromising in terms of time, content, location and training.

Leather (2012) further challenges the social construction of Forest School. Leather (2016) claims Forest School is a social construction which exists within the context of our 21st century relationship with nature and the outdoors. He claims outdoor activities are essentially thought of as 'good character building'. However, he highlights that key activities associated with Forest School such as fire building and communal cooking were essential for survival in previous historical and social contexts in Britain and continue to be in other parts of the world. Leather felt that Forest School treats this kind of learning as somewhere towards the top of Maslow's pyramid of psycho-social needs (self-actualisation), however, these were essential for the bottom rungs (safety, food, warmth) in

generations past (Leather, 2012). Leather's critical perspective supports the view that the meaning of Forest School is dependent on the attitudes of those engaging with it, as well as the wider systems it sits within. It also aligns with the critical approach of this literature review and the social constructionist epistemology of the thesis more widely.

The critique of Forest School made up a significant portion of the existing literature. The critiques are important to consider in the framing of any research around CYP experience as there appears to be a lack of consistency within the different Forest School practices. Therefore, questions around generalisability of small-sample research arise and require reflection.

Reviews of Forest School Research. Two recent reviews of the existing Forest School literature have been published. Dabaja (2022) analysed two decades of Forest School research to attempt to elucidate the Forest School impact on CYP attendees. As an illustration of increased attention to Forest School, Dabaja reviewed the number of journal articles related to Forest School published each year, finding that between 2004 and 2014 there were between one and three articles published per year. Comparatively, between 2017 and 2020 between five and seven Forest School journal articles were published a year, with the majority being research based in the UK context. In relation to the impact on CYP, the review identified seven areas of positive impact engagement which Forest School had on children according to the existing literature: confidence; social skills; language and communication skills; motivation and concentration; physical skills; and knowledge and understanding. This review felt that Forest School had the potential for a significant positive impact on CYP, particularly related to their social-emotional and physical development. Dabaja argued that the evidence suggested Forest School was a healthy alternative to current (largely sedentary) education practices.

Another recent review of Forest School literature in England (Garden & Downes, 2021) questions the quality and quantity of existing Forest School literature, highlighting that most studies are small-scale exploratory research, heavily biased towards qualitative methods. However, they acknowledge that these methods have managed to effectively shine a light on lived experiences through rich descriptive means. The themes from the Forest School literature identified in this review were: the opportunities for CYP to take risks; development through nature; constructivism, play and

sharing; increased self-esteem and well-being; and relationships. They concluded that the existing evidence suggests that Forest School may provide a positive environment for CYP to develop these areas in a different way to the typical school environment. However, they urge caution with interpreting the findings and claims made by existing literature due to the limitations of the research.

Child voice in Forest School research. As outlined above, Forest School research is a developing field. Despite the relatively small volume of existing research compared to ADHD, Forest School research appears to be rich in qualitative information related to lived experience gathered from the 'voice of the child'. Coates & Pimlott-Wilson (2019) employed a social constructionist epistemological position and placed value on subjective perceptions and meanings created through their participants' experience of Forest School. Analysing semi-structured interviews with 33 children who attended Forest School, the author's findings from this research highlighted potential benefits of the outdoor learning context and play-based pedagogy as identified by the participants themselves. From the participants' perspectives, these benefits impact positively on their emotional, social and cognitive skills as well as physical development and wellbeing. Another study by Friedman, Gibson, Jones & Hughes (2022) employed a mixed-methods design encorporating information from researcher observation notes and interviews with 10 parents and nine children. Here, the child's voice contributed to the researchers' findings which were viewed through the framework of self-determination theory (Ryan & Deci, 2017). The perspectives of the children in this study provided evidence to support the researchers' assertion that Forest School appears to provide an environment which promotes experiences of autonomy, competence and relatedness, the basic psychological needs as outlined by self-determination theory (Friedman, Gibson, Jones, & Hughes, 2022). Further qualitative studies which employed interviews to gather child views similarly found that children and young people were largely consistent in reporting positive experiences and impacts of Forest School and nature connectedness related to social, emotional and learning processes (Manner, Doi, & Laird, 2021; Ridgers, Knowles, & Sayers, 2012; Bradley & Male, 2017). In Bradley & Male's study (2017), the authors highlighted the need for flexible and creative methodologies for effectively gathering the views of CYP with additional needs. This contributes to the rationale of the current study's chosen methodology for gathering the child's voice as outlined in the empirical paper chapter.

ADHD, Nature and Forest School

This section reviews the existing literature which considers CYP diagnosed with ADHD in the context of nature and Forest School. Although Forest School is a discrete pedagogical approach from other forms of outdoor education, there is currently a lack of research into Forest School and ADHD, with no research directly exploring Forest School and ADHD together being found in the literature search. Therefore, the review of related literature also includes research around CYP diagnosed with ADHD and outdoor learning and nature connection more widely.

Nature's impact on CYP diagnosed with ADHD. Research around the impact of natural environments on CYP diagnosed with ADHD is dominated by Faber Taylor and Kuo (e.g., Faber Taylor & Kuo, 2009; Faber Taylor & Kuo, 2011). This research took place in the US and generally employs measures of parent ratings of ADHD 'symptoms' in relation to exposure to nature. CYP's subjective experience was not qualitatively explored. Their studies have presented findings indicating highly beneficial outcomes for cognitive and behavioural measures after exposure to green spaces, referring to it as 'natural treatment for ADHD'. These studies view nature as a potential ADHD intervention.

A well-cited study by Van den Berg & Van den Berg (2011) compared groups of Dutch CYP diagnosed with ADHD in a built setting (town) to those in a natural setting (woods). They explored the CYPs social, emotional and cognitive skills between these two settings through structured interview and cognitive assessment. In this study, the experiences of CYP diagnosed with ADHD was also considered through closed interview questions. The findings suggested participants demonstrated increased cognitive, emotional and social functioning on the measures in the woods. This compared to the built setting, where although the participants expressed enjoyment, all the CYP diagnosed with ADHD presented with "problematic behaviours and concentration problems". The woods were perceived by the CYP as more restorative than the town. Items on the scale exploring perceived restorativeness were related to a sense of calmness, inner quiet, freedom and ability to focus. The researchers concluded that the natural setting provided a consistently positive environment for the ADHD compared to the built setting where the results were mixed. This study was limited due to its small sample size (N=12) and its exploration of CYP experience employed only closed questioning.

A ‘mini-review’ by Di Carmine and Berto (2020) explored nature’s potential restorative impact for children diagnosed with ADHD. Through reviewing available relevant research, they concluded that contact with nature can help children diagnosed with ADHD to cope with their ‘symptoms’. They suggest that attention restoration theory (ART, Kaplan, 1995), which views nature as capable of restoring depleted attention resources, offers a framework from which to promote nature interventions for children with ADHD. This review comes from researchers in Italy, however, the evidence and theory they review is not restricted to the Italian system. The attention restoration theme is supported by another review by Kuo, Barnes, & Jordan (2019) who conclude that current research suggests that the primary impact of nature exposure on learners is a restoration of attention. They claim current evidence offers ‘causal’ support for nature’s impact on CYP diagnosed with ADHD. The research mentioned gives little qualitative consideration to how CYP diagnosed with ADHD experience nature interventions. Again, this research largely focuses on outcomes related to the reduction of ADHD ‘symptoms’, seeing nature as a therapeutic intervention.

Linking Forest School to national priorities of reducing exclusions and improving behaviour (Timpson Review of School Exclusion, 2019), evidence suggests Forest School may have a positive restorative impact for children who are perceived to display disruptive and challenging behaviour at school. One study showed that, of the children who participated in the Forest School approach, those identified as presenting the most challenging, poorest-rated behaviour, some of whom were at risk of exclusion, benefitted most from the Forest School experience, with results finding significantly less anger and stress and more energy and positive emotion (Roe & Aspinall, 2011). Whilst this study did not directly refer to CYP diagnosed with ADHD, this population of learners experience significantly higher rates of exclusion, as described in the ADHD section of the literature review.

Although there is a marked lack of research relating to nature interventions and ADHD in the UK context, there are signs that it is an emerging field of interest. A participatory action research study by Armitt et al. (2022) intends to lay the foundations for a co-produced nature-based intervention for CYP diagnosed with ADHD which will run parallel to research measuring its impact. The intervention will be developed initially to be used by the Child and Adolescent Mental Health Service (CAMHS). The coproduction element of the intervention intends to promote a value of

developing more equal partnerships between CYP diagnosed with ADHD and those who develop and implement related services. This study claims that it is the first "green social prescribing intervention" designed with, and for, CYP diagnosed with ADHD. This study describes the intended protocol for the intervention and outlines the planned research. Measures of mood will be employed alongside reflective diaries to explore the experiences of the CYP diagnosed with ADHD. Although the results of this research have not yet been published, it aligns with the current research and illustrates the increasing attention on this field.

ADHD Forest School literature. The only existing research found in the search which explicitly considers Forest School and CYP diagnosed with ADHD in the UK context is a review into non-pharmacological interventions which found that, despite the lack of research, some schools are already using Forest School as a whole school intervention to support CYP diagnosed with ADHD (Richardson et al., 2015). Views of parents and teachers contributing to this study felt that ADHD-related difficulties could be attributed to the constrained classroom environment, thus spending more time outside (e.g., in Forest School) was a useful intervention. However, this finding was a minor aspect of the review and did not prompt further exploration by the researchers.

ADHD was mentioned in various Forest School related sources, although this appeared to be limited to case examples or anecdotal evidence. A case example presented by Cree (2011) illustrates a case of a Forest School practitioner's experience of working with a 15-year-old boy diagnosed with ADHD. This CYP described the Forest School experience as feeling *safe*, having a sense of *control* over what he wants to do and experiencing nature as *free* and *fresh.* Cree recalls a personal experience of working with a CYP diagnosed with ADHD and shares that "*He seems to not need the Ritalin when outside in the woods*." (in Knight, 2011, p.103). A quote of a 14-year-old boy on the FSA website reads "*I don't have ADHD when I am out in the woods*" (FSA, 2017).

Nature as restorative. A major theme identified from the literature relating to nature interventions and ADHD was: 'Nature as restorative'. Two theories from literature and theory were often referred to by the research related to nature interventions and ADHD. The first is the concept of Nature Deficit Disorder, a term coined by Louv (2008) in his book *Last Child in the Woods*. Louv used this idea to highlight the decline in childhood outdoor play and learning. He also suggested that

many of the difficulties children face in today's society (including ADHD) could be attributed to the loss of a connection to nature. The second concept is Attention Restoration Theory (ART) (Kaplan, 1995) as referred to in the Di Carmine and Berto (2020) review above. This theory suggests that time spent in nature could restore attentional capacity in children and adults. The evidence supporting this theory is inconsistent and the attentional demands of today's CYP are likely to be significantly different to those in 1995. Reviews into research exploring Kaplan's claims have identified mixed findings, with literature that was focused on ADHD more consistently supporting the theory than studies using a neurotypical sample (di Carmine & Berto, 2020; Ohly, 2016). This may suggest that the principles behind ART may be more generalisable to those identified with ADHD compared to the wider population. Whilst Louv saw the loss of nature connectedness as a potential aetiology for ADHD symptoms, Kaplan's direction suggests that exposure to natural environments could serve as a treatment or intervention to manage attentional difficulties. These concepts are largely theoretical but appear to have created the foundation for much of the existing literature and interest in this area.

Reconnection to a lost childhood. Carrying Louv's concerns about the reduced time children spend in nature, Forest School-related literature often argues there has been a 'loss of childhood' through the way children are generally educated; having limited access to play within a system which is averse to physical and social-emotional exploration and risk-taking (Gill, 2007; Cree & Robb, 2021; Sackville-Ford & Davenport, 2019). There is a suggestion throughout the literature that the largely sedentary and passive learning environments do not match with the 'natural' childhood humans were evolved to experience (Leather, 2012; Swanepoel et al., 2017; Louv, 2008). Thus, suggesting the demands of the direct environment (e.g., the classroom) may be a major contributing factor to the difficulties experienced by many school-aged children (Gwernan-Jones et al., 2016). This view suggests that a change in the direct environment and focus of educational settings towards a more 'natural' childhood may be a more inclusive and appropriate strategy for supporting childhood development than individualised intervention based on deficit principles.

Discussion

Due to the narrative style of this literature review, the findings were discussed within the narrative which presented them above. Further discussion below considers the limitations of this literature review and the review's relevance to and implications for educational psychology.

Limitations

A potential limitation of this literature review is related to the discrepancy in the amount of literature and attention there is on ADHD compared to Forest School. The challenge this created in the review was working out how to manage the breadth and volume of ADHD literature. This was a simpler task for Forest School literature as the existing literature was more limited. The volume of medical ADHD literature was one motivation for the researcher to give priority to illustrating current critical perspectives on ADHD which, after giving an overview of more mainstream understanding, allowed the search to be narrowed. However, whilst illustrating that critical perspectives was in line with the epistemological position of the researcher and useful in framing this thesis, it may have led to bias in the reporting of the broader ADHD literature. Critical perspectives may be disproportionately represented in this review, although there are many varied critical perspectives, these are not representative of the mainstream understanding of ADHD which was outlined in the ADHD context section. Although there was reference to literature related to the prevailing medical model of ADHD, the social constructionist epistemological position of this research encourages the researcher to adopt a critical standpoint when review dominant discourses (Burr, 2015). Thus, whilst the researcher strived to limit bias, the epistemological approach may have facilitated a bias towards critical perspectives on mainstream medical discourse.

Relevant research into the qualitative ADHD experience was limited, with measures largely being based on quantitative scores or parents/teacher responses. Questioning this from a Foucauldian perspective, positivist medical research on ADHD could arguably be seen as upholding the interests of existing structures of knowledge and power (e.g., scientific publication, education systems, the pharmaceutical industry, parents) (Pérez-Álvarez, 2017). As an illustration of this, Taneja-Johansson (2023) reviewed the existing literature related to school experiences of CYP diagnosed with autism and CYP diagnosed with ADHD. They questioned the findings that, although ADHD is a more

prevalent diagnosis in the population, the voices of autistic children were far more likely to be explored in research. It was argued that this reflects the wider perceptions of the status and value of the diagnosis of autism compared to that of ADHD in society (Taneja-Johansson, 2023). They related this to the finding that discourses around positive narratives related to autism are more dominant in the existing literature than positive narratives about ADHD. Taneja-Johansson (2023) argues that this may be due to professionals perceiving autistic CYP as less likely to present a challenge to existing school systems. Inspecting the influence of power and knowledge through the social constructionist lens, this finding can be viewed to reinforce the views that dominant discourses reinforce existing systems i.e., interest in the subjective experience of autism is more prevalent as this population may present less challenge to the existing systems, whilst wider literature appears resistant to exploring the experience of CYP with a diagnosis of ADHD who are 'disruptive' to the system (Timimi, 2005). The finding that there is so much literature around ADHD, theoretical and research-based, but so little exploration of their subjective experience is puzzling and provides an element of robust rationale for the current research.

Educational Psychology perspectives and relevance

Perhaps the most striking limitation of the current relevant literature was the lack of educational psychology literature on ADHD. Searching the *Educational Psychology in Practice* journal, the search results found just one article published in the last 10 years which included 'ADHD' or 'attention deficit' in the title and this was a review of a recent ADHD textbook (Heseltine, 2023). Using autism as a comparison again, the results found 53 articles with 'autism' in the title published within the same timeframe. This poses immediate questions around the educational psychology understanding of and/or attitude to the diagnosis of ADHD. As this group of learners is highly overrepresented in requiring specialist educational support (arguably the central tenet to educational psychology practice), the lack of educational psychology literature on the subject is bewildering (Richardson et al., 2015). It could be argued that educational psychology training and values align with more critical and social constructionist understanding of psychology and that this has created a tentativeness to adopt the medicalised conception of ADHD (Goodley & Billington, 2017). Nevertheless, the ADHD discourse exists and CYP experience the impact of the discourse in ways

which are meaningful to educational psychology practice. Therefore, this literature review highlights a necessity for further educational psychology research and theory related to the topics of the current paper.

Summary and conclusion

This review of the literature relating to ADHD and Forest School highlighted some of the current understandings about the ADHD experience within the school context and explored emerging literature around educational approaches situated in nature. The review acknowledges the dominant medical understanding of ADHD in the UK, whilst offering critical perspectives which challenge this prevailing discourse.

The current review found that ADHD is a rapidly growing diagnosis for school aged CYP in the UK. Literature related to current ADHD interventions was found to be largely focussed on the management and reduction of ADHD behavioural 'symptoms' so the CYP better fit the school context (e.g., DuPaul, Eckert, & Vilardo, 2012). However, the review found that there appears to be small but increasing attention on contextual influences of school on CYP diagnosed with ADHD and that changes to the environment may be an inclusive way to remove the barriers they face (e.g. Gwernan-Jones et al., 2016).

Forest School literature was found to be limited in terms of quantity and scope. However, there are indications that this is a rapidly growing field of interest and research (Dabaja, 2022). Existing reviews suggest that engagement with Forest School is associated with a range of physical and social-emotional benefits whilst urging caution in generalising findings from current research due to inconsistent practice and small-scale studies (Garden & Downes, 2021).

Research exploring ADHD and nature interventions largely indicated positive findings related to nature's impact on CYP diagnosed with ADHD. Some authors promote nature as a therapeutic intervention for CYP diagnosed with ADHD (e.g., Faber Taylor & Kuo, 2011), whilst others suggest it is the disconnection from nature which can offer an explanation for many of the difficulties faced by this population (e.g. Louv, 2008). However, there were very few related studies situated within a UK context. There was no literature found which directly explored ADHD and Forest School, a gap which could be seen to provide a robust rationale for the current research project. Therefore, the research

questions for the current project are: *RQ1*: How is Forest School experienced by CYP diagnosed with ADHD? and *RQ2*: What key aspects do CYP diagnosed with ADHD perceive to contribute to their experience of Forest School?

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Chapter Two: Empirical Paper

Abstract

Forest School is an outdoor learning approach which is growing in popularity in the UK. Contemporary research into nature-based interventions have demonstrated promising positive outcomes for children and young people (CYP) with a diagnosis of attention deficit hyperactivity disorder (ADHD). However, the findings in the existing literature are largely focused on the reduction of behaviours associated with ADHD, often referred to as 'symptoms'. The current study aims to explore the subjective Forest School experience of CYP diagnosed with ADHD and the aspects of Forest School which they feel contribute to this. A participatory Photovoice methodology was employed which utilised photographs taken by the participants (N=4) to elicit their views during semi-structured interviews. The data collected was analysed using polytextual thematic analysis, an adapted version of thematic analysis which allowed for information within the visual images to be analysed alongside the verbal information gathered during the interviews. The findings of the current research suggest that CYP diagnosed with ADHD experience Forest School as relaxing and rewarding, as a place where they experience freedom, learning and connection away from the perceived demands of school. The aspects of Forest School which the participants percieved as facilitating these experiences included the physical, natural and social environment which provided a range of satisfying sensory and practical experiences and a sense of 'being allowed' to choose what to engage with. Drawing on critical educational psychology and social constructionist principles, the paper discusses how these findings may contribute to the discourse that the widely held view of ADHD is socially constructed and context-dependent. The research has implications for educational psychology practice, both in understanding the needs of CYP diagnosed with ADHD and the alternative ways in which this population of learner's needs may be met.

Introduction and rationale

The context within which this research sits is outlined by the literature review in chapter one. The review found that the current understanding of ADHD remains largely fixed in the medical view that ADHD is a condition which can be treated and managed by behavioural intervention and pharmaceutical medication (Mechler, Banaschewski, Hohmann, & Häge, 2022). The review found that the existing literature was largely related to the management of behaviours labelled 'symptoms'. This management of symptoms could be largely interpreted as managing the behaviour of CYP diagnosed with ADHD to fit the needs and expectations of their context (usually educational). There was much less literature exploring the impact of the educational context on the experience of CYP diagnosed with ADHD. This raises questions which are in line with theories central to educational psychology practice.

Ecological systems theory. Ecological systems theory describes how children and their development are influenced by their reciprocal interactions with various individual and environmental systems (Bronfenbrenner, 1994). The proximal environmental systems are those within which children engage in directly, such as school and family. More distal systems such as neighbourhood, educational policy, socio-economic status, cultural norms and political decisions interrelate with the proximal systems to influence a child's experience, development and needs. A consideration of these systemic influences prompts the need for research to explore learning environments and CYP's experience of their interaction with that system.

The interaction between CYP diagnosed with ADHD and the environmental system of the traditional classroom is often seen as problematic due to behaviours associated with ADHD not meeting the expectations and demands of the classroom (Rogers, Boggia, Ogg, & Volpe, 2015). As was covered in the literature review, this has largely resulted in research and schools to focus on interventions which manage and change these behaviours to align with the expectations of the school system. From an ecological systems standpoint, it is important for research to consider the needs and experiences of CYP diagnosed with ADHD in the context of their interaction with their school environment.

Social model of disability. One prominent theory informing educational psychology practice is the social model of disability (Shakespeare, 2006), which views disability as a social construct which only exists within a world full of 'disabling' systemic barriers. This view is in line with literature which suggests that providing learning environments which may more readily meet the needs and harness the skills and traits of CYP diagnosed with ADHD would remove the existing social and environmental barriers to learning (Gwernan-Jones et al., 2016). Those espousing a social model would view this as making the learning world less 'disabling' for CYP diagnosed with ADHD and lessen the need for a medicalised and individualised 'treatment' which is the current focus of the dominant medical model (Baglieri, Valle, Connor, & Gallagher, 2011). Related literature suggests further research is needed to explore the impact of alternative learning environments on CYP whose presentation does not naturally fit the expected model of school behaviour. This provides rationale for the current study which explores the experiences of CYP diagnosed with ADHD in Forest School, a vastly different learning environment to the typical school.

Nature benefits. The literature review also identified a growing evidence-base to suggest that access to nature and the outdoors has a positive impact for CYP diagnosed with ADHD. These studies largely refer to the reduction in 'symptoms' associated with ADHD. There is little evidence exploring the subjective experience of CYP diagnosed with ADHD in natural settings. This provided further rationale for the current research, incorporating existing findings and the gaps identified by the review. Furthermore, existing literature highlights positive outcomes and experiences for the wider population of children who attend Forest School, however, there is currently no research directly exploring this with CYP diagnosed with ADHD and their subjective experiences. The current research seeks to provide the first findings related to these areas.

Social justice. One motivation for this topic was social justice. As was highlighted by the literature review, predicted educational and life outcomes for CYP diagnosed with ADHD are significantly different to the general population. Furthermore, the prevalence of ADHD diagnoses has been related to the level of social deprivation, as is access to green space (Hire, Ashcroft, Springate, & Steinke, 2015; Fields in Trust, 2022). Research therefore becomes relevant in the strive to promote equality of opportunity for this population. Potential implications in this area of research are

particularly important considering the recent events of the COVID-19 pandemic which shone a light on the inequality of access to nature (Natural England, 2020). As the evidence base grows, if further research continues to highlight the importance and benefits of access to nature, legislation at the local and national level will need to reflect this as a matter of social justice.

