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The Re-Production of Gender in Early Childhood Education:

A Feminist New Materialist Analysis

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Abstract

This thesis is an ethnographic study of three Early Childhood Education settings in the East of England. It examines the ways that gender is produced and reproduced in these nursery settings. Participants included the infants and young children who attended the settings, the adults who worked there, and the environment itself. Drawing on feminist new materialism as a theoretical framework, a shift in focus towards the material world has informed how the research was designed, conducted, and analysed. This drew focus to the messiness and unpredictability of how gender manifests across and between the social and material world. Using diffractive analysis to de-centre the human, this thesis focuses on time and space, power, and the material world to examine how intra–acting networks of social and material entities reproduce gender. As a researcher I am implicated in these networks and contribute to the reproduction of gender. This thesis argues that gender is not a fixed and stable phenomenon which simply exists. Rather, concepts of gender are continuously generated through human and more-than-human relations which span across the social and material world. As such, gender does not always get reproduced in normative ways. Infants and young children are continuously negotiating their knowledge and understanding of the gendered self, gendered other, and the gendered material in ways that sometimes reshape human-social gender norms.

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Finally, I dedicate this thesis to my wonderful niece, Alaska. You arrived in this world during the writing of this thesis, and you've brought me so much joy. May your life be filled with love and happiness.

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1. Chapter One: Introducing the Thesis

1.1 Introduction

"Are you even allowed to study that?"- Lacey (practitioner).

The quote above came from when I first met one of the Early Childhood Education (ECE) practitioners at one of the participating ECE settings. She asked me to explain what my research was about. When I explained that I was exploring how infants and young children engage with gender at nursery, Lacey (which is a pseudonym to protect her identity) gasped and asked the question in the quote above. I responded with an explanation of how my research had been given approval to commence from The Open University's Human Research Ethics Committee (HREC). However, after the encounter I reflected on Lacey's question. I considered that maybe Lacey was not concerned about whether my research had received favourable opinion from HREC. Rather, she may have made assumptions about what was meant by *researching gender.* This quote made me consider the power of the word *gender.* There is an assumption that children are innocent and in need of protection from concepts deemed *inappropriate.* For example, themes of sex and sexuality (Robinson, 2005). Similarly, issues of gender diversity are also viewed, by some, as inappropriate for children due to the commonly held notion that all children are, and will become, cisgender and gender conforming. Or as Brito, Santos-Carnerio, and Nogueira (2021) comment, infants and young children are perceived as being 'pre-identity'. Therefore, researching gender with infants and young children has the capacity to ignite concern from ECE practitioners like Lacey. However, the aim of my research was to explore the ways in which gender manifested in ECE.

The encounter with Lacey felt like an appropriate place to start. It invited me to consider how I had come to this research. Growing up as a (cisgender) woman, I experienced adversity based on my gender. Even as a child there were things that I was told I could not do because I was a girl. As a teenager, I decided to reject femininity. I often wore boys' clothes, and I disliked the 'girly girls' at school, rather preferring to be friends with boys. It wasn't until I was an adult that I rediscovered femininity. However, I also discovered how difficult it can be to be a woman in a patriarchal society where misogyny is normalised (particularly when I was in my early 20's). I realised that there was a growing discourse regarding feminism and gender diversity, but that it was largely concerned with adolescences and adults. However, throughout my time working in ECE, completing my studies, and reflecting on my own experiences, I considered

that issues of gender perhaps start in infancy. I felt that issues of gender, such as gender norms (i.e., the societal expectations around gender expression), gender roles (i.e., the expected roles and behaviours of a person in terms of their gender), and binary gender (i.e., that there are only two genders: girl/woman, boy/man) are learned from birth but largely go unchallenged due to a perception that infants and young children are *too young* to 'understand'. I return, then, to Lacey's question at the beginning of this chapter. Her surprise at my topic of research highlighted the concerns associated with combining researching with infants and young children and topics which are viewed as contentious, like gender. This thesis will outline how the research project was designed, carried out, analysed, and reflected upon to demonstrate how gender norms and roles can emerge in early childhood, and how this is messy and complex.

This chapter, forthwith, will present and examine the underpinning concepts which inform ECE in England as well as introducing the key concepts of gender, and the theoretical framework which underpins the thesis. This chapter will outline England's ECE offerings, which frequently incorporate various types of settings, with a range of pedagogy, which employ practitioners with varying qualification levels. Section 1.2 will explore the different types of ECE settings seen in this research, detailing the principles, pedagogy and policies which underpin and inform practice. Section 1.3 outlines the legislation that underpins the ECE sector in England (the location of this research), considering the current challenges faced by the sector. The chapter (section 1.4) then proceeds to define the key concepts associated with gender and as used in the current thesis, while introducing the theoretical framework, feminist new materialism. Gender is a complex and evolving social phenomenon which varies across cultures, societies, and time (King, Scovelle, Meehl, Milner, & Priest, 2021). Therefore, this thesis necessarily considers the social and cultural contexts of gender. Although issues of gender are becoming more visible in mainstream discourses, there can still be confusion around what gender is, such as how it differs from assigned sex at birth, with the terms at times being applied interchangeably (Rioux et al., 2022). From a sociological perspective, gender is concerned with both an individual's identity as well as social phenomena (Schiappa, 2022). This is the underpinning standpoint that guides this study and the analysis.

1.2 Early Childhood Education in England

Defining early childhood requires a consideration of context. In the social sciences, *childhood* is often described as being socially constructed (Edwards & Davison, 2015). Moreover, *childhoods* are not only constructed by society, but they are also shaped by the material world (Arndt, 2021). In the context of England, the end of *early childhood* and beginning of *childhood* can be marked by social events or milestones such as starting compulsory education (Bertram & Pascal, 2016). Infants and young children can typically attend an ECE setting from around three months old until they start compulsory schooling. There is no legislation concerning the age an infant must be before they can attend a ECE setting (Department for Education, 2023b). However, based on the admissions policies from the participating ECE settings in the current research, infants could attend from three months. The youngest infant present during the current fieldwork was six months old. As infants can attend from a very young age, ECE is the first time most infants and young children will experience care and early learning outside of their home environment (Stratigos, Bradley, & Sumison, 2014). Compulsory schooling typically begins from the September after a child turns four, with the legal requirement that children must be in education by five (Bradbury, 2019). The first year of primary school in England is also pedagogically considered ECE as it follows the same framework (pre-compulsory) ECE providers (see section 1.2.1).

ECE in England is made up of multiple settings which provide childcare and early education for infants and young children up to the start compulsory schooling (Department for Education, 2023b). This may include nurseries which provide full-time provision for infants from around three months old until school age. Such settings are colloquially referred to in the sector in England as 'day nurseries' (Learner, 2023). Day nurseries are generally open from early in the morning until the early evening all year round, excluding public holidays. There is also provision that corresponds to school term-times which typically cater for young children from two or three years old prior to the commencement of school. Such settings may be referred to as, for example, nursery schools (Professional Association for Childcare and Early Years (PACEY), 2023). There are also different approaches to pedagogy across ECE, for example, Reggio Emilia, Montessori and the Early Years Foundation Stage (EYFS) (a state provided ECE curriculum in England). The current research presented in this thesis was conducted within two day nurseries who followed the EYFS, and a nursery school which implemented the Montessori approach. The following sections will outline the pedagogical

approaches used at the participating ECE settings, and the statutory framework which underpins ECE provision in England.

1.2.1 The Early Years Foundation Stage (EYFS)

At the time of the current research, ECE is underpinned by the UK Government's Statutory Framework (Department for Education, 2023b) and non-statutory curriculum guidance, *Development Matters* (Department for Education, 2023a). All ECE providers in England, regardless of their pedagogical approach, have a legal obligation to adhere to the Statutory Framework (Department for Education, 2023b). The Statutory Framework details legal requirements for ECE providers including the qualification requirements for practitioners, adult to infant and child ratios, safeguarding procedures and processes, appropriate premises guidance, and matters to do with equality and diversity. As such, gender is featured within the Statutory Framework whereby in section 3.23 it is stated that ECE practitioners must not be discriminated against if they undergo gender reassignment. There are also references to the Equality Act (Government Office of Equalities, 2010) which obligates the fair treatment of people regardless of their sex or whether they undergo gender reassignment. Evidently, then, there is some consideration of issues relating to gender in terms of the adult practitioners. However, there is no guidance on issues of gender concerning children.

Development Matters is non-statutory but many ECE settings in England follow it as it provides a framework for observing and assessing the development of infants and young children, whilst guiding how teaching and learning should take place within a setting (Department for Education, 2023a). *Development Matters* differs from the Statutory Framework in that there is guidance for practitioners which incorporates gender. For example, practitioners are advised to avoid songs and rhymes which include gender stereotypes. Across *Development Matters* the guidance around gender is consistent (it is mentioned four times) in that is reminds practitioners to avoid gender stereotypes when interacting with children. However, there is no guidance on providing opportunities for children to express themselves in different ways. This potentially could be a result of the view of children as innocent and void of gender beyond the girl/boy binary.

The development of a national non-statutory curriculum for ECE in England has emerged over the last 24 years, beginning with the *Guidance for the Foundation Stage* (Department for Education and Employment, 2000) and *Birth to Three Matters* (Department for Education and

Skills, 2002), to the implementation of the first EYFS in 2008 (Department for Children, Schools and Families, 2008). The EYFS has been regularly updated since its implementation in 2008, with the latest update (at the time of writing) being in September 2023. From the first version of the EYFS**,** there has been clear influences from multiple historic ECE and early childhood thinkers, particularly psychologists from the 19th and 20th centuries (Creed, 2013). For example, Piaget's stages of cognitive development (Piaget, 1952) and Vygotsky's zone of proximal development (Vygotsky, 1978). Such thinking contributed to the still visible emphasis on infants' and young children's learning progressing through developmental milestones in previous versions of *Development Matters*. From this perspective, infants and young children are perceived as progressing toward adulthood through specific developmental stages (Gabriel, 2020), an approach which does not account for the child in the here-and-now.

Such developmental perspectives also contribute to the perceived adult/child binary, whereby there are concepts which are perceived as being *just for adults,* including sex, sexuality, and gender which are not seen as appropriate for 'innocent' children (Robinson, 2005). In terms of developmentalism in ECE, there has been much critique of positioning infants and young children as progressing through set stages of linear development (Edwards, Blaise, & Hammer, 2009). Therefore, the latest *Development Matters* (Department for Education, 2023a) is less specific about *when* an infant or young child *should* meet each specific milestone. Chapter two, section 2.2.2 discusses developmentalism in ECE and its critiques in more detail.

The Statutory Framework for ECE details the learning requirements that all ECE settings in England must meet. However, each ECE setting can determine how they design their approach to implement the learning requirements (Department for Education, 2023b). It may be, as discussed in the previous section, that some opt to follow the non-statutory curriculum guidance, *Development Matters* (Department for Education, 2023a), or another pedagogical approach (e.g., Montessori- see section 1.2.2). Within the statutory framework there are seven areas of learning and development which are designed to shape infants and young children's early learning experiences in ECE. The seven areas of learning and development are split into two groups, i.e., group one, or 'prime areas', and group two, or 'specific areas'. The first prime areas are described as the foundations which underpin learning and development. They include:

- Communication and Language.
- Physical Development; and,
- Personal, Social and Emotional Development.

The prime areas are considered to be the foundations for learning. Communication and language development are key for infants and young children to learn how to communicate (Berko- Gleason & Caldwell- Phillips, 2024). However, it is also important in terms of learning that they have the right to have a voice and to be heard (Kanyal, 2014). There is, of course, value in listening to what infants and young children are communicating (Clark, 2010), while also attending to their “feelings, beliefs, thoughts, wishes, preferences and attitudes” (Murray, 2019, p. 1). This links with Personal, Social and Emotional Development which is described as important for infants and young children to understand and share in their own and others diverse ways of life (Browne, 2010), while also providing a solid foundation for ongoing social and emotional learning (Tamblyn et al., 2023). Physical development is also an area which is prioritised within ECE and includes body control and young children beginning to learn to take responsibility for their own health, well-being, and independence (Department for Education, 2023b). The body is shaped by social interactions as much as it shapes those interactions (James, Jenks, & Prout, 1998). Therefore, the EYFS framework contributes to how infants and young children learn about the social and cultural world around them. This includes their development of identity and learning about the identities of others. However, the focus of such social learning is based on normative ideas. There is not a specific focus of different ways of being and becoming in terms of gender. Rather, the focus reflects developmental norms, such as forming relationships with their peers, managing emotions, developing a sense of community, being confident and independent, and following rules. In other words, self-expression is not at the foreground of the guidance on ECE practice, rather it is seen as foundational learning to support ongoing development.

The specific areas are described in the Statutory Framework as being reinforced and supported by the application of skills and development learned within the prime areas. These areas of learning are generally concerned with more focused learning, which is aimed at the older children in ECE such as those in preschool or in the first year of compulsory schooling. The specific areas of learning and development are:

- Literacy.
- Mathematics.
- Understanding the World; and,
- Expressive Arts and Design.

The EYFS describes the ways that children learn from an anthropocentric perspective (Land, Vintimilla, Pacini- Ketchabaw, & Angus, 2022). It accounts for infants and young children's social and inter-human learning, but it forgets the impact that the ECE environment, and objects within the environment, has on how children learn about the world, themselves, and other human and more-than-human entities. This point will be addressed in more detail in chapter three.

1.2.2 The Montessori approach

The settings who participated in the research consist of two day nurseries who follow the EYFS, and one Montessori nursery school. This section will describe the Montessori approach and the similarities and differences regarding the EYFS (section 1.2.1). Maria Montessori (1870-1952) set up her children's day care centre *Casa di Bambini* in the slums of Rome in 1907 to solve the practical problem of providing a place for the children who were left to roam while their parents worked (Osgood & Mohandas, 2022). Montessori was a paediatric doctor who believed that the focus of ECE should be on what children *can* do rather than what they *can't do* (Allingham, 2022). It was at *Casa di Bambini* that Montessori was refined her pedagogical approach, where she placed emphasis and value on the role of materials, senses, and learning through engagement with 'real' objects (Bone, 2019b). Throughout this thesis there is a refocusing on the value of the material world and its agentic capacity to affect (Bennett, 2010). Therefore, the Montessorian value placed on materials is of interest.

The Montessori approach views young children as having the capacity and desire to learn when they are in a purposefully designed environment, containing purposefully designed resources (Bradley et al., 2011). The Montessori classroom contains specifically designed learning resources while avoiding objects that promote fantasy (Allingham, 2022). This is because the ethos of Montessori education posits that children should learn and enjoy learning from the 'real world' (Lillard & Taggart, 2019). However, with modern developments in the media, young children often have favourite characters which they seek to include in

their play (which practitioners shared with me during the fieldwork), meaning that some Montessori nurseries, such as the nursery school that participated in this research, are less strict with this ethos.

Within the Montessori approach, there is an emphasis on the child's capacity to educate themselves (Bradley et al., 2011; Nutbrown & Clough, 2014). This means that the Montessori classroom is specifically designed to provide children with independence and autonomy as they navigate their own learning. This includes furniture being scaled down to accommodate children's small bodies (Isaacs, 2018). This feature of Montessori education has influenced ECE globally, where it is commonplace to see scaled down furniture (Bone, 2019a). Montessori designed specific toys based on what she knew of the children through her observations (Allingham, 2022); as such, Montessori toys are intended for children to access independently, supporting the ethos of adults helping children to help themselves (Feez, 2010). Therefore, it is not unusual to see limited intervention from practitioners in a Montessori classroom.

Children's exploration of the specific objects is referred to as 'work' within the Montessori approach because Montessori believed that engagement with the specifically designed environment was the 'work' of the children (Allingham, 2022). The children are encouraged to use the toys 'correctly' and not to disrupt other children in their 'work' (Feez, 2010). The Montessori toys are traditionally made from natural materials. However, in a changing world some Montessori settings may find such objects difficult to find as they are now made from plastic, such as clothes pegs (an example cited by one of the practitioners in the current research).

The Montessori approach defines six areas of activity which is the focus of young children's learning and development:

- Practical life.
- Refinement of the senses.
- Communication, language, and literacy.
- Mathematics.
- Cultural aspects of life; and,
- Creative expression.

(Bradley et al., 2011, p. 76)

There are some similarities between the Montessori areas of activity and the EYFS areas of learning. However, the Montessori framework seems to place emphasis on the materiality of learning. Each area is designed to require purposeful effort and concentration from the children which contributes to their physical, social, emotional, and cognitive development (Allingham, 2022). This means that the educators do not interrupt children (Nutbrown & Clough, 2014). However, in every-day practice this can present differently across Montessori nurseries, which was evident in the current research. For example, water was often part of the activities which, at times, caused disruption, something which affected the learning in this space. Therefore, the practitioners sometimes chose to intervene. However, water and other resources were still incorporated in 'work' due to the sensory experience of the child being central to the Montessori approach (Isaacs, 2018). According to observations from the current research, there were different approaches to implementing the pedagogical principles of Montessori. For some it is crucial to remain faithful to the traditional principles of Montessori. For others, such as some of the Montessori nursery school practitioners participating in the research, modernisation is unavoidable as "Maria Montessori would have kept going" (quote from Gillian, a practitioner at Burroughs Nursery School[1]).