The child's voice. Reviews of research which consider children's perspectives suggest that in recent years, more attention and interest is being given to children's lived experiences as expressed by themselves (Taneja-Johansson, 2023). Many authors point to the United Nations Convention on the Right of the Child (CRC, 1989) which recognises children's right to have a say on issues concerning them. Increasingly more researchers hold the belief that meaningfully including children and their voice in research is an important consideration in upholding these rights (Lundy & McEvoy, 2012). Promoting the voice of the child is also an important element of educational psychology practice as outlined by the SEND Code of Practice (DfE, 2015) and the Children and Families Act (UK Gov, 2014). Whilst there has been an increase in literature which considers the child's voice, there is a distinct lack of it in the literature exploring the impact of nature or Forest School for CYP diagnosed with ADHD. This adds further rationale to the current study. In addition to the relevant policies and the rationale behind them, exploring the experiences of CYP diagnosed with ADHD from their perspective is in line with the epistemological position of the researcher.

Epistemological position

This research is framed within a social constructionist epistemological position. The social constructionist view is that reality is socially defined, and our understandings are based on a collective social construction of what is real (Gergen, 2014). Social constructionism demands that we are critical of widely held and taken-for-granted knowledge which claims to be objective (Burr, 2015). Burr argues that knowledge (the way we understand the world) is specific to each individual's context, and that social processes within each context create and maintain a common understanding of the world (knowledge). Social constructionism questions the assumptions of the prevailing positivist view in mainstream psychology that there is a reality of internal psychological processes which can be reliably revealed and categorised through objective measurement and observation (Teo, 2009). Social constructionists argue that there is no such objective reality which can be measured independently

from the influence of social processes such as language or cultural norms. “Social constructionism accepts that there is an objective reality. It is concerned with how knowledge is constructed and understood.” (Andrews, 2012, p.44). This quote by Andrews summarises the position of social constructionism in research, suggesting that whilst there is an acknowledgement of the existence of a world independent of our perception of it, that world is not accessible or reportable outside of the language we use through the social systems we exist in. Therefore, the role of social constructionism in research is not to make definitive claims about reality based on research findings, but to present a contribution to discourses which seek to contextualise understandings and add to the wider debate (Andrews, 2012).

One justification for adopting this position in the current research is the numerous and varied conceptualisations and discourses surrounding ADHD as outlined by the literature review. The understanding of ADHD has changed drastically over time and still remains inconsistent. Therefore, it can be argued that each different understanding is an interpretation from within a different context of historical and cultural norms, assumptions and values (Moncrieff & Timimi, 2013). Social constructionists view ADHD as a social construct, a simplistic category constructed within the context of Western social norms, expectations and medical discourse (Timimi & Timimi, 2015). These theorists suggest that the construct of ADHD is more reflective of a collective agreement on the culturally specific medicalised interpretation of behaviour as ‘symptoms’ rather than a discreet psychological phenomenon which it seeks to describe (Rafalovich, 2015). Furthermore, Forest School has also been described as a social construction of outdoor education within the UK social and cultural context (Leather, 2012).

Social constructionism suggests that research which is driven by existing ‘knowledge’ decontextualises the experiences of the participants and imposes ‘universalistic truth claims’ against which to measure them (Gergen, 2014). Therefore, any assumptions in this paper will be made tentatively and the research will be exploratory, rather than seeking to prove or disprove a hypothesis developed from existing theory. The social constructionist perspective allows for this and prompts the researcher to view these topics as dependent on and responsive to their context. This view allows us to

acknowledge the varied conceptualisations and be reflective of the effect these discourses may have on our understanding of the 'reality' within these topics.

Wright (2012) stated "a social constructionist standpoint reveals there can be no objective ADHD fact". A social constructionist view can support in exploring influences on outcomes for CYP diagnosed with ADHD whilst avoiding an overpowered focus on medicalised, internal explanations. A social constructionist position can seek to emancipate the child from being the sole responsibility bearer to change their behaviour and achieve more positive outcomes in line with social norms and expectations, and place more recognition on the influence of their context (Goodley & Billington, 2017). This view is in line with prominent perspectives in educational psychology practice (e.g., Gameson & Rhydderch, 2017).

This research's focus on Forest School further contributes to the relevance of social constructionism as the epistemological position adopted by this thesis. The Forest School environment is a context which can be seen as vastly different to the typical classroom environment. Much of the existing discourse around childhood ADHD views it through the lens of the school context. Through a social constructionist viewpoint, the 'truth' about ADHD is largely contextually specific to school and the social processes and structures which accompany it. Therefore, the current research explores experiences of CYP diagnosed with ADHD in an alternative educational context with different social and structural processes and seeks to contribute to understandings of these context-specific experiences without claiming there is a universal truth to these.

Ethics

The current research required thorough ethical consideration and a comprehensive ethics application was approved by the UEA's Ethics Committee. See appendix for further details of the approved ethics application. All stages of the current research were conducted in line with guidelines and requirements from the HCPC Standards of Conduct, Performance and Ethics (2016); the HCPC Standards of Proficiency (2015) and the BPS Code of Conduct and Ethics (2018).

Considering the participants who constituted the sample of this research are children and photographic information was incorporated into this research, extra ethical considerations were necessary. Information and consent forms were sent to the participants' parents via a Forest School

leader who acted as gatekeeper for the initial information. Further child friendly simplified information sheets were sent to ensure the child participants were informed about the nature of the research. Furthermore, contained within the information sheet and the child friendly version was an instruction to read the information together with parents. Consent forms were required to be signed by both parents and children. To further ensure child consent, additional verbal consent was gained via a Microsoft Teams meeting prior to the information gathering session. Where a Microsoft teams meeting was not possible, verbal consent was also gained on the day of the information gathering session. The data gathering sessions were completed in the presence of a Forest School practitioner. Related to the photographic element of this research, the participants were instructed not to photograph images of other children in the Forest School setting as other children had not given their consent to be photographed as part of this study. It was agreed that in the event of a child being photographed in an identifiable way, any identifiable features would be blurred by computer software at the soonest possible moment.

Information handling in this research was conducted in accordance with the General Data Protection Regulation (GDPR) and the Data Protection Act 2018. Any identifiable information including the recordings of the interviews were stored in a password-protected laptop. Anonymisation of any information which could identify the participants began at the transcription stage. Pseudonyms were created to anonymise the participants and their names were replaced with tree-related names (in keeping with the Forest School context) as can be seen in the findings section of this paper. Audio recordings of the semi-structured interviews were deleted after the completion of the transcriptions.

Any safeguarding issues would be followed up through the relevant guidelines of each CYP's Forest School as well as the researchers research supervisor. The researcher agreed to reporting any adverse event in the research process to the research supervisor as well as UEA's ethics system as soon as possible.

Research Questions

RQ 1. How is Forest School experienced by CYP diagnosed with ADHD?

RQ 2. What key aspects do CYP diagnosed with ADHD perceive to contribute to their experience of Forest School?

Methodology

Participants

The researcher initially sought to recruit participants via opportunity sampling using an opt-in process. The researcher submitted a recruitment flyer (see appendix) to the newsletter of the national professional body for Forest School, the Forest School Association (FSA). This newsletter is received monthly by Forest School practitioners who have signed up to receive it. As a second recruitment strategy, to increase participant recruitment numbers, the researcher also used convenience sampling; contacting local Forest School programmes and sharing the flyer directly to the Forest School Leader (FSL). For the convenience of the researcher, this flyer initially searched for participants located in East Anglia. As insufficient participant numbers were recruited from East Anglia, the researcher expanded the inclusion criteria to other areas of England.

The participants who were involved in the current study were recruited after a school which provided Forest School as a 'nurture' intervention responded via email to the recruitment flyer shared by the FSA. This school also provided the researcher with contact details of another Forest School in the local area. The second Forest School was contacted and their interest in involvement was registered. In consultation with the FSLs at these Forest Schools, via email and phone calls, information and consent forms were provided by the researcher, and these were then shared by the FSLs with parents of attendees who met the inclusion criteria.

The participants recruited for this study were children aged between nine to 13 years old (n=4) who attended Forest School settings (or Forest School provision linked to a school) in the Southeast of England. The participants all had a diagnosis of ADHD, as reported by their parents. This diagnosis had been identified by an appropriately qualified clinician. It is important to note that two of the four participants had also been identified with autism and one other participant was identified as having global developmental delay (this will be discussed further in the limitations section). Two Forest Schools were involved in this study, with two participants attending one, and two attending the other. Two of the participants attended a Forest School attached to their primary school as part of a package of 'nurture' support. The two other participants attended a specialist base for autistic young people, and frequent visits to a Forest School were offered to them as part of an

alternative curriculum. Both Forest Schools were set in a wooded area and also included a sheltered classroom/office space.

Research design

Photovoice. The method of data collection for this research was based on the Photovoice research design developed by Wang & Burris (1997). Photovoice developed as a participatory action research (PAR) method using photographs taken by research participants to highlight the experiences of communities and facilitate social change (Wang & Burris, 1997). Photovoice methodology is based in feminist theory and critical pedagogy. Earlier research by Wang & Burris promoted methodology which reflected the feminist perspective that women should be active participants in research about them, rather than objects of study (Wang & Burris, 1994). The influence of feminist theory on Photovoice prompts this methodology to explore the experiences of participants within the context of dominant or marginalised discourses and existing social structures. It was felt by these researchers that understanding the social constructions which maintain oppression could facilitate empowerment and foster social change (Liebenberg, 2018). The critical pedagogy of Paulo Freire which sought to shift established power-relations in education towards collaborative learning processes provided further theoretical underpinning for Photovoice. Freire (1972) argued for the power of dialogue in creating critical thinking in education so communities may uncover the social constructions that contribute to their marginalisation. Freire considered the discussion of images to be an effective facilitator for critical thinking. These theories contribute to Photovoice in its methodology, considering the power relationship between researcher and participant, the position of the participant as an active collaborator, and the intended emancipatory outcomes of the research. Social constructionism is central to the theories relevant to Photovoice (Liebenberg, 2018), providing a good fit with the social constructionist epistemological position of the researcher in the current paper.

Critical views on Photovoice. Reviews of existing studies suggest that very few studies employ the Photovoice method fully in its originally intended long-term community-based form (Suprapto et al., 2020). It has been argued that the potential user-friendliness of this approach has prompted researchers to adopt Photovoice methodology without engaging with the fundamental

values which underpin it (Gubrium & Harper, 2013). Whilst the foundational theories and intentions behind Photovoice methodology seek to enable participants control over the subject of study, researchers often define the focus of the study and predetermine the roles of the participants, potentially undermining the ability to empower the communities and individuals involved (Milne & Muir, 2020). Furthermore, there are existing concerns around the rigour of the research methods and how findings are meaningfully disseminated to inform change (Liebenberg, 2018). Liebenberg argues that if researchers are to apply photovoice in line with its social justice and critical theory basis "we have an ethical imperative as researchers to ensure that the ways in which we engage in research with communities honour their wisdom and expertise" (p.1, 2018). These critical views on the application of Photovoice will be revisited in relation to the current research in the limitations section.

Rationale. This method was chosen by the researcher as it can promote inclusivity in the data collection process and has been found to generate more and richer information (Harper, 2002). The Photovoice method is a research method which enables the inclusion of other forms of expression alongside the verbal. It has been found to demonstrate considerable potential for use when researching groups for whom verbal communication is more difficult (e.g., young children and people with verbal expression and communication difficulties) (Butschi & Hedderich, 2021). Gathering the 'child's voice' in a descriptive and qualitatively rich way presents with challenges, "inducing storytelling is a challenge in every interview [with children]" (Ponizovsky-Bergelson, 2019). By using visual information, it does not rely solely on on-the-spot verbal processing, addressing this limitation of traditional interview methods which can result in children not being able to find the right words in the moment, thereby limiting the richness of data collected (Irwin & Johnson, 2005). The images have been found to have an 'activating' effect on child responses (Butschi & Hedderich, 2021). Butschi & Hedderich found that since the conversations were based on photos taken by the children themselves, the children were motivated, and the photos stimulated conversation. The combination of the visual stimulus of the images and the verbal element of the interview aims to increase the level of stimulation, potentially increasing the likelihood for participants to sustain attention, especially important for children who may find this challenging. Furthermore, one aspect of Forest School is that it should be largely learner-led, therefore, a participant-led research method should not create

excessive disruption to a school day, giving another practical advantage to this design within this setting.

This design places the participant central to the data gathering process. Using a participatory method allows for empowerment of the participants in the research process whilst gathering their voice (Bergold & Thomas, 2012). As covered in the literature review, within the current literature related to ADHD and nature interventions, it is apparent there is a lack of 'child's voice'. Studies largely rely on teacher and parent report methods and focus on the measurement of 'symptoms' (e.g., Kuo, Barnes, & Jordan, 2019). Involving the children whose experience is being 'measured' as research participants is critical to ensuring their voice is heard. This is consistent with UK educational psychology practice as outlined by the SEN Code of Practice (DfE, 2014). The participatory nature also reduces the power imbalance which can exist between participant and researcher. This has been seen to facilitate a more engaging and relaxed atmosphere, allowing the participant to feel more comfortable to communicate (Prior et al., 2020; Miller, 2015). Although the analysis of the data gathered through this method is primarily focused on the participant responses to the semi-structured interviews, the photos themselves will also be analysed alongside their views. This further promotes the contribution of participants who may find verbal expression challenging.

Data gathering

Photovoice was employed in this study to prompt participants to take pictures of something pertinent within their environment. This was followed by a semi-structured interview to elaborate on why they chose these images and how they are representative of their experience.

The researcher outlined the participatory research activity in the information sheets and the initial Microsoft Teams meeting with the participants and their parents. The instructions were revisited with the participants during the researcher's visit to the participants' Forest School setting. The activity consisted of participants being provided with an iPad and instructed to take pictures of elements of the setting which represented their time at Forest School. Methodological theory and guidance related to Photovoice acknowledges the time constraints in the application of the Photovoice process and encourage researchers to carefully adapt the method to fit within their constraints, whilst being mindful of the impact of these decisions (Sutton-Brown, 2014). Although some studies

encourage participants to discuss all the photos taken, other Photovoice studies request participants to select photos they feel are most significant (Wang, 1999). In this study, the participants were informed that they could take as many pictures as they wanted, but that only five pictures would be explored during the interview and analysis phase, in recognition of the time constraints. In the instructions, the only restriction on the content of the pictures was that the participants were not to photograph other people in a way which may allow them to be identified (i.e., their face). This was for data protection reasons as the other attendees of the Forest School had not provided formal consent to being photographed. Once the participants were satisfied with the pictures they had taken, they informed the researcher and the interview stage commenced.

During the interview stage, the participant and researcher gathered in a space away from the main Forest School activities. Initially, the participant selected five photographs from the pictures they had taken. These were identified using the 'favourite' function on the iPad. The participant was requested to choose which selected photograph they would like to talk about first. Using a semi-structured interview method, the researcher then asked questions related to the photographs such as 'what is this a picture of?', 'why did you choose to take this picture?', 'what about this picture makes you think of Forest School?', 'how does this make you feel?' and 'what does this mean to/for you?'. This process was repeated for the five selected pictures. Although many Photovoice studies employ a structured interview with adults, following questioning guidelines as outlined by Wang (1999), researchers who have employed Photovoice methodology in research with children advocate for flexibility in interview questioning to ensure clarity of understanding, engagement and enjoyment for child participants (Phelan & Kinsella, 2011). Thus, whilst the examples above were inspired by the questions from research by Wang (1999), the guiding interview questions in the current study were employed flexibly to better suit the participants and the research questions. The participants' responses were recorded using a microphone and a voice recording programme. The duration of the interviews ranged from 11 minutes 30 seconds to 25 minutes. These interviews continued until the participants had concluded speaking about all five photographs and were satisfied with what they had shared about their experience of Forest School. The participants' narrative reflections on their selected photographs provided data which would be qualitatively analysed by the researcher (Tsang, 2020).

There was then a short debrief which included what will happen to the photographs and the views shared during the interview. This concluded the participatory element of the research method.

This research method met the aims of the study which were to explore the experiences of CYP diagnosed with ADHD at Forest School in that it allowed for an elicitation of views which were activated by the participatory and visual processes. As was covered in the literature review section, much of the related literature examines the impact of Forest School or nature interventions via the measurement of variables such as the CYP diagnosed with ADHD's level of attention or academic attainment, rather than considering the lived experience of the participants. Studies which reviewed the use of Photovoice to gather the views of young people with clinical diagnoses argued that this method allowed the focus to be on their experiences rather than their 'symptoms': "The Photovoice method foregrounded children's perspectives on what matters more explicitly than clinical or parent perspective on function" (Greco, Lambert, & Park, 2016). The researcher found that the current design addressed the lack of this in the relevant existing research. Participatory research allows the subject for exploration to be directed by the participant, without the measurement of pre-determined variables such as attention, which is the focus of much of the existing research. This is in line with the epistemological position of this research which is mindful of the structures of power and knowledge which are imposed on more positivist research. The research design seeks to empower participants and explore and illustrate lived experiences.

Analysis

The analysis of the data in this research sought to explore the information gathered in participants' interviews and photographs. Although the primary function of the photographs in this study was to elicit the participants' views as described above, information from the images also carried meaning, thus the research sought to incorporate these meanings into the analysis and contextualise participants' verbal reflections (Gleeson, 2011). Much of the existing Photovoice research in psychology includes images in the dissemination of findings, however, the information within the images themselves is less often included within the analysis of the data. Papers have suggested that the reason for this is a largely around the perceived methodological challenges associated with a lack of standardisation around the analysis of visual information. Wang and Burris

state “photographs are easy to gather but difficult to analyse and summarise because they yield an abundance of complex data that can be difficult to digest” (p.374, 1997).

Studies have suggested that including visual information in analysis provides further opportunities for meaningfully exploring the phenomenon being studied (Reavey & Prosser, 2012). Authors have developed frameworks in which visual information can be included in the analysis process (Gleeson, 2011). One of the main challenges is how to limit the influence of the researchers interpretations of visual images. These interpretations are at risk of being influenced by researchers assumptions and may not be representative of the experiences which the participants are intending to communicate (Wang & Burris, 1997). In line with the social constructionist epistemology, this study aims to explore the subjective experience of the participants through a bottom-up inductive process, using the information gathered in this participatory method to develop an understanding. Inferences made by the researcher based on existing knowledge may risk diluting this by introducing top-down deductive processes into the analysis of the data. However, the research process is not free from the influence of the researcher, as the researcher is required to interpret the information within context. The methodological frameworks followed in this research seek to acknowledge this influence whilst limiting the potential researcher biases. Furthermore, existing research and theory will be used to complement and make sense of the findings in the discussion section.

Whilst the photographs are included in the analysis, the transcribed participants’ verbal responses during the semi-structured interviews represented the bulk of the information analysed in this study. The analysis of subjective experience presents challenges for the researcher in interpretting the participants’ narratives in a way which is accurately representative of the meanings the participants intended to communicate. The narratives communicated by participants in research attempt to express the essential meaning of their lived experience within their context, and the researcher’s interpretation represents the meaning of these experiences as understood from the researcher’s perspective (Neubauer, Wiktop, & Varpio, 2019). Reflection is required by the researcher throughout the research process to facilitate an interpretation of the narratives which is representative of the essential meanings held by the participants (Lindseth & Norberg, 2004). In the current study, although the research questions refer to the experiences of the participants, it is the essential meaning

of these experiences which the researcher strives to explore and uncover. Thus, RQ1 refers to *how* CYP diagnosed with ADHD experience Forest School. Investigating *what* the participants experience may suggest that their lived experience can be objectively uncovered, whereas *how* acknowledges the subjectivity of these experiences by exploring the ways they make meaning of them within their context (Neubauer, Wiktop, & Varpio, 2019). RQ2 refers to *what* aspects of Forest School CYP with ADHD *percieve* to contribute to their experience. Here, the focus on how the participants *perceive* the *what* highlights that the researcher's exploration is concerned with the subjective perception of contextual factors in their experience.

Researchers using methods that identify themes which emerge through the interpretations of narratives can attempt to convey the essential meanings of lived experience (Lindseth & Norberg, 2004). Mooney & Bhui (2023), suggest that thematic analysis provides a rigorous framework that can be applied to data in different contexts and is thus well suited to including visual data in inductive participatory psychological research methods such as Photovoice. Gleeson's polytextual thematic analysis (2011; 2021) employs the principles of thematic analysis but further develops the framework to allow researchers to analyse how the photographs taken by participants are interpreted by the participants themselves. This offers a solution to the issue of photographs being interpreted by researchers independently from the narratives held about them by the participants.

A study by Törnbom, Lundälv, Palstam & Sunnerhagen (2019) helpfully developed an analysis guide based on the stages of thematic analysis outlined by Braun and Clarke (2006) whilst incorporating the features of image-analysis as suggested by Gleeson's polytextual thematic analysis (2011). This analysis guide was used in the current study as the analysis framework. The phases of analysis are provided below (Törnbom, Lundälv, Palstam, & Sunnerhagen, 2019; Gleeson, 2011; Braun and Clarke, 2006).

> *Phase 1. Familiarise yourself with the data.* Read and re-read transcripts and look at the images many times (singly and in different groupings) to generate an initial list of ideas about what is in the data. Images are analysed by accompanying short descriptions, made by participants.

Phase 2. Produce initial codes from data. Data is coded to identify particular features of the material. These features with accompanying photos are identified as potential codes.

Phase 3. Analyse codes. Analyse codes to see how these can be combined to form overarching themes and subthemes. Take care to study the feature of the images, and how these might visualize one or more themes.

Phase 4. Reviewing themes. A set of candidate themes are devised and this stage involves refinement of themes. Which extracts do not fit at all? Are all themes distinct? You might need to rework the themes. Generate a thematic map of the analysis.

Phase 5. Defining and naming themes. Identify the essence of what each theme is about and determine what aspect of the data that each theme captures. Collated data extracts should be organized into a coherent and internally consistent account, with accompanying quotes. If there is any lack of clarity, redefine the themes that are identified. The object is to maximise differentiation in order to find distinctive features of the text and accompanying images. Identify what is interesting about the themes and why when labelling them.

Phase 6. Producing the report: It is important that the analysis provides a concise, coherent, logical, non-repetitive, and interesting account of the story the data tell within and across themes. Extracts need to be embedded within an analytic narrative that compellingly illustrates the story that you are telling about your data, and your analytic narrative needs to go beyond description of the data, and make an argument in relation to your research.

Findings

Themes and subthemes illustrating the experience of the participants at Forest School emerged from the analysis of the data. These interrelated themes and subthemes tentatively offer possible answers to the research questions. The superordinate themes offer answers to RQ1: How is Forest School experienced by CYP diagnosed with ADHD? Whilst the subthemes offer answers to RQ2: What key aspects do CYP diagnosed with ADHD perceive to contribute to their experience of Forest School? This is summarised in figure 2.

As the analysis of the transcripts was completed in tandem with the images taken by the participants, examples of images which contributed information to each theme are presented alongside the relevant theme and subtheme.