1.3 Statutory requirements for ECE in England

The Statutory Framework which governs all ECE settings in England, regardless of their pedagogical approach, lays out the essential requirements that all settings must meet. This includes requirements pertaining to child protection, premises, and teaching and learning. It specifically details the training requirements of the workforce, stating that all setting managers must hold at least a relevant level three qualification (see table 1) and have a minimum of two years of experience. Fifty percent of the workforce within an ECE setting must hold a relevant level two qualification. However, within each of the classrooms, there must be at least one practitioner who holds a level three qualification (Department for Education, 2023b). Table 1 shows the levels of qualifications and some examples of qualification programmes. More than one third (37.5%) of the practitioners who participated in the current research were in the category of unqualified (i.e., they did not hold any sector-relevant qualifications). However, some of them were working toward level two or three qualifications.

[1] The name of the practitioner (and all participants in this research) and the nursery schools mentioned are pseudonyms.

Qualification level	Level Equivalent	Example of Qualification at such level
Level two	Entry level	Diploma for the Early Years Practitioner
Level three	Further education	Diploma for the Early Years Workforce Montessori Diploma in Early Years Education
Level four	Foundation degree	Award for Early Years Advanced Practitioner
Level five		Diploma in Leadership for the Children and Young People's Workforce (Early Years) Montessori Diploma in Early Years Education
Level six	Undergraduate	There are many early years degrees available across England.
Early Years Teacher Training/Montessori Teacher Training	Postgraduate	Many institutions across England offer early years teacher training.

Table 1: *ECE qualification levels in England.*

Qualification levels in ECE settings remains topical as sector quality is associated with workforce qualifications, but the term 'quality' in ECE is debated as this qualification-quality relationship is positioned as being 'true' or 'natural', especially when it is influenced by political agendas (Elwick, Osgood, Robertson, & Sakr, 2018; Moss, 2016). It is also argued that ECE should be treated with the same professional standards as other aspects of education and, therefore, there should be an emphasis on gaining (and retaining) more graduate practitioners (Mikuska, Fairchild, Sabine, & Barton, 2023). As such, there are arguments on both sides as to whether higher levels of qualifications do indeed result in higher 'quality'. Finally, the Statutory Framework details how many qualified persons must be on the premises as well as how many infants and young children can attend each room of the setting based on their age and the size of the learning environment. There are also strict adult-to-child ratios that must be adhered to:

- Only staff over the age of 17 can be included in ratios.
- For infants under two the adult-to-child ratio is 1:3.

- For young children aged between two and three, it is 1:5.
- For young children aged three and over, the ratio is 1:8 (unless the staff member has a level 6 qualification or above, then the ratio becomes 1:13).

The impacts of this were often seen throughout the fieldwork in the current research and, therefore, had implications for how the infants and young children experienced their setting. For example, if there were not enough practitioners to meet the ratio, then rooms would be closed and age groups mixed. As chapter five will highlight, this changed the expected linear experience of growing up in an ECE setting. In other words, infants were sometimes placed in the toddler room or preschool room, where expectations were different. This highlighted how gender norms emerged within different spaces in the ECE settings.

1.3.1 Current challenges in Early Childhood Education

Considering current challenges in ECE informs how and why the current research was designed (see chapter four). This section will explore some of the ongoing challenges in ECE, which will locate this research within the realities of the day-to-day operations within the ECE settings who participated in the current research. There are certain struggles which come with working in an ECE setting which needed to be considered when designing the current research. Therefore, this section aims to contextualise such challenges.

ECE is generally the first experience of an educational or group-based setting that an infant or young child will experience (Lemay, Bigras, & Bouchard, 2014). ECE settings are designed to provide professional care and early education to infants and young children. This means that the care and education provided in the settings, according to the Department for Education, should be consistent and of high quality (Department for Education, 2023b). However, despite qualification programmes and training being available to the ECE workforce in England, the ECE workforce still have relatively low levels of qualification (Cameron, 2020) in comparison to ECE practitioners in other countries such as France, where ECE educators are required to have a master's degree or equivalent (Organisation for Economic Cooperation and Development, 2024). Although this may not necessarily directly impact the 'quality' of practice in ECE, low qualification levels within the sector have been linked with the low social status of ECE practitioners which has implications for the significance and value the ECE sector has for society (Jones, 2014). As such, there are links between perceived low social status and

professionalism in the sector. That is, ECE is not always seen as a professional career. For example, as Musgrave (2010) points out, ECE as a profession requires a focus on training, status, pay, and ongoing professional development. Something which is still an issue today.

There are also issues regarding government subsidised ECE places for children which, given the associated underfunding of these places, has the capacity to contribute to lower pay and poorer working conditions of practitioners at a time when there is a demand for ECE services and practitioner training (Sullivan, Coles, Xu, & Thorpe, 2023). The government in England increased the free universal childcare entitlement for three- and four-year-olds from 15 hours per week to 30 hours per week (depending on parental employment status) (Moss, 2020) which had implications for the income of the ECE settings. In 2024 and 2025, the government plans to increase ECE funding to incorporate infants from 9 months old (Education & Skills Funding Agency, 2023). The funding provided to ECE settings per child is relatively low, which means there is less money to spend on training, supporting practice and increasing practitioners' wages, which has contributed to a decline in the sector (Cameron, 2020). To 'scrape back' some financial losses, parents have seen ECE costs for the under-three's rise exponentially, with ECE for infants becoming unaffordable for some families (Statham, Parkes, & Nanda, 2022). Consequently, practitioners are stretched, attempting to balance cost-saving with a range of issues, including staff development opportunities.

1.4 Defining gender

This thesis is concerned with examining gender and how it is reproduced in ECE. However, gender is a term which is interlinked with the term sex, often being used interchangeably without acknowledgement of the sociological and biological factors which, despite their interlinking, differentiate gender and sex (Goerling & Wolfe, 2022; Rioux et al., 2022). The World Health Organisation (WHO) defines the difference between gender and sex as follows:

> *"Gender interacts with but is different from sex, which refers to the different biological and physiological characteristics of females, males and intersex persons, such as chromosomes, hormones and reproductive organs. Gender and sex are related to but different from gender identity. Gender identity refers to a person's deeply felt, internal and individual experience of gender, which may or may not*

correspond to the person's physiology or designated sex at birth." (World Health Organisation, 2023)

Second wave feminists presented gender as entwined with the concepts of femininity and masculinity and a consequence of, and contributor to, social and cultural norms (Oakley, 1972; Stoller, 1968). This can simplify gender within a woman/man binary; that is, that there are only two genders (i.e., girl/woman and boy/man), and each of those genders include normative concepts regarding a person's characteristics or behaviour. For example, there are gender roles associated with being either a girl/woman or a boy/man. Gender roles are a social and cultural phenomenon but change over time and location and are influenced by social and political discourses of the time (Goerling & Wolfe, 2022). Women's association with domestic labour, notably raising children and household chores, while men work outside of the home, no longer rings true. In Western societies domestic labour and parenting responsibilities are more likely to be shared (Faves & Frascarolo, 2020). This does not mean, however, that gender differences and/or inequality have been resolved either at home or in the workplace. For example, the vast majority of the ECE workforce are women, working in an insufficiently funded sector with low wages and with poor social standing.

Cumming-Potvin (2023) comments that there have been many activist movements during the 21st century which have brought gender diversity into mainstream discourse, but this has not tackled everyday issues of gender-based discrimination. There is more social awareness around diversity, for instance in terms of gender expressions, such as being gender non-conforming. However, gender as conceptualised as binary as well as being cisgender (that is, one's gender is congruent with their sex assigned at birth) are still considered the desired norm in society, particularly in educational settings where there is an assumption that all children and young people are/should be cisgender (McBride & Neary, 2021). Gender norms persist within all areas of social life, including within the experiences of infants and young children when they attend nursery.

Infants and young children tend to experience their encounters with other people through the norms associated with binary gender (Callahan & Nicholas, 2019). For example, many of the practitioners talked about children's gender in the sense that it was a biological certainty derived from their sex (assigned at birth). Such as, the expectation that boys will be loud, assertive, and prefer physical activities, whereas the girls will enjoy quiet activities, such

as reading. Despite many of the children across the participating ECE sites not conforming to such rigid notions of gender, many of the practitioners still held (gender) stereotyped views of children. However, by deploying a feminist new materialist analysis that decentres taken-for-granted understandings, this thesis will demonstrate that even within the gender binary gender norms can be challenged.

1.5 Introducing feminist new materialism

As the previous section highlights, feminist new materialism allows for focus to be placed on the everyday, taken-for-granted occurrences which inspire a turn from the human-centric to the relationality between the human and the more-than-human (Osgood, 2023). That is, through consideration of the relationality between objects, animals, plants, organisms, forces, and humans in how lives are shaped (Hohti & MacLure, 2022). This takes account of the agentic capacity of the 'things' that are not human (more-than-human), but that still have vitality and dynamism in their ability to affect (Bennett, 2010). Specifically, in terms of the current research, how gender is manifested through the relational connections between the human and more-than-human world in the ECE setting.

Feminist new materialism inspires a turn to matter which acknowledges the multiple ways, and across the multiple relational human and more-than-human webs, that knowledge is co-constituted (Lenz-Taguchi & Eriksson, 2021). Gendered bodies emerge through such interconnected webs as the human and more-than-human worlds are entangled and inseparable from each other; we exist within the world, not on the peripheries as exceptional beings (Barad, 2007). This perspective disrupts the human-centred perspective and results in (insightful) complexity and messiness. However, feminist new materialism recognises the value in uncertainty and messiness in research in that moving beyond producing the same research findings time and time again, the feminist new materialist researcher can look for new ways of being and becoming with gender (Osgood & Robinson, 2019a). As such, the feminist new materialist researcher is located within the research itself, connected and entangled with the research environment and the human and more-than-human participants (Elwick, 2020). That is, knowledge is situated (Haraway, 1988), and, therefore, taking account of the ways in which knowledge is produced and the influences which shape knowledge is a key aspect of feminist new materialist theorising. Chapter three will focus on feminist new materialism in detail, including how it has informed the analysis of this research.

1.6 Conclusion

This chapter has provided an overview of ECE in England, particularly regarding the types of settings that participated in the current research, drawing on the government issued framework which underpins ECE in England. The introduction of how ECE is structured in England, with consideration to the two approaches to pedagogy which are relevant to this thesis, has intended to contextualise the rest of the thesis. While contextualising ECE, this chapter has also defined the key terms associated with gender as they have been applied to the analysis. Defining gender can be difficult as how people experience gender and, as a result, how people express their gender identity can differ. This has implications for infants and young children in ECE as they learn and engage with their own and others' gender through the expectations of the adults, as well as how children and the environment police and reinforce gender norms. Finally, this chapter introduced feminist new materialism as the underpinning theoretical framework. It highlighted the relevance of such a framework for researching gender and ECE. However, chapter three is dedicated to an in-depth exploration of feminist new materialism and its function within the analysis of this research.

Chapter two will explore the existing literature concerned with ECE and gender. It will specifically the ways that gender impacts ECE and how infants and young children engage with gender. Chapter three will expand on this further by situating ECE within a feminist new materialist theoretical framework. Chapter four will introduce the research methodology to detail how and why the research was designed, carried out, and analysed, and what influenced the chosen methodology. Chapters five, six and seven, however, will present and discuss the data analysis, drawing on observations and field notes to support the discussions. Chapter five will explore the role of time and space. It will provide insights into how routine, the design of the learning environments, and the way that infants and young children move (or are moved) through the rooms influenced the ways in which gender manifests. Chapter six will look at power. This chapter argues that gender and power co-exist and are co-constituted. Chapter seven is concerned with the role that more-than-human entities (i.e., non-human 'things') play in the production of gender. The final concluding chapter draws together the analysis and findings presented in the three preceding chapters, returning to the guiding research questions, and situates the thesis within wider academic knowledge.

2. Chapter Two: Gender and Early Childhood Education

2.1 Introduction

Post-structuralist theorist Professor Judith Butler challenged commonly accepted ideas of gender by suggesting that gender is not a fixed or stable concept, rather definitions of it evolve and change (Butler, 1990). As such, the ways in which terms such as gender roles (i.e., the characteristics and behaviours associated with being a woman or a man), gender expression, the concept of gender binary are constantly evolving, and are, therefore, constantly being redefined (Cordoba, 2022). As it will be argued throughout this thesis, this applies to infancy and early childhood as this is where the learning and performance of gender begins. Infants are born into a world where expectations around how their gender will 'be' is informed by their assigned sex at birth (chapter one, section 1.4.1). There is an assumption that their assigned sex at birth will determine the characteristics and behaviours which they will exhibit as they grow up (i.e., that girls will be 'suitably' feminine, and boys will be 'suitably' masculine), with some children becoming gender nonconforming (i.e., where ones gender expression is not congruent with gender expectations) (Becker-Warner, Candelario-Pérez, Rider, & Berg, 2021). As such, the way that children experience the world, e.g., through adult and peer influence, play and activities, and gender norms, can influence their understanding of their gender (Salinas-Quiroz & Sweder, 2023). This includes the culture within the ECE setting which they may attend.

This chapter will begin by examining contested perspectives, including the function and semantics around the term 'care' and its association with ECE. Other contested perspectives discussed in this chapter include the prominence of developmentalism in ECE, and the involvement of infants (that is those under the age of two) as participants in sociological research. The chapter will go on to consider the gendered ECE workforce, focusing on the ongoing assumptions around gender roles and working in ECE. Finally, the chapter will address the role of power in how gender is formed in ECE spaces.

2.2 Contested perspectives

2.2.1 '…and care': isn't care a given in all educational settings?

The term 'early childhood education' is itself contested. Some refer to the sector as 'early childhood education *and care'*. However, Moss (2017) argues that "…and care" implies that care is something that is exclusive to ECE, rather than being something which should feature at all levels of education (and other institutions such as prisons and hospitals), which ultimately have a duty of care. Care is defined as "Oversight with a view to protection, preservation, or guidance.", and "To feel concern (great or little), be concerned, trouble oneself, feel interest" (Oxford English Dictionary, n.d). The definitions can be attributed to the expectations of educational professionals from ECE up to higher education institutions. To only apply it to ECE has the capacity to shift focus from the sector as part of the educational system (Moss, 2017). As such, although caring is an essential part of ECE, to focus on care can be seen to diminish the educational status of the sector and the knowledge and skills of the practitioners working in the sector by separating it as distinctly *different* from education (Redman, Harrison, & Djonov, 2022). This, as this chapter will go on to explore further, has implications for the ECE sector in terms of gender. The ECE workforce is almost exclusively made up of women, and there is a gendered association between being 'caring' and raising children, and being a woman (Cooper & Quiñones, 2022).

Early formation of ECE settings in England were places for children who were seen as needing special provision, such as the open-air nursery school set up by Rachel MacMillian in 1913 which was created to cater for children from the 'slums' in an industrial area of Sheffield, England (Nutbrown & Clough, 2014). Even from their foundational beginnings, the priorities within ECE have been concerned with the care of young children. Historically, due to the influence of gender roles, care, including that of young children, has been associated with women and the domestic (Langford & White, 2019). Up until relatively recently, the care of children in the domestic sphere was seen as a female role because of assumed maternal 'instincts' associated with motherhood. This is a result of gender roles, based on the assumption that work, domestic or professional, involving care was a 'natural' position for women (Cooper & Quiñones, 2022). Therefore, childcare practices have largely been carried out by women. Second-wave feminism challenged the role of women in unpaid domestic roles, which saw many women take up jobs outside of the home, ultimately resulting in the increased need for childcare and market-place provision (Chang-Kredl, Pauls, & Foster, 2021).

Due to childcare being traditionally a domestic, private, unpaid role attributed to women its social value has been underestimated (Hellman, 2021). As such, childcare as part of the labour market has continued the gender-based traditions of women raising and caring for children within the ECE sector. Modern ECE still mainly employs women, with only 2% of practitioners being men in England in 2022 (Department for Education, 2022), a statistic that is echoed across Western societies (Sullivan et al., 2023).

Hochschild (1983), in her work on emotional labour, argues that women are at higher risk of emotional burn-out because of the assumptions around gender roles and the cultural assumption of women's 'natural' unerring capacity for care. This is echoed by Cameron (2020) whereby it is argued that burn-out is common amongst the workforce in ECE. ECE practitioners engaged in care work are expected to sacrifice their needs for the needs of the child (Chang-Kredl et al., 2021). The role of the ECE practitioner is portrayed and perceived as being the idealised *'mother'* (Balfour, 2016), in that they are viewed as kind, caring, patient, and loving; a description of the 'mother' based on unrealistic assumptions of being maternal in order to work with infants and young children. This also reinforces the idea that working in ECE is a job for women, by promoting gender roles associated with motherhood (Oke, Butler, & O'Neill, 2019). This image of the '*mother'*, then, devalues professionalism in ECE through the perception that nothing more than what occurs '*naturally*' is needed to perform the role of ECE practitioner (Grieshaber & McArdle, 2010). It implies that motherhood and being 'maternal' are *natural* attributes which all women possess, which is supported by outdated gender roles (Bogino-Larrambebere, 2023).

The concept of care as described in this section is drawn from the theoretical framework of feminist ethics of care (Gilligan, 1982). However, this concept can be taken further. Giving and receiving care goes beyond the anthropocentric sphere and includes the more-than-human matter which make up ECE spaces (Osgood & de Rijke, 2022). Langford and White (2019) describe how giving and receiving care are an essential part of daily routines in ECE settings. Care is more than just a coming together of two human bodies, rather it is a process which features multiple human *and* more-than-human 'bodies'. From this posthuman perspective (discussed in detail in chapter three), care in ECE is produced through the interconnectedness of human bodies, routines, policy, care items such as nappies, bottles, comfort-giving items such as toys, and social and cultural understandings and expectations regarding infants and young children. All the practices and materials take place within an

educational setting where teaching and learning are fundamental aspects of ECE within which care routines take place. Education and care are, therefore, inseparable if routines are embedded in the context of both education *and* care (Langford & White, 2019). Arguably, then, there is no distinction between education and care in ECE, because they co-exist. Despite this, there is still a view that caring practices are not as professional as educational practice.

In their study of ECE settings across 15 European countries, Van Laere, Peeters, & Vandenbroeck (2012) found that there was a perceived divide between education and care. They describe how many practitioners who work with infants were perceived as having distinctly care-based roles and had lower levels of qualifications. Those who worked with the older children were seen as educators and, therefore, tended to be more qualified. This is echoed in recent literature from the United Kingdom, where the ECE sector has low social status. Cameron (2020) describes the ECE workforce as having low levels of qualifications and drawing recruits from a pool of young women whose choice to work in the sector is based on their self-confessed love for children. As such, there appears to be an assumption that caring is not as professional as educating. However, the practitioners working in the ECE sector are required to have knowledge and skills for attending to infants and young children's education and care-based needs, as discussed in chapter one (Department for Education, 2023b). The sector is divided between education and care and this divide runs the risk of focusing too much on the sector being for working parents, and overshadows its many other functions (Moss, 2017). This includes promoting well-being, development, safety, and learning, for all children and not just those of employed parents (Moss, 2020). As such, it seems that the combination of care and education are what contributes to the professional practice of ECE. Therefore, in this thesis I use what Moss (2017, p. 13) calls his "preferred term", 'Early Childhood Education', without the "…and care" annex. Rather, the current research views the sector as being situated within the education system of which care is also an essential component.

2.2.2 Developmental perspectives

In the 20th century, developmental psychology became the dominant discipline in providing insight into how children learn and develop (Gabriel, 2020). The crux of developmentalism in ECE is concerned with describing how the experiences of infants and young children can influence the possibilities of their lives as they progress through stages of

development (Richardson & Langford, 2022). As such, developmental theories are applied to assess children's developmental and pedagogical progress (Saracho, 2023). Therefore, the developmental perspective of how children learn has provided a framework for how ECE curriculums can be organised, such as reliance upon Piaget's stages of development (Wood, 2020). This longstanding influence of developmental theories and how these structure the ways that children learn is therefore embedded within ECE practice (Watson, 2022). The latest curriculum guidance *Development Matters* (Department for Education, 2023b) has reframed practice, distancing it from reified 'stages of development' to some extent. Developmental milestones attributed to age remain, but the curriculum is now recommended to be used as guidance to be used alongside professional judgement (Department for Education, 2023a, 2023b). However, infants and young children are still framed as being in a state of linear development, without consideration of the societal, cultural, and material influences that are all embedded within the ways in which infants and young children learn. The field of childhood studies is now identified as a multidisciplinary field where there are arguments for the benefits of bringing together varying disciplines (Gabriel, 2020; Prout, 2019). For example, sociology of childhood describes early childhood as "an actively negotiated set of social relationships within which the early years of human life are constituted" (Prout & James, 2015, p. 6). More recent perspectives of childhood, such as posthumanism, argue that early childhood is constructed through networks of agentic material, such as objects, spaces, concepts, politics, and history, where such networks are interwoven and co-constituted rather than concerned solely with human agency (Osgood & Odegard, 2022).

More critical perspectives contest the positioning of developmentalism as undisputable scientific fact (Richardson & Langford, 2022). For example, sociologists trouble the assessment process known as 'age and stage' (Gabriel, 2020), which assumes fixed linear ideas about children as they grow and learn within the confines of reaching specific milestones at specific ages (Watson, 2022). Developmental theories struggle to account for the social factors that enable children to learn, grow, and engage with knowledge (Wood, 2020). In other words, sociology seeks to position the child *in context* (Crafter, 2015). Whereas developmental psychology has contributed to the 'normalisation' of *the child* (Burnham, 2008), critical perspectives position the developmental views of early childhood as being steeped in neoliberal ideology and the developmental potential of children in readiness for market productivity in adulthood (Richardson & Langford, 2022). Sociological views of early childhood

instead consider the child as an agentic being who exists as a child, rather than as a future adult (Hülya-Kurt, 2022). While posthuman theories de-centre the child altogether and explore children and childhood as entangled, embedded, and becoming with place, space, and the material world (Quinones & Duhn, 2022).

Academic perspectives of children are therefore multidisciplinary, but this has yet to filter into ECE settings. ECE practice is still largely shaped by developmental theories of how children learn (Watson, 2022). I witnessed this first-hand during the fieldwork within the current research as one of the practitioners shared her Level 3 qualification (see chapter one, section 1.3) course book with me. The learning material in this book was highly influenced by 20th century developmental psychology, with several pages dedicated to Freud's psychosexual development theory, which was developed over 100 years ago. As such, ECE settings remain designed to promote learning and progress through the lens of developmentalism (Watson, 2022). Including how the children are organised in age-based rooms, what activities and toys are on offer, and what the expectations are in terms of their knowledge, behaviour, skills, and communication (Matthews & Lippman, 2020).

The research described in the current thesis is underpinned by feminist new materialist theorising. However, as it will be discussed in chapter three, feminist new materialist perspectives include taking account for how multiple entangled more-than-human materials *and* humans contribute to how phenomena come to be (Fairchild, 2019). As such while the analysis does not adhere to developmentalism it remains at the heart of ECE, and it was therefore acknowledged as being a relevant entity within the participating ECE settings, meaning it influenced how the data were generated. As it will be discussed in chapter three, reading data through multiple perspectives, or diffractive analysis (Barad, 2007), does allow for a shift in focus. It means that there is not one way to look at phenomena, rather there are nuances and complexities within the social world which can be observed through multiple lenses.

2.2.3 What about the infants?

Developmental views of early childhood position infants as largely socially incapable and completely reliant on adults. For example, Erikson's psychosocial theory of development describes infants (at 'Stage 1' of eight life stages) as learning to trust or mistrust based on weather their needs are met by adults, leading to the development of hope or fear regarding

the world (Erikson, 1950). However, as discussed in the previous section, the role of developmentalism in studies of childhood and ECE is contested. For example, it is recognised that through emotional communication (e.g., through cries or laughter), infants have the capacity to assert power (Salamon, Sumison, & Harrison, 2017). Infants are not able to provide personal accounts of their experiences through conversation. As such, infants are rarely included in ECE research (including feminist new materialist research). However, lacking in verbal communication does not mean that infants have nothing to contribute to research. Rather, what is required is for the researcher to accept that it is not possible to acquire an insight into the infants' perspective (Elwick, Bradley, & Sumison, 2014). Elwick (2020) suggests that when researching with infants and pre-verbal children, one must evade the dualist thinking concerned with the self and the Other. Rather, researching with infants is a "collective endeavour" (Elwick, 2020, p. 149). This places the researcher within the research. There is also value in considering the agentic capacity of the research environment. Refocusing on the environment can provide valuable opportunities to share in experiences with infants while observing how phenomena come to be through the entangled meeting of infants, practitioners, toys, and the specifically designed 'baby rooms' within ECE (Osgood, 2020).

Researching within infant spaces can be unpredictable, but the unplanned moments can contribute to knowledge production in infant populated spaces (Orrmalm, 2020). The messiness and unpredictability of researching with infants highlights that researchers cannot know infants' perspectives (Elwick, 2015). Inspired by the work of Haraway, Osgood (2020) terms this uncertainty as (k)not-knowing, which emphasizes the need for critique and the problematising of assumptions. In other words, there is meaning and value in knottiness of uncertainty. It is not possible to truly know others, including infants (Elwick et al., 2014). However, paying attention to the environment can contribute to how infants' experiences can be included in research. For example, the spaces in which infants are based (the baby room) in ECE have different ways of contributing to the infants' experiences, such as by providing comfort, entertainment, and security all while in constant motion (Sumison, Harrison, & Stapleton, 2018). Therefore, researching with infants requires a methodology which accounts for the uncertainty of not knowing which attends to how experiences and phenomena are produced through the interconnectedness of infant spaces and affective forces which brings such phenomena into being.

2.3 Gender: The Early Childhood Education workforce

The feminisation of ECE is not a new phenomenon. In England, the Victorian Infant School Movement in the early 19th century viewed women and men through essentialist discourses regarding their apparent aptitudes for certain roles. Social class compounded this attribution of aptitude through women's reproductive capacity and the association with nature. For example, historically young women were employed as servants to engage in childcare (Steedman, 2007). By the 1830s men were no longer working with young children because they were disassociated from childrearing and they were considered to be needed elsewhere in the labour force (Warin, Wilkinson, & Greaves, 2021). In England, the ECE workforce remains largely populated by working class women because, as Osgood argues, "nobody else wants to do it." (2005, p. 296). However, ECE is not the exclusive domain of cultural norms stereotypically associated with working class parenthood. Montessori ECE, for example, has become associated with middle-class ideals about early childhood such as promoting mindfulness, independence, and self-discovery (Osgood & Mohandas, 2020), pedagogical values which have influenced ECE more broadly. Therefore, the working-class women who make up most of the workforce are expected to love, care for, and engage with children according to a middle-class ethos, masking their working-class identities (Chang-Kredl et al., 2021).

Low pay is a common feature of the ECE workforce, even for those who have high levels of qualifications (Warin et al., 2021). Government funded ECE places in England for those children whose parents meet certain criteria (such as low income) (Education and Skills Funding Agency, 2022) has contributed to financial issues for ECE settings (chapter one, section 1.3.1). This has had a direct impact on practitioners as there are less resources for wage increases and training (Bonetti, 2022). This view is encouraged by the problematic views concerning the role of an ECE practitioner as one that does not require much skill or knowledge (Redman et al., 2022). Thus, *ECE practitioner* is deemed a suitable job for non-academic women (Rosen, 2019). This irrevocably genders the ECE workforce. The number of men working in ECE in England remains at around 2% (Josephidou, 2020) and there are no data on those working in the sector who are gender diverse (e.g., transgender, gender nonconforming). The homogenous nature of the ECE workforce delimits the variety of perspectives in practice (Cameron, 2020) and disconnects it to awareness of gender issues and employment policy that are in circulation in the mainstream (Warin et al., 2021).

Policymakers have acknowledged the gendered ECE workforce and attempted to remedy this through positive strategies to recruit more men into the workforce by highlighting that ECE is not just a job for women (Osgood, 2005). However, the sector remains predominately populated by women. The role is seen as 'natural' for women, but gender-atypical for men, because of the involvement of emotion and care (Yang & McNair, 2021). There are also damaging and stigmatising assumptions made around why men might want to work with young children, which is shaped by the same historic gender norms that reinforce caring for children as being a job for women (Bhana, Moosa, Xu, & Emilsen, 2022). The gendered nature of the workforce and the attempts to address it by striving to recruit more men into ECE reinforce the binary nature of gender (Wilkinson & Warin, 2022) rather than evaluating the workforce based on the skills and knowledge possessed by the people who already make up the workforce.

ECE practitioners have the position to influence and challenge gender bias in practice (Reddington, 2020) and to disrupt gender norms (Warin & Price, 2020). This is regardless of their gender. Practitioners engage with infants and young children in practice by commenting on and narrating their play and learning, and by asking questions and extending learning, all while consciously and subconsciously modelling behaviours (Granger, Hanish, Kornienko, & Bradley, 2016). Granger et at., (2016) found that preschool teachers in the USA would vary their interactions and activities based on the gender composition of the group of children they were working with. Reddington (2020), in their study of ECE practitioners' views of how children perform gender in unstructured play in Nova Scotia (Canada), found that practitioners view of gender was that it was binary (i.e., simply girls and boys). The practitioners described children's play in terms of gender stereotypes. The practitioners often inadvertently created roleplay opportunities which were based in heteronormative (that is where heterosexuality is position as normative and, therefore, prioritised over other expressions of sexuality) ideals that had the capacity to inform children's gendered learning. Reddington highlights that such gender binary and heteronormative play can limited children's expression of gender. It is also observed that practitioners have little involvement in young children's imaginative roleplay, beyond 'setting up' the play space (Reddington, 2020). When the play is self-selected, children tend not to approach the practitioners to join in (Grieshaber & McArdle, 2010). This could mean that opportunities to challenge children's ideas around gender norms may be missed.

Gender binary and gender stereotyped constructs encompass ECE provision (Ärlemalm-Hagsér, 2010). Warin & Adriany's (2015) gender-flexible practice seeks to disrupt the modelling of gender norms and roles by considering the resources made available to children for play and learning, while encouraging practitioners to be more conscious of their own gendered behaviour and being responsive to the gendered behaviour of children. Chapman (2022) comments that there is limited guidance for ECE practitioners on how to approach gender issues in practice. Although academic literature concerning gender in ECE is expanding, there are limited opportunities for ECE practitioners to engage with the literature due to lack of access and awareness (Chapman, 2022). This means that through lack of training opportunities and awareness of academic research, current practices in ECE are seldom challenged.

This section has demonstrated how gender is produced through the largely female ECE workforce. As a result of the gendered workforce, there have been multiple attempts to increase the number of men in the sector (Warin et al., 2021). As such, the ECE workforce perpetuates gender as binary due to discourse around gender and the ECE workforce being only concerned with women and men (Wilkinson & Warin, 2022). Many arguments suggest that men offer something 'different' in terms of how they engage with children and, therefore, their presence in the workforce offers an 'alternative' (gendered) perspective for infants and young children (Msiza & Kagola, 2023). However, arguably this then suggests gender diverse perspectives could be welcomed beyond the binarised view of gender where a range of practitioners, including gender role non-conformers, could contribute to children's learning around different ways to express their gender. However, from conducting the research described in this thesis, the ECE workforce remains homogenous in terms of gender (i.e., the workforce in England is almost exclusively made up of women).

2.4 Gender: Infants and young children

Gender manifests in ECE in multiple ways. It is suggested that through engagement with the social world, children construct their views of themselves and others (Kohja, 2020). However, it is often assumed that young children are passive in their learning of gender norms and roles which are said to be formed by observing adults (Xu, 2020). This assumption could mean that children only learn socially through mimicry of adults. However, there are multiple factors which can influence how an infant or young child may encounter gender, which is then

argued to be embedded through repeated performances (Butler, 1990; Chapman, 2022). Infants and young children's knowledge of gender can then be influenced by, for example, peers, play, language, toys and activities (Boe & Woods, 2018; Grisard, 2016). Expectation and social norms can also contribute, and it is argued that gender is an inescapable and compulsory aspect of the social world which everyone (included infants and young children) experiences (Callahan & Nicholas, 2019). It is suggested that infants begin to categorise objects as female and male very early on (Glazier, Gülgöz, & Olson, 2020), and that children as young as two understand how they are 'supposed' to look and behave depending on whether they are a girl or a boy (Maplas, 2011). By the age of two, it is suggested that children's knowledge of gender stereotypes and categories increase at pace, informing their own development of gender expression and identity (Callahan & Nicholas, 2019; Medland, Kaltvedt, & Reikerås, 2019). It is also in these early years of a child's life, when they are beginning to make sense of the world around them, that prejudice and bias begin to emerge (Osgood, 2020). As such, a binarised view of gender can embedded, in young children, concepts of gender power dynamics in society, creating a sense of 'Otherness' between young girls and boys (Callahan & Nicholas, 2019).

Arguably, as infants grow into young children (that is preschool age, around three and four in England) they learn how to *do gender* in line which social norms and expectations (Brito et al., 2021). Some suggest that ECE practitioners contribute to infants learning of gender norms and expectations due to how they may engage with girls and boys differently, e.g., being rougher and more physical with boys, while handling infant girls delicately and with care (Callahan & Nicholas, 2019). This was evident in the fieldwork. Similarly, it has been observed in research that when practitioner interference is limited, infants do not necessarily approach play materials in a gendered way. (de Campos- Tebet et al., 2020). In their observation of infants starting nursery in Brazil, de Campos- Tebet, Lopes-dos Santos, Costa, Lima-Santos, Buzo-Ponte, de Oliveira, and D'Andrea, (2020) noted that while practitioners were engaged in care routines, the rest of the infants were left to explore the available toys of dolls and cars. The practitioners did not engage with the group of infants outside of the one-to-one care routines and did not comment upon or influence the materials which the infants chose to explore. Unhindered and unguided, both girls and boys engaged with the cars and the dolls. Some did not engage with either. Sych findings indicate that the instructive role of practitioners may be greater than previously believed.