I can't ask for anything else, but to be here. I think I'd live here. (Rowan)

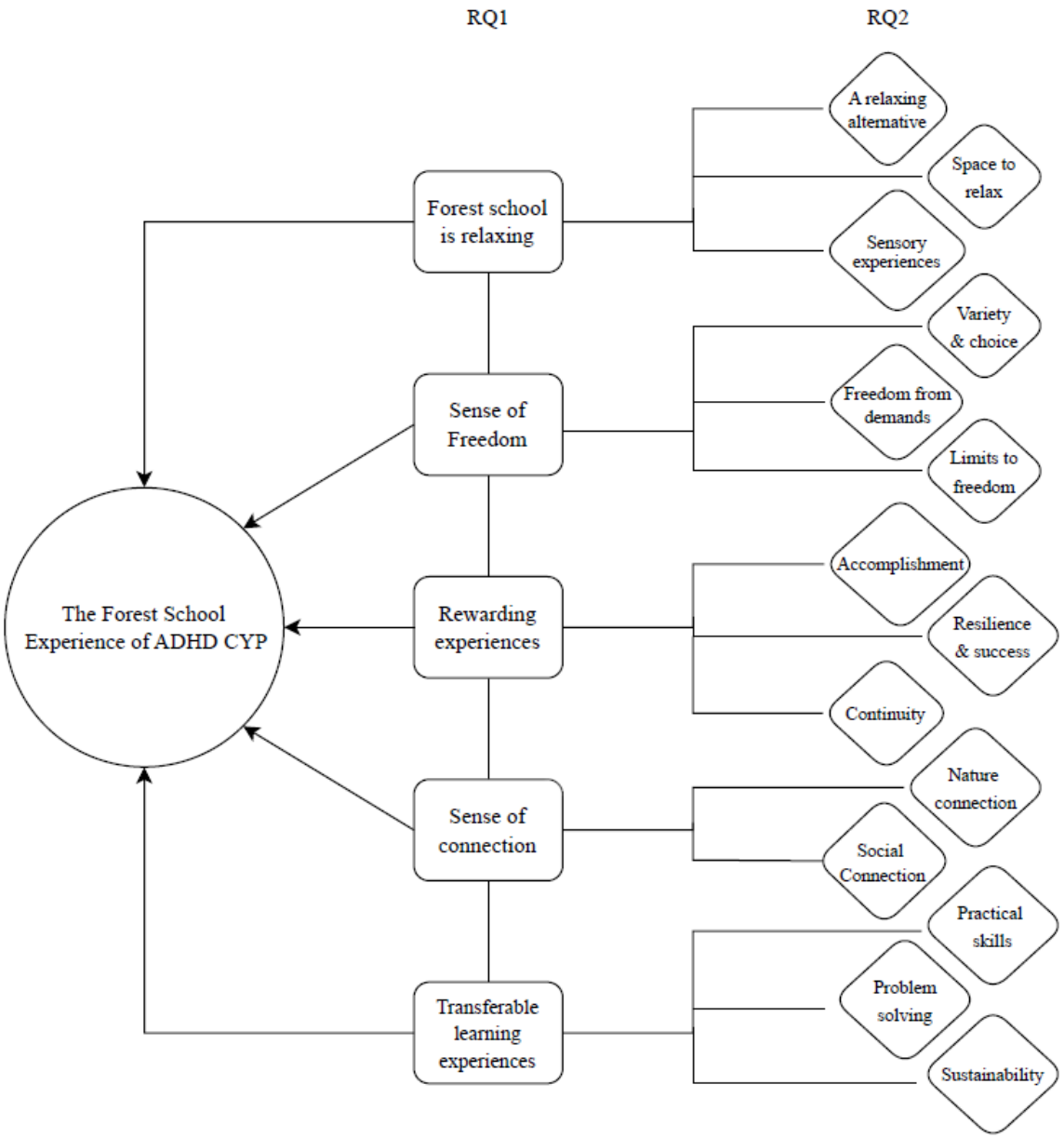

Figure 2.

Before elaborating on the themes, which emerged from this research, an overarching theme which permeates all of the following findings should be acknowledged. The participants overwhelmingly shared positive experiences and a sense of satisfaction and happiness at Forest School. The above quote by one of the participants, Rowan, illustrates this powerfully. These positive experiences will be explored further in relation to the various themes and findings below.

In line with phenomenological theory related to the understanding of lived experiences, it should be noted that when the researcher refers to the participants' 'experiences', this represents the

researcher's interpretation of the narratives shared by the participants which communicate the meaning they make of these lived experiences (Lindseth & Norberg, 2004).

Theme 1. Forest School is relaxing

The experience of relaxation was a major theme throughout the information shared by the participants. All participants in this research identified a sense of relaxation, calm and/or stress reduction at Forest School. The following subthemes describe the aspects of Forest School which were identified as relaxing by the participants. These subthemes cover participants' views that Forest School presents a relaxing alternative to the stress experienced in other areas of their lives, the physical areas in Forest School which provide space to relax and satisfying sensory experiences.

Subtheme 1.1. A relaxing alternative to home and the stress of school. Participants viewed Forest School as providing an experience which is relaxing in comparison to other, often more stressful aspects of their lives. "*It's really relaxing here. At school it's really stressful as you've got work to do like every hour. At break you only get a 20-minute break outside and at lunch you only get 30 minutes or something like that and I find that really unfair, because that's like two hours of basically work. Like for what… just for what though?" (Rowan, excerpt 1).* In this excerpt, Rowan identifies Forest School as relaxing. He uses the limited breaktimes and the *work* demands of school as a comparison between school and Forest School. It is notable that, when referring to the limited breaktimes, he referred to the limited time *outside.* Suggesting that access to the outdoors was relaxing for him. He also questions the purpose of school demands, describing them as *unfair*, perhaps indicating that he finds it challenging to understand the reasoning for such demands. Similarly, other participants allude to the stress they experience at school and suggest that Forest School allows them to relax. *"Sometimes when you get like, overworked, overstressed about school, sometimes it's just nice to know that you can come to Forest School a bit... Like just chill, have fun with friends, you know, just play around, enjoy it." (Ash, excerpt 1).* In this excerpt, Ash appears to be suggesting that there is an experience of imbalance between the stressful and relaxing demands of school, with these school experiences being weighted towards overly stressful. He identifies *fun with friends* as a characteristic of Forest School which contributes to it as a positive alternative, suggesting that there are more opportunities for social play compared to school. In these excerpts, a sense of being

exhausted by school demands comes through whilst suggesting that Forest School provides them a fix for this through an alternative, more relaxing environment.

Forest School was also identified as being a relaxing alternative to home life. *"[Forest School activities] mean quite a lot because I don't have it at home. I don't really have anything relaxing to do except like, sit down or watch TV."* (Oak, excerpt 1); *"It makes me feel quite relaxed, and sometimes if you're a gamer like me, who usually just plays like a lot of games inside when you come home, because when you sometimes come here, it just feels a bit nice and like relaxing." (Ash, excerpt 2)*. In these excerpts, Oak and Ash suggest that the activities at Forest School provide them with different kinds of opportunities to relax, which they may not have access to at home. The quotes within the context of Forest School suggest that access to the outdoors and physically active activities may provide alternative opportunities to relax compared to more sedentary activities such as playing video games or watching TV. *"It's a relaxing place, somewhere that feels less stressful, very calming… Sometimes, it's good to get away from your family. So, coming here might be a good option." (Rowan, excerpt 2).* This quote from Rowan suggests that the time away from family life was an aspect of Forest School which was relaxing for him. Again, he alluded to stress and how Forest School provided a less stressful alternative. These quotes suggest that although home life may provide the participants opportunities to relax, Forest School provides alternative opportunities which can be relaxing.

The excerpts in this section illustrate participants' experience that Forest School is a relaxing alternative to other aspects of their life. They compared the relaxing experience of Forest School to the stressful and tiring experience of school demands and to the limited relaxing activities available at home.

Subtheme 1.2. Space to relax. When exploring which aspects of Forest School contributed to the experience of relaxation, a prominent theme was related to the physical space. Physical space in nature is a core consideration and principle of Forest School, and the participants in this study shared their views around how they experienced this space, often as relaxing.


Rowan photo 1

"*It's nice to get away from the environment, sit down, just watch over everything. I like sitting here because whenever I sat here, I'd always see the trees." (Rowan excerpt 3, photo 1).* Rowan chose to take this picture of a 'sofa' because it represented a space where he could take himself at times when he was finding Forest School overwhelming. He suggested that being away from the Forest School activities, but still being able to observe what was happening in the activities and in nature was relaxing for him. Other participants similarly used their photographs to represent relaxing spaces at Forest School. *"[I took this picture] because I always like sitting on it and playing on it because I can relax in it." (Elm excerpt 1, photo 1).* Elm shared that this picture represented a space in Forest School which he found relaxing. He enjoys sitting and playing here, which suggests that engaging in activities in these spaces is also relaxing for him. This sense of spaces in Forest School providing opportunities to engage in relaxing activities was shared by Oak: "*If I'm just quite tired or something like that [from waking up in the night], I can just sit down somewhere here and it just calms me down and relax for a bit… because it's got quite a few flowers [and bugs] and you can probably talk to someone there. It's just quite relaxing, just to walk around and see it." (Oak excerpt 2, photo 1).* This photo represented a quiet area away from the main Forest School activity. He indicated that he came here to relax when he was tired and that he often has difficulties sleeping. As with Elm (*excerpt 1*), Oak identified activities which help him to relax in these spaces (*walking around, looking for bugs, talking to someone*). It appears that the spaces in Forest School allows an opportunity to relax when he does not


Elm photo 1


Oak photo 1

feel ready to participate with wider Forest School activities due to his own needs and circumstances. Physical areas of Forest School were identified as giving the participants a space to relax. Rowan and Oak suggested that these spaces provided them an opportunity to use these areas when they felt that other factors in themselves or the environment were not relaxing.

Analysing the visual information, it was notable that the photographs taken to represent this aspect by the participants were all of more quiet, secluded areas in Forest School, away from the areas where the main Forest School activities took place. This suggests that participants' opportunities to have 'time out' away from wider group activities and to engage with preferred individual activities was relaxing for them and perhaps provided a reduced sensory experience. These spaces appeared to provide consistent opportunities to regulate themselves by changing their environment. Information from the pictures and the excerpts also suggests that there is a variety of spaces which they can choose from. This is related to theme 2: 'freedom to choose' and will be expanded on in that section. "*If you're very tired and you're quite cold at the same time, there's a hammock where the fire circle is. So, if the fumes are going in the direction of it, that sort of makes you warmer and you can relax", "If you need to relax or if like you're stressed and if there's like none of those things that you want to do to relax, you can always go in the library." (Oak excerpts 3 and 4).* Oak identified being able to choose from different spaces to select the one which best suited his relaxation preferences depending on his needs at the time.

Subtheme 1.3. Calming and satisfying sensory activities. Sensory aspects of Forest School activities were also identified as helping the participants to relax. "*I've been picking up leaves and just ripping them which is why there are crunching noises. I like the crisp noises, it's kind of like a little satisfying noise, so definitely another way to calm down.", "If you looked above us in winter, when it was so cold, the leaves would always move. I found it really satisfying just to watch them move and dance around, around in the sky." (Rowan, excerpts 4 and 5).* Participants shared that being in nature allowed them relaxing sensory experiences. Rowan was ripping leaves during our interview to help him calm down. Touch, sound and watching the movement of the leaves were identified by Rowan as satisfying sensory experiences which he has at Forest School. Exposure to nature can be seen as

providing a higher level of sensory stimuli than controlled indoor spaces and it appeared that the participants found this relaxing.

"It's nice knowing you can just get around [the fire]. Have a few snacks and then just chill there and get warm." (Ash, excerpt 3). The fireplace was identified by most of the participants as an important part of the relaxing Forest School experience. This combined the sensory experiences of the noise of the fire crackling, being warm and eating food. Cooking and eating food by the fire was consistently identified by the participants as a satisfying experience at Forest School. *"When I'm cooking, just listening to the flames crackle, it's really, really satisfying. It sounds like the leaves going kshhh" (Rowan excerpt 6)*. Oak shared photo 2 to represent the satisfying experience of eating food at Forest School and getting warm by the fire. He also suggested that the routine of eating at certain times was reassuring as he knew that he wouldn't be hungry. *"At school, they'll likely have food if you haven't eaten, but sometimes if you don't tell them, they won't know. So, with Forest School, they sort of put it on at a time that they do it. So even if you haven't had breakfast, you won't be that hungry" (Oak, excerpt 5).*


Oak photo 2

Practical Forest School activities also provided the participants an opportunity to engage with their sensory environment. Oak shared a picture of branches which he was cutting up. This represented a task which required tactile sensory engagement. He felt that the low-level movement and the practical hands-on aspects of this supported him to calm down. *"This is a picture of like a bush that we had chopped up for cutting up for firewood and whittling. I find it quite relaxing. It just calms me down a bit because you're only moving a bit and then you're just using your hands. (Oak, excerpt 6, photo 3)"*. During the interviews, the participants referred to sensory experiences related to visual elements of nature, tactile activities, taste through food, nature sounds and crackling fires, warmth and


Oak photo 3

physical movement. This suggests the sensory environment was a significant and relaxing aspect of their Forest School experience.

Theme 2: A sense of freedom

When asked to describe Forest School, one of the participants stated, "*I mean, it's basically like freedom…" (Rowan, excerpt 9).* A sense of freedom was a significant experience of Forest School shared by the participants in this study. This was illustrated through the freedom to choose what activities to engage in and a general sense of freedom from the demands they associate with school. The limits on freedom related to Forest School rules was also noted by the participants.

Subtheme 2.1. – Freedom to choose from a variety of activities. A notable finding from the interviews was the range and variety of activities the participants shared being engaged with at Forest School. "*It's nice because you're allowed to do all different stuff… Playing on the logs and the mud kitchen and the shop and the den." (Elm, excerpt 2, photo 2).* Elm identified some of the activities he likes doing at Forest School and shared this picture to show on of his favourites, the mud kitchen. "*You can just go [to Forest School] and chill and just play around and do what you like, like build a mini house for an example, like cook marshmallows and cook other food" (Ash, excerpt 4).*


Elm photo 2

Participants shared that there was a sense of being "allowed" to choose which activities they engaged with. *"Every time I came here, the first thing I did is I pick up the guitar and start walking around the place with a guitar… In my primary school we have a piano, but we're not allowed to play it and I was very confused about why it was there in the first place if we weren't even allowed to play it." (Rowan, excerpt 7, photo 2).* Rowan and Oak identified a contrast in what they felt they were allowed to do at Forest School compared to school, suggesting they experienced more freedom and fewer limits to this at Forest School, and that there is a wider

Rowan photo 2

variety of permissible activity. "*I love climbing trees, so I find it quite fun that I'm able to like actually do it. In school, you're not really allowed to climb trees. But in here, you're allowed to actually climb them, if you've got a teacher around" (Oak, excerpt 7)*. Whilst Oak felt that he was freer to climb trees at Forest School, he recognised that this is conditional on a teacher being present to manage the risks (limits to freedom will be further discussed in subtheme 2.3).

"At first, I was like, I don't know why but they're probably just going to going to talk about the plants and stuff a lot, but no… turns out we are free to do whatever we want" (Rowan, excerpt 8). Rowan appeared to feel initially surprised at the level of freedom he experienced when he first attended Forest School. His quote suggests that he felt the choice of activities lies with the children and is directed by their preferences, whereas his presumption was that the learning would be adult-led.

"In the [Forest School] classroom, there's loads of things which you could do, like, loads of fun activities, which you could do with like puppets, and snakes and ladders and board games and such. If you're just a bit bored of the outside, you can just go in there and just chill." (Ash, excerpt 5, photo 1). Ash's quote and photo represent that the choice of Forest School activities was not limited to the outdoors.


Ash photo 1

The freedom of choice and variety allowed the participants to feel able to flexibly change the activity they were involved in to a more preferred one. "*So, there's different options of what to do. So, if you didn't want to do those sorts of things, you could do something else that you might want to do." (Oak, excerpt 8).* Participants shared that the freedom to choose from a variety of activities gave them an opportunity to select their preferred activity when they felt they needed a change. This suggested that they felt able to have flexibility in their learning environment to engage with activities which potentially more readily met their needs and preferences. The participants' experience of freedom to choose at Forest School appeared to allow a sense of agency over their environment to develop.

Subtheme 2.2. Freedom from school demands. As demonstrated by the excerpts included so far, participants frequently identified differences between school and Forest School. One of these differences was the level of freedom they experienced. "*I mean, it's basically like freedom, you can*

basically like get away from school." (Rowan, excerpt 9). Whilst Rowan characterised Forest School as a place to be free from school generally, Oak identified the difference in attentional demands. *"In school, it's quite like loud and it's quite hard to concentrate if everybody's not like settled or quiet. When you're in Forest School it doesn't really matter if people are loud because you're not doing 'work', but you're learning about new things and it's not that hard because you can talk to them at the same time as doing it about whatever you want and what you like." (Oak, excerpt 9).* He suggested that although there is less control over the potentially distracting social and sensory environment, he shared he does not experience the same difficulties with concentration at Forest School. He infers this is due to being free from the demands of school. Despite not experiencing *work*, he recognises that he is still learning at Forest School, but that this learning is experienced as easier. He appears to suggest it is easier because the social distractions he is required to resist at school to be able to learn, become something he can engage with whilst learning at Forest School.

The freedom from school demands can also be illustrated in subtheme 1.1. where it was found that participants experienced Forest School as a relaxing alternative to the demands of school.

Subtheme 2.3. Limits to freedom. Although the idea of freedom was prominently shared by the participants, acknowledgement was also frequently given to the limits of this, usually in relation to rules and risk. *"Do not damage things", "It can't be messy, because people could stand on stuff and it could break", "You can't trip other people up", "[It's important] not to damage stuff", "You're not allowed to run." (Elm, excerpts 3,4,5,6 and 7).* During the interview with Elm, he consistently spoke about the rules when identifying what he felt were the most important aspects of Forest School. "*Playing 'It' or something like that. You have to sort of like walk more than run. Which sometimes you'll easily forget and then you'll run for a bit. You might not trip but you can trip." (Oak, excerpt 10).* In this quote, Oak acknowledges that he knows the rules and why the rules are in place. Whilst Oak recognised that it was challenging to always remember to abide by the rules, Rowan shared that he made subverting the rules into a game. "*Sometimes our friends would play tag. I know one of the rules is no running and if they saw us running, we basically turned the no running rule into a game." (Rowan, excerpt 10).* Rules were often referred to during the interviews about the participants' Forest School experience. The participants generally shared an understanding of why the rules were in place,

citing danger and harm prevention. This suggests that although they experienced limits to their freedom by these rules, they understood the justification for them.

Limits to freedom were also shared by the participants in relation to their own management of risk. Access to certain aspects of Forest School could be affected by variables such as weather. "*In wintertime [one area] basically, like turns into, like a frozen ice rink like area. But it's quite dangerous. And nobody goes on to it much" (Ash, excerpt 6).* Participants felt that this was managed either by collective problem-solving or by having access to alternative activities to engage in.

Theme 3: Rewarding experiences

One theme which emerged from the interviews was around the rewarding nature of the experiences of Forest School. These rewarding experiences came from feeling a sense of accomplishment and experiencing success, resilience and continuity.

Subtheme. 3.1. Individual and collective accomplishment. The reason individual and collective accomplishment are combined into one subtheme is due to the mutual benefit of both which was experienced by the participants. Individual and collective achievements could have an individual and collective impact. "*It's the relief of managing to get [the spiders] into the cage. Feels like I've accomplished something. I've done well with something." (Oak, excerpt 11)*. This quote by Oak suggests that individual accomplishment of achieving a goal promoted positive individual feelings such as *relief* and pride. *"[Constructing Forest School] feels very nice to have the fact that we are actually helping the ecosystem around you. It feels very nice. I feel proud of myself for doing that", "I think some of the logs is also from like the ones which I also found in the clearing area, which I made. It's very nice to know that some of the other kids do enjoy it." (Ash, excerpts 7 and 8, photo 2).* The quote by Ash suggests he felt it was rewarding that his individual accomplishment had created a positive collective impact for his peers at Forest School. *"Everyone's been making little things around here and it makes it look really cool because it's like a little house in a way." (Rowan, excerpt 11)*. The quote by

Ash photo 2

Rowan suggests he appreciated the collective accomplishments of others at Forest School. *"I can collect stuff to put in the shop. [It makes me feel] happy because I can give people things." (Elm, excerpt 6, photo 3).* The quote by Elm suggests that his individual accomplishment allowed him to give to others, suggesting this action was individually rewarding as the collective impact on others made him feel happy.

Elm photo 3

Experiences of accomplishment were shared by all of the participants. Access to these experiences appears to be facilitated by the varied activities and opportunities at Forest School which can be engaged in individually or collectively. The findings from this subtheme are highly interrelated to many of the experiences covered in the other subthemes of this research, including subtheme 3.2.

Subtheme 3.2. Success through resilience. Participants identified rewarding experiences related to persistence and resilience (not giving up) at Forest School. "*[This picture makes me feel] happy because you can keep practicing and you'll get better and if you keep climbing you can keep practicing and you'll get even better. [If I fall] it doesn't harm me because I'm brave, so I can get back up again." (Elm, excerpt 7, photo 4).* The quote from Elm relates to the picture he took of the log pile which he enjoys climbing. He acknowledges the challenge of this but experiences rewarding feelings from the success of climbing these logs. It appears that he feels persistence and practice allow him to develop his skills and experience more success. Labelling himself *brave*, these experiences seem to allow him to identify with this resilience. The idea of experiencing success through *not giving up* emerged as a theme with the participants. *"It's the difficulty of getting up the tree and then back down. [The photo] represents not giving up and trying even if you've like done something wrong, if it's quite hard to*


Elm photo 4


Oak photo 4

get up there, you gotta push yourself to get up there.", "When you've done [the fire lighting], you feel very happy because if you find it quite hard and it takes you like ten tries or something like that, it just shows that you shouldn't give up on it.", (Oak, excerpts 12 and 13, photo 4). These quotes by Oak and Elm demonstrate the idea of resilience as 'falling down and picking yourself back up again' and the reference to happiness illustrates the rewarding experience of activities which require resilience to experience success.

Subtheme 3.3. A sense of continuity. Participants considered their Forest School experience in relation to time and the continuous nature of their projects and learning. *"It makes me feel like I can do different things than in school, at Forest School. If I was building something at playtime and it was the end of play [at school], then you'd have to leave that there and it's most likely going to get destroyed. If you do it in Forest School you can ask [Forest School Leader] to probably like, make sure it doesn't get broken… then next time you come here you can just take it back out" (Oak, excerpt 14).* Again, comparing Forest School to school, Oak appears to feel a sense of continuity with individual projects at Forest School, more than at school. This quote by Oak suggests that continuity was rewarding as it allowed him to complete unfinished projects over time, comparing this to school, where if a project wasn't finished within a certain time, there would not be the opportunity to. This sense of continuity was shared by other participants who described looking forward to finishing projects they had previously begun. "*So, hopefully, when I come back here one time, I'll be able to properly make the funhouse."* (*Ash, excerpt 9).*

The sense of continuity and impact over time was also experienced as rewarding in a broader sense. *"Eventually [the acorns we planted] will grow into one of the massive trees here. The environment needs a lot more trees because… apparently trees actually help us breathe." (Rowan, excerpt 12).* In this quote, Rowan identified the long-term benefits of his and his friend's actions to the environment. "*It's life. It's like a scale of life, it just goes on. Someone will probably come here and do the same thing that I did, and that lifespan will keep going on and on and on. [It makes me feel] good". (Rowan, excerpt 13).* The quote from Rowan was a somewhat abstract interpretation of the impact of his contribution to the creation of Forest School and its longevity. This appeared to suggest that he felt it was rewarding that the Forest School environment, which he had helped to

create, will keep developing and continue to provide similar positive opportunities for others in the future.