Alongside practitioner and child relationships, peer relationships, particularly with preschool aged children, can influence how children experience, learn about, and embody gender (Hjelmér, 2020). By this age, children typically show preference for same-gender friendship groups where, collective, rigid views about gender are upheld through peer feedback regarding behaviours and behaviour modelling (Xiao, Cook, Martin, & Neilson, 2019). This can help children to assess the socially accepted and expected ways to behave in terms of their gender, where failure to do so may result in ostracisation for gender a-typical behaviours (Salinas-Quiroz & Sweder, 2023). Therefore, the desire to fit-in can drive young children's expression of gender (Xiao et al., 2019). However, this is sometimes influenced by the presence of a practitioner, as when out-of-sight young children sometimes engage in non-typical gendered play, such as boys roleplaying feminine themes like wearing a skirt. Although, such moments can contribute to gender norms being reaffirmed by children through teasing (Black-Delfin, 2020). This will be revisited in chapter five, section 5.3.

Power and the ECE environment are also intertwined with relationships, social norms, and expectations in terms of how gender comes to be in ECE. Gender power dynamics in the preschool spaces are part of the ebb and flow of the everyday ECE experience (Lyttleton-Smith, 2019), including how the boys may reject the girls, and anything associated with femininity (Hellman, 2021), and how the girls use their power over each other and the boys in play (see chapter six, section 6.4.1). The environment prepared by practitioners can also ascribe (gendered) power to the material world by impacting and changing the ways in which children play (Wingrave, 2018). This includes creating the out-of-sight or subversive spaces as identified in Black-Delfin's (2020) research. Therefore, as this section has demonstrated, how children learn about, and produce and reproduce gender, is entrenched in their social and material experiences while attending ECE settings. This will be evidenced further through the data and analysis presented in chapters five, six and seven.

2.4.1 Identity formation

Family contexts

Identity is complex and multifaceted, especially gender identity. From a human-centric perspective, *identity* is comprised of the social and cultural influences of what make us who we are, or rather who we understand ourselves to be (Buckingham, 2008). However, by

decentring the human, as this thesis seeks to do, normative understandings of the binary gender categories of girl/boy are called into question. As Barad (2007) says, we are always already entangled with(in) the world around us, we do not pre-exist our relations with those we encounter. Rather, we are propelled into a reciprocal entanglement of *becoming with.* That is, we *become* known to *and* as ourselves, and differentiated from each other through our embodied, entangled, affective relations with the human and more-than-human entities of our interconnected webs (Barad, 2007). These entangled webs are the contexts in which we live. For example, for many, family contexts are part of the web of entanglements and, as such, this social-interpersonal nexus can influence how gender materialises for infants and young children. It has been argued that much of children's knowledge of gender norms and expectations are influenced by family contexts (McHale, Crouter, and Whiteman, 2003). Eaude (2019, p. 17) argues "identities are constructed as a constantly changing narrative and that factors such as gender, race, class, (dis)ability and religion exert a considerable influence on how this happens". Therefore, the intersectional aspects of a child's family influence their development (and ongoing negotiation) of their own identities.

Family context has been acknowledged as being important for children's personal development across society. For example, in 2007 the Labour government's Department for Education and Skills (DfES) published a document titled *Every Parent Matters* (DfES, 2007). Within this document it was stated "[p]arents and the home environment they create are the single most important factor in shaping their children's wellbeing, achievements and prospects" (DfES, 2007, p. 3). This highlighted the social (and political) perception of the role of the home environment on children's development. However, it failed to acknowledge the socioeconomic differences of families, whereby working-class and middle-class families face different challenges and have access to different resources which may impact the ways in which parenting practices "are necessarily shaped both for and by these social contexts" (Holloway & Pimlott-Wilson, 2014, p. 97). Therefore, children do not all experience the same childhoods. Rather, each child has their own experiences which contribute to the formation of their identity. Within such experiences, there are multiple, shifting identities, such as ethnicity, sex, culture, and religion, in which children are located and in which they place themselves (Kuby & Vaughn, 2015). Even very young children begin to be able to point out some aspects of their identities, such as the language they speak or the place that they live/are from (Eaude, 2019), as well as whether they are a girl or a boy (Maplas, 2011).

It has been argued that the foundations of identity formation begin in early childhood (Eaude, 2019), and, specifically, early formation of gender identity starts in the home environment with parents/primary care givers (Cano & Hofmeister, 2023). Therefore, one's identity begins forming through relationships between young children and their parents (Weyer, 2018). As such, family contexts are a crucial aspect regarding how children's multiple, intersecting identities come to be. While religious and cultural beliefs do not individually construct children's identities, they contribute through their teachings "of individuals', and groups', beliefs about themselves and how they should act" (Eaude, 2019, p. 11). Ethnicity and cultural background influence the gendered expectations within a family (Halim, et al., 2023).

Parental views have also been argued to shape how gender is manifested in the family context, as parents with traditional views around gender roles may have more traditional expectations of their children, while those parents with "egalitarian values [of] their children tend to have less traditional gender-role attitudes" (Halpern and Perry-Jenkins, 2016, p. 532). On the other hand, Cano and Hofmeister (2023) found that parental behaviours affected children's attitudes towards gender roles. They state, "Our findings suggest that children's egalitarian views toward gender further increase when mothers and fathers engage in gender-atypical behaviours" and "Maternal employment and education were important predictors of egalitarian attitudes toward gender, just as paternal involvement in housework and childcare" (Cano & Hofmeister, 2023, p. 208). Therefore, early formation of identity manifest through reciprocal construction between parents/primary carers and children (Eaude, 2019). Likewise, social media has also been suggested to play a role in identity formation as "Research suggests that the relationship between self-presentation on social media and identity development is dynamic" (Pérez-Torres, 2024, p. 22171) as social media shapes how individuals see themselves. In this sense, social media is described "as contributing to negative self-perception [and] identity formation issues" (Maltby, Rayes, Nage, Sharif, Omar, Nichani, and Conteras-Pinochet, 2024, p. 11). This has implications for families as parents may have grown up using social media (or use it in their adulthood) which can, in turn, impact their child through generational transmission of ideologies (Internet Matters, 2023). This is considered further in chapter six, section 6.4.1.

Lenz- Taguchi (2010, p. 22) comments that "social positionings of gender, class, sexuality, ethnicity, race, age and disability are materialised as we talk and actively materialise ourselves into existence". In other words, gender is not simply something that *just is.* Rather, it is brought

into existence by intersecting contexts and identities, and the affective forces which connect the entangled webs together in the production of phenomena. Gender comes into being through such relations. There are multiple contributing factors and participants in how gender is brought into existence for infants and young children, including culture, class, religion, location, politics, toys, gender expectations, and the spaces they occupy. Such entangled webs, or assemblages (Deleuze and Guattari, 1987), dynamically produce the gendered body. Gender identity is a complex, embodied notion that is unstable rather than fixed and, as so, is in constant negotiation, or *becoming,* through the lively relationalities between human and more-the-human entities (Kuby and Zhao, 2022).

Special Educational Needs and Disability (SEND)

Disability or, to use the ECE term, children with Special Educational Needs and Disability (SEND), is a central consideration in terms of inclusive practice within ECE. ECE plays a crucial role in the early detection of SEND (Heiskanen, Alasuutari, & Vehkakoski, 2018), which "can vary from impairments that minimally and infrequently affect the child's ability to participate in a full range of activities to multiple and complex impairments that are ever present and involve many aspects of the child's daily life" (Whiting, 2014, p. 26). Children with SEND can experience unique barriers that children who do not have SEND may not experience (Gihara & Liverpool, 2022). For example, as Azpitarte & Holt (2024, p. 416) argue "There is an interesting paradox that education simultaneously enhances quality of life and opportunities, and (re)produces existing patterns of advantage and disadvantage within societies." Therefore, children's development of identity can be impacted by their early educational experiences. Watermeyer (2018, p. 456) comments "growing up with disability or not, ingest layers of emotive meaning about the nature of our bodies—and hence selves—contained in how we see ourselves mirrored in the words, expressions and actions of others". Therefore, the early experiences for children with SEND in ECE can have implications for their formation of identity. It is also recognised that having a child with SEND can have implications for their families, such as through pressures around time, finances, and social relationships (Whiting, 2014). Therefore, it can be suggested that how children come to see themselves is influenced by their early relationships and interactions with those around them (Watermeyer, 2018).

Issues of SEND are entwinned with children's formation of gender identity. For example, Leiter and Rieker (2012) state that a substantial proportion of children diagnosed with SEND, particularly SEND which impacts behaviour and learning, are boys. They go on to discuss that diagnoses through the observed behaviour of children could be a result of the organisational structure of the educational institutions in which such concerns are largely raised. This could result in additional help for girls being missed because knowledge and understanding of expected (gendered) behaviour influences both children's behaviour *and* assessments of what is permissible and 'normal' in the learning environment (Leiter & Rieker, 2012). This has implications for the formation of identity as "experiences of the roles and relations of different embodied identities, like race, sex and impairment, are most often gathered during childhood, and developed in interaction with the social world" (Smith and Traustadóttir, 2015, p. 87).

How bodies are affected, lived in, and how they encounter experiences such as disability, culture, and/or gender are complex and shifting. Watermeyer (2018, p. 456) comments "Our feelings about our bodies are a complex amalgam of conscious and unconscious representations soaked up in our formative milieu." Therefore, how children are perceived, treated, and what expectations are placed upon them, can impact their formation (and ongoing negotiation) of identity, including how they locate themselves in terms of gender norms. As Reddington and Price (2018) point out, new materialism offers a reconfiguring of SEND practices in education which tend to limit children with disabilities. Rather, as Flynn and Feely (2023, p. 116) argue that through drawing on new materialism in research with children with SEND, binaries "between a good life and a bad one, can be as much undermined by the physical biology of the body, as by abstract conceptualisations of it". Therefore, thinking beyond fixed concepts can provide insights into the ways in which children become gendered. For example, in research with older children and adolescents with Autistic Spectrum Disorder (ASD), it has been found that children with ASD see gender as less significant in terms of their personal identity; "Many autistic children and young people do not acknowledge gender as a binary construct and this can affect the ways in which they perceive their gender development" (Matasovska, 2024, p. 631). Such findings highlight the complexity of gender identity and the fluidity of identity as children grow up. This means that identity can be influenced by experiences in early childhood for all children from different backgrounds. Therefore, acknowledging this is key when considering gender and young children, as the current research seeks to do.

2.5 Conclusion

The chapter elaborated upon the three key contested perspectives that frame this thesis. It began by considering the way that ECE is titled with the addition of "…and care" and considered why this annex is typically included and why this could be argued to be problematic. Within this thesis the "...and care" annex has not been included in order to bring focus back to the sector as being an import part of the educational system in England, as well as acknowledging that 'care' is not exclusively part of ECE. Rather, Moss (2017) suggests that care is an integral part of all education institutions. The chapter moves on to discuss the dominance of developmentalism as ECE. Scholars have shown that developmentalism does not account for the embodied, non-linear ways in which infants and young children learn (Gabriel, 2020). This chapter corroborates this and suggests that research with children would benefit from being multidisciplinary (Prout, 2019) in order to account for the social, cultural, and material ways of how children learn.

Infants are often marginalised as research participants on the grounds that they are non-verbal and are unable to offer insight into their own lived experienced. However, this chapter and its focus on contestation challenges this characterisation of infants as passive objects of study. It suggests that they can meaningfully and insightfully contribute to research. It is the role of the researcher to look beyond verbal articulation to explore infants' engagement with the wider environment, while also acknowledging the researcher's role in data generation (Elwick, 2020). Both points are picked up and elaborated upon later in the methodology chapter. Finally, this chapter has considered discourse around gender in ECE in terms of how the workforce is gendered. Gender is something which everyone experiences (Callahan & Nicholas, 2019). It is generated across the human and more-than-human world (Renold & Mellor, 2013). As such, gender is complex and ever-changing. The next chapter will examine the theoretical framework which underpins the thesis.

3. Chapter Three: Locating Gender in Feminist New Materialist Theorising

3.1 Introduction

The theoretical framework which underpins the current research is feminist new materialism. This chapter explores what is meant by feminist new materialism, and why it has been utilised for the current research and analysis. Feminist new materialist researching has been deployed in many contexts, including ECE (e.g., Moxnes & Osgood, 2018; Pacini-Ketchabaw & Clark, 2016). It is concerned with the material turn, or object-oriented ontology (Truman, 2020), where the role of the material world in the production of knowledge and phenomena is accounted for. This moves beyond focusing on human subjects, and instead explores phenomena as they are produced across the human and material worlds, while acknowledging the researcher in the generation of data (Elwick, 2020). In this sense, "a phenomenon is a specific intra-action of an 'object'; and the 'measuring agencies'; the object and the measuring agencies emerge from, rather than precede, the intra-action that produces them" (Barad, 2007, p. 128). *Intra-action* is a term coined by Barad to replace the term *interaction. Interaction* implies a meeting of separate entities, while *intra-action* accounts for the relational networks within which 'we' live and accounts for "the connectedness *with* the world" (Murris & Bozalek, 2021, p. 70). That is, human and more-than-human entities are not separate, rather they are produced by intra-action (Barad, 2007). The concept of intra-action will be taken up in more detail in section 3.2.2.

Feminist new materialism works to disrupt binary thinking and, therefore, does not privilege the material over the discursive or the discursive over the material (Fairchild, 2024). As such, the human is decentred in feminist new materialist thinking, because the human is not exceptional. Humans are not "exempt from the consequences of the precarious crisis we find ourselves in, and the Earth and its earthlings will survive with or without us." (Malone and Murris, 2022, p. 68). In this sense, humans are not separate from the world around us, we are an entangled part of it (Barad, 2007). This refocusing on the material world as being something which humans are *a part of* rather than *exceptional to*, requires ontology and epistemology to be reconsidered, as well as ethics and politics (Alaimo & Hekman, 2008). Feminist new materialists use the term 'response-ability' which is "about attending to, tracing, and taking

account of entanglements, about being in touch with world's practices of materializing/making-sense" (Barad & Gandorfer, 2021, p. 31). In other words, feminist new materialism refocuses on what is made possible when considering the interconnectedness of human and more-than-human entities (Fairchild, 2024). For example, in considering the child in ECE, the *human child* can be reconfigured as a site of potential that is entangled within interdependent, relational webs (Lingren, 2020). Intersections such as gender, class, and race (see chapter two, section 2.4.1) are not discounted in feminist new materialist thinking, rather consideration of how such concepts are produced with material bodies (human and more-than-human), time, and space, can co-construct subjectivity (Sanzo, 2010).

This chapter will outline key thinking within feminist new materialism and explore, in detail, the writing and theorising of four key feminist new materialist texts. They are: Haraway's (1988) *Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective*; Barad's (2007) *Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter and Meaning;* Bennett's (2010) *Vibrant Matter: A Political Ecology of Things;* and Lenz-Taguchi's (2010) *Going Beyond the Theory/Practice Divide in Early Childhood Education.* By exploring these four influential texts, this chapter seeks to provide an overview of feminist new materialist concepts which will be put to work throughout the analysis chapters (i.e., chapters five, six, and seven). Sections 3.4 and 3.5 will locate the current research within the context of a feminist new materialist theoretical framework.

3.2 What is feminist new materialism?

New materialist theorising is interdisciplinary and spans diverse fields (Benson, 2019). The current research draws, methodologically and analytically, on *feminist* new materialism, which considers how the body is constituted through the discursive and the material (Alaimo and Hekman, 2008). This theoretical perspective recognises the agentic capacity of matter as complex and chaotic, while also relational and full of potential (Alldred and Fox, 2017). Therefore, matter, both human and more-than-human, is constantly being formed and reformed, produced and reproduced in ways that are unexpected (Coole and Frost, 2010). Through this lens, an alternative understanding and conceptualising of the world as co-constituted through discourse and matter, brings into view a world that *is* more-than-human (Chihaia, 2023). Feminist new materialism, then, allows for a reconfiguration of how the body

becomes. That is, the body *is* matter, it is part of the material world rather than there being a distinct boundary between the human and the material (Barad, 2008). St. Pierre, Jackson, and Mazzei (2016, p. 101) describe the entangled nature of the human and more-than-human world in the following way:

> *"If humans have no separate existence, if we are completely entangled with the world, if we are no longer masters of the universe, then we are completely responsible to and for the world and all our relations of becoming with it. We cannot ignore matter (e.g., our planet) as if it is inert, passive, and dead. It is completely alive, becoming with us, whether we destroy or protect it."*

While we (humans) are matter, we must still take accountability for the role that human's play in the destruction/protection of the world (and everything *of* the world), but also "the role "we" play in the intertwined practices of knowing and becoming" (Barad, 2008, p. 130). Humans and matter are made of the same 'stuff' (Bennett, 2010), and therefore, we *become* through mutual constitution of phenomena which is intertwined and entangled to produce something new. In feminist new materialist theorising this process is generally referred to as 'intra-action' (Barad, 2007; Murris and Bozalek, 2022). That is, matter and meaning materialise *through* intra-action, rather than pre-existing such intra-actions (Bozalek and Kuby, 2022). The next four subsections will look more closely at key feminist new materialist literature, focusing on underpinning thinking and concepts that I later deploy and engage with in the analysis.