Theme 4. A place to connect

Participants frequently referred to the connection they felt between themselves, their peers and nature at Forest School.

Subtheme 4.1. Connection with others. Connecting with others at Forest School emerged as a theme of the experience of Forest School. "*Because I don't live round here, it just means that I can do things with my friends instead of having to go in a car for 15 minutes. That means quite a lot to be doing those things together with your friends" (Oak, excerpt 15).* The quote by Oak suggests that the social connections allowed by Forest School is meaningful for him. He also alludes to the accessibility of these social opportunities, which he may not be able to access where he lives. *"Sometimes it's not like all of your friends may be there or you don't have your friends there, you can make other friends." (Oak, excerpt 16)*. Here Oak refers to the opportunity to create new connections with other attendees at Forest School. *"It's pretty nice to know there's some friends here too that you can count on" (Ash, excerpt 10).* In this quote, Ash appears to recognise that his friends at Forest School provide a source of support for him.


Rowan photo 3

Gathering around the fire was an experience of Forest School identified by the participants. "*Everybody used to gather round this fireplace. Every day we'd always eat something there for lunch or as a little break time snack." (Rowan, excerpt 14, photo 3). "It's nice to know that you can just gather round the fire." (Ash, excerpt 11)*. These excerpts suggest that the activities and routines of Forest School facilitate time and space for social connection.

A connection to the supportive adults at Forest School was also identified by the participants. *"Since the other grown-ups are super nice, it's nice to know that they're able to help and make you feel better if you're just getting a bit annoyed about school and such." (Ash, excerpt 12).* This quote by Ash indicated that he felt a connection to the adults and suggested they were available to support

him if needed. "*All the staff here are really friendly and really nice" (Rowan, excerpt 15).* Rowan described the positive characteristics of the adults at Forest School which promoted his connection to them.

***Subtheme 4.2. Connection to nature*.** A connection with nature was a key theme of the Forest School experience shared by the participants. *"[The most important thing about Forest School is] the greenery and its wildlife, you get to see like natural little animals and like plants and like bugs just basically like chilling out, enjoying life though. This is what we should try to do, like help with the ecosystem and stuff like that because we're partly destroying it though." (Ash, excerpt 13, photo 3).* In this quote, Ash identified a connection with nature through being able to observe plant and animal life as an important element of his Forest School experience. He referred to observing animals non-intrusively in their natural environment. The picture he took is of a frog pond he helped to create. He shared that he wanted to take a picture of a frog but couldn't find any. He acknowledged environmental issues and suggested that the connection to nature allowed him a way to contribute positively to the environment.


Ash photo 3


Oak photo 5

The connection to nature provided enjoyable experiences for the participants. *"It's a picture of like a bug cage sort of thing because I normally like catching bugs because it's just fun with my friends. I do that a lot of the time. We had like four spiders and loads of centipedes, millipedes and worms." (Oak, excerpt 17, photo 5).* Oak identified catching insects as an enjoyable activity he could engage in socially. Interpreting the picture, the *cage* allowed Oak to connect with nature through being able to observe animal life up-close.

As was referred to in subtheme 1.3., nature provided the participants with satisfying sensory experiences at Forest School. *"Whenever I'd sit here, there's little plants there and sometimes they'd like feel around my feet and it would just kind of feel like every noise had just been taken out of my mind and plants are just slowly taking over me. [It makes me feel] really happy." (Rowan, excerpt 16,*

photo 4). This powerful quote by Rowan appears to suggest that a sensory connection to nature presents a satisfying and rewarding experience for him. It demonstrated self-monitoring, relaxation and a deep connection to the natural world. The impact of this appeared to facilitate an experience akin to mindfulness.

Theme 5. Transferable learning experiences

The learning experiences at Forest School were noted by the participants. Interestingly, the perception of 'learning' varied between the participants e.g., "*I've not learnt too much though. It's mainly about like learning about having fun and a bit of our ecosystem with like the plants and such like, wildlife like animals, bugs, plants, all that good stuff." (Ash, excerpt 14).* This quote may suggest that Ash's conceptualisation of learning was based on experiences of typical school-based learning, and the Forest School learning experience was perceived as something different. The learning experiences in Forest School identified by the participants were related to practical skills, problem solving skills and environmental sustainability.

Subtheme 5.1. Practical skills. The practical nature of many of the Forest School activities appeared to allow the participants to experience that they were learning practical skills. *"Me and [my friend] were meant to be building like a fun house but first, we had to do a lot of like getting rid of like brambles, like logs cutting big logs in half, making some space in general. And I feel that you learn how to do that here." (Ash, excerpt 15).* This quote by Ash suggests that learning experiences related to construction allowed him to learn practical skills such as cutting wood and clearing space. This also appears to have provided a learning experience around pre-task preparation and planning.

Participants also identified how their practical learning experiences were transferrable outside of the Forest School context. "*If you're in a forest, another forest, you'd have to eat, you could learn skills about it [at Forest School]. If you're in a real forest, you could use those skills to do things" (Oak, excerpt 17).* In this quote, Oak suggests that the practical skills learnt in Forest School can be applied to other experiences in forests more widely, perhaps for survival purposes. *"I remember a really good rule. 'If it snaps it cracks' which is basically, a stick where you have to snap it and if it*

makes like a noise like that, then you can throw it in the fire" (Rowan, excerpt 17). Rowan's learning around when sticks are suitable to be added to the fire, through a memorable mnemonic, highlights one of the ways practical skills are learnt at Forest School.


Elm photo 5

Elm took photo 5 to represent the guidance provided through recipes in the mud kitchen. *"You need it to make stuff so can make stuff like pancakes and stuff, but not real ones, mud ones, cos it's a mud kitchen" (Elm, excerpt 8, photo 5).* Whilst acknowledging that he is not making real pancakes, Elm suggested that learning from the recipes in the mud kitchen was helpful for him. This appears to represent the learning experience of incorporating guidance to support practical skill development, even in imaginative play.

Subtheme 5.2. Problem-solving. Problem solving skills are widely transferable. Problem-solving experiences were recognised by the participants. "*Sometimes, you need to use your brain a bit to figure out problems, which you might need to overcome, work together with other people, work with the teachers too and then it'll just be good" (Ash, excerpt 16).* In this excerpt, Ash identifies various problem-solving strategies. Referring to *Using your brain* demonstrates a recognition of individual problem-solving strategies, whilst *working together* suggests that an understanding that cooperation with others can also promote problem-solving. It is perhaps notable that he refers to *working together* with teachers, as this appears to suggest adult support is experienced as collaborative problem-solving rather than 'helping'. Collaborative problem-solving was also identified by Rowan. *"It really was a struggle. It took us like 20 minutes to at least get [the barrow] up the ramp… I got an idea because it's so heavy that we needed two people to push it" (Rowan, excerpt 18, photo 5).* Additionally, learning to use practical tools at Forest School to support problem-solving was also highlighted by Rowan's quote and photo here.


Rowan photo 5

Subtheme 5.3 Sustainable and environmental learning. Learning experiences about the natural world, particularly around environmental issues and sustainability stood out during the interviews. The participants shared their concerns about global environmental issues whilst describing how Forest School was providing opportunities to take action and learn about sustainability. *"People are cutting down trees and it's kind of ruining the environment" (Rowan, excerpt 19), "[If we don't stop using fuel] the whole world might be ruined, so our perfect temperature, our perfect place where we're able to grow nice things. It's gonna be like, some of the other planets where you cannot grow anything" (Ash, excerpt 17).* These excerpts suggest these participants have developed a deep understanding of, and concern about the human impact on environmental issues. *"At home, we've been planting sunflowers, trying to help the environment as much as we can" (Rowan, excerpt 20).* Here, Rowan suggests that he is aware of ways to help the environment related to planting skills he learnt at Forest School.

"If you're running low on wood, are you going to cut down more trees and get rid of the environment? or are you going to just look around and find sticks?" (Rowan, excerpt 21). Rowan refers to sustainable practices used at Forest School. The perceived need for sustainability was shared by Ash. *"It's nice to know that [Forest School] don't use fuel at all and don't waste resources that much, they're very resourceful. They don't use big machinery to like, do the work for them to make it easier. They just do the like old-fashioned way of doing like actual labour." (Ash, excerpt 18, photo 4).* Photo 4 was taken by Ash and represented the resourcefulness of Forest School practice e.g., foraged sticks used for structures and the area to collect mud for the mud kitchen. Resourcefulness was a reoccurring learning point shared by participants, who felt it was important to try to only use what was already at Forest School. Ash suggested another way in which he felt the Forest School experience was helping the environment. *"Because it's nice and the greenery shows like how nice the environment is" (Ash, excerpt 19).* This quote by Ash appears to suggest that he feels the connection to nature allows him to recognise the value of the environment and prompts motivation to protect it.


Ash photo 4

Due to the current worsening global climate issues, the learning experiences around environmental issues and sustainability can be seen as highly transferrable to the world outside of Forest School.

Discussion

This chapter aims to discuss the findings of this study. The discussion of these will be structured around the research questions and how the findings may tentatively offer answers to these. The discussion of the findings related to RQ1 could be viewed as giving an overview of the researcher's interpretation of the participants' narratives about their experience of Forest School, and the findings' potential relevance to existing theory. The discussion of findings related to RQ2 will seek to present a more in-depth exploration of the aspects of Forest School which appear to contribute to these experiences, again alongside relevant theory. Furthermore, there will be a discussion of the implications of this research for educational psychology practice and suggestions for further research.

Although the various themes discussed here contribute distinct and discreet understandings to the experience of Forest School for CYP diagnosed with ADHD, it should be noted that these themes are interrelated. For instance, a sense of freedom was related to a sense of relaxation as participants could choose to engage in relaxing activities. The experience of a variety of activities allowed for varied and transferrable learning. Experiencing success in these learning activities facilitated rewarding experiences as did a connection to others and nature, which also contributed to relaxation and accomplishment. It is important to consider that these experiences (RQ1) are not viewed as occurring independently from one another, and that the aspects of Forest School which contribute to these experiences (RQ2) are also interconnected. This is illustrated by figure 2 in the findings section.

Research question 1. How is Forest School experienced by CYP diagnosed with ADHD?

Forest School is relaxing. This first theme offered a response to the research question. There was a consensus amongst all participants that they experience a sense of relaxation at Forest School. Terms used by the participants to describe this included: relax/relaxed/relaxing, calm, chill and satisfying.

The finding that the participants unanimously identified a sense of relaxation to describe their Forest School experience was initially surprising. There is little reference in the existing literature to

relaxation as a major theme or outcome of Forest School. In Coates & Pimlott-Wilson's (2019) qualitative study exploring the Forest School experience of CYP, they found that the sample (who did not have a reported diagnosis of ADHD) experienced Forest School as 'exciting' and 'active'. There is no reference in the study to relaxation or calmness. As will be described in the upcoming sections, many of the findings of the Coates & Pimlott-Wilson (2019) study are in line with findings in the current study. However, it is notable that perhaps the main theme in the current research is not reflected in their study of a wider population of children's experience of Forest School. One potential explanation for this could be around the effect of stimulation on CYP diagnosed with ADHD. Existing research and theory by psychiatrists, neurologists and psychologists suggests that the ADHD brain is often 'under-stimulated' in low-arousal environments, prompting CYP diagnosed with ADHD to present 'stimulation-seeking' behaviours (Antrop, Roeyers, van Oost, & Buysse, 2000; James, Cheung, Rijsdijk, Asherson, & Kuntsi, 2016). These stimulation-seeking behaviours can be interpreted as 'challenging behaviours' by parents and school.

A difficulty calming and relaxing is often described as a symptom of ADHD (Niina et al., 2022). The effect of stimulation can also be demonstrated in the 'paradoxical' calming effect of stimulant medication on those with ADHD, where the 'under stimulated' ADHD brain is provided stimulation through stimulant medication, and thus is better able to calm (Harris, Green, Kumar, & Urs, 2022). The way this may be related to Forest School is through the stimulating nature of Forest School. Where this Forest School stimulation may be 'exciting' for neurotypical participants, the current research suggests it may be relaxing for CYP diagnosed with ADHD.

A sense of freedom. *"I mean it's basically like freedom…"* (Rowan). A sense of freedom was shared by all participants. Freedom was identified as 'freedom' from typical school demands, access to a variety of activities and experiences, and a sense of being allowed to choose what to engage with. The limits of freedoms related to Forest School rules were also referred to by the participants. Waite and Goodenough (2018) argue that Forest School represents a freedom and divergence from the typical experience of school. This argument can be discussed through a social constructionist perspective. Waite and Goodenough's argument suggests the typical school experience is situated heavily within the context of social and cultural structures. Practices within the school context seek to

maintain these cultural norms through systems of control. Waite and Goodenough refer to a 'cultural lightness' afforded by Forest School which diverges from the structural control of English schooling based on cultural norms. This concept of 'cultural lightness' highlights the conscious acknowledgement of the impact of imposing top-down structures of control based on cultural norms within Forest School pedagogy, and subsequently, the reflexive practices employed in the Forest School context. The idea of Forest School being less top-down is argued to facilitate a sense of freedom from fear of 'getting it wrong' or violating the rules, if the 'it' and the 'rules' are determined by the children and not by external systems (Davenport, 2019). This freedom from the demands of school will be discussed later, in response to research question 2.

Interestingly, in Leather's (2018) critique of Forest School practice, he questions Forest School's level of freedom from the impact of cultural norms. Leather further employs constructionist thinking and argues that Forest School practice may simply represent "*a new type of adult leading children outdoors*" (p.15). He points to the rise of popularity in Forest School and the subsequent 'commodification' of it, which has driven a push for a standardisation of Forest School practice and training. This standardisation, he and McCree (2019) argue, imposes cultural influences on practice at different levels at Forest School, from the powers which contribute to the design of the training to the practitioners who employ it. The argument is countered somewhat by Waite and Goodenough (2018), who suggest that the training does not simply train practitioners how to deliver Forest School, but pushes them to reflect on the relevant pedagogical mechanisms. However, they acknowledge that the materialisation of this in practice is inconsistent. Leather (2018) further argues that due to long-held norms around the power of adults over children, the freedoms which may be afforded by Forest School may create dissonance for UK educators. Thus, freedom is at risk of being diluted by adults' discomfort in relinquishing control in child-initiated activities. Here, Leather cites the view of Wood (2013) around child-centred play and how "it may threaten adults' control, disrupt their choices, challenge their values or provoke concerns about risks and hazards". The quote is highly relevant to the finding that the participants experienced a limit to their freedom, generally pointing to the rules they were required to follow at Forest School, which as suggested by Wood, were adult-imposed and concerned with risk.

Reflecting on this section, the weight of consideration to the 'lack of freedom' may risk underpowering the participants' subjective experiences of freedom. Whilst the experience of the limits to freedom is a valid finding from this study, it should be recognised that the focus on this by the participants appeared to hold significantly less importance to them than the experience of freedom at Forest School. Therefore, the critical view on the systems of control may be more reflective of the epistemological position of this research, rather than of the experiences of the participants. Findings related to the experience of freedom will be discussed further in response to research question 2.

Experiencing Forest School as rewarding. Responses from participants in this study suggested that they felt Forest School provided them with rewarding experiences. These can be seen as a sense of accomplishment, success through resilience and the experience of development and continuity over time. The feelings of accomplishment shared by participants were referred to at the individual and collective level (explored further in response to research question 2).

Much of the existing ADHD literature points to a 'dysfunctional reward system' in the brain to explain perceived difficulties in motivation and resilience (Stark et al., 2011, Freire et al., 2021). This medicalised understanding of the difficulties CYP diagnosed with ADHD face around motivation to engage in tasks can be seen as problematic as it situates the responsibility for these functions firmly with the individual rather than giving consideration to the nature of the tasks themselves. The understanding that CYP diagnosed with ADHD are dysfunctional for not experiencing arguably mundane tasks as rewarding, and experience difficulties in finding motivation to them, discounts the evidence from all of the tasks which they do experience as highly motivating and rewarding. The evidence from the current study indicates a high level of motivation to engage with a variety of rewarding activities. Self-determination theory (SDT) suggests that intrinsic motivation in social contexts is dependent on three essential psychological needs; autonomy, competence and relatedness (Ryan & Deci, 2017). The relevance of SDT to this research will be discussed in response to research question 2.

Experiences of a connection with others and nature. This finding refers to the participants' experiences of a connection to nature and social connections at Forest School. The experience of a connection with nature was frequently identified by the participants. This connection is fundamental

to Forest School practice and guided by one of the six principles of Forest School: *Forest School takes place in a woodland or natural wooded environment to support the development of a relationship between the learner and the natural world* (FSA, 2023). Much of the Forest School literature advocates for the benefits of nature connection, making claims based on existing research that a relationship with nature facilitates the development of resilience, creativity, self-worth, emotional literacy, self-regulation and sensory integration (Knight, 2011). Most of these potential benefits were directly referred to by the participants of this study through their experiences of *not giving up*, accomplishment, relaxation and satisfying sensory experiences.

The calm and connection theory suggests that engagement with natural spaces may promote a reduction in stress through physiological brain responses related to the release of oxytocin (Grahn, Ottoson, & Uvnas-Moberg, 2021). This theory proposes that the oxytocin released by the experience of natural phenomena decreases fear and stress, whilst increasing wellbeing and a sense of connection to others and to the environment. This theory is relevant both to the sense of connection experienced by the participants and to the findings around relaxing experiences of Forest School.

Transferable learning experiences. This theme refers to the various learning experiences at Forest School identified by the participants. Interpreting the information around these experiences suggested that the learning experiences were around transferrable skills such as practical skills, problem solving skills and learning about environmental sustainability. McCree, Cutting, & Sherwin's (2018) study suggested that a long-term connection with nature and the experiences of Forest School led to a greater 'readiness to learn', and the that the benefits of Forest School were transferred back into academic learning where the participants achieved 'higher than expected' attainment results. This suggests that not only was the subject of the learning transferrable, but that the wider impact of the Forest School experience improved school learning engagement through increased readiness and wellbeing.

Research question 2. What key aspects do CYP diagnosed with ADHD perceive to contribute to their experience of Forest School?

The following section seeks to provide a discussion of the findings of this research related to the Forest School processes and mechanisms which the participants felt contributed to the experiences outlined above. This will be explored through current relevant evidence and theories.

Providing a relaxing alternative. Subtheme 1.1. illustrated that the participants felt Forest School was a relaxing alternative to stressful or under-stimulating environments at school and at home. This finding is in line with the stress reduction theory which states that exposure to natural settings reduces psychological stress compared to exposure to constrained artificial settings, which induces mental stress (Ulrich et al., 1991). In this case, Forest School provides the opportunity for exposure to natural settings, whilst the typical classroom can be seen as a constrained artificial setting.

Although not related to relaxation, this is also largely consistent with the main theme from Coates & Pimlott-Wilson (2019); that children feel Forest School presents 'a break from routine'. Participants in the current study shared that Forest School provided them opportunities to get away from the 'stress' and 'work' of school. Participants also suggested that the range of activities which helped them relax at home was limited and that Forest School offered more of these. This finding is highly interrelated to the following findings.

Providing relaxing physical spaces. Subtheme 1.2. suggested the participants found that having physical spaces to relax at Forest School contributed to the experience of relaxation. As mentioned before, the calm and connection theory suggests there may be neurological responses to certain natural spaces and phenomena which facilitate relaxation (Grahn, Ottoson, & Uvnas-Moberg, 2021). Participants in this study referred to elements of the natural spaces when discussing the relaxing experience of Forest School e.g., "*I can just sit down somewhere here and it just calms me down and relax for a bit… because it's got quite a few flowers and bugs"* (Oak).

Interestingly, the pictures taken by the participants to illustrate this were all in quiet areas away from the main Forest School activities. This may seem antithetical to the theory that increased stimulation is relaxing for CYP diagnosed with ADHD, however, in the interviews about these pictures, the participants also referred to what they would do in these spaces. For instance, Elm shared he felt relaxed in his space as he could "*sit and play",* whilst Rowan shared that he went to his relaxing space to *"get away"* from the wider Forest School activities, but that when he got there, he

found it satisfying to watch the leaves "*dance around in the sky"*. If this behaviour was seen in the typical classroom, watching the movement of leaves could be comparable to the stereotypical inattentive child 'staring out of the window'. These findings may suggest that being able to access spaces which allowed them to regulate the amount of stimulation in their environment was relaxing for them. Theories such as the optimal stimulation theory (Zentall, 1975) and the moderate brain arousal model (Sikström & Söderlund, 2007) argue that although CYP diagnosed with ADHD experience increased difficulties functioning under a low level of stimulation, there is an optimal level of stimulation required for effective cognitive regulation. These theories have been supported by studies which find that task performance and regulation are improved through providing increased, but controlled, sensory stimulation (Baijot et al., 2016). This suggests that the optimal level of stimulation is neither too high nor too low. As the participants in the current study felt they were able to regulate the level of stimulation they receive from their environment, this could be seen as them finding a space which provides optimal stimulation. A quote from Oak illustrates this well *"if I'm a bit bored then I'll do it with my friends and if I'm like stressed or something I'll probably do it on my own"*.

Providing a relaxing sensory environment. Findings related to subtheme 1.3. suggested that sensory experiences contributed to the sense of relaxation at Forest School. Sensory elements such as touch, taste, sound, movement, warmth and visual experiences were referred to by the participants. This included tactile and practical activities such as tearing leaves and cutting sticks. These activities, which participants described as helping them 'calm down', required a low level of physical activity but provided 'satisfying' sensory feedback. This level of stimulation could be comparable to behaviours such as 'fiddling' or 'fidgeting' which could be described as stimulation-seeking behaviours which are used as 'symptoms' in diagnostic ADHD checklists (Kofler, Sarver, & Wells, 2015). Sensory experiences related to eating food were also often reported by the participants. Research has suggested that the stimulating sensory experience of eating is immediately rewarding for CYP diagnosed with ADHD, however, this research is largely around the link between ADHD and 'disordered' eating (Munsch et al., 2019). Nevertheless, access to an environment which provides and

encourages frequent opportunities to engage with sensory activities appears to have a calming effect on the participants.

The sensory environment is something which is consciously considered in Forest School practice through pedagogies related to 'the brain, the body and place' (Cree & Robb, 2021). This literature highlights how nature provides a wide range of sensory opportunities to develop skills around self-regulation, sensory processing and integration through stimulating 'whole body' learning.

The freedom to choose from a variety of activities. Subtheme 2.1. indicated that participants felt that there was a varied range of activities which could be chosen from at Forest School. This included the choice to engage individually or socially in activities related to play, learning, construction, creativity and exploration. Coates & Pimlott-Wilson (2019) also found that 'choice and freedom' was experienced by their sample as an important element of Forest School. Choice theory by Glasser (1998) contributes to the pedagogy adopted by Forest School theory and practice. He argues that behaviour is an expression of met or unmet needs related to the following 5 categories: power; survival; love and belonging; freedom; fun and play. The current findings around the *freedom to choose* suggest there are ample opportunities to engage in activities which meet the needs of each of these categories. Applying this theory to ADHD, the classroom behaviours which are understood as 'symptoms' could signify many of these needs not being met in the school context. Findings from the current research indicate that CYP diagnosed with ADHD experience these areas of need to be met in the Forest School environment. Furthermore, self-determination theory has also been used as a framework by existing literature related to the experience of Forest School (Friedman, Gibson, Jones, & Hughes, 2022). *Freedom to choose* can be seen as promoting 'autonomy', one of the basic psychological needs as outlined by SDT (Ryan & Deci, 2017).

DuPaul, Weyandt, & Janusis' (2011) research into effective ADHD classroom intervention strategies suggested one such strategy is to provide students with a choice of various options. Dunlap et al. (1994), found that when students were provided with choices around their learning activities, they were more effectively able to engage with the task and they presented with fewer 'disruptive' behaviours. Friedman (2014) argues that the powerful impact of freedom of choice on ADHD is evidenced by the fact that many CYP diagnosed with ADHD appear to 'grow out' of their symptoms

after they leave school. He suggests this is due to adults having "far more freedom to choose the environment in which they live and the kind of work they do so that it better matches their cognitive style and reward preferences" (Friedman, 2014, p.5).

Freedom from the demands of school. Another factor related to freedom was the freedom from the demands of school (subtheme 2.2.). Participants shared they felt free from the expectations of school such as schoolwork. Different attentional demands compared to school were also identified. It was suggested by participants that the requirement to concentrate was not as important during Forest School learning as it is at school. These demands could be related to participant's identifying Forest School as promoting freedom from stress. Fiskum & Jakobsen (2012) argue that outdoor education reduces the demands on children to regulate their actions. They state that typical school demands for action regulation can be highly stressful for children. Given that action regulation (inhibition) is widely understood to be one of the primary difficulties associated with ADHD (Colomer, Berenguer, Roselló, Baixauli, & Miranda, 2017), it might be suggested that the classroom demands for a high level of action regulation may be perceived as particularly stressful by CYP diagnosed with ADHD. Fiskum and Jacobsen (2012) posit that the reduced demand for regulation in outdoor learning subsequently provides 'increased variability of affordances'. This theory suggests that as learners are allowed to spend fewer mental resources on regulating their actions, they are afforded more motivation to engage in a variety of learning activities. The findings in the current study could be interpreted as reinforcing this argument.

A notable aspect of this theme was the idea that their choices were permissible. Participants shared being 'allowed' to choose and engage in a range of activities, perhaps more than at school. For instance, Rowan's picture of a ukulele represented how he felt he could play this if he wanted. He compared this to his experience of school, "*In my primary school we have a piano… I was very confused about why it was there in the first place if we weren't even allowed to play it"*. This may suggest that it was felt by participants that whilst there are more options at Forest Schools than school, there are also more allowances. Gallichan & Curle (2008) found that CYP diagnosed with ADHD felt a lack of control and agency over themselves and their environment at school. Their study also suggested that the participants identified that these feelings were dependent on the context they were

situated in. Contexts which provided a 'comfortable fit' for the participants were found to facilitate a sense of agency over their lives (Gallichan & Curle, 2008). Evidence from the current study suggests that the freedom to choose at Forest School promotes a sense of agency for the participants and may allow a comfortable fit to be chosen by CYP diagnosed with ADHD. This is consistent with existing Forest School research which suggests that young people place a high value on opportunities to determine their activity (Waite & Goodenough, 2018; Coates & Pimlott-Wilson, 2019). Waite and Goodenough found that not only did young people find pleasure in the practical experiences of Forest School activities, but also from a sense of 'being allowed to decide what to do' (which is directly aligned with this study's findings). The focus of participants in the current study on permissiveness poses questions around dynamics of power and regulation, and suggests participants may experience systems of control to be employed differently at Forest School to what is experienced at school.

Limits to freedom. Although the experience of freedom was felt to be an important aspect of Forest School, participants also frequently referred to the boundaries or limits of this freedom. These limits were both adult-imposed limits through rules, and the restricted access to the environment due to risks created by the changeable natural environment. One of the central principles of Forest School states *Forest School offers learners the opportunity to take supported risks.* This suggests that play and activities with a degree of risk and danger should be encouraged, with a soft-touch level of intervention or management by adults. This was recognised by participants in the current study e.g., identifying that they should only climb trees and light the fire with adult support. They shared an understanding that the rules existed to protect them from harm. However, some did share finding some rules harder than others to follow, such as 'no running'. Although these rules may have been experienced by the participants as partially limiting to their freedom, Coates & Pimlott-Wilson (2019) suggest that children at Forest School experience increased confidence to independently engage in a wider variety of risky activities due to the knowledge of the protection provided by these boundaries and the reassurance that an adult is present. Furthermore, the limits which the participants recognised were created by risks from the environment suggest that through experience they were independently able to learn how to manage risk. As risk-taking behaviour is often associated as a negative aspect of

ADHD, being provided opportunities to independently learn to manage risks may be effective in mitigating the dangers often related to this (Gill, 2007).

Activities which facilitate a sense of individual and collective accomplishment. Feelings of accomplishment through Forest School activities contributed to the participants' rewarding experiences of Forest School. Relating the findings again to SDT, experiences of accomplishment can contribute to meeting the psychological need for 'competence' (Ryan & Deci, 2017). An individual sense of accomplishment was experienced when personal goals were met in Forest School tasks e.g., catching a spider or building a frog pond. An individual sense of accomplishment was also experienced when others at Forest School benefitted from individual contributions e.g., finding items for the shops for others to use or positioning logs which others enjoyed sitting and playing on. The experience of collective accomplishment was also identified e.g., the construction and decoration of different areas at Forest School, which the participants felt they contributed to collectively with their peers. Participants experienced this sense of accomplishment as rewarding, "*It feels like I've accomplished something, that I've done well with something*" (Oak). Garden and Downes' (2023) recent review of Forest School literature highlighted that increases in self-esteem and wellbeing was a prominent theme from the existing literature, paying special attention to the longitudinal study by McCree, Cutting and Sherwin (2018) which focused on the positive impact of Forest School on young people who were 'struggling' to experience success at school. The impact of the collective experience will be discussed in the problem solving and social connection sections.

Activities which promote resilience and success. Another rewarding aspect of the participants' Forest School experience relates to the feeling of success through resilience or *not giving up*. Interestingly, the photograph aspect of the methodology appeared to effectively elicit views around resilience, perhaps indicating that visuals supported the participants to express their experience of the abstract concept of resilience. During the interview with Oak, he selected his picture of a tree he likes to climb and shared *"It represents not giving up and trying even if you've done something wrong, even if it's quite hard to get up there, you gotta push yourself to get up there*". Similarly, Elm shared that his picture of a log pile made him feel *"happy because you can keep practicing and you'll get better and if you keep climbing, you can keep practicing and you'll get even better. [If I fall] it*

doesn't harm me because I'm brave, so I can get back up again". These two quotes quite literally demonstrate the idea of resilience as 'getting knocked down and picking yourself back up again' and illustrate the rewarding experience of activities which require resilience. Resilience has been found to be a key theme and benefit experienced by CYP who attend Forest School (McCree, Cutting, & Sherwin, 2018). This literature suggests that resilience is promoted at Forest School through the 'emotional space' afforded to the attendees, referring to the time and space CYP are given to express themselves emotionally.

Research has found that CYP diagnosed with ADHD are perceived as particularly vulnerable to difficulties around resilience in learning (Freire et al., 2021). However, there is evidence that the strongest predictor of high resilience in ADHD is low anxiety (Martin & Burns, 2014). Considering the findings from theme one that Forest School is experienced as relaxing and stress-reducing, these experiences could be interpreted as the antithesis of anxiety. This suggests that Forest School can provide an environment which promotes resilience in CYP diagnosed with ADHD.

The long-term process. Participants shared views around the rewarding experience of engaging with Forest School over time, which allowed them a sense of continuity and also provided them with evidence of the impact of their actions and projects. These experiences are facilitated by one of the core Forest School principles: *Forest School is a long-term process of frequent and regular sessions, rather than a one-off visit*. Participants spoke about projects which took a while to complete and those which are not yet compete, but that they look forward to completing in the future. Planting trees and constructing areas of Forest School were examples of activities which contributed to a sense of the longevity and development of their space. It was also suggested that continuity was rewarding as it allowed them to complete unfinished projects over time, with one participant comparing this to school, where if a project wasn't finished within a certain time, there would not be another opportunity to do so. In school, rewards such as praise or 'tokens' are usually contingent on the completion of tasks (DuPaul, Weyandt, & Janusis, 2011). As the school-related difficulties for CYP diagnosed with ADHD often pose a barrier to consistent classwork completion, ADHD learners may be less likely to access these external rewards. The increased opportunities to complete tasks over time at Forest School may explain the rewarding nature of these experiences. Furthermore, Forest

School literature suggests there is a conscious effort at Forest School to promote experiences which are intrinsically rewarding and associated with increased intrinsic, rather than relying on immediate and short-term praise and extrinsic rewards motivation (McCree, Cutting, & Sherwin, 2018).

Opportunities to connect with nature. Opportunities to connect with nature were identified by participants as contributing greatly to their Forest School experience. Participants frequently referred to the plants and animals they observed and interacted with in the Forest School environment. These experiences are interrelated to other findings of this study. Experiences related to a nature connection contributed to rewarding, relaxing and sensory experiences which promoted learning and pro-environmental beliefs and behaviours. This is aligned with the growing evidence-base related to the benefits of nature to CYP diagnosed with ADHD (Kuo, Barnes, & Jordan, 2019).

The relaxing impact of a nature connection was particularly pronounced in the current findings. The experience of *stillness* as a result of connection to plants and animals is a concept referred to in the Forest School literature (Cree & Robb, 2021). The taken-for-granted understanding of ADHD would suggest that *stillness* is not an experience readily available to CYP diagnosed with ADHD. The following quote from one of the participants, Rowan, is revisited to powerfully demonstrate how the connection to nature provided him with this experience: "*Whenever I'd sit here, there's little plants there and sometimes they'd feel around my feet and it would just kind of feel like every noise had just been taken out of my mind and plants are just slowly taking over me".* This quote revealed a deep connection with nature. It is one of many from the participants which demonstrated the significant impact of the experience of connection to nature.

Barrable (2019) makes the case for nature connectedness to be a distinct goal of childhood, in part due to the consistent findings related to the long-term benefits to psychological wellbeing associated with a connection to nature. Reviewing the literature to identify which pedagogical aspects were understood to contribute to nature connectedness, Barrable argued that a sense of freedom and child-led pedagogy enhance children's connection with nature. These are two aspects of the Forest School experience as outlined by the current study.

Opportunities to connect with others. Opportunities for social interaction and connection were highlighted as an important aspect of Forest School which contributed to the participants

experiences. Forest School pedagogy provides these opportunities through its social constructivist and play-based learning approaches (Coates & Pimlott-Wilson, 2019; Wood, 2013). 'Relatedness' is another essential psychological need in SDT (Ryan & Deci, 2017). Frequent Forest School opportunities to engage in social play contribute to the sense of relatedness, social connection and learning experienced by the participants.

Existing literature has consistently shown that the development of strong interpersonal relationships and skills is experienced by Forest School attendees (Dabaja, 2022). Although the social connection element of Forest School was shared by participants, it was perhaps not held to the same level of importance as other existing literature found. A potential reason for this is discussed in the limitations section.

Practical skill learning activities. Subtheme 5.1. refers to the practical activities which made up much of the learning experiences which were reported. These included chopping planting, wood, whittling, lighting fires, construction, pruning and cooking (amongst others). The participants also alluded to the transferability of these practical skills, suggesting they could use, or are using, what they have learnt at Forest School in another context. Many of these practical experiences were facilitated by adults and the engaged with collaboratively with peers or independently in line with relevant Forest School pedagogy related to (social) constructivist theories of learning (Bruner, 1983; Vygotsky, 1978).

Problem-solving skills learning. Subtheme 5.2. refers to the learning experiences around problem solving. Problem solving skills are widely transferable, and facilitating practical opportunities to develop solutions to problems with limited adult intervention is a goal of Forest School (Cree & Robb, 2021). Ash summed it up well: "*Sometimes, you need to use your brain a bit to figure out problems, which you might need to overcome. Work together with other people, work with the teachers too and then it'll just be good*". Although Ash mentioned teachers in relation to problem solving, it is perhaps notable that he referred to his peers first. This is consistent to other views shared by the participants which suggested that other attendees of Forest School are the first line of support in problem solving. Another notable aspect of Ash's quote is that he uses the term *work together with…* as a problem-solving strategy. This is worthy of recognition because it suggests that

interpersonal collaboration skills are practiced and developed at Forest School. This would be consistent with a literature review of existing Forest School research which suggested that the most impactful outcome of Forest School involvement was improved social and cooperative skills (Dabaja, 2022). The '*working together with teachers'* quote is also significant as it suggests that support from teachers is not led by them, but rather is collaborative. Again, these collaborative learning experiences with peers and adults are in line with the social constructivist pedagogies adopted in Forest School practice (Bruner, 1983; Vygotsky, 1978). Power dynamics are an area which is influential in the development of Forest School pedagogy (McCree, Cutting, & Sherwin, 2018). There is a belief underlying the Forest School processes that children should be given opportunities to gain mastery of their physical, learning and social environment through experience (Cree & Robb, 2021). This includes developing problem-solving skills through social and practical exploration with a lower level of adult direction than is typically experienced at school. The pedagogy which informs Forest School practice is heavily influenced by constructivist theory, especially related theories around play, to create a learning approach which attempts to facilitate learning through meaningful and relevant experiences (Wood, 2013).

Experiential learning about the environment and sustainability. In terms of relevance and meaningful experiences, one area of learning stood out for a number of the participants. This was learning about the natural world, especially around global environmental issues and sustainability (subtheme 5.3). Interrelated with the experience of a connection to nature, it was apparent that the participants felt motivated by their relationship with their natural environment to learn how to protect it. They frequently referred to learning how to be resourceful at Forest School to ensure they did not need to use more than was needed. The anxiety and helplessness CYP experience related to climate change and their motivation for action when this is not being done by governments, is potentially underestimated by adult discourses (Hickman, 2021). It was clear participants held genuine concern about these environmental issues. Being in 'the environment' and practicing sustainability provided meaningful learning experiences which were relevant to their beliefs and allowed them to experience 'taking action'. This can be seen to align with the constructivist learning principles adopted in Forest

School pedagogy which seek to promote 'learning through doing' and practically interacting with the learning environment (Waite & Goodenough, 2018).

Role of context

Ecological systems theory states that an individual's development is dependent on their interaction with interrelated environmental systems ranging from the immediate context to the wider societal context (Bronfenbrenner, 1994). Using this lens with the current research, the experience of CYP diagnosed with ADHD can be seen as dependent on the immediate natural environmental context of Forest School, the values and process of the educational approach, the relationships with peers and practitioners, amongst others within wider environmental systems. Self-determination theory suggests that contexts which satisfy the psychological needs of autonomy, competence and relatedness foster wellbeing, personal growth and intrinsic motivation (Ryan & Deci, 2017). The current research reinforces existing findings that Forest School may represent an educational context that provides experiences which meet these psychological needs (Friedman, Gibson, Jones, & Hughes, 2022). This highlights the importance of the environmental context of learning, behaviour and wellbeing for children and young people.

Squaring the findings discussed above with the social constructionist epistemology, it can be argued that the current findings reinforce existing social constructionist theorists views on ADHD. These views typically see ADHD as a label which pathologizes behaviours which deviate from societal constructs of expected behaviours (Timimi & Timimi, 2015). It can be interpreted in the findings from this study that the participants experience school as representing these constructs and expectations. Freedom from the demands of these at Forest School appear to allow a positive, satisfying experience for CYP diagnosed with ADHD. Applying these findings and arguments back to the literature review, it is perhaps telling that ADHD is seldom explored in Forest School literature. This can be compared to the Forest School literature related to autism (there is a book dedicated to the subject), which demonstrates potential benefits for autistic learners, as well as provides advice on how to adapt practice to meet their needs (James, 2018). If we assume that the recognition of the additional considerations necessary to inclusive practice with autistic learners at Forest School was bottom-up, i.e. identified through experiences of CYP and practitioners, then a simplistic argument could be made

that the lack of guidance on how to meet the needs of CYP diagnosed with ADHD may suggest that these needs are more readily met through the typical Forest School experience, thus fewer barriers to their inclusion exist which need addressing through specific adaptations. If this is the case, this argument is in line with the social model of disability (Shakespeare, 2006), a theory central to the rationale and aims of this research.

Gallichan & Curle (2008) argue that context is highly influential on the subjective experience of ADHD. They liken the experience of CYP diagnosed with ADHD within conventional societal contexts, such as mainstream school, to 'square pegs trying to fit in rigid round holes'. They found that CYP diagnosed with ADHD experienced fewer coping challenges in environments which were adaptable and flexible and that such environments foster a sense of agency and increased self-esteem. Further contextualising ADHD, Lasky et al. (2016) suggest that after CYP diagnosed with ADHD leave school in the transition to early adulthood, often many of their 'symptoms' become strengths rather than liabilities, theorising that this is due to being able to choose environments which have a higher level of stimulation, are often more practical and are more intrinsically motivating (Between half and two-thirds of people with childhood ADHD diagnoses no longer meet the criteria for the diagnosis after they leave school [Barkley, Murphy, & Fischer, 2010]). It may not be a coincidence that the flexible, stimulating, practical and motivating factors argued to create a suitable environment for people diagnosed with ADHD in these studies are highly aligned with the Forest School experiences outlined in the current research. Furthermore, as suggested by Lasky et al. many of the typical ADHD behaviours can be seen to become strengths at Forest School.

Implications for educational psychology theory and practice

Educational psychology theory. Critical educational psychology theories align well with the findings, both around ADHD and Forest School. The findings from the literature review demonstrate that although the Forest School literature is limited, the existing literature frequently engages with critical perspectives on education such as social constructionism (Leather, 2012), Foucauldian thinking (Maynard, 2007) and reflections on the contextual and structural influences on experience and learning (Waite & Goodenough, 2018). This suggests that the theoretical basis for practice of Forest School encourages reflexivity in dealing with complex social and environmental processes

related to the needs of learners. This paper has demonstrated that major theories which contribute to educational psychology practice, such as the social model of disability (Shakespeare, 2006), SDT (Ryan & Deci, 2017), choice theory (Glasser, 1999) and ecological systems theory (Bronfenbrenner, 1994), provide a good fit for understanding the Forest School experience of CYP diagnosed with ADHD. As there is currently a scarcity of educational psychology research related to Forest School and ADHD, this may provide an opportunity for educational psychology theory to contribute to, supplement and appraise Forest School approaches and their theoretical basis for meeting the needs of CYP diagnosed with ADHD.

Educational psychology practice. As illustrated in the literature review there is a stark lack of educational psychology literature around ADHD. As the identification of need and the recommendation/provision of support is a central tenet to educational psychology practice in the UK, the findings from this paper further reinforce the role of the context, both in terms of identifying needs, and how the context may be able to better meet these needs to support CYP diagnosed with ADHD. Educational psychologists could use these findings to frame their thinking around the presentation of ADHD needs and consider 'what would this behaviour look like in a setting like Forest School'. This employs practice aligned with important theories and approaches to educational psychology such as the social model of disability and functional behavioural assessment (Shakespeare, 2006; Gresham 2003). This is explored further in the final section of the conclusion titled *children don't need to stare out the window if they are out the window*.

Forest School is becoming more popular, and settings are increasing in number, however, Forest School is not universally accessible. Whilst the findings of this study were relevant to the participants, wider ecological systems such as politics and societal culture influence the provision of educational environments which may provide opportunities for similar experiences for other CYP (Bronfenbrenner, 1994). The findings of this study could potentially be applied to educational contexts outside of the Forest School setting. Although the findings related to research question 2 explored which elements of Forest School the participants felt contributed to their experience, many of these elements are not restricted to Forest School practice. These elements e.g., *relaxing spaces, freedom to choose, activities which promote resilience and success, opportunities to connect with*

others are not solely available at Forest School. This may provide further possibilities for educational psychologists to promote aspects of practice in the contexts of schools and other systems we work within which are in line with relevant theories such as SDT (Ryan & Deci, 2017).

Whilst the positive findings of this research along with other Forest School literature may provide practical implications for educational psychology practice such as an increased consideration of Forest School as a provision which may meet many learners' needs, the critical perspectives on Forest School are also crucial to take into practice. Much of the Forest School literature refers to the deep consideration of the learning environment and power dynamics as outlined by Forest School principles. However, critical views suggest that in practice there is friction with employing these approaches meaningfully within the constraints of the prevailing model of education in the UK (Waite & Goodenough, 2018). This has implications for educational psychology practice in that, with the increased popularity of the Forest School approach, there is a risk of the reflexive pedagogical practices central to *full-fat* Forest School being diluted to meet 'market' demands and subsumed by the restrictive traditional expectations of UK education (Leather, 2018). Therefore, before recommending Forest School as a provision which may meet the needs of CYP diagnosed with ADHD, educational psychologists will need to be mindful of the understanding that just because something is called Forest School, it may not deliver the same standard or type of experiences as another Forest School (McCree, 2019).

Inclusive education and practice. Comparing the findings from the current study to the existing research, it could be interpreted that CYP diagnosed with ADHD experience Forest School in many of the same ways as their 'neurotypical' peers. This could indicate that Forest School is an inclusive educational setting, as there are fewer barriers to active and rewarding engagement of CYP diagnosed with ADHD. This could have implications for practice when considering the right to inclusive education and reasonable adjustments as outlined by the equality act 2010. If future research continues to demonstrate the positive and inclusive experience of Forest School, it could be argued that access to these experiences is a reasonable adjustment.

Study Limitations

A number of limitations to the design, methods and findings of this study will be recognised in this section. This will cover generalisability, limits to the methodology and potential missed opportunities.

The number of participants recruited in this study presents a major limitation to the generalisability of the findings. Due to the participants in the study being children, essential considerations in the ethical process meant that Forest School leaders were required as gatekeepers and intermediaries between the researcher, the potential participants and their parents. Written consent was required from participants and their parents, and the responsibility for arranging this was with the Forest School leaders. Furthermore, there were additional GDPR and ethical considerations around using photographs with children. It is felt that the number of considerations and steps required to engage Forest School leaders and gather consent from children and parents was perceived as complex and arduous. This presented a difficulty to gaining access to a larger number of participants for this study. Similar challenges have emerged in existing literature where recruitment of child participants requires the assistance of an organisation (Campbell, 2008). The Forest School Association were supportive in publishing the recruitment flyer in their newsletter. In a helpful email response from the Forest School Association, they suggested that the difficulties in recruitment may be down to 'asking too much of Forest School leaders', a 'reputational risk for Forest School leaders', 'questions around the introduction of cameras into the sessions' and that 'Forest School leaders may not have access to the ADHD diagnosis or medical history of the child'. Another potential explanation for the limited number of participants is that a large proportion of Forest School settings are early years settings. As the majority of ADHD diagnoses are received between the ages of 6 and 12 years, the criteria for inclusion in this study was 6 to 13 years old. Thus, a large number of Forest School attendees were ineligible to take part in the study. Although the limited number of participants impacted the ability to gather the views of other children, there was great richness of information gathered from this study's participants. It was perhaps fortunate that the participants who were recruited for the study generally held a high level of verbal skills and were highly reflective and articulate about their Forest School experience. Furthermore, a participant who presented with challenges with verbal expression was able

to communicate their experience through the photographs, providing further justification for the use of this method.