3.2.1 Situated knowledges

The term 'situated knowledges' was put forth by Haraway in her 1988 paper '*Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective'.* This paper was highly influential, but equally wide ranging in its applicability (Simandan, 2019). It was intended, through feminist positionality, as a critique of positivism, in terms of objectification and generalisability (Caretta, 2014). In her paper, Haraway argued that knowledge is not simply known from a single privileged position. Rather, "Situated knowledges require that the object of knowledge be pictured as an actor and agent, not as a screen or a ground or a resource, never finally as slave to the master that closes off the dialectic in his unique agency and his authorship of "objective" knowledge" (Haraway, 1988, p. 592). In other

words, knowledge reaches out through multiple channels and becomes known through multiple perspectives (Simandan, 2019). Haraway (1988) reframes objectivity as being specific and embodied rather than being of, what she terms, 'false vision', that promises a sense of *truth* and *reality* based on the perspective of one. Haraway (1988, p. 581) explains, "This gaze signifies the unmarked positions of Man and White, one of the many nasty tones of the word "objectivity" to feminist ears in scientific and technological, late-industrial, militarized, racist, and male-dominant societies…. Feminist objectivity means quite simply situated knowledge".

It has been suggested that Haraway's writing on situated knowledges sowed the seed of feminist new materialism (van der Tuin, 2015, p.21). It put forth a reconfiguration of the understanding of positionality and displacement in feminist thinking (Rogowska-Stangret, 2018). Haraway (1988 p. 583,) argued that "Feminist objectivity is about limited location and situated knowledge, not about transcendence and splitting of subject and object. It allows us to become answerable for what we learn how to see". Here, the concept of moving beyond the separation of object and subject is introduced. This challenging of the object/subject dichotomy is central in feminist new materialist thinking (Truman, 2020). Haraway noted that humans are "permanently mortal" (1988, p. 596), not in ultimate control, and acknowledging the situatedness of knowledge allows for recognition of the webs of connections where knowledge is partial, locatable, and critical (Haraway, 1988). "Webs can have the property of being systematic, even of being centrally structured global systems with deep filaments and tenacious tendrils into time, space, and consciousness, which are the dimensions of world history. Feminist accountability requires a knowledge tuned to resonance, not to dichotomy" (Haraway, 1988, p. 588). This demonstrates the interconnectedness of the world, and the structures within it and, therefore, this theorising works across and within different planes, such as ethics, politics, and ontology and epistemology (Rogowska-Stangret, 2018). From an ethical perspective, Haraway recognised the place of humans within the world, rather than as exceptional to it, as she commented "The world is not raw material for humanization" (Haraway, 1988, p. 593). Rather, as Bennett (2010) states, humans are part of the materiality of the world.

Haraway (2008) also coined the concept of 'becoming-with'. This concept is key within feminist new materialism and describes how 'being' is constantly in a state of *becoming* through relationalities and intra-actions (Kuby and Zhao, 2022). Haraway (2008, p. 244) comments that "[i]f we appreciate the foolishness of human exceptionalism then we know

that becoming is always becoming with, in a contact zone where the outcome, where who is in the world, is at stake." In other words, 'becoming with' challenges the idea that humans are separate from, or outside of, the occurrences on planet Earth (Wright, 2014). Humans are always relationally interconnected with more-than-human entities, where human and more-than-human agency is entangled and affective, influencing the way that they become together (Weldemariam, 2020). The affective and relational forces that entangle phenomena in this sense, allow for a reconsideration of the agentic capacity of the more-than-human (Coole and Frost, 2010). Subjects and objects do not pre-exist their encounters, rather they are always *becoming with* the world (Palmer & Hunter, 2018). This is termed *worlding,* where the affective forces of human and more-than-human worlds become entangled and are generative of potential and possibility (Haraway, 2008). Haraway (2016, p. 29) comments that to live and die well together on planet Earth, "staying with the trouble of complex worlding is the name of the game". That is, the world is not finished or complete, it is always active in its becoming, which requires careful attention and consideration (Palmer & Hunter, 2018). In the context of ECE research, worlding has been described as a way "to understand and investigate children being-in and being-with complex entangled worlds" (Malone & Crinall, 2023, p. 1187). It requires the researcher to take account of the embodied and immersive aspects of research, while drawing on the sensory and affective forces which are omnipresent in exploring the ways that children are interconnected with their worlds and everything in their worlds (Osgood, 2021).

The concept of worlding makes room for understanding the situatedness of knowledge and being, as Haraway (1988, p. 586) points out: "The knowing self is partial in all its guises, never finished, whole, simply there and original; it is always constructed and stitched together imperfectly, and therefore able to join with another, to see together without claiming to be another." The knowledges one holds, then, are never the whole picture (if the whole picture even exists). They are constructed, malleable and open-ended, ready to be 'stitched' together with other knowledges. The concept of situated knowledges runs throughout the analysis of the current research, as well as within the methodology and writing up of this thesis. This concept has focused my attention onto the positionality and impact of the researcher within the current research. Feminist thinking is formed through critical vison, thinking, and positioning within social spaces which are not homogenous in terms of gender (Haraway, 1988). That is, like other feminist scholars I recognise that knowledge is produced and

understood within specific contexts and is not universal (Ade, Byrne, & Gardiner, 2023). The intertwined network of moments and phenomena that run across the current research are understood as being situated. The positionality of the researcher is located and acknowledged as situated, significant, and influential. "Situated knowledges are about communities, not about isolated individuals" (Haraway, 1988, p. 590), therefore the concept is put to work to explore the ways that gender becomes-with the children, objects, spaces, and norms within the community that is the ECE setting.

3.2.2 Making matter *matter*

In humanist disciplines, the agentic potential of matter to co-constitute phenomena and meaning has been neglected (Jagger, 2015). However, like Haraway, Barad (2007, p. 3) recognises that "Matter and meaning are not separate elements". Barad's (2007) theory of agential realism argues that binaries such as knower/known, object/subject, and nature/culture should be called into question. Agential realism draws on concepts from quantum physics to reconfigure how meaning is made. For example: "Beyond the issue of how the body is positioned and situated in the world is the matter of how bodies are constituted along with the world: or rather as part of the world" (Barad, 2007, p. 160). That is, through the interconnectedness of our very atoms. This reconsideration acknowledges the ways in which knowledge and meaning are made. Ideas of intra-action are crucial here and so in this next section I will engage with and further drill down into Barad's (2007) influential book, *Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter and Meaning*.

Where *interaction* positions separate entities as coming together, here Barad shows how *intra-action* acknowledges the ways that objects, time, space, bodies, and 'things' are always already entangled. That is, phenomena do not pre-exist intra-action but are produced *by* it. Or to put it in Barad's words "A phenomenon is a specific intra-action of an 'object'; and the 'measuring agencies'; the object and the measuring agencies emerge from, rather than precede, the intra-action that produces them" (Barad, 2007, p. 128). The term 'entangled', here, refers to the shifting, unstable, dynamic and interconnected relations that constitute matter (Barad, 2007).

Matter is forever *becoming* and entangled in 'assemblages' –the Deleuzian term deployed in feminist new materialisms. These dynamic entanglements across human and

more-than-human entities are where agentic material is brought together through open-ended, productive gatherings (Nikolić, 2018). "Assemblages are living, throbbing confederations that are able to function despite the persistent presence of energies that confound them from within" (Bennett, 2010, p. 23-24). Different heterogeneous entities come together to form *wholes,* where autonomous elements converge into multiple assemblages. These can include objects as well as rules, beliefs, concepts, and social structures (Lejano, 2017) and serve to displace binary thinking (Callahan and Nicolas, 2019). This is a key feature of feminist new materialist theorising. Matter is always ready to be entangled through intra-action and across assemblages (Coleman, Page & Palmer, 2019).

The term 'becoming' (like Haraway's *becoming with)* is thus put to work by Barad to account for the ways in which phenomena are produced through intra-action. Barad (2007, p. 185) argues that "We don't obtain knowledge by standing outside the world; we know because we are of the world. We are part of the world and its differential becoming". In this sense, the world, of which "we" are a part, is always in a state of becoming. Affective forces, or 'affectivity', is at play and generates new ways of becoming (and knowing) which transcends human emotion (Bozalek and Fullagar, 2022). It is a force that is always in flux and responsible for the connection between relational things (Gabb, Aicken, Di Martino, Witney, & Lucassen, 2023). This affective entanglement is described by Barad as:

> *"The relationship between the material and the discursive is one of mutual entailment. Neither discursive practices or material phenomena are ontologically or epistemologically prior. Neither can be explained in terms of the other. Neither is reducible to the other. Neither has privilege status in determining the other. Neither is articulated or articulable in the absence of the other; matter and meaning are mutually articulated*" (2007, p. 152).

Here, Barad explains the interconnectedness of the discursive and the material, which encompasses feminist social research. That is, the researched and the research apparatus (which includes the researcher) are entangled and intra-acting (Fox and Alldred, 2023). Barad (2007) further refines this by adding the term 'agential cut'. Agential cut refers to the "temporary separation between entanglements" (Bozalek and Fullagar, 2022, p. 30). Object and subject remain entangled as they are cut together/apart (Barad, 2007). In other words, there is a constant flux of entangled movement (agency) between assemblages which the

human researcher momentarily makes sense of and/or defines as phenomena. The researcher's presence is part of what can be imagined as object, human, space, time, and their potentialities (Stark, 2016).

Feminist new materialist research methodologies are typically underpinned by Baradian concepts, including Barad's thinking on diffraction. In quantum physics, diffraction happens when a wave passes through or past an obstacle causing interference patterns (i.e., the apparatus has influence) (Geerts & van der Tuin, 2016). Barad extends this by discussing how diffraction is "a practice of reading insights through one another while paying attention to patterns of difference" (Barad, 2011, p. 445). These patterns of difference (Barad, 2007) are characterised by multiplicity. Difference is within itself and is diffracted (Barad, 2014). Barad thus suggests:

> *"Diffraction is a matter of differences at every scale, or rather in the making and remaking of scale (spacetimematterings). Each bit of matter, each moment of time, each position in space is a multiplicity, a superposition/entanglement of (seemingly) disparate parts. Not a blending of separate parts or a blurring of boundaries, but in the thick web of its specificities, what is at issue is its unique material historialities and how they come to matter."* (2014, p. 176)

Diffraction, then, is not about the identification of distinct differences, but how differences blur, bend, and morph through intra-action. In terms of diffractive analysis, it entails reading data through other data and insights (Barad, 2007). Diffraction challenges the concept of reflection, where reflection is equated to a mirror 'reflecting back' (Truman, 2020). Diffraction, however, seeks to find meaning in patterns of difference, where knowledge is never produced in isolation but through the coming together of different forces (Mazzei, 2014). Diffraction is, therefore, about acknowledging that differences exist (Geerts & van der Tuin, 2016) and highlighting the effects of such differences (Haraway, 1992). Such a method ignites possibilities in the unknown. Diffraction allows for a refocusing on that which is not yet know (Moxnes & Osgood, 2018) while challenging what is already believed to be 'known' (Osgood, 2020). As part of a feminist new materialist methodology, it seeks to disrupt and destabilise dualisms while accounting for the role of the apparatus in knowledge production (Gabb et al., 2023). The world is made up of entangled assemblages from which reality

emerges in constant, unstable, dynamic flux, this is where the concept of diffraction can be put to work to examine the entwined differences which occur (Giorzam, 2022) in everyday experiences.

Barad's concepts that have emerged through their theory of agential realism provide a methodological and analytical framework from which the current research is positioned, as intra-action and assemblages, where gender is constantly produced and reproduced in the ECE settings. Matter, both human and more-than-human, is perceived as performative (Barad, 2007) and entangled. Diffractive analysis is put to work across chapters five, six, and seven to examine the overlapping differences that occur when humans are decentred, and materiality is taken seriously.

3.2.3 Vital materiality

For Barad, matter is not still, stable, and lifeless, it is agentic and has force (Allen, 2023). In her germinal book *Vibrant Matter: A Political Ecology of Things,* Bennett (2010) focuses on the 'vital materiality', or 'thing-power' of matter. Bennett (2010) argues that humans *are* vital materiality through recognition of the power that humans have to destroy and do good, which she considers a type of 'thing-power'. With this, a consideration of the thing-power that inorganic matter holds demonstrates its entanglement with humans, such as the thing-power of microplastics in the water systems (Allen, 2023). Like Barad, Bennett acknowledges that all human and more-than-human entities are made from the same building blocks and are, therefore, inseparable. However, Bennett (2010) acknowledges that there are differences between the way that 'things' are constructed, such as the texture, shape, size, etc of human constituent parts in comparison to more-than-human entities, but, as Bennett states, "there is no necessity to describe these differences in a way that places humans at the ontological centre or hierarchical apex" (2010, p. 11). The decentring of the human and acknowledgement of the agential and vital capacities of matter in its assemblages with humans is highly influential in feminist new materialist researching (Sanzo, 2018). Bennett (2010) argues that vital materialism is a feature of all human and more-than-human matter; every- 'thing' is dynamic and in constant quivering motion, down to the smallest, indivisible atom.

Conflicts exist, from a philosophical perspective, regarding the explanation of human agency (Mayr, 2011). As such, Bennett (2010, p. 34) argues that "If we do not know just how it is that human agency operates, how can we be so sure that the processes through which

nonhumans make their mark are qualitatively different?". This compelling point from Bennett calls into question the humanist positioning of humans as exceptional. For Bennett (2010, p. 23), and other feminist new materialist researchers, agency transcends the human body and, rather, is "distributed across an ontological heterogeneous field". Therefore, and as highlighted throughout this chapter, acknowledging the agentic capacity of matter is steeped in ethics and politics, as well as ontology and epistemology (Tillman, 2015). The universe is constructed of vital, dynamic, agentic matter (of which humans are included), which is in different states of being and becoming, where bodies (human and more-than-human) are perpetually in a state of affecting and being affected (Bennett, 2010). In other words, assemblages are constantly shifting, and they are never fixed, rather, according to Bennett (2010), they are finite, ever-changing, and open-ended.

In the current research, Bennett's theorising around vital materiality forces a re-examining of the power of the objects that exists with the ECE context. The matter in the spaces within the ECE setting 'speak' to children through their agentic potential (Tesar & Arndt, 2016) and, therefore, play a role in enforcing and projecting norms (Skreland & Steem-Johnson, 2022). This occurs through ever-changing assemblages, where there is not one power-holding entity, but rather power is constantly shifting (Bennett, 2010). It has been argued that considering thing-power can have implications for practice (Beyak, 2022), but also a consideration of the trajectories and the power of 'things' has the potential to impact policy (Bennett, 2010). Therefore, to explore gender through its emergence within the material world, as the current research aims to do, can have implications for how gender can be understood both politically and ethically. By engaging with feminist new materialist research, the researcher can draw inspiration from the world of the young child where the vibrancy and animacy of the material world is ever-present (Bennett, 2010).

3.3.4 Contesting binary divides

In her book *Going Beyond the Theory/Practice Divide in Early Childhood Education,* Lenz-Taguchi (2010) draws on feminist new materialist concepts in her research regarding theory and practice in ECE. This book is thus crucial for the current research because it offers a close and, for me, compelling examination of the materiality of ECE. She states that "The consequences for education are vast if we take the material turn seriously" (Lenz-Taguchi, 2010, p. 3). Like Haraway, Barad, and Bennett, Lenz-Taguchi takes seriously the agentic power

of the material world. She draws on Barad's (2007) term intra-action, for her concept of 'intra-active pedagogy', where she states, intra-action can charge things with affect (Lenz-Taguchi, 2010). There is a reciprocal relationality between the material and the discursive (Giamminuti, Merewether & Blaise, 2021). As such the human (child) is not at the centre and, therefore, not the sole agentic force, in the production of knowledge (Lenz-Taguchi & Eriksson, 2021). Rather, agency flows through the intra-action of matter, where 'knowing' is matter making itself intelligible (Lenz-Taguchi, 2010), which is productive and generative. With this, Lenz-Taguchi shares Barad's (2007) view of the interdependent and interconnectedness of ontology and epistemology, or 'onto-epistemology', to use Baradian terminology, where more-than-human experiences are considered a valid site for knowledge (Osgood & Giugni, 2015). Therefore, research in the field of feminist new materialism can account for how the body becomes gendered through going beyond binary divides (Lenz-Taguchi, 2010).