The limited number of participants also impacted the possibility to ensure the generalisability of the findings due to a lack of diversity in the sample. All of the participants were boys, white and lived in the south of England. This presents a barrier to generalising the findings to the wider culturally, ethnically and gender diverse population as well as other regions of the UK.

It should also be acknowledged that although all of the participants held a clinical diagnosis of ADHD, three of the participants held other diagnoses too. Two participants also had a diagnosis of autism, and one had a diagnosis of global developmental delay. Whilst the inclusion criteria did not specify that participants should only hold the sole diagnosis of ADHD, this limitation means that the researcher cannot be overly confident that findings of this study are related to 'purely ADHD' needs. However, the existing literature consistently finds that the majority of children with a diagnosis of ADHD hold or meet the criteria for at least one other cooccurring diagnosis (Gnanavel, Sharma, Kaushal, & Hussain, 2019). Therefore, the proportion of participants with cooccurring diagnoses in the current study can be seen as representative of the wider ADHD population.

Limitations were also present in the methodology and design of the research. These relate both to the process of information gathering and the information which was gathered. Although major principles and practical elements of the Photovoice research method were employed in the methodology of the current research, certain aspects were not followed. Many Photovoice studies advocate for group discussions and exhibitions to facilitate further discussion around the photos taken during the project to promote collective empowerment and effect change (Suprapto, et al., 2020). This was not realistic in the current study due to the small sample size who attended two different settings. These elements also seek to contribute to Photovoice as a participatory action research method. The current study, whilst participatory, may have missed the opportunity to create change through an action research method by not being able to employ these elements of Photovoice. Furthermore, in line with an existing critique of studies which employ Photovoice, the level of participant participation throughout the entire process was limited (Milne & Muir, 2020). The participatory aspect of the current study was the creation of information through photographs and the subsequent

dissemination of the meaning behind these photographs. A number of studies suggest that the participants should also be involved in the analysis stage, collaboratively coding and creating themes with the researcher. This was not followed in the current study as the analysis can be tedious and time-consuming. Given the attentional needs of the participants it was felt this would not be appropriate. This is likely to have had an impact on the findings of the study as the analysis of the information gathered was more susceptible to influence from the researchers interpretations than if the participants themselves had been involved in the analysis stage. However, involving participants in the interpretation of the photographs sought to limit the influence of the researcher. Revisiting the quote from Liebenberg, ("we have an ethical imperative as researchers to ensure that the ways in which we engage in research with communities honour their wisdom and expertise" (p.1, 2018)) this was demonstrated in how the current research relied heavily on the views of the participants and foregrounded verbatim quotations.

There is also variability in practice at Forest School, as is discussed in the 'critique of Forest School' section of the literature review. This presents another limitation to the generalisability of the current participants' experiences to CYP's experiences at different Forest School settings and practices. As referred to in a previous paragraph, there was a suggestion that Forest School leaders may be hesitant to engage with the research due to concerns about their reputation. This may have created a bias in the sample, as Forest School leaders who are more confident in their practice or in the participants' inclination to share positive experiences may have been more likely to engage with the study. Relating to ecological systems theory, the practice of the Forest Schools in this study would also be dependent on various systems including local educational policy, funding decisions, access to natural space, the value systems of the Forest School practitioners, etc (Bronfenbrenner, 1994). In educational psychology practice, it will be important to consider the variability of Forest School practice.

Although the use of photographs in this study was effective in eliciting the views of the participants, this element of the research design presented a limitation, potentially unique to this kind of research. As the primary function of the photographs in this study was to elicit the participants' views, the interviews and the views shared by the participants were somewhat directed by the pictures

they took. In multiple ways, the choice of what to take pictures of was limited. Due to ethical considerations, the participants were instructed to not take pictures of other children at Forest School as consent had not been given for their picture to be taken. Previous studies have suggested that the social elements of Forest School were perceived as the principal benefit for the attendees (Dabaja, 2022). Interestingly, although a connection with others was identified by the participants (subtheme 4.1), a major theme directly related to social aspects of Forest School did not emerge from the information gathered as much as might have been expected. It is feasible that as the photographs were not allowed to be of other children, the information elicited through the photographs was less likely to involve views around the social experience of Forest School. Another way the content of the photographs may have been limited was due to the desired subject of the picture not being photographable within the time the participants were given to take them. For instance, during the interview with Ash, he stated "*I was hoping to take a picture of [the frogs]"*, however, he was unable to find a frog to photograph at the time. This highlighted a limitation to the information which could be interpreted from the photographs themselves, as well as the potential views elicited from them because if the participant could not take their preferred photos, personally meaningful aspects of their experience may be missed. Hodgetts, Chamberlain & Radley (2007) advocate for researchers to consider the meaning connected with photographs which participants were unable to take. In hindsight, a question such as 'Is there anything you would have chosen to take a picture of but couldn't today?' could have been included in the interviews to mitigate the potential impact of missing information. Although this is a potential limitation to the design of this research method, it may also shine a light on one of its advantages; the information which can be gathered through this method is not entirely dependent on a single form of communication. Whilst the photographs do support eliciting views in the interviews, the discussions in these interviews are not limited to the pictures. Ash was still able to talk about the frogs, and others still referred to their friends despite not photographing them. Moreover, it is likely that the physical search for photography subjects had an activating effect on thinking about what was meaningful for them at Forest School. Indeed, during our interview, Rowan seemed to be pleased to have the opportunity to do this, saying "*I just forget about these tiny little things*", referring to meaningful aspects of Forest School. Reflecting on this potential

limitation it seems that whilst incorporating visual and verbal information can allow for an increased elicitation of views, these views are vulnerable to being skewed by the direction created by the photographs, which are restricted by different variables.

Conclusion

The current research suggests that CYP diagnosed with ADHD experience Forest School positively. This positive experience was characterised by rewarding feelings of relaxation, freedom, connection and learning. The participants identified the aspects of Forest School which facilitated this experience. These included the physical, natural and social environment which provided a range of satisfying sensory and practical experiences and a sense of 'being allowed' to choose what to engage with.

Discussing these findings through critical perspectives, these findings can be seen to reinforce the view that the mainstream medicalised understanding of ADHD is a social construction. The experiences the young people shared about their Forest School context was distant from any deficit-centred talk. The findings suggest that the difficulties faced by CYP with a diagnosis of ADHD in education are largely specific to the classroom context and typical norms and expectations. In a comfortably fitting context, where their experiences align with those found by this study, it is unlikely their behaviours would be interpreted as medical symptoms.

Children don't need to stare out the window if they are out the window

This section may be considered by the reader as a supplement to the above paper. The title of this section constructs a reductive conclusion of the findings and discussion. The findings of the current research suggest that many of the behaviours or needs associated with ADHD, which may create tensions with the expectations of a typical school environment, are met and actively engaged with at Forest School. Using this construction attempts to serve a purpose in summarising and concluding the findings of the current study in an alternative (albeit simplistic) way. Using principles of functional behaviour analysis (Gresham, 2003) and choice theory (Glasser, 1998), here *Staring out of the window* serves as an example of a typical 'inattentive' ADHD behaviour and the potential functions of this behaviour will be explored in relation to the findings of this study.

Consider the finding that the participants experience Forest School as relaxing (theme 1). In a stressful or under-stimulating classroom, a CYP diagnosed with ADHD may stare out of the window. The experience of staring out of the window could present an alternative to the demands of school (subtheme 1.1), the space outside the window may represent a relaxing physical space (subtheme 1.2) and the movement of the trees may provide a satisfying sensory experience (subtheme 1.3).

Consider the finding that participants experience a sense of freedom at Forest School (theme 2). In a classroom where a CYP diagnosed with ADHD has limited freedom they may stare out the window. This could be because deciding to stare out of the window gives them a sense of agency in choosing a preferred activity (subtheme 2.1), what they see outside the window may represent a freedom from school demands (subtheme 2.2) due to the limits on the freedom of their current context (subtheme 2.3).

Consider the finding that participants experience Forest School as rewarding (theme 3). In a classroom where a CYP diagnosed with ADHD is experiencing difficulties independently engaging in and completing school tasks successfully, they may stare out of the window. In this class they may not be experiencing a sense of individual or collective accomplishment (subtheme 3.1) impacting on their resilience and motivation to *not give up* on their learning task (subtheme 3.2). Staring out of the window may be rewarding for them as they have been noticing the changes of the outdoor scenery over time (subtheme 3.3).

Consider the finding that participants experience a sense of connection at Forest School (theme 4). In a classroom where a CYP diagnosed with ADHD is forced to stay indoors for the majority of the school day and has been moved away from their friends to reduce distractions, they may stare out of the window. Staring out of the window and seeing the birds in the tree may provide a connection to nature (subtheme 4.1). Some of their friends may be playing outside, and watching them play may remind the CYP of a social connection through play (subtheme 4.2) which they are not experiencing in class.

Consider the finding that participants identified transferable learning experiences at Forest School (theme 5). In a lesson where a CYP diagnosed with ADHD is finding highly specific book-based academic learning challenging, they may stare out of the window. They may not be

experiencing this lesson as stimulating as they find practical learning activities (subtheme 5.1) or staring out of the window. As they are not experiencing what they are learning about they may question its relevance. Looking at the nature outside the window may prompt them to think about environmental issues and what could be done to solve these problems (subthemes 5.2 and 5.3).

Constructing the findings of this research through *'children don't need to stare out of the window if they are out the window'* encourages the reader to consider that the typical understanding of ADHD in education is situated within the constraints of the classroom context. If Forest School is understood as *out the window,* then the current findings suggest each of the speculative and hypothetical 'functions' of the behaviour would already be actively engaged with and even encouraged within the learning environment. Choice theory suggests that behaviour communicates met or unmet needs related to power; survival; love and belonging; freedom; fun and play. The current evidence suggests these needs are met in the Forest School environment. Through the social model of disability, the disabling barriers of the classroom could be seen to be removed.

Furthermore, considering schools are usually the first line of diagnosis (Singh, 2011), behaviours such as *staring out of the window* may prompt a perceived need for an ADHD assessment. *Staring out of the window* does not uphold the interests of the educators, but concentration and attainment does. Assessment and individualised treatment are seen as the first line of support, rather than meaningful systemic change. The same child's behaviours would likely not cause tension with the expectations of Forest School and thus, likely not be problematised (Foucault, 1980).

Although this is may be a reductive conclusion of the findings, using it as an illustration of the various contextual forces at play with both the identification of ADHD and the way these learners needs may be met could be developed to contribute to an accessible critical understanding.

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Chapter Three: Research Reflections

Literature review

As a researcher I found the literature review element of this thesis to be by far the most challenging. Perhaps this was due to the ADHD topic which I chose to study. There is an immense amount of research and theory on ADHD. I felt there was no way to illustrate all of these understandings of ADHD. Adopting a critical perspective helped with this as whilst I felt it was still important to outline the prevailing mainstream understanding of ADHD, the critical perspectives gave me a narrower lens and made things more manageable. Even within critical perspectives on ADHD there is a varied range of views so it was challenging to commit to one approach. Leaning on the social constructionist epistemology helped with this. Critical theorists who see ADHD as a social construction provided a narrower lens, whilst still being applicable to the wider ADHD context. One of the issues was the discrepancy between the amount of research there was on ADHD in the amount of research there was on forest school. Given the topics are arguably equal in their importance to this study, it felt as though the literature review should reflect that. However, this was challenging due to the discrepancy and whilst a range of literature could be explored around ADHD, it felt that the forest school literature was continually coming back to the same researchers. This resulted in understanding of forest school to potentially being shallower than that of ADHD, but this may be expected as forest school is a reasonably recent phenomenon.

Research Process

In the research process the for current study there was particular difficulty in getting enough participants. Reasons for this were discussed in the limitation section of the empirical paper. Nevertheless, I found that the view shared by the young people were extremely rich and that although there are only four participants so much meaning could be taken from their experience. One rewarding aspect of this research process was that the young people appeared to and shared that they enjoyed the process over taking pictures and the discussing of their experiences, this further validated the choice of methodology.

As the findings of the young people's experience of forest school was so positive, I reflected on whether I, as a researcher, encouraged the young people to say positive things about forest school.

When I re-listened to the recordings and transcribed the text, I could not find significant ways in which the language I used in the interview promoted these positive views, in fact, at times I said to them questions like 'are there any experiences of forest school that are less positive?', to which some responded about the cold and the weather, but they seemed to struggle to answer. Reflecting on why the idea of rules and limits came up frequently, one potential reason for this may be the use of the word 'important' in the interview questioning e.g. 'what is the most important thing about Forest School?'. Such questions were, on occasion, responded to with rules e.g. 'it is important not to trip people', 'it is important not to run'. It could be considered that language used to describe 'important' aspects of school by people in positions of power (e.g. teachers) is more often used to describe 'important' restrictions which pupils are expected to follow rather than other other processes in the learning environment. From a social constructionist Foucauldian perspective, language and discourse creates what is 'real' in the world and systems of control use language to assert their power (Foucault, 1980). It could be argued in a school context, statements such as 'it is important to pay attention' or 'it is important to walk, not run' sound far more familiar than 'it is important to have fun' or 'it is important to feel free to choose'. In future practice I will take this reflection to further consider the hidden discourses within the language I use.

Another question related to language which came up during this process was: Is there a difference between *how* and *what* people experience? and which one was I studying? This was helpful reflection as it allowed me to divide the findings in this way. I felt that the main question is related to *how* CYP diagnosed with ADHD experience forest school. But the *what* aspects of forest school was also highly useful as it allows an exploration of the aspects and processes of forest school which contribute to *how* they experience it to be explored.

Reflections of epistemology and ontology position

The social constructionist epistemological position adopted by this research seemed a natural choice. This was due in part to the social constructionist learning as part of the educational psychology training programme. The learning experiences gained through the courses such as 'the child in context' made me as a trainee and researcher firmly position myself within the social constructionist epistemological camp and a relativist ontological viewpoint. Furthermore, as the

research sought to gather the views of young people around their subjective experience, this bottom-up process of research lends itself to the social constructionist ideals.

The idea of ADHD also contributed to my reasoning in adopting social constructionism in the research process. This was due to the fact that is seems no one, apart from perhaps pharmaceutical companies, really seems to agree on what ADHD is. This made me think that although there is a collective social construction of ADHD, every individual and every culture appears to hold their own construction of what ADHD is too. Therefore, to use a more positivistic epistemological position based in realism ontology, would have been to suggest that I, as a researcher, may have been confident in a particular understanding or conceptualisation of ADHD.

Social constructionism seeks to view the world through human interaction and the meaning we make through the language we use. This appears to fit well with the research methods used in this study. Indeed, I feel that this epistemological framework facilitated a rich and meaningful exploration of the views of the participants within the study. I sought to employ social constructionist thinking throughout the analysis of the data collected, and in the inferences made in the findings. This is where I found the most challenge related to this epistemology. I'm unsure of whether this is a strength or a limitation of social constructionism, but I found it challenging to feel able to interpret the meaning of the experiences shared by the participants as representative of anything outside their own experience. In the thematic analysis research process, it is encouraged that researchers describe their interpretations of the information shared by the participants. I felt this necessity for interpretation was potentially counterintuitive to social constructionist thinking. Reflexively limiting my own interpretations during the analysis phase perhaps contributed to a level of repetition in the dissemination of the finding. This goes against the guidelines of thematic analysis. This highlighted a potential friction between the methodology of thematic analysis and the epistemological of social constructionism.

Another difficulty I experienced with social constructionism was a sense that the findings were potentially inconsequential, due to the underlying understanding that the experiences shared were specific to these particular participants within their particular contexts. Thematic analysis seeks

to buffer this by gathering themes which are common to more than one participant and thus attempts to create potentially more generalisable findings than the individual case.

Whilst I ensured I was careful in the analysis and findings aspects, I felt the social constructionist model also created tension in the discussion of the findings section of the study. Social constructionism suggests that we make sense of people's experiences by exploring those experiences. I felt it was important to also make sense of these experiences by exploring them alongside existing understandings, theories and research. Making sense of findings in this way feels as though it undermines social constructionism as we rely on shared knowledge to create an understanding. To mitigate this feeling, any conclusions were attempted to be made with tentative, speculating language. Andrews suggests that social constructionism must not claim truths but can make a compelling argument (Andrews, 2012). This is the direction I felt the research took; tentative findings making a compelling argument. However, again I felt this potentially undermined a pure social constructionist approach, as to make a compelling argument, I was required to pick a position to argue for. Although the data collected in this study painted a clear picture that the ADHD participants' experience of forest school was overwhelmingly positive, harnessing this information to create a compelling argument could not be done independently from my personal feelings and beliefs about it.

I feel the quest to create purely social constructionist research here was highly challenging and that striving to do so threatened my perception that I could make any assumptions or inferences from my findings at all. Andrews reflections on social constructionist research will reassuring in that he stated that social constructionist research does seek to provide further arguments into a discourse but does not claim any ontological basis for these. I feel that conflating the epistemology of social constructionism with an ontological perspective which seeks to claim the nature of truth was a mental block and separating these was helpful. Reflecting back, it was potentially enough to recognise the power of discourse and the impact of social constructions, and although I do not feel as though it was pure social constructionism, I still believe the research is more in line with this epistemology than any other more realism-based epistemologies. I feel that to promote research which effectively facilitated the social constructionistic epistemology, the use of discourse analysis may have been more

appropriate. However, although this approach may have allowed for a truly social constructionist methodology, it may have negated from other aims of the research.

From social justice perspective this relativistic ontological position sought to free the participants from the boundaries of the medicalised understanding of their needs and experiences. I believe it was effective in doing this and it was notable that medicalised deficit-based language or views were never shared in their representation of their experience of forest school. However, there may be limits to the research is applicable it to social justice perspectives due to the small sample size which is not reflective of the diverse wider population.

Reflections on personal experience

Personal life experiences contributed significantly to the motivation to explore the subjects covered in the current research. The following is a story about my experience which, although personal, I feel is highly relevant to my closeness to the research. When I was diagnosed with ADHD as an adult, I experienced ambivalence in how I should react to this and incorporate it into my understanding of who I am. On the one hand, I felt a great sense of relief. On the other hand, I felt (and still feel) sure that there is nothing 'wrong' with me… so what does this medical label contribute to my sense of self? The diagnosis seemed to provide an answer to why I have always found tedious, low-stimulation tasks to be highly challenging to initiate and/or complete. My engagement with school learning tasks was highly limited and I languished in school education, especially at primary school. Although I found most class/homework overwhelmingly tiresome, I had almost unlimited energy to search for bugs in the garden, play football with my friends and ride my bike in the forest. At my year 5 parent's evening, my teacher told them "Other than placing a bomb under his bum we don't know how we'll be able to get him to do any work". When presented with samples of my work, my parents recall this being limited to the title, date and various splodges of ink from where I had been dissembling and reassembling my pens. This information clashed with my parents understanding of the interested, curious, explorative child with whom they had complex discussions around the dinner table. My parents identified that a big change was needed to support my learning. I was in the fortunate position that my family, although needing to make sacrifices to enable this, were able to send me to a private school which offered a significantly different learning environment. My

attainment, motivation and ability to engage in learning became unrecognisable to what was seen in the previous school. I vividly remember experiencing learning as stimulating and enjoyable for the first time and feeling an alien sense of success and accomplishment in learning. The reason for including this (potentially overlong) personal account of my educational experience is to illustrate the impact of the educational context. Through my needs being met by a stimulating and engaging educational environment where I experienced success, the impact on my ability to learn was transformational. Whilst I am sure I would have met the criteria for an ADHD diagnosis in my first primary school, I doubt that I would have done in the second setting. I feel a significant reason I received a diagnosis as an adult was due to the career/learning path I chose to take which, whilst highly interesting and personally motivating for me, involves a high level of procedural and attentional demands (e.g., minute taking, assignment & report writing).

These personal reflections are meaningful when considering the current research area and why I chose it. Whilst I was fortunate to be allowed the opportunity to experience an alternative educational context which met my needs, this cannot be said for all learners. Therefore, social justice contributed to the motivation for this research. Employing the social model of disability view, contexts should change to meet the needs of the learner, rather than the learner needing to change to meet the needs of the context. Forest School was used as the alternative educational context for a number of reasons. Forest School is a rapidly developing approach and one which I have come into contact with on numerous occasions during my placement experience. As far as I could see, this was one of the most widespread freely available (to some children) educational context which resembled a consistent learning environment that was vastly different to the typical mainstream school. The existing literature was limited, but overwhelmingly optimistic about nature and Forest School's ability to meet the various needs of learners. Furthermore, on another personal level, throughout my life being in nature has always provided me with a sense of ease, satisfaction and focus, away from the stressful procedural and cognitive demands of other aspects of life. I wondered whether this was due to 'the ADHD', and whether my responses to the allowances of nature were shared with others diagnosed the same way. If children whose needs and strengths do not necessarily align with the

expectations of the typical mainstream classroom, then surely their experiences of a vastly different context were worth exploring.

Reflecting on what has been shared in this section so far, it can be suggested that I, as the researcher am very 'close' to the research subject. Early in the process I acknowledged the potential impact of this and wondered about whether I was in fact *too* close, and whether the conclusions drawn from the research may be susceptible to being influenced and directed by my own views, beliefs and experiences. This was raised in research supervision, where whilst it was felt that it was right to acknowledge this, as long as there was consistent and conscious reflexivity on the potential impact of it, it would not invalidate the research findings. In addition, it was agreed that practically, for someone with my needs, engaging in a highly motivating thesis project would contribute significantly to its effective completion, and that a topic which is very close to me could promote this. It did. The potential pitfalls of my closeness to the subject were considered when choosing a research method. Whilst exploring this in existing methodological research, there was an approach which resonated with me; feminist social research was largely conducted by feminists. These researchers were conscious of their views and beliefs and reflexive in how they managed these in their research. Many feminist researchers advocate for a participatory model which aims to limit the influence of the hierarchical power of researchers over their research subjects and allows the participants voice to be heard rather than the researcher's (Reid, Tom, & Frisby, 2006). A participatory model was employed in the current research, and whilst I cannot guarantee personal beliefs had no influence over the findings, selecting this method evidences a desire to be reflexive and mitigate their impact.

Another personal reflection is around the use of stimulant medication. It could be interpreted that at various point in this thesis, the subject of the medicating of ADHD children is inspected critically. I use stimulant medication and I highly doubt that this thesis would have been completed (at least in the time it was) without them. My critical view of the use of stimulant medication may be seen as somewhat hypocritical. However, my view is not to suggest that stimulant medication does not work, but that it is only the context which requires it and not the person. Looking through the lens of the social model of disability, if there was a world in which I could have demonstrated the findings of my research in an alternative way which played to my strengths, I likely would not have required

medication to complete this 40,000-word thesis. Considering the relevance of this to the research, if ADHD children can learn in an environment which harnesses their abilities and meets their need for stimulation, I feel it is unlikely there would be a need for medicalised intervention. Furthermore, I chose to pursue a doctorate in educational psychology and consented to the existing demands of it as an adult. Children rarely are allowed the agency to choose the way they learn at school, and it is the learning environment chosen by adults and society which facilitates the perceived need for labels such as ADHD and the associated medical interventions which allow them to engage with learning in an accepted way.

References

Andrews, T. (2012). What is Social Constructionism? *The Grounded Theory Review*, 39-48.

Foucault, M. (1980). *Power/Knowledge.* New York: Pantheon.

Reid, C., Tom, A., & Frisby, W. (2006). Finding the 'action' in feminist participatory action research. *Action Research, 4*(3), 315-335.

Appendices

Appendix 1. Ethics approval letter

Study title: Exploring the Forest School experience of children with ADHD: A Photovoice Study

Application ID: ETH2122-2069

Dear Joey,

Your application was considered on 16th November 2022 by the EDU S-REC (School of Education and Lifelong Learning Research Ethics Subcommittee).

The decision is: **approved**.

You are therefore able to start your project subject to any other necessary approvals being given.

This approval will expire on **1st September 2023**.

Please note that your project is granted ethics approval only for the length of time identified above. Any extension to a project must obtain ethics approval by the EDU S-REC (School of Education and Lifelong Learning Research Ethics Subcommittee) before continuing.

It is a requirement of this ethics approval that you should report any adverse events which occur during your project to the EDU S-REC (School of Education and Lifelong Learning Research Ethics Subcommittee) as soon as possible. An adverse event is one which was not anticipated in the research design, and which could potentially cause risk or harm to the participants or the researcher, or which reveals potential risks in the treatment under evaluation. For research involving animals, it may be the unintended death of an animal after trapping or carrying out a procedure.

Any amendments to your submitted project in terms of design, sample, data collection, focus etc. should be notified to the EDU S-REC (School of Education and Lifelong Learning Research Ethics Subcommittee) in advance to ensure ethical compliance. If the amendments are substantial a new application may be required.

Approval by the EDU S-REC (School of Education and Lifelong Learning Research Ethics Subcommittee) should not be taken as evidence that your study is compliant with the UK General Data Protection Regulation (UK GDPR) and the Data Protection Act 2018. If you need guidance on how to make your study UK GDPR compliant, please contact the UEA Data Protection Officer (dataprotection@uea.ac.uk).
I would like to wish you every success with your project.

On behalf of the EDU S-REC (School of Education and Lifelong Learning Research Ethics Subcommittee)

Yours sincerely,

ANONYMISED

Appendix 2. Example parent information sheet and consent form. These were signed by all participants and their parents. Proof of signed consent forms can be requested.

Mr Joey Szabo-Hemmings
Postgraduate Researcher/Trainee Educational Psychologist

2 December 2022

Faculty of Social Sciences
School of Education and Lifelong Learning

University of East Anglia
Norwich Research Park
Norwich NR4 7TJ
United Kingdom

Email: J.Szabo-Hemmings@uea.ac.uk
Web: www.uea.ac.uk

Exploring the Forest School experience of children with ADHD: A Photovoice Study

PARENTAL/GUARDIAN INFORMATION SHEET

(1) What is this study about?
Your child is invited to take part in a research study about the Forest School experience of children with ADHD. Your child has been invited to participate in this study because they attend a Forest School and have been identified as having ADHD. This Participant Information Sheet tells you about the research study. Knowing what is involved will help you decide if you want to let your child take part in the study. Please read this sheet carefully and ask questions about anything that you don't understand or want to know more about.

Participation in this research study is voluntary. By giving consent to take part in this study you are telling us that you:

- ✓ Understand what you have read.
- ✓ Agree for your child to take part in the research study as outlined below.
- ✓ Agree to the use of your child's personal information as described.
- ✓ You have received a copy of this Participant Information Sheet to keep.

(2) Who is running the study?
The study is being carried out by the following researcher(s): Mr Joey Szabo-Hemmings.
This will take place under the supervision of Dr Andrea Honess (A.Honess@uea.ac.uk).

(3) What will the study involve for my child?
Your child will be eligible to take part in this study if they are between the ages of 6-12 and have been identified with ADHD/ADD, either through a medical/psychiatry diagnosis or via a psychologist using a recognised screening tool such as Conners-3 or SNAP-IV.
This study uses a Photovoice research method.
At Forest School they will be given a camera and asked to take pictures of things they feel represent the Forest School experience for them.
Later, I will ask them questions about the pictures they take and what Forest School means to them.
During our interview, I will ask questions such as 'what is happening in this picture?', 'Why did you choose to take this picture?', 'what about this picture makes you think of Forest School', 'What does Forest School mean to you?'.
I will record their answers on a sound recording device so that I can listen to them again later and transcribe the interview.

An audio/video recording will be taken. Photographs will be taken (by your child).

You will have the opportunity to review a transcript of the interview with your child prior to publication, if requested.

You will not have the opportunity to review other information generated about your child prior to publication.

(4) How much of my child's time will the study take?
Taking part in this study should take around two hours. One hour for taking pictures and one hour for our interview.

(5) Does my child have to be in the study? Can my child withdraw from the study once they have started?
Being in this study is completely voluntary and your child does not have to take part.
Your child's decision whether to participate will not affect your child's current or future relationship with the researchers or anyone else at the University of East Anglia (or Forest School) now or in the future.

If you decide to let your child take part in the study and then change your mind later (or they no longer wish to take part), they are free to withdraw from the study at any time and you can withdraw your consent up to the point that your data is fully anonymised. Your child can do this by telling you (their parent) or their forest school practitioner or other staff member who will then let me know.

(6) What are the consequences if my child withdraws from the study?
Your child is free to stop the interview at any time. Unless you or your child say that you want us to keep them, any recordings will be erased and the information your child has provided will not be included in the study results. Your child may also refuse to answer any questions that you do not wish to answer during the interview. If you decide at a later time to withdraw your child from the study your information will be removed from our records and will not be included in any results, up to the point we have analysed and published the results.

(7) Are there any risks or costs associated with my child being in the study?
Aside from giving up their time, we do not expect that there will be any risks or costs associated with taking part in this study for your child.

Safeguarding considerations will follow relevant guidelines from your Forest School setting, the local authority and national guidelines. Guidelines related to safeguarding in research will be followed - BPS guidance on safeguarding children and young people (2018) and BPS Code of Human Research Ethics (2014).

(8) Are there any benefits associated with my child being in the study?
They will be able to share their unique experience of Forest School. I feel it is important for their voice to be heard. Taking pictures and talking about them with me will hopefully be an engaging and fun activity.
The more research and information there is about Forest School and how young people experience it, the more people and communities who may want to access them can know about it. By taking part in this study your child can help by adding their experience to enrich the information bank we have about Forest School.

(9) What will happen to information provided by my child and data collected during the study?
The photographs taken by your child will primarily be used to help us discuss the questions found in Section 3 of this sheet. I will also gather data from my (the researcher's) interpretation of the photographs and their contents. These photographs will not contain any identifiable features of your child or other people. If a picture is taken which identifies someone, this identifiable image will be 'blurred', and the original picture deleted. Some of the pictures taken during this study will feature in the final these, to act as examples. This may or may not include the pictures your child takes. Any pictures used in the final thesis will be attributed to a psuedonym, so the identity of the picture taker will remain confidential. Pictures which are not used in the final dissertation will be deleted once the analysis is complete.

Data, including personal information, photos taken for the study and interview recording will be stored in the University's OneDrive and accessed through password-protected laptops. Official guidance outlines that records containing personal/identifiable information should not be accessed without permission. Therefore, only the researcher and the research supervisor will have access to these files, as outlined in the information sheet.
Data will be accessible to the researcher and research supervision only during and after the project. After the project, if requested, parents and FS may request access to general summary of data, anonymised with no identifiable information included.
Audio recordings of interviews will be deleted when they have been fully transcribed.
The final study will be used for a doctoral thesis as part of the Doctorate in Educational Psychology at UEA.

Your child's personal data and information will only be used as outlined in this Participant Information Sheet, unless you consent otherwise. Data management will follow the Data Protection Act 2018 (DPA 2018) and UK General Data Protection Regulation (UK GDPR), and the University of East Anglia's Research Data Management Policy.

Your child's information will be stored securely and their identity will be kept strictly confidential, except as required by law. Study findings may be published, but your child will not be identified in these publications if you and your child. decide to participate in this study.
Study data may also be deposited with a repository to allow it to be made available for scholarly and educational purposes. The data will be kept for at least 10 years beyond the last date the data were accessed. The deposited data will not include your child's name or any identifiable information about your child.

(10) What if we would like further information about the study?
When you have read this information, Mr Joey Szabo-Hemmings (J.Szabo-Hemmings@uea.ac.uk) will be available to discuss it with you further and answer any questions you may have about the study.

(11) Will my child be told the results of the study?
You and your child are not able to receive feedback about the overall results of the study.

(12) What if I have a complaint or any concerns about the study?
If there is a problem please let me know. You can contact me via the University of East Anglia at the following address:

Mr Joey Szabo-Hemmings
School of Education and Lifelong Learning
University of East Anglia

NORWICH NR4 7TJ
J.Szabo-Hemmings@uea.ac.uk

If you (or your child) are concerned about the way this study is being conducted or you wish to make a complaint to someone independent from the study, please contact the Head of School of Education and Lifelong Learning Prof. Yann Lebeau (Y.Lebeau@uea.ac.uk) or the research supervisor Dr Andrea Honess (A.Honess@uea.ac.uk).

(13) How do we know that this study has been approved to take place?
To protect your safety, rights, wellbeing and dignity, all research in the University of East Anglia is reviewed by a Research Ethics Body. This research was approved by the EDU S-REC (School of Education and Lifelong Learning Research Ethics Subcommittee).

(14) What is the general data protection information my child needs to be informed about?
According to data protection legislation, we are required to inform you that the legal basis for processing your data as listed in Article 6(1) of the UK GDPR is because this allows us to process personal data when it is necessary to perform our public tasks as a University.

In addition to the specific information provided above about why your child's personal data is required and how it will be used, there is also some general information which needs to be provided for you:

- The data controller is the University of East Anglia.
- For further information, you can contact the University's Data Protection Officer at dataprotection@uea.ac.uk
- You can also find out more about your child's data protection rights at the Information Commissioner's Office (ICO).
- If you are unhappy with how your child's personal data has been used, please contact the University's Data Protection Officer at dataprotection@uea.ac.uk in the first instance.

(15) OK, I am happy for my child to take part – what do I do next?
You need to fill in one copy of the consent form and return it by email to J.Szabo-Hemmings@uea.ac.uk. Please keep the letter, information sheet and the second copy of the consent form for your information.

(16) Further information
This information was last updated on 12 September 2022.

If there are changes to the information provided, you will be notified by email sent both to you as parent and the Forest School practitioner.

✓

✓ **This information sheet is for you to keep**

PARENTAL/GUARDIAN CONSENT FORM (First Copy to Researcher)

I, ...[PRINT PARENT'S/GUARDIAN'S NAME], consent to my child …… [PRINT CHILD'S NAME] participating in this research study.

In giving my consent I state that:

- I understand the purpose of the study, what my child will be asked to do, and any risks/benefits involved.
- I have read the Parental/Guardian Information Sheet and have been able to discuss my child's involvement in the study with the researchers if I wished to do so.
- The researchers have answered any questions that I had about the study and I am happy with the answers.
- I understand that being in this study is completely voluntary and my child does not have to take part. My decision whether to let them take part in the study will not affect our relationship with the researchers or anyone else at the University of East Anglia (or Forest School) now or in the future.
- I understand that my child can withdraw from the study at any time.
- I understand that my child may stop the interview at any time if they do not wish to continue, and that unless I indicate otherwise any recordings will then be erased and the information provided will not be included in the study results. I also understand that my child may refuse to answer any questions they don't wish to answer.
- I understand that the results of this study may be published but that any publications will not contain my child's name or any identifiable information about my child.
- I understand that personal information about my child that is collected over the course of this project will be stored securely and will only be used for purposes that I have agreed to. I understand that information about my child will only be told to others with my permission, except as required by law.

I consent to:

Audio-recording of my child YES ☐ NO ☐

Photographs taken by my child YES ☐ NO ☐
(which may be included in the final thesis)

.....
Signature

.....
PRINT name

.....
Date

Mr Joey Szabo-Hemmings
Postgraduate Researcher/Trainee Educational Psychologist

2 December 2022

Faculty of Social Sciences
School of Education and Lifelong Learning

University of East Anglia
Norwich Research Park
Norwich NR4 7TJ
United Kingdom

Email: J.Szabo-Hemmings@uea.ac.uk
Web: www.uea.ac.uk

Exploring the Forest School experience of children with ADHD: A Photovoice Study

PARTICIPANT INFORMATION SHEET

Please get a parent to read this to you and ask questions about anything that you don't understand or want to know more about.

(1) What is this study about?
You are invited to take part in a research study about the Forest School experience of children with ADHD. You have been invited to participate in this study because you attend a Forest School. I am interested in how you find being at Forest School. This Participant Information Sheet tells you about the research study. Knowing what is involved will help you decide if you want to take part in the study.

Participation in this research study is voluntary. By giving consent to take part in this study you are telling us that you:

- ✓ Understand what you have read.
- ✓ Agree to take part in the research study as outlined below.
- ✓ Agree to the use of your personal information as described.
- ✓ You have received a copy of this Participant Information Sheet to keep.

(2) Who is running the study?
The study is being carried out by the following researcher(s): Mr Joey Szabo-Hemmings.
This will take place under the supervision of Dr Andrea Honess (A.Honess@uea.ac.uk).

(3) What will the study involve for me?
I will visit your Forest School and give you a camera (or other device which takes pictures e.g. iPad). I will ask you to take pictures of things which really make you think of Forest School, things that are meaningful to you about your Forest School experience.

Afterwards, on the same day, we will look at the pictures together and I will ask you questions about these pictures and what Forest School means to you.
During this interview, I will ask questions such as 'what is happening in this picture?', 'Why did you choose to take this picture?', 'Why does this picture make you think of Forest School', 'What does Forest School mean to you?'. I will record your answers on a sound recording device so that I can listen to them again later.

An audio/video recording will be taken. Photographs will be taken (by you).

You will have the opportunity to review a transcript of our interview prior to publication, if requested.

You will not have the opportunity to review other information generated about you prior to publication.

(4) How much of my time will the study take?
Taking part in this study should take around two hours in total. Half an hour for getting ready, one hour for taking pictures and half an hour for our interview.

(5) Do I have to be in the study? Can I withdraw from the study once I have started?
Being in this study is completely voluntary and you do not have to take part.

Your decision whether to participate will not affect your current or future relationship with the researchers or anyone else at the University of East Anglia (or Forest School) now or in the future.

If you decide to take part in the study, you can withdraw your consent up to the point that your data is fully anonymised. You can do this by telling your parent or your Forest School practitioner or another member of staff who will then let me know.

(6) What are the consequences if I withdraw from the study?
You are free to stop the interview, or the picture-taking activity at any time. Unless you say that you want us to keep them, any recordings will be erased and the information you have provided will not be included in the study results. You may also refuse to answer any questions that you do not wish to answer during the interview. If you decide at a later time to withdraw from the study your information will be removed from our records and will not be included in any results, up to the point we have analysed and published the results.

(7) Are there any risks or costs associated with being in the study?
Aside from giving up your time, we do not expect that there will be any risks or costs associated with taking part in this study.

Safeguarding considerations will follow relevant guidelines from your Forest School setting, the local authority and national guidelines. Guidelines related to safeguarding in research will be followed - BPS guidance on safeguarding children and young people (2018) and BPS Code of Human Research Ethics (2014).

(8) Are there any benefits associated with being in the study?
You will be able to share your unique experience of Forest School. I feel it is important for your voice to be heard. Taking pictures and talking about them with me will hopefully be an engaging and fun activity.
The more information there is about Forest School and how young people experience it, the more people can know about it and whether it is right for them. By taking part in this study you can help this, by adding to the information.

(9) What will happen to information provided by me and data collected during the study?
The photographs taken by you will be used to help us discuss the questions found in Section 3 of this sheet. I will also gather data from my (the researcher's) interpretation of the photographs and their contents. These photographs will not contain any identifiable features of yourself or other people. If a picture is taken which identifies someone, this identifiable image will be 'blurred', and the original picture deleted. Some of the pictures taken during this study will feature in the final paper, to act as examples. This may or may not include the pictures you take. If your picture is included, we will not use a 'made-up' name for who took the picture, so people would not know it was you who took the

photograph. Pictures which are not used in the final dissertation will be deleted once the analysis is complete.

Data, including personal information, photos taken for the study and interview recording will be stored in the University's OneDrive and accessed through password-protected laptops. Official guidance outlines that records containing personal/identifiable information should not be accessed without permission. Therefore, only the researcher and the research supervisor will have access to these files, as outlined in the information sheet.
Data will be accessible to the researcher and research supervision only during and after the project. After the project, if requested, parents and FS may request access to general summary of data, anonymised with no identifiable information included.
Audio recordings of interviews will be deleted when they have been fully transcribed.
The final study will be used for a doctoral thesis as part of the Doctorate in Educational Psychology at UEA.

Your personal data and information will only be used as outlined in this Participant Information Sheet, unless you consent otherwise. Data management will follow the Data Protection Act 2018 (DPA 2018) and UK General Data Protection Regulation (UK GDPR), and the University of East Anglia's Research Data Management Policy.

The information you provide will be stored securely and your identity will be kept strictly confidential, except as required by law. Study findings may be published, but you will not be identified in these publications if you decide to participate in this study.
Study data may also be deposited with a repository to allow it to be made available for scholarly and educational purposes. The data will be kept for at least 10 years beyond the last date the data were accessed. The deposited data will not include your name or any identifiable information about you.

(10) What if I would like further information about the study?
When you have read this information, Mr Joey Szabo-Hemmings (J.Szabo-Hemmings@uea.ac.uk), will be available to discuss it with you further and answer any questions you may have.

(11) Will I be told the results of the study?
You are not able to receive feedback about the overall results.

(12) What if I have a complaint or any concerns about the study?
If there is a problem please let me know. You can contact me via the University of East Anglia at the following address:

Mr Joey Szabo-Hemmings
School of Education and Lifelong Learning
University of East Anglia
NORWICH NR4 7TJ
J.Szabo-Hemmings@uea.ac.uk

If you are concerned about the way this study is being conducted or you wish to make a complaint to someone independent from the study, please contact the Head of School of Education and Lifelong Learning Prof. Yann Lebeau (Y.Lebeau@uea.ac.uk) or the research supervisor Dr Andrea Honess (A.Honess@uea.ac.uk).

(13) How do I know that this study has been approved to take place?

To protect your safety, rights, wellbeing and dignity, all research in the University of East Anglia is reviewed by a Research Ethics Body. This research was approved by the EDU S-REC (School of Education and Lifelong Learning Research Ethics Subcommittee).

(14) What is the general data protection information I need to be informed about?
According to data protection legislation, we are required to inform you that the legal basis for processing your data as listed in Article 6(1) of the UK GDPR is because this allows us to process personal data when it is necessary to perform our public tasks as a University.

In addition to the specific information provided above about why your personal data is required and how it will be used, there is also some general information which needs to be provided for you:

- The data controller is the University of East Anglia.
- For further information, you can contact the University's Data Protection Officer at dataprotection@uea.ac.uk
- You can also find out more about your data protection rights at the Information Commissioner's Office (ICO).
- If you are unhappy with how your personal data has been used, please contact the University's Data Protection Officer at dataprotection@uea.ac.uk in the first instance.

(15) OK, I want to take part – what do I do next?
You need to fill in one copy of the consent form and return it by email to J.Szabo-Hemmings@uea.ac.uk. Please ask a parent/carer to help you with this. Please keep the letter, information sheet and the second copy of the consent form for your information.

(16) Further information
This information was last updated on 9 November 2022.

If there are changes to the information provided, you will be notified by an email sent to both your parent and Forest School practitioner.

✓

✓ **This information sheet is for you to keep**

PARTICIPANT CONSENT FORM (First Copy to Researcher)

I, ... [PRINT NAME], **am** willing to participate in this research study.

In giving my consent I state that:

- I understand the purpose of the study, what I will be asked to do, and any risks/benefits involved.
- I have read the Participant Information Sheet, which I may keep, for my records, and have been able to discuss my involvement in the study with the researchers if I wished to do so.
- The researchers have answered any questions that I had about the study and I am happy with the answers.
- I understand that being in this study is completely voluntary and I do not have to take part. My decision whether to be in the study will not affect my relationship with the researchers or anyone else at the University of East Anglia (or Forest School) now or in the future.
- I understand that I may stop the interview at any time if I do not wish to continue, and that unless I indicate otherwise any recordings will then be erased and the information provided will not be included in the study results. I also understand that I may refuse to answer any questions I don't wish to answer.
- I understand that the results of this study may be published but that any publications will not contain my name or any identifiable information about me.
- I understand that personal information about me that is collected over the course of this project will be stored securely and will only be used for purposes that I have agreed to. I understand that information about me will only be told to others with my permission, except as required by law.

I consent to:

Audio-recording YES ☐ NO ☐

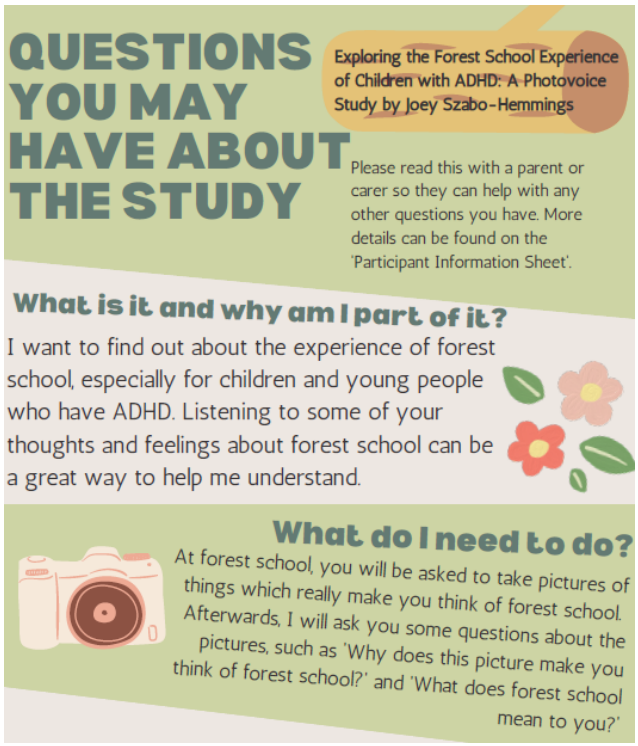
Photographs which I take YES ☐ NO ☐

.....
Signature

.....
PRINT name

.....
Date

Appendix 4. Child-friendly information sheets



QUESTIONS YOU MAY HAVE ABOUT THE STUDY

Exploring the Forest School Experience of Children with ADHD: A Photovoice Study by Joey Szabo-Hemmings

Please read this with a parent or carer so they can help with any other questions you have. More details can be found on the 'Participant Information Sheet'.

What is it and why am I part of it?

I want to find out about the experience of forest school, especially for children and young people who have ADHD. Listening to some of your thoughts and feelings about forest school can be a great way to help me understand.

What do I need to do?

At forest school, you will be asked to take pictures of things which really make you think of forest school. Afterwards, I will ask you some questions about the pictures, such as 'Why does this picture make you think of forest school?' and 'What does forest school mean to you?'

What if I don't want to do this?

That is completely fine! You do not have to take part if you don't want to. Please tell this to your parents or an adult at forest school and they will let me know. You can stop being part of the study at any time.

What will you do with the information I give you?