Feminist new materialism looks beyond *just* accounting for reality, and instead considers the entangled nature of materiality which forces consideration of how such entanglements influence how reality is experienced (Tillman, 2015). Lenz-Taguchi (2010) discusses what she terms 'an ontology of immanence', which is described as pushing beyond the human and more-than-human divide; to 'flatten out' transcendence to remove hierarchal claims that all matter can be seen to be in a constant flow of co-constitution. In other words, "Everything around us affects everything else" (Lenz-Taguchi, 2010, p. 15). By deconstructing binaries such as nature/culture, human/more-than-human, ethics can be applied to matter beyond humans, and can incorporate, for example, animals and the environment (as well as marginalised groups) (Allen, 2023). Therefore, a reconfiguration of the place of humans in the world, where acknowledgement of *being in* the world rather than outside of the world, is vital (Barad, 2007; Lenz-Taguchi, 2010). Lenz-Taguchi (2010) argues that finding meaning often means considering 'things' in opposition, or *what it is not.* This then creates, maintains, and reinforces binary thinking. However, human and more-than-human entities are both full of agentic potential which continuously becomes-with each other (Sanzo, 2018), rather than *despite* each other. What is produced is phenomena which, as Lenz-Taguchi (2010, p. 73) states, "is really the image or sense of what emerges from the intra-activities taking place between the object, the 'apparatus' of knowing and the observer in their entangled state of being". As such, ethical practices in feminist new materialist research seeks to go beyond binaries and hierarchal

positioning, to taking account of the "material consequences" and "material realities" from which *we* emerge (Alaimo & Hekman, 2008, p. 8).

In the current research, the material world in its becomings with children and their co-constructed knowledges (Lingren, 2020) is taken seriously. Children's learning, including learning about gender, is produced in material-discursive intra-actions (Lenz-Taguchi, 2010). However, to say that gender is *learned* is an oversimplification. Rather, gender *materialises* through intra-action. Lenz-Taguchi (2010, p. 22) describes materialisation in the following way:

> *"Materialisation is thus to be understood as an active ongoing process where specific notions and ideas are not only performed but have become an embodied routine and habit in our daily practices, rendering them into a state of 'naturalness' and taken-for-grantedness."*

From this perspective, as gender is constantly being produced and reproduced through its materialisation within intra-action, it becomes an excepted, taken-for-granted phenomenon, with 'naturalness' attached to it. This demonstrates the interdependent, interconnectedness of mind and matter (Tillman, 2015), where what is felt and perceived is, indeed, matter. In her research, Lenz-Taguchi (2010) found that her and her colleagues coded girls' behaviour in stereotypical ways, which highlighted the taken-for-granted-ness of gender structures. However, when they re-visited their observations, they realised that the girls' becoming was much more complex and part of multiple intra-actions which went beyond the gender binary of girl/boy. As such, while young children are limited by their human form and mind, there are "no limitations to what, in an evolutionary sense, might be possible when it intra-acts and changes in relation to new material and active circumstances" (Lenz- Taguchi, 2010, pp. 85/86). By challenging the binary divide of human and more-than-human, the potentiality of what *can* happen through intra-active affective forces can open up (Alldred & Fox, 2017).

3.4 The posthuman child

The ethos at the crux of ECE is 'child-centredness', which implies that *the child* is already known (Huf & Kluge, 2021). It also implies that human (child) intention is responsible for the

occurrences within the ECE setting (Osgood, 2020). Child-centredness positions the child as individual, autonomous, agentic (Huf & Kluge, 2021), while decentring the child allows a refocus on how human and more-than-human entities come to be through their entangled nature (Spyrou, 2017). Therefore, to centre the *child* is to centre the *human,* which contradicts feminist new materialist theorising which seeks to disrupt human exceptionalism (Truman, 2020). Therefore, the concept of the *posthuman child* is drawn upon to reconsider the child as part (not at the centre) of large networks of interconnected, entangled human and more-than-human entities (Huf & Kluge, 2021). From this perspective, the *posthuman child* is dynamic and active within assemblages, (co)creating multiple possibilities as they contribute to research rather than being simply observed as solo producers of knowledge (Quinones & Duhn, 2022). This de-centred child does not exist in isolation, rather the child is always within human and more-than-human relations, of which the child does not pre-exist (Murris & Osgood, 2022).

De-centring the child is not to ignore the child. Rather, by refocusing on the assemblages which are in constant formation in ECE settings and removing hierarchy (where the human holds authority), attention can be given to how humans *become* with the material world (Lyttleton-Smith, 2019). That is, there is value in the knowledge production within the more-than-human world (Osgood & Giugini, 2015). Such a refocusing on the material world can open up insights into the complexities and messiness of children's real-world, embodied experiences, where power dynamics across the social and material worlds are always shifting and fluid (Huf & Kluge, 2021). The child, in this perspective, is perceived as always in motion and always connected (Quinones & Duhn, 2022). The material world and infants and young children are entangled and influence each other through their intra-active encounters (Pacini-Ketchabaw, Kind, & Kocher, 2017).

Feminist new materialism moves away from viewing the body as a passive absorber and projector of social and cultural norms, by acknowledging the body as dynamic and productive (Coffey, 2019). Therefore, from a feminist new materialist perspective, gender is produced and reproduced by material-discursive intra-action (Kostas, 2022). In other words, the body is always *becoming* (Lyttleton-Smith, 2019). Gender is situated in and between human bodies and the more-than-human material world (Mohandas, 2022). Decentring the child and positioning the body as dynamic and entangled, brings into focus the role of the material world in how gender is produced, where the body is transformative and full of potential "through its

multiple becomings with the world" (Lingren, 2020, p. 921). In ECE, the environment and objects in the environment play a vital role in how the bodies of infants and young children become gendered (Black-Delfin, 2020). As such, ECE subjects are co-constituted through intra-action within their mutual relations (Osgood & Giugini, 2015). The gendered body, being steeped in the historical, political, social, and cultural as phenomena, is "constantly being re-enfolded and reformed" (Barad, 2007, p. 177). The concepts of prejudice and inequality are always being reproduce, and this generates unforeseen change capacities and opportunities for disruption (Lyttleton-Smith & Robinson, 2019). Across the multiple assemblages which make up ECE, gender is made and remade, done, and undone (Butler, 1990). It is constantly being produced and reproduced as human and more-than-human bodies intra-act, challenging, and reinforcing normative formation of gender. This theoretical possibility is brought to life through the materiality of the later analytical chapters within this thesis.

3.5 Conclusion

This chapter has outlined feminist new materialism, which is the guiding theoretical framework which scaffolds the current research. Key terms and concepts from feminist new materialism have been laid out through focus on four key theorists in feminist new materialist theorising: Haraway (1988), Barad (2007), Bennett (2010), and Lenz-Taguchi (2010). Each of the theorists' writings have been influential on feminist new materialist researching, including in the field of ECE (see examples provided in section 3.1). Key concepts presented in this chapter will be put to work across the analysis in chapters five, six, and seven, notably 'intra-action', 'becoming-with', 'vital materialism', and 'diffraction'. These concepts will be utilised to explore how bodies become with gender in ECE settings, and how power dynamics can be challenged and distorted. This chapter has also situated feminist new materialism within the context of ECE and demonstrated the value of decentring the child within a child-centred context, something that will be illustrated in the substantive finding's chapters. De-centring the child adds to knowledge concerning children's lived experiences in the ECE context and the ways in which gender emerges from within and through the socio-political, institution, time, space, and human assemblages. The next chapter will describe the methodology of the research, including the role of feminist new materialist thinking in the construction of the research project.

4. Chapter Four: Research Methodology

4.1 Introduction

This chapter describes the methodology, research design, data generation methods, and analysis of the current research. The research methodology largely draws on ethnographic methods. Ethnography allows for a deep exploration of social phenomena from within the lived experiences of the participants (Coffey, 2018c). However, posthuman theorists have argued that the traditional (humanist) perception of ethnography as *just* a methodological data-gathering tool limits what ethnography can do under a posthuman, new materialist lens (Collins, 2023). Therefore, feminist new materialist theorising informs the ways in which ethnography is engaged with in the current research. This requires moving beyond simply observing humans in the field. Rather, when considering spaces such as the ECE environment, one must take account of the potentiality of the researched environment as well as the relational, affective multi-sensory experience of such a space. There are multiple smells, tastes, textures, sounds, and colours which, at times, overwhelm the senses. This multi-sensory experience is part of the social and material world which is played out within the researched environment (Pink, 2015b).

Through intra-action, the multi-sensory experience contributes to the continuously evolving assemblages which become the ECE environment. As such, restricting oneself to the confines of traditional ethnography limit the scope of what can be encountered through research. However, by utilising ethnographic methods with consideration of multisensory, embodied, affective experiences, and feminist new materialist theorising, the potentiality of the participating ECE settings opens up. As Fairchild aptly describes:

> "When research becomes entangled with feminist materialist theories, it is generally entwined with immanent, affective, indisciplined, and speculative methodological approaches. There is no unified set of methodologies or methods for feminist materialist inquiry as methodologies are connected and relational in nature. They open up possibilities for enacting different ways of knowledge making that are geopolitically informed and contest humanist understandings of relations, space, time, bodies, position, and power" (2024, p. 495).

The research aimed to focus on the daily occurrences which took place within the ECE settings, considering the intra-actions of the material and the discursive. As such, the data generation was not restricted to the human participants but also acknowledged the more-than-human entities, with attention to the thing-power (Bennett, 2010) of intra-action (Barad, 2007) affording no favour to any participant. Diffractive analysis (Barad, 2007; Haraway, 1992), outlined in chapter three and described in detail later in this chapter, has informed the design, data generation and analysis of the research. Within this chapter, the three participating ECE settings are described. Due to the importance of protecting the identity of the research participants, particularly the infants and young children (Escamilla- García & Fine, 2018), data generated have been combined across all three sites. This removes the context of the specific site associated with each extract of data but preserves anonymity and confidentiality. This is an ethical compromise that is necessary in sensitive topic research.

4.2 Coming to the Research

The aim of the research is to explore how gender manifests and is in constant (re)production within ECE, something that requires in-depth observations where relationality between the whole environment and the human and more-than-human entities is taken seriously. From the outset, ethnography was chosen as the most effective method as it would provide opportunities to dig deep into the everyday experiences of participants (Coffey, 2018c). However, as this chapter will go on to explain, the way that ethnography was utilised evolved as the research progressed. During the initial formulation of this research project, I had envisaged fieldwork based on my personal and professional experience of working in the ECE sector. In my mind, the ECE settings would look and be organised in a certain way that I recognised as familiar. However, there is great value in making the familiar strange and making the strange familiar (Mills, 1959; Murray-Li, 2023). In feminist new materialist research, 'making the familiar strange' can mean more than making a known environment strange, but also by looking at the world through a different lens; an object-oriented lens (Truman, 2020). During the initial visits to site one, I was confronted by a setting that looked different (in some ways) to how I envisaged the typical ECE setting, based on my own professional experience. When initially conceiving the research methods, I had designed the research to explore settings which were divided into four age-based rooms (baby room, one to two-year-olds room, two-year-olds room, and preschool) with a staff room for the practitioners. However,

two of the sites had three age-based rooms, and at the third site the children were mixed rather than separated according to age group. The practitioner-only spaces were not as I had imagined either, something that I will revisit later in this section. Although this did not limit the research, it did mean rethinking some of the practicalities of how the research would/could take place. However, this disruption *is* a part of the research. The feminist new materialist ethos is premised upon the unpredictability and complexity that occurs throughout the research, something that can and will produce new ways of seeing the world “beyond narrow conceptions” (Hamilton & Taylor, 2017, p. 193).

Through a feminist new materialist lens, the ECE setting is an assemblage made by many other, ever-shifting assemblages. Therefore, rather than looking at the settings as being made up of separate spaces and individual bodies, the research considered the constant intra-actions which brought the ECE settings to life. From this perspective, inclusion of all (consenting participants) was necessary. Infants tend to be excluded from ECE research in favour of the children who can contribute verbally regarding their experiences (Elwick et al., 2014; Orrmalm, 2020). However, including infants was always a crucial part of the research. ECE provision is available to infants as young as three months (see chapter one, section 1.2). To study ECE without including the infants would thus result in exploring only one section of ECE. The infants and their spaces were filled with movement, intra-action, and affective forces, as the data chapter will attest. This contributed to my understanding of how gendered bodies are brought into being throughout the settings. A feminist new materialist theoretical framework allowed for moving beyond simply observing the infants and children. Rather, the social context of the settings, the toys, furniture, expectations, the movement between spaces, and the human participants within the everyday, mundane occurrences provided key insights into the ECE setting and how phenomena came to be. Initially, I did have to grapple with feminist new materialist concepts which were unfamiliar to me and outside my situated ECE knowledge. For example, my initial research design included generating data with the practitioners through participatory methods, including putting a white board in the staff room and allowing them to add their thoughts based on their own evaluation of their practice and experiences. I also considered the use of diaries for the practitioners to write about their experiences with how gender manifested in their practice with the infants and young children. Similarly, I had hoped to be able to include the artwork of the children in my data. During my initial visits, the reality of engaging with research in an ECE setting became apparent, and

challenged my preconceived ideas about how the research would take shape when my position morphed from ECE practitioner to ECE researcher.

4.2.1 Initial visit

To begin the research, I spent a week a site one. During this time, I met the practitioners and children and familiarised myself with the site. When I first arrived at site one (see section 4.3.2), I immediately noticed that the layout was not as I had expected. The ECE settings that I had worked at had housed all the age-based rooms in one building. This was not true of site one, rather the rooms felt quite separate. One of the key features of site one which challenged my original research design was the presence of only three age-based rooms (baby room, toddler room, preschool room). This meant that spreading my time between the rooms could be easier, as I would have fewer rooms to go between. I later found out that site two also had the same arrangement of age-based rooms, while site three did not admit infants and operated as one space for children aged two to four. There was also not a staff room at site one, which I had, naively, not expected. However, the preschool room was large and could be split into two rooms by closing the door in the middle of a largely transparent wall down the middle of the room. Here, the practitioners would eat their lunch. Despite there being a space where the practitioners could sit, this was also where the younger preschool children slept. As a result, the practitioners ate their lunch in relative silence in the dark. I realised that my method of generating data with the practitioners through utilising the staff room space was therefore not possible at this site.

Cameron (2020) describes how stress is a common factor in the role of an ECE practitioner due to factors including workload and low pay. This was evident across the three participating sites. Between caring for the children, completing their extensive administrative tasks, and, for some, working towards attaining qualifications, there was no time for them to complete extra tasks associated with the current research. As such, ethical responsibility (see section 4.4.3) requires that the researchers take account for the data that are generated and *how* these data are generated. That is how researchers are affecting 'others' while simultaneously being affected (Lenz-Taguchi, 2010). This meant that I had to consider the impact of my presence on the research site. Therefore, I decided to abandon participatory data generation with the practitioners. I also realised that participatory methods, as described above, would interfere with the usual daily occurrence (Dennis & Huf, 2020) in the ECE settings

and, therefore, significantly impact the data was produced and focus on human intentionality. Therefore, while grappling with feminist new materialist concepts as I adjusted to my new role as researcher, the research itself also morphed and expanded through acceptance of uncertainty.

There were other key moments where the unexpected forced me to reconsider how the research would take shape. I had initially envisioned parents coming into the ECE rooms to drop their infants and young children off and pick them up. However, the research took place during the Covid-19 pandemic and, as such, the setting manager had opted to limit the parents entering the building to attempt to prevent Covid-19 from spreading within the setting. This was the same across all three sites. Therefore, it was not possible for me to see the parents on a regular basis. I was also faced with wariness from the infants, which I was not used to as when I was working in ECE I was a regular, familiar face which, as a researcher, I no longer was. In contrast, the toddler and preschool children were extremely interested in finding out about me. They wanted to know who I was, why I was at their setting, why I had a notebook and pen, what I was writing, and if they could do some writing in my notebook. The presence of someone new had inspired wariness and/or curiosity in the children which added an unexpected dynamic to my role (and presence) within the settings. I realised that I had to challenge myself too. For the first time, I was in an ECE setting as a researcher, not as an ECE practitioner. I did not have the same role and responsibilities. Therefore, I needed to incorporate (and observe) spontaneity and disruption into the field work, rather than, as when I was a practitioner, attempt to manage and contain such disruptions. Finally, I, unexpectedly, did not see the children engage in many art-based activities. This was in conflict to my understanding of ECE. However, it meant that my plan to incorporate the children's artwork likely needed rethinking.

4.2.2 Embracing the unexpected

The initial visit to site one demonstrated that research is neither straightforward nor predictable. Rather, the reality of research (and the ECE setting) is much messier. There were multiple aspects of the setting that were different to what I had thought, and this meant that some of the research activities would not be suitable. It would be easy for this to seem problematic for the research. However, in line with feminist new materialist thinking, embracing the unexpected and acknowledging the role of disruption in the generation of data

meant that the research methods became much more flexible and allowed for an openness to explore the in-between moments in the everyday occurrences within the settings. The ever-shifting assemblages that made things possible could be observed, rather than the research lens being fixed on observing human interactions. The research activities with practitioners (e.g., completing diaries) would have taking up valuable time that the practitioners simply did not have. However, instead of focusing on organising practitioner research activities, practitioner intra-actions with the space, children, the objects, and the setting's policies produced insights into the entangled worlds of ECE. The practitioners did have the opportunity to engage in short casual interviews, which can be better described as conversations, and some of the practitioners were happy to take part in these. The practitioner conversations took place during quiet times and were written up in fieldnotes.