The pictures you take and your answers to the questions will be part of a 'study' which is where people try to find out more about something. This study we be used for my doctoral thesis (you might want to ask your parents what that means!). All of the information you give will be 'anonymous', which means no one else who reads the results of the study will know which bits are from you (unless you tell them!). Everything will be kept safely in a university storage system and password protected computers.

Are there any benefits to being part of the study?

Although I can't offer you any rewards for being part of this, you will be able to share your own experience in a creative way. By adding your voice to this study you can help more people understand how children and young people like you find being at forest school.

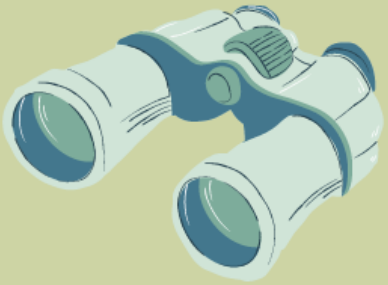
I want to know more

If you have any other questions about the study after reading this and the participant information sheet, please ask a parent to email them to me at J.Szabo-Hemmings@uea.ac.uk

UEA University of East Anglia

Appendix 5. Recruitment flyer

Looking for participants!



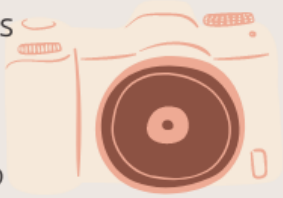
Participants needed for Educational Psychology Doctorate research into ADHD and forest school.

Are you a forest school practitioner (or work in a school with an associated forest school) **and know a child** (aged between 6 - 12) **identified with ADHD who attends a forest school setting?**

If so, and you think they may be interested in participanting in an engaging study about their experience of forest school, please read the introduction below and get in touch for more info.

What do they need to do?

At forest school, they will be asked to take pictures of things which are meaningful to them related to forest school. Afterwards, I will hold an interview with them, exploring what forest school means to them and using the pictures to prompt further discussion.



What do you need to do?

As a forest school practitioner you will be the 'gatekeeper', communicating information and consent forms to parents and participant(s).. I may also ask you to help me with a few practical elements of the study.

Want to know more?

If you know someone who may like to be involved or have any other questions about the study please email me at **J.Szabo-Hemmings@uea.ac.uk**

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Appendix 6. Debrief

Study Debriefing

This study is interested in the experience of forest school by children with ADHD. Previous studies have found that access to nature may have a positive impact on children with ADHD.

How was this tested?

In this study, you were asked to be involved with two parts of the research—taking pictures of something meaningful at forest school and having a talk with me about what forest school means to you.

I recorded your answers to my questions and will use these to help me answer my question below. I will also look at the pictures you took which will also help with my study.

Hypotheses and main questions:

In this study, I am looking to explore your experience of forest school and the experience of other children who have ADHD and go to forest school. I try to ask the question: **what are children with ADHD's experiences of forest school?**

I will look at the answers given by everyone involved in this study and try to see if there are any 'themes', things which come up often. I will also inspect the pictures everyone took to see if there are similarities there too.

Why is this important to study?

There is more and more interest in ADHD and the impact of nature in education. However, the research and information rarely takes the child's (your) voice into account. This study does.

There are lots of parents interested in forest school and nature-based settings for their children to attend and more children going to them. Studying forest school and how children experience it helps us to know if it is the right place for young people go.

Thank you again for your participation.

If you have any questions or concerns please contact me at:

Mr Joey Szabo-Hemmings
School of Education and Lifelong Learning
University of East Anglia
NORWICH NR4 7TJ
J.Szabo-Hemmings@uea.ac.uk

Or if you have ethical concerns about the research please contact:

EDU S-REC (School of Education and Lifelong Learning Research Ethics Subcommittee).

University of East Anglia

Appendix 7. 1 Ash Pictures

Ash photo 3

Ash photo 4


Ash photo 5


Ash photo 1

Appendix 7.2 Elm pictures.

Elm photo 4

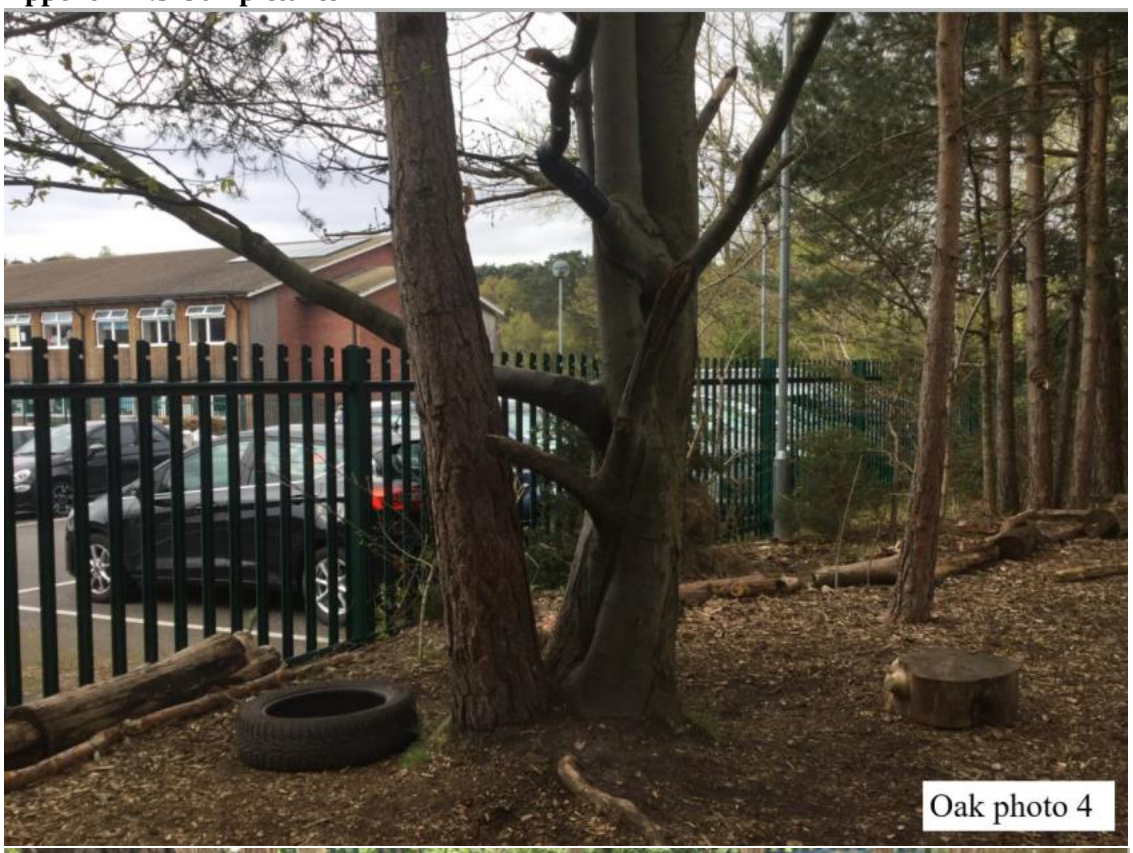
Elm photo 5

Elm photo 3

Elm photo 1


Elm photo 2

Appendix 7.3 Oak pictures



Oak photo 4

Oak photo 5

Oak photo 1

Oak photo 2


Oak photo 3

Appendix 7.4 Rowan pictures

Rowan photo 4

Rowan photo 5

Rowan photo 1

Rowan photo 2


Rowan photo 3

Appendix 8.1 Example interview excerpts. Elm.

- Why did you take this picture? **Because i always like sitting on it and playing on it because I can relax on it.**

- And how else does Forest School Make you feel happy? **Because I can do all different stuff.** Like what? **Like Like sitting down**. Mmm. That sounds good. What else do you do in Forest school? **I can't Remember.**

- **Because I can collect stuff to put in the shop**. And how does that make you feel? **Happy because I can give people things** .

- **And what part of this picture is the most important**? To not drop stuff, not to damage stuff. Chuck stuff, damage, do not damage things.

- **You can make stuff, like pancakes and stuff, but not real ones, mud ones cos it's a mud kitchen.**

- **You can Sell stuff. and sell things. Tidying up tidying up, okay? Okay. It can't be messy. Because people could stand on stuff and it could break.**

- **Climbing – Happy because you can keep practicing and you'll get better and if you keep climbing you can keep practicing and you'll get even better. [If you fall] it doesn't harm me because I'm brave, so I can get back up again.**

- **You can't trip other people up.**

- **Makes me feel happy because I can play**.

- And what's the most important thing in Forest school? **You're not allowed to run**

- **It's nice. Because your allowed to do all different stuff.**

- **Playing on the logs and the mud kitchen and the shop and the den.**

Appendix 8.2. Example interview excerpts. Rowan.

- Every time I came here, the first thing I did is I pick up the guitar and start walking around the place with a guitar. Yeah. And why did you choose to do that? Because everyone likes the guitar Yeah. And how did that make you feel? Good, kinda made me feel like I was in a parade. When I have the guitar, theres like a bunch of stuff hanging up somewhere over there by the cabin. I know he would grab an instrument and start going coming along with me. Yeah, they walk around with me and also ask other people if they want to join us.

- In my primary school we have a piano but we're not allowed to play it and I was very confused about why it was there in the first place if we werent even allow to play it.

- If you're getting really stressed, it's probably one of the The best places to go, calm down, look at nature and just explore. Really and that's brilliant.

- All the staff here are really friendly and really nice as well

- Yeah its really relaxing here. At School its really stressful as you've got like work to do like every hour. At break you only get a 20 minute break outside and at lunch you only get 30 minutes or something like that and I find that really unfair, because that's like two hours of basically work, Like for what… just for what though?

- Do you feel the same way about Forest school? I mean, it's basically like freedom you can basically like get away from school. I basically spend.
- And I really love the food. Here is really amazing. Yeah, its really good. Brilliant brilliant.

- I can't ask for anything else But to be here, I think I'd live here.

- And so we make fun of those houses something like that and like, get like the thing that's kind of blowing around on it like that and use that as like, my bed sheet and stuff like that, like a bunch of losers, my pillow and then just get that blanket.

- Yeah, there's like everyone's been making little things around here and it makes it look really cool becauses it's like a little house in a way

- And they said, there's actually a way to remake um, with charcoal and basically the wood just turns into charcoal and basically you can put it back into Fuel and when everything was cooking, you put it under after a while, it will dry out and it'll become warm again, making it a usable fuel so you can put in there and, and reuse it.

- Yeah there's a lot of wood here just gets wasted as well.
- If you're running low of wood are You going to cut down more trees and get rid of the environment? or are you going to just look around and find sticks? Like this one here on the ground.

- I've been picking up leaves and just ripping them which is why there are crunching noises. I like the crisp noises, It's kind of like a little satisfying noise, so definitely another way to calm down.

- Nature, just nature. Yeah. And what about nature, but also when I'm on that cooking, just listening to the Flames Crackle, it's a really, really satisfying. it sounds like the leaves going kshhh. That sounds like a love that crap. The the sound of a fire crackling?

- Because everybody used to gather round this fire.

- what they do is everybody would every day. We'd always eat something there for lunch. Yeah. Or as a little break time, snack. Whereas now as . We don't come here. I just completely sometimes. Forget about these tiny little things. Yeah, I really miss

about this place because the break time snack. I never normally have a snack. Yeah. Whereas here, I'm allowed a snack as well as now.

- I don't wanna Get people around the fire the boring way, going up to people going. Hey go to the barbeque stuff is ready. okay I'd rather make it more fun and entertaining like make a little band over there and walk towards it that's brilliant and that's how I get everyone there instead of just going to them going get to the barbecue now.

- It's Life. eventually like a scale of live, it just goes on. Someone will probably come here and do the same thing that I did. Yeah. I know they will keep that lifespan will keep going on and on and on.

- I remember there were a lot of leaves and they were like crackling.

- Yeah and remember our rule hair a what a really good rule. If it snaps it cracks which is basically a stick where you have to snap it even makes like a noise like that. Then you can throw it in the fire.

- Sometimes our friends would play tag. Yeah. I know one of the rules are no running and if they saw us running, we basically turned the no running rule into a game.

- We've got the trolley moved it over there. It wasn't that hard. We filled it right up to the top and you know what? Because it really was a struggle. It took us Like 20 minutes to at least get it up that ramp. Because the problem was if we tried get it up the Plant would always wobble off to the side of. And I got an idea because it's so heavy that we needed two people to push it.

- eventually it will grow into one of the massive trees here. Maybe I'll be like a medium trim, it would be like a little Small tree. Maybe I'll be a big tree that one of them. Why do you think that's important? Because the environment needs a lot more trees. because, apparently trees actually help us breathe

- Really relaxed and calm, except for the other people, they just run back and forth.. Yeah this is like a little calm down zone.

- Yeah, I just sit right here on this little side because I'm I just part of the log as like a little armrest.

- Those are this thing. It was brand-new, i just walked in and this was here this Sofa that we were talking about the last image. Basically I used I changed my mind started out as more comfortable. Yeah. Where is he? I don't think sing on a bit of wood. Laying back isn't as comfortable. Yeah. And it's, yes, this does this remind you of anything else apart from calm down.

- Whenever I'd sit here , theres like little plants there and sometimes they'd like feel around my feet and it would just like kind of feel like the like every noise just been taken out of my mind and plants are just slowly taking over me. And how does that make you feel? really happy.

Appendix 8.3 example interview excerpts. Oak.

- Because I can sometimes do it my friends or I can just do it on my own. Because if I'm a bit bored then I'll do it with my friends and if I'm like stressed or something I'll probably do it on my own. And how does that help you? it's means quite a lot because then I don't have it at home. Don't really have anything relaxing to do except like, sit down or watch TV.

- Because I don't, you don't, you don't really get to come out here like everyday, so you've gotta make the best of it.

- Then it's picture of like a bug cage sort of thing because I, I normally like catching bugs because it's just fun with my friends. I do that a lot of the time. One note, one more wasn't watering them. We put like four spiders and loads of centipedes millipedes and worms.

- Because I don't live round here, it just means that I can do things with my friends. Uh-huh, instead of having to go in a car for 15 minutes. That means quite a lot to be doing those things together with your friends.

- They're just fun to catch really know. It is quite a bit weird because it's sort of hard to catch big spiders. The small ones are harder to catch, but the big ones are just harder to find. So of having to like, run around sort of because you have to, you have to be quicker. Otherwise you have to put it down and go find another one. It's the relief of managing to get them into that cage. Feels like I've accomplished something, I've done well with something.

- It means a lot because I can go out with my friends and play a lot. Sometimes do other things that I don't do when I'm doing work or when I'm doing other things like that because I can, I can play in other places.

- if you're doing work, you're sitting down a lot and we don't really get exercise a lot.

- At school, they'll likely have food if you haven't eaten, but sometimes if you don't tell them, they won't know. So with Forest, they sort of put it on like a time that they do it. So even if you haven't had breakfast, you won't be that hungry. Because at a time that will do it, and you'll be able to eat it.

- I would say it's like sort of the same to in class as it is in forest school because you're still learning new things. Like if he had if you if you wanted to create something, you'd have to use different tools to use that, which makes you be able to learn a new thing that you haven't done before. It makes you feel like you've sort of done something that you've never done before and you're happy about it.

- I love climbing trees, so I find it quite fun that I'm able to like actually do it. In school, you're not really allowed to climb trees. But in here, you're allowed to actually climb them, If you've got teacher around.

- I just find it fun. The difficulty of getting up the tree and then back down. It represents not giving up and trying even if you've like done something wrong, if it's if it's quite hard to get up there, you gotta push yourself to get up there.

- I like forest school like when there's not many people because we could, you do it in classes, sometimes, sometimes it's a bit like crowded and sometimes it's a bit more boring when its like the whole class lining up, you'd have to wait, like 40 minutes, something like that. Just to get just to get one thing. And then by the time you've probably got a you probably don't really want to do it anymore.

- playing 'it' or something like that. That you have to sort of like walk more than run. Yeah. Which sometimes you'll easily forget and then you'll run for a bit. You might not trip but you can trip.

- So this is down where we came in. Normally you will sit here in the morning and just talk for a bit and then go off and do it. Sometimes I'll sometimes I'll stay down here or after I've if we're catching bugs and normally i'll come down here to this part. Yeah. I do like the flowers to on my side of it. That's normally why I go down there too.

- In the morning, if it's all right. If I'm just quite tired or something like that, I can just I can just sit down somewhere and just it just calms me down and. Relax for a bit

- Because I quite like about the fire because it's because if it's if it's like that. Absolutely freezing day. and your hands up your hands like this and just go up the the fire . and put your hands there. Yeah, I sort of feel like quite hungry . So they'll say, do you want s'mores come over to the middle So my door and then you can just have smores

Appendix 8.4 example interview excerpts. Ash.

- ✓ So basically what I see here is basically the classroom. Yeah. And a bit of plants. This is forest school obviously. The obviously there's going to be a lot of plants. So there's a little plants. But boy, there's also like that either noughts and crosses of the stones and the wood. Because this is the main entrance. Like you see this, when you come in because it's this is a special in a way, which People may not be able to explain but it's like the entrance of the place when it's first school where you're able to have fun and not worry about lessons too much.

- ✓ sometimes when you get like, overworked, overstressed about school. Sometimes its just nice to know that you can come to like, forest school a bit. As you can, just go there and chill and just play around and do what you like like build like a mini house for an example. like cook like marshmallows and I cook other food. Like just chill, like have fun with friends, you know, just play around, enjoy enjoy it.

- ✓ It makes me feel quite relaxed and away and sometimes if you're a gamer like me, who usually just plays like a lot of games inside

- ✓ Because when you sometimes come here, it just feels a bit nice and like relaxing. Yeah, it is nice to know that Lee all the surround the area is just nice like good old-fashioned like Greenery and I guess like you don't use fuel that much You're not hurting environment is like environment friendly and it's very nice.

- ✓ Because here's the thing. If we keep on using like a lot of fuel I, I know that is hard to stop using it though. But since but it's like very important that that we using fuel right now to help them move around areas, but it's very like damaging the environment, very badly. And if it doesn't stop soon, like the whole, like world might be ruined wise like, so our perfect temperature , our Perfect place where we're able to grow Nice things... It's gonna be like, some of the other planets where you cannot grow anything.

- ✓ It's because it's nice and Greenery. It shows like how like basically this is shows like how like nice the environment is.

- ✓ Basically a pond and a bit of like Greenery to the side. I remember that this one's was like the place where I was meant to design and make my mini fun house to be nice, little play area. kids could come in and, like, play around play with board games, have fun.

- ✓ The reason why it was never been able to bit become built is because of like, it's was up like all the great like all the good stuff, which is once in the way I was able to complete it, but it, but the problem was that. Now, it's now that this is now the latest that now, there's over kids now, like, playing on it and I was never have enough time to like, build on it. So, hopefully, when I come back here one time, I'll be able to probably make the fun-house.

- ✓ Like me and *** were meant to be building like a fun house but first, we had to do a lot of like getting rid of like brambles, like logs cutting big logs in half like making some space in general. And I feel you that you learn how to do that here.

- ✓ You know like all the nice Wildlife which you could say that you can see ya nice to see that like the wildlife just growing very nicely. And here's another reason why like the fact that we using certain things too much is endangering it because yeah, since there's like since we're using like fuel a lot like it makes stuff which goes into the air like pollution and it makes the temperature rise.

- ✓ One of the reasons why I took this picture because this is something which I remember and I remember times where, basically, like small many logs that were in our way, some of the kids actually use it now as for seats, as for around the fire pit, so it's just nice to know that this place now has a bit of like mini pond where recently, some frogs came in and, like made made out and had lots of

baby tadpoles and now have baby frogs. we don't know where the mother and father frogs are. By the way, I was hoping to take a picture of them. But and the babies, They've left, the babies have left the area though.

- ✓ Around the world. So since like Antarctica was like like melting since animals like polar bears as and penguins are going to be a bit dying though and and the waters are rising which means like animals which live on Islands might soon be under water.

- ✓ It's nice to know that they dont use fuel at all all like, doesn't waste like resources that much. they're very like resourceful. They don't use like big machinery. They don't use big machinery to like, do the work for them to make it easier. They just do the like old-fashioned way of doing like actual labour.

- ✓ what's on this are in this area parkour area. Usually, like I remember playing that like a few times though, but not that much, as some of the other kids love to play there. Aah. And it's like and it was very cool at winter time, when like lots of things. It's nice to know that like winter time and basically, like turns and of into, like a Frozen, like, you know, ice rink like area. But it's quite dangerous. And nobody goes on to it much, but some of the kids usually, like, - when its icy sometimes, sometimes they still play. Whoa, unlike still play on it. Yeah, even though it's quite dangerous.

- ✓ And I think some of the, I think some of them is also from like the ones which I also like found in like the in the clearing area, which I made. Okay. So yeah, and it's very nice to know that some of the other kids do enjoy it

- ✓ Pretty nice. Pretty nice. to know there's Some friends here, too That you can count on .

- ✓ especially like, not too much about work though. It's more about having fun and enjoying life, enjoying like nice, like scenery, like nice Outdoors, it's nice to know that you can enjoy outdoors.

- ✓ And what do you learn at Forest:? Not learnt too much though . You much though it's mainly about like learning about like having fun and a bit of like, Bit of our ecosystem with like the plants and such like, Wildlife like animals bugs plants. all that good stuff.

- ✓ Yeah, so I remember having lots of nice memories about the fireplace. Oh, what a place, where it's basically an area where you're able to cook food and just like, get warm. Especially at winter time. You definitely should go there when it's winter time because it goes like this. The cahoot classroom is also a bit freezing since there's no heating system. Yeah. So it's nice to know that you can just gather round the fire. There's no comes like it is no camping stories though. There's just like it's nice knowing you can just get, get around there. Have a few snacks. Yeah, and then just chill there and get warm.

- ✓ Sometimes, you need to use your brain a bit to figure out problems, which you might need to overcome. You basically just need to use your brain, work together with other people, work with the teachers too.

- ✓ It feels very nice to have the fact that They are actually helping the ecosystem around you. How does it feel to you to be constructing that as well? It feels very nice. I feel proud of myself for doing that.

- ✓ We basically like got some long sticks me and *** did, we got some long sticks and some dirt and some dry leaves. We all just, placed it on like the pathway area. so we can make a pathway for it. Yeah, it's it's basically like feather we were going there. Yeah, but that we were going there. Look if I go, we were hoping to do stuff for the place, for forest school. Feels very nice and I feel very Proud of myself again for doing stuff like that.

- ✓ The Greenery and it's Wildlife you get to see like natural like animals and like plants and like bugs just basically like chilling out, enjoying life though. This is what we should try to do like help with the ecosystem and such like that because we're partly destroying it it though.

- ✓ as a wonderful nice place, Where if you're getting very stressed out at school wise, feels nice to Just come here, and then just chill for like Most of the day. Feels nice that you are able just to chill and have fun.

- ✓ So, yes, in the cahoot classroom, there's loads of things which you could do, like, loads of fun activities, which you could do like with like puppets. Like it's like puppets, and like snakes and ladders and board games and such. It's nice to know like there's like a nice place where you could go indoors and a bit Chill, if your just a bit bored of the outside. You can just go in there and just chill.

- ✓ Very good place. I would recommend it to other people. I recommend it for the other, other people and also since the other grown-ups are super nice. It's nice to know that they're able to help and make you feel better. If you're just getting a bit annoyed about school and such.