I had initially wanted to include parents in the research but, as mentioned in the previous section, parents were, at the time, not permitted to enter the ECE settings. I initially attempted to conduct parent interviews off-site, ostensibly outside the settings. However, this became very challenging to organise as I had to rely on the practitioners to show me who were the parents of the participating children, what time they would drop off or pick up their child and help me to contact them. This was difficult as the practitioners were busy and often forgot. I made the decision to limit the scope of the research to that which occurs *within* the ECE settings. Although what happens outside of the settings undoubtably contributes to infants' and young children becoming gendered (chapter 2, section 2.4.1), the aim of the current research was to explore how gender is produced *in* the ECE setting, of which parents were not a part of at this time. In the moment, however, I felt concern for not being able to include parents in the research as I thought this may limit what the research could discover. However, by drawing on feminist new materialist and post-qualitative concepts, I realised that what was informing my concerns was positivist conceptions of research. By embracing the principles of feminist new materialism research, I was able to let go of perfectly neat and delineated agendas and, instead, find comfort in the uncertainty, in-betweenness, and incongruence that comes with becoming a post-qualitative researcher (Franklin-Phipps, 2023).

During the initial visit, the infants were unsettled by the presence of a stranger in their space, or 'the baby room'. The baby room was brought into being by the tiny chairs and tables, the sensory-focused toys, the soft rugs, and the smiley, softly spoken practitioners adorned by matching uniforms. The baby room was typically peaceful and comforting. However, my

presence disrupted the familiarity of the space, which caused concern for some of the infants. By maintaining an initial distance from the infants, and slowly developing a relationship with them over the duration of the research, I was able to minimise the disruption caused and observe the intra-actions in and with the room. Each time I entered a baby room, I took time to consider how and where I physically placed myself in the room and in relation to infants. If any of the infants became upset at my being there, I would leave the room. Orrmalm (2020) discusses the relevance of how and where a researcher physically places themselves when researching with infants. They suggest that there is a benefit in being in a similar space to the infants, such as being on the floor. Therefore, once they were comfortable with my presence, I would sit on the floor with the infants.

Dennis and Huf (2020) problematise conventional participatory methods which uphold the adult-child binary. They suggest that adults prepare children for research activities which, therefore, limits the legitimacy of the children's participation. I wanted to breakdown, as much as possible, the adult-child binary between myself and the children. So, rather than remain in control of the notebook and pen, each time a child asked about the notebook, I offered it to them. This resulted in a collection of images created by the children, some of which have been incorporated into the analysis chapters of the thesis. This also addressed the limited number of mark-making activities at each of the sites. It meant I was able to collect creations from the children despite there not being many opportunities for mark-making in the ECE settings. The mark-making that was collected was produced through organic intra-actions between the children, the researcher, and the researcher tools rather than from pre-organised activities that are steeped in imposed and uneven power dynamics (Dennis & Huf, 2020).

4.2.3 Research questions

The research questions that underpin this research are reflective of the wider literature discussed in chapters two and three. The aim of each of the questions is to explore the ways in which gender is produced and how, when, where, and why it manifests within each of the ECE settings – something that is directly addressed in section 8.3 of chapter eight. The research questions were informed by feminist new materialist thinking; I intended for them to shift focus onto the material world and the role it plays in how experiences of gender are produced in ECE. Lexical semantics came into play during the formation of the research questions, meaning that words within the construction of the questions were malleable and evolutionary

as they morphed to evoke meaning (Lieber, 2004), guided by the theoretical framework which underpins the whole project. The research questions are as follows:

Overarching research question:

- How are concepts of gender reproduced within the ECE environment?

Sub-questions:

- How do gender norms inform the human and more-than-human encounters which take place within the ECE settings?
- How does infants' and young children's engagement with time, space, and the environment influence their knowledge of gender?
- How are gender norms promoted and challenged in ECE?

4.3 Research sites and participants

This section will discuss the research participants and research sites. The names of all participants and research sites mentioned throughout this thesis have been pseudonymised to protect the identity and privacy of all participants. As mentioned, the aim of the research was to observe each of the participating ECE settings as one, vibrant, multifaceted entity. This meant that all the adult practitioners working at the three participating settings were invited to participate, regardless of experience, qualification, or role within the setting. The parents of all infants and young children were also invited to consent on behalf of their infant or child. There was a pleasing response rate across the three sites (e.g., up to 100% of practitioners), which can be seen below in table 2. The three sites were all located within the East of England, an area of familiarity to me as a place where I have both lived and worked (in ECE). As such, the three sites were accessed through existing contacts within the ECE sector. Each site was visited for a block of two months twice over a year. Each of the two-month long blocks happened at different points in the year, so I was able to observe the influence of temporal changes across each site. This allowed for acknowledgement of the role of time throughout the ethnography (Elliott, Ngo- McKelvy, & Bowen, 2017). This section will describe each of the sites in as much detail as is reasonably possible while also prioritising the anonymity of each site. As such the names of the sites have been changed, and the exact locations of the sites

will not be disclosed. Throughout the thesis, the participants have been pseudonymised to protect their identity.

Rate of participation across the three sites	First Research Block		Second Research Block	
	Children	***Practitioners***	***Children***	***Practitioners***
Site One Hill Day Nursery	48%	100%	38%	91%
Site Two Bunnies Nursery	69%	100%	80%	88%
Site Three Burroughs Nursery School	53%	79%	40%	79%
Key points from table: *Changes in rates of participation between visits can be explained through practitioners and children starting at and leaving the nurseries.* *Variations in rates of participation between sites can be explained through the number of children (i.e., site two, second research block, there were only 16 children in comparison to 60 children during the first block).*				

Table 2: *Rates of response across each research site.*

The locations of the sites varied, meaning there were some differences in terms of socioeconomic, racial, and ethnic characteristics of the participants. However, to maintain anonymity, I will describe such characteristics without directly linking them to any one site or individual. The participating ECE practitioners were all white women aged between 19-40 (except four practitioners who were slightly older). They were all British except for two who were from other European countries. The infants and young children who participated in the study were largely white. However, there were two children of African heritage, two children of Asian heritage, and four from traveller communities who participated. This is not to say, however, that the ECE settings had low levels of diversity amongst the infants and children. In fact, two of the three sites were diverse in terms of ethnicity and race. The third site, which was in a more affluent area, was made up of mostly white, middle-class families, with only a few exceptions. One of the other sites was in a deprived area of a larger, affluent location. Therefore, the infants and children who attended this ECE setting were more varied in terms of their socio-economic backgrounds. The remaining ECE site was mostly accessed by working-class families, with some more affluent families using the service. Although identifying factors

such as ethnicity and socioeconomic status will not be attributed to specific infants or children to protect their identity, it is still important to acknowledge the role that a child's family context has on their understanding of their own and other people's gender. It is recognised that gender norms vary across different cultures and backgrounds (Conry-Murray, Kim, & Turiel, 2020), and, in turn, culture influences infants' and young children's perception of gender (see chapter two, section 2.4.1). This has implications for children's behaviour towards other people (including their peers) and the objects they encounter (Wang, et al., 2021). Infants and young children are immersed in their family's culture from the moment they are born and, therefore, the beliefs and values held by the family provide a framework from which early learning and experiences are informed (Abd Elsalam, 2023). This includes gender, where gender norms hold great power in influencing young children to conform to family values (Conry-Murray, Kim, & Turiel, 2020). It can influence their perception of gender and, therefore, their behaviour when at nursery, as well as informing their gender identity (see chapter two, section 2.4.1).

There was one participating child who had SEND (see chapter two, section 2.4.1), and one other who was in the process of being referred for assessment. All parents of infants and children were invited to consent on their child's behalf. Participation in the research was designed to be inclusive. This mirrors the ethos of ECE which states that practice and learning spaces should be adaptable so that every child can be included and feel supported (Musgrave & Levy, 2020). However, while there were multiple children who attended the ECE settings who had diagnoses relating to SEND, most of their parents had opted not to consent to their child's participation in the research. However, while it is highly likely that many more children who were participating did have additional needs/SEND, early childhood (and certainly while attending an ECE setting) is a time where assessments and referrals may occur regarding a child's development and behaviour (DfE & Department for Health, 2015). As mentioned, there was one child who participated in the current research who, at the time, had recently been diagnosed with autistic spectrum disorder. As with all data pertaining to the participating children, data has been analysed as one data set, whereby identifying factors of children have not been highlighted to ensure anonymity. Therefore, analysis does not focus on the child's diagnosis as to pathologise the child's behaviour would work against feminist new materialist analysis. The following subsections will go on to describe each ECE setting in more detail.

4.3.1 Site one: Hill Day Nursery

Hill Day Nursery is an inner city ECE setting. The entrance is set back from the road, and one would not know it was there without actively looking for it. The large, grey carpark sits at the front of the main brick building. This is where infants and children are periodically dropped off and picked up. Whenever I arrived at the setting I would knock on the door and wait patiently for one of the practitioners to let me in. The door leads directly into the preschool room. This is the largest room, and the base room of the three and four-year old children. It feels more like two rooms as around a third of the way down the room there is a wall with a large door in the middle. The top of the wall is made of transparent material. The door is rarely closed so the room functions as one large play space. This room contained tables which would be set up with different activities such a playdough, construction bricks, or an imaginative roleplay such as a dolls house. There was also a book corner, play kitchen and sand tray. This room was always bright and busy. The children used loud voices to communicate with each other and the practitioners. I would often be asked "what's your name?" as preschool children gathered around me, fascinated by the novelty of a new face. This was between the sounds of boxes of toys being tipped on the floor, chairs scraping and banging together, and other sounds, so emotions appeared to be expressed at volume by the children out of necessity. At the opposite end of this room, there were four smaller rooms including the very small managers office, the staff toilet/vacuum cleaner storage, the children's toilet, and the kitchen. The presence of the kitchen in the space resulted in the room often smelling like food.

At the back of the room is another door. This door led out to the garden. Once outside, there is a large, sheltered area which contains storage for toys as well as a sheltered space to play. To the left there is a small fence and a gate which led to a much smaller garden and the toddler and baby rooms. Beyond the shelter is the garden space. This large open space contains a large climbing frame, a sand pit, a mud kitchen, and lots of space to play in the presence of trees which tower over the garden. The smaller garden was in a moment of evolution during my field work. It started as a disused space and was transformed into an area which could be used for the infants and toddlers without the risk of being knocked over by the busy preschool children.

The baby and toddler rooms consist of two small temporary buildings which have been placed one on top of the other to create two separate rooms due to limitations of space. The bottom room is the toddler room- the base room for the two-year-old children. This room is

long, narrow, and cold. It has large windows but due to the neighbouring building being on one side and the preschool building being on the other, not much sun light gets through. Therefore, the ceiling lights do most of the work in terms of illuminating this space. This room mirrors the preschool room in that it felt like there was a front room and a back room because of the wall around two thirds of the way down the room that slightly extend out into the room at a 90-degree angle. In the back area of the room there is usually messy play activities, such playdough and sand play. There is also a nappy changing unit tucked behind one of the extending walls, likely to ensure the privacy of the toddler whilst being changed. The front space in the room has a book corner, play kitchen, construction, and small world play, such as cars. The toddlers eat their meals around tables in this area. There are also children's toilets in a smaller room in this space.

The room above, which mirrors the toddler room, is the baby room. This space is designed for the infants. That is, those from three-months up until two-years-old. Due to the nature of care in the baby room; that is, the sense that infant bodies needing to be protected from perceived 'outside' contaminants (Lupton, 2013), this space has distinctive smells, such as disinfectant and baby wipes. Albon (2021) describes this sensory experience as 'smellscapes'. This was a similar phenomenon within the baby room at site two also. In this room, the back area is filled with cots where the infants sleep, and it is kept in perpetual darkness. The rest of the space has low level wooden units and baskets, and plastic boxes filled with objects for the infants to explore. Generally, in this room action (and intra-action) occur on the floor. There is only one table and a few baby chairs with straps, which are used for mealtimes. This room often feels clinical as it is kept rigorously clean using disinfectant spray. It is high up and therefore sunlight fills the front space. It also feels visually and audibly calmer in this room compared to the other rooms as there are fewer bodies, fewer unpleasant smells, and fewer brightly coloured objects.

4.3.2 Site two: Bunnies Nursery

Bunnies Nursery is located down a quiet lane in a village. Driving up to the nursery I noticed how many tall, green trees surrounding the perimeter which gave a pleasant first impression. I walked up to the door and waited to be let in. The door leads into a cloak room. This is where the preschool children (those aged three and four) hang up their belongings at the start of the day. Behind the cloak room are the children's toilets. Also in this space, behind

a door with a bolt lock on it, is the adults toilet. This space then opens up into the large, square preschool room. This room has large windows down either side, allowing sunlight to flood the room. In the left corner of the room are wooden steps that led up to a wooden platform which is around five feet off the ground. The platform is surrounded by wooden spindles (presumably to stop small bodies from falling off). To the right is a kitchen. The kitchen units create a physical boundary between the preschool play area and the kitchen, but the kitchen is otherwise open plan. This is depicted in the diagram in figure 1.

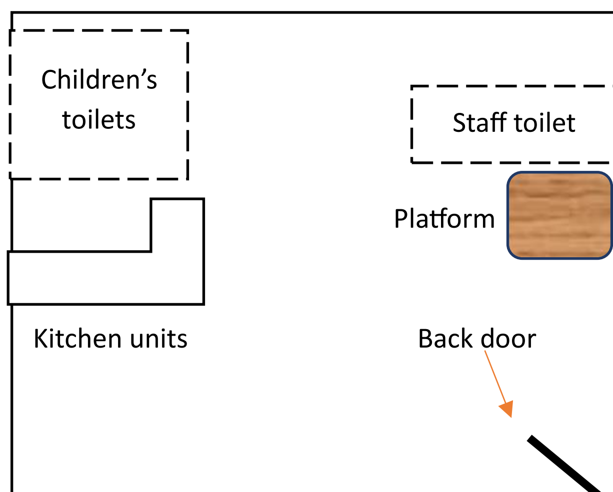

Figure 1: *Diagram illustrating the open plan kitchen and how it is located within the preschool room.*

The rest of the large, open preschool room has storage units filled with different toys and activities, scaled-down tables and chairs, a black plastic tray often features in the room, and it typically contains different materials such as sand or playdough. The tray is often in different places in the room. There is also a play kitchen under the platform, and a book corner next to it. The way the preschool room is designed in terms of space has, as the following chapters will go on to discuss, implications for how concepts emerge (Jobb, 2019). Therefore, the platform being high off the ground and the play kitchen almost hidden underneath changed the ways in which children played in those areas, areas which were largely free of adult practitioners. Finally, there is a back door in the corner of the room (see figure 1) which leads out onto a patio with a wooden shelter and a mud kitchen, and then beyond that is a large, square garden with artificial grass and a permanently fixed large tunnel. To the left was a barked area which had a selection of large, black, rubber car tires.

The large open outdoor play space is surrounded by wooden structures which look like wooden huts. The two smaller wooden buildings on the left are the manager's office and the small staff room. The wooden units at the back of the garden and to the right are the baby room and toddler room, respectively. The central garden is used by each of the rooms; however, the baby room and toddler rooms have their own, much smaller outdoor spaces. The baby room (the base room for those aged from three months up to the age of two) has a small entrance area which has a staff toilet to the right and scaled down cloakroom area for the infants' belongings to be stored during the day. Outdoor shoes are not permitted in the baby room, and they must be removed in this area before entering the baby room through the baby gate. The baby room is a large square space. Half of the floor is linoleum; the other half is covered in blue carpet. There is a small kitchen space in the room, which is surrounded by baby gates so that the infants cannot get close to the kitchen units. This area is used for preparing bottles and snacks. Meals are prepared in the main kitchen in the preschool room and are then delivered to the baby and toddler rooms by a practitioner.

The baby room only has four infants in attendance (but not on the same days) and one practitioner. Therefore, it remains relatively quiet in this room apart from the occasional sound of crying. There is a small wooden building next to the baby room where the infants sleep, monitored by baby monitors which are kept in the baby room. There is only one small, purple table, some small wooden chairs and some taller highchairs with straps and trays for mealtimes. There are no adult chairs in this room as all the action in this room takes place on the floor. The room has large windows but because of the tall trees which surround the site, the ceiling lights are required to keep the room bright. This room is comfortable due to the softness of the carpet under shoeless foot, the calmness of the practitioner who led this room, and the relaxed nature of the infants who spent their time in this space. To move between the rooms, one must walk through the central garden. The toddler room (the base room for those aged two) has a large wooden veranda around it. The door leads directly into the long, narrow room. This room is quite dark and requires the ceiling lights. However, this darkness is useful for creating a calm environment when it is nap time. At one end of the toddler room is a small kitchen. Like the baby room, this area is for preparing snacks and drinks, meals are delivered from the preschool room kitchen. The children's toilets are also at this end of the room. The far end of the room has another door which leads into the toddlers' garden, which is also long and narrow. The toddler room has a few tables in it, which are used for mealtimes and for

activities. There is also a black plastic tray, like in the preschool room. The room also contains a book corner, and toy storage area. The cloakroom area for the toddlers is in the room and by the back door. This is likely because when the toddlers arrive in the morning their parents can drop them off directly into the toddler garden via a wooden gate at the far end of the garden.

4.3.3 Site three: Burroughs Nursery School

Burroughs Nursery School is set in a rural village. The village is surrounded by fields and so there is a sense of quietness. The village feels as though is it far away from the hustle and bustle of a large town or city, despite being relatively close to multiple large towns. Burroughs Nursery School is on a main road but despite this, the road it is still quiet. There is also a car park set away from the road. Unlike Hill Day Nursery and Bunnies Nursery, Burroughs Nursery School does not have places available for infants, rather they only admit children from the age of two until they go to school. They also do not separate the children based on age (apart from at lunch time when the two-year-old children might find it challenging to sit at a table for an extended period). Rather, the children are viewed as one cohort with a variety of needs. Although the setting is in one building where the children are all together, there are still distinct spaces.

As I first entered the building, I found myself in a small corridor. To my left is a rail with wheels on it where the children hang their bags and coats, this can then be wheeled out of the way. To the left is a door which leads into what is referred to as *the playroom*. The playroom is set out in a similar way to the preschool rooms at sites one and two. There is a roleplay area, a book corner, scaled down tables and chairs for mealtimes and activities, and storage units filled with toys and activities. Around halfway down this large, rectangular room is another corridor which runs parallel to the corridor at the entrance. Within this corridor are doors which lead to the adult toilet/nappy changing room, the children's toilets, and the kitchen/staff area. At the far end of this corridor is another classroom (this could also be reached by turning right at the entrance and walking past the manager's office). This room is referred to as the *Montessori classroom*. This space is set out differently to the playroom, it appears as though this room is more organised and there has been more thought into which objects are placed into the room and how they, and the furniture, are arranged. This is in

keeping with the ethos of the Montessori approach (see chapter one section 1.2.2) where spaces are designed with purpose.

The large room has two areas; one side has multiple small tables around it where a child and a practitioner can engage with one-to-one 'work'. The other side of the room consists of larger, scaled down tables where multiple children can sit at once. Next to the tables is a large unit which has plastic and wooden trays with different activities on them. The children can select a tray, take it back to the table and carry out the activity in a specific way. The children are then expected to put the activity back on the tray and then back in the correct place on the unit once they have finished. This area is referred to as *practical life* and it is available for the children to access when they like. In the playroom there is a door with some steps that lead into the outdoor space. The steps initially lead to an area which is covered in a plastic canvas. This area contains roleplay activities, such as a play kitchen and a dolls house. This then opens up into the very large outdoor play area. The ground is covered in dark grey tarmac. However, there is a small, grassed area at the back of the space which has a climbing frame and slide on it. The outdoor area has an area where plants are being grown in pots, this is where the children enjoy looking for bugs. There are many bicycles, tricycles, scooters, and ride-on cars available for the children to play with.

4.4 Ethical considerations

The current research has undergone review by The Open University Human Research Ethics Committee (HREC) in which it obtained favourable opinion prior to the fieldwork commencing (reference HREC/4068/Mallet). This process required an in-depth consideration of how the research could take place with the safety of the participants being a priority (Hennink, Hutter, & Bailey, 2020a). It meant considering the ways in which risk to participants could be as minimal as reasonably possible. As such, this research was designed and carried out with reference to the British Education Research Association's (BERA) document *Ethical Guidance for Educational Research* (British Educational Research Association/BERA, 2019). This document offers guidance on minimising harm to participants, which emphasises the duty of care that the researcher has when engaging with research participants. Feminist new materialism also has (post-qualitative) concepts for considering research ethics. This section describes how ethical principles were adhered to and considered throughout this research. Ethics are recognised as requiring ongoing, in-the-moment consideration. As such, the ethical

considerations in the section were constantly negotiated throughout the everyday experiences of carrying out research within the ECE settings.

4.4.1 Informed consent

Initial permission to carry out the fieldwork was received from the gatekeepers, in this case the proprietor and/or managers of the nurseries. HREC approved information sheets and consent forms were distributed to all potential adult participants and parents/guardians of the infants and young children who attended the participating ECE settings. Information sheets detailed the aims and purpose of the study, as well as participants rights and the recommended privacy notice (British Educational Research Association/BERA, 2019) (see appendices 1, 2, and 3). With these things included, the potential participants were able to give informed consent and for parents/guardians to give informed consent on behalf of their child (Alderson, 2014; Hennink et al., 2020b) (see appendices 4, 5 and 6). Despite a good response across all sites (see table 2), not all practitioners wished to participate, nor did all parents wish to consent to participation on behalf of their infant or young child. Some parents did not want their infant or child to have observations on their child recorded and included in the research, for other parents it was not clear why they did not want their child to be included. The practitioners who did not consent to take part were either casual staff (I.e., they only worked occasionally, when required by the ECE setting), or new to the setting and did not return the consent forms. They did not provide any particular reasons for they decision for non-participation, nor were they asked to provide a reason. As such, non-participation was respected, and special care was taken not to include any non-participant in the fieldnote. Occasionally, this meant that some observational opportunities had to be avoided to respect non-participation (British Educational Research Association/BERA, 2019).

The way that informed consent is acquired from adults is not applicable to the infants and young children. It is not possible for infants and young children to read and conceptualise an information sheet and then provide consent (as per ethics and law), which can position the child as having limited capacity to consent (Huser, Dockett, & Perry, 2022). However, other means of assessing infants and young children's desire to participant have been utilised in this research. Although the parents/guardians of infants and young children might have given signed consent on their behalf, infants' and young children's willingness to participate was

always assessed and respected. It was important to gauge whether they were interested or not through effective communication, such as by using age-appropriate language (Basit, 2010a), but also through gauging assent based on their actions, movements, and emotions (Orrmalm, 2020). I was also able to draw on my professional knowledge and skills from working in ECE to determine assent. In particular, I explained to the older children that I was writing a 'big book' about their nursery for other people who are interested in nurseries to read. I would also ask verbal children if I could write down what they were saying. There was only one occasion when a child said "No", which was respected. Therefore, the consent that infants and young children gave (verbally or through other forms of communication e.g., moving away or crying) was based on assent and their comfort/discomfort with my presence. As such, I acknowledge that the inclusion of the word 'informed' when discussing consent is not applicable to all research participants (O'Farrelly & Tatlow-Golden, 2022). Despite this, my approach was to be as respectful as possible by prioritising the voice and participation rights of all infants and young children (participating or not) at the three ECE sites.

The information sheet detailed participants (practitioners and parents) right to withdraw. However, the period in which a participant could withdraw their consent to participation was limited to 1st October 2022 because initial analysis was to begin at this stage and all data had been anonymised. The anonymisation of participants meant that it was no longer possible to remove data pertaining to one particular participant, which is why this date was selected. Fortunately, none of the participants opted to withdraw from the research. Participant names and the name and location of each nursery have been anonymised to protect the identity of all participants (British Educational Research Association/BERA, 2019). The research project was designed and carried out with strict adherence to General Data Protection Regulation (GDPR) policy, including how data were organised, stored, and destroyed. This is to ensure that participants identities are protected and kept as safe as possible.

4.4.2 Burden

At the initial stages of the research, it was important to create positive and ethical relationships with ECE practitioners to ensure that there was a clear understanding about how, why and when data were being generated (Beauchamp & Haughton, 2012). This was to ensure that the practitioners could perform their usual duties without being distracted by my

research activities. The practitioners quickly became used to me being in the room with my notebook and pen, rapidly writing notes. I ensured that I limited any interruptions to the practitioners and the infants' and young children's usual activities unless I was invited in. This was also because of the recognition of children's capacity to be in control of their own lives (Albon & Barley, 2021) which I respected by not using my adult power to force children's engagement in the research. I was *invited in* through practitioners or verbal children engaging me in conversation (such as the preschool children excitedly asking my name and why I was at their nursery). The infants would invite me into their world through eye contact, verbalisations, touch, or through sharing objects with me. I did occasionally ask questions to the practitioners and verbal children, but I made every effort to ensure that I did so at times that were not disruptive.

Working in ECE is emotionally and physically exhausting (Cameron, 2020), therefore, special care was taken to limit extra burden. I was able to talk with some of the practitioners at each of the sites (through casual conversations). However, the practitioner conversations took place away from the children during quiet times within the practitioners usual working day. Practitioner conversations meant that I could talk more deeply with practitioners without interrupting their practice. Infants and young children may show concern of distress when in the presence of an unfamiliar person. Salamon, Sumison, and Harrison (2017) comment that infants have sophisticate emotional communication skills, whereby they can effectively communicate a range of emotions physically and through variations in cries. I was able to recognise the communication of distress, and relatedly their likely assent, through their physical and emotional responses. This was seen in the baby rooms at Hill Day Nursery and Bunnies Nursery. There were times when infants were visibly unhappy with my presence. I always ensured I respected their boundaries and moved away, and in the more extreme cases I would leave the room. However, I was not so obviously *different* from the practitioners who worked at each of the ECE settings. I was of similar age to most of the practitioners (generally between 19 and 40), they were also all white women, which also fits my description. Therefore, there were many times where I was able to *blend* into the environment. As such, there were also times where bonds were formed between child and researcher due to the nature of ethnographic research which meant I became a regular visitor and fixture at the nursery. Ending researcher/participant relationships when engaging in longitudinal research

can be emotional (Batty, 2020). However, it was important to explain to children that I was only at the nursery for a short time, but also to say goodbye when it was time to leave.

4.4.3 Safeguarding

BERA's ethical guidance (British Educational Research Association/BERA, 2019) emphasises that care should be taken when research participants are considered vulnerable, including infants and young children. As such, all efforts were taken to ensure that I did all that was possible within my role as a researcher to safeguard participants. To ensure safeguarding practices are upheld throughout the research, attention was given to ECE child protection and safeguarding policies and procedures within each setting. As I have previously worked in ECE and fulfilled the roles of Safeguarding Lead Practitioner and Child Protection Designated Person, I am familiar with general ECE child protection and safeguarding policy. However, I took the time to read the child protection and safeguarding policies of each setting, and I adhered to them throughout the fieldwork. I also followed The Open University's ethics procedures throughout the fieldwork, including when I witnessed a safeguarding incident regarding a practitioner's actions. I was required to report the incident to the manager of the ECE setting. As a result, I was asked to write a statement about the incident. I contacted my PhD supervisors for advice, and they supported me through this incident. Finally, as mentioned, data protection has been taken very seriously. Therefore, the data which could feasibly identity participants including specific fieldnotes, participant audio recordings and personal data, have not been seen or accessed by anyone except from the researcher (Alderson, 2014), and stored securely in line with GDPR.

4.4.4 Response-ability

The ethical considerations as mentioned above address principles that must be considered when engaging in research within an ECE setting. While this is important, ethical *practices* from a feminist new materialist perspective are also considered a crucial part of the current research. Alaimo and Hekman (2008) suggest that ethical practices emerge from material realities which requires acknowledgement of material consequences. Barad (2007) coined the term *ethico-onto-epistemology* to emphasize "how we conceive the relation of knowledge and being is a profoundly ethical issue, as is the relation between the human and the nonhuman" (St. Pierre, Jackson, and Mazzei, 2016, p. 99). In line with feminist new materialist thinking, my research took account of my human impact on the material world.

This is because feminist new materialist ethico-onto-epistemology does not adhere to an “intrinsically hierarchal order of things” (Bennett, 2010, p. 12). Rather than drawing solely on preconceived concepts of ethics, one can consider the concept of response-ability (Haraway, 2008b), where *responsibility* is concerned with responding to other humans, which would mean preceding intra-actions (Higgins, 2023). *Response-ability* is about responding immediately in situ through intra-action (Geerts, 2016). Thus, *response-ability* means taking account of one’s capacity to affect and be affected. Being “irresponsible means unable to be called into account” (Haraway, 1988, p. 583); feminist new materialist researchers are implicitly accountable.

Barad (2007, p. 369) describes ethical practices as “taking account of the entangled phenomena that are intrinsic to the world’s vitality and being responsive to the possibilities that might help it flourish”. Therefore, consideration of ethics as being embedded within knowledge production is profound (St. Pierre, Jackson, & Mazzei, 2016). As researchers, we are entangled within multiple intra-actions with human and more-than-human entities. Therefore, there is a collective response-ability for what is produced through such intra-actions. “Responsibility is thus built into the imminent relationships between all matter and organisms. This responsibility is nothing we can choose to have or taken, rather it comes with living which is about affecting and being affected” (Lenz- Taguchi, 2010, p. 176). This means, then, that researchers are response-able for research production and for what is brought into being through the research of which the researcher is a part (Barad, 2007). As such, throughout the current research (in the fieldwork, analysis, and the writing on the thesis), there is acknowledgement of the embeddedness of the researcher within the research, where response-ability for all that is encountered and produced is considered and accounted for.

4.5 Methods

4.5.1 Theoretical framework

The theoretical framework for this research project was informed by a review of the extant literature as well as it being shaped by the participants, research environments and the data generated. From my own extensive experience of working in ECE with infants and young children, I recognised that infants and young children have a rather unique way of seeing the world. They see vibrancy in objects through their imaginative exploration of their environment (Lenz-Taguchi, 2010). This greatly informed my turn towards posthuman theorising, where the

more-than-human world (e.g., objects, time, space, concepts) are considered agentic and 'vibrant' (Bennett, 2010). As such, feminist new materialist thinking has informed how this research project was designed, carried out and analysed. This includes consideration of researcher objectivity from a feminist new materialist perspective, which posits that knowledge is emergent and situated, where objectives are born from partial perspectives (Haraway, 1988). Research is a relational practice which is political, material, social, and always in flux (Coole & Frost, 2010). This means taking account for the situatedness of knowledge production to reconfigure researcher objectivity. Osgood (2020) discusses Haraway's concept of the 'mutated modest witness', which is concerned with reworking established research practices through critical consideration of the material world, including histories, politics, knowledges, and one's own embedded and interconnected place within such critical examination. Therefore, in feminist new materialist research, the researcher is not the "objective authority" (Collins, 2023, p. 851), but a 'mutated modest witness'. Feminist new materialism, which is outlined in chapter three, informs the methods described in the following sections.

4.5.2 Feminist new materialist ethnography

> *"Ethnography combines, juxtaposes, and overcomes dichotomies, binaries, and clear-cut categorizations of people's experience, behavior, or speech. The scientific strength of ethnography lies in the systematic assemblage of research participants' perspectives and the creative montage of different data dimensions, which rest on ethnographers' long-term involvement and open-ended commitment."* (Stodulka, 2021 p. 99)

Stodulka's definition of ethnography provides a depiction of the multifaceted tool that ethnography can be. It pulls the researcher into the world and experiences of the research participants. It allows for research *with* rather that conducting research *on* subjects. However, in its traditional form, ethnography is typically humanist. Therefore, feminist new materialist research requires a posthuman reconfiguration of ethnographic methods. Feminist new materialist ethnography requires a focus on the embodied experiences of phenomena (Dumes, 2020), such as exploring how gender is *done* with and on the body in a performative way. Ethnography allows for sharing in experiences with infants and young children, while taking account of the researcher's role in the co-construction of the experiences (Bailey, 2020).

However, by reframing the ethnography through a feminist new materialist lens, one must consider the collaborative way that knowledge if produced through intra-actions and the role of the 'apparatus' (including the researcher) in the generation of data through ethnography (Barad, 2007; Moody, 2020; Osgood, 2019). This means, then, that the embodied nature of engaging in research must be taken seriously in feminist new materialist ethnography. It means recognising that the infant or the child is always already entwined in complex relational networks (Murris and Kuby, 2022) within which the researcher and the research are entangled.

The methodological approach was developed through considering feminist new materialist literature along with the multi-sensory and embodied experiences of being in an ECE setting. Such spaces are filled with an array of sounds (sometimes at high volume), smells, sights, textures, and tastes (for the explorative infants and young children). Pink (2015a) states that ethnography is done with the 'whole body', which means a feminist new materialist ethnography requires drawing on (sensory and embodied) contexts that reach beyond simplistic (humanist) description of research sites and participants (Tummons and Beach, 2020). Rather, subjective and situated knowledges and experiences can challenge dominant, humanist research methodology (Haraway, 1988; McKibbon, 2024) and shift focus onto response-ability in research (Rosiek, 2018). Therefore, the feminist new materialist ethnography utilised in the current research meant taking account of sound, silence, embodiment (Renold & Mellor, 2013), space, time, objects, and humans. This allowed for the observation of the agentic capacity of the material world in its co-constitution with humans, that is the assemblages which brought the ECE settings into being. Here, Osgood's (2020) work with Haraway's concept of 'mutated modest witness' demonstrates the value of considering the role of the senses in exploring how phenomena come to be in ECE, where more-than-human entities "together with researcher and child bodies, space and time activate multiple intensities and forces, unpredictable fault lines and energetic currents" (Osgood, 2019, p. 120). This underpins the feminist new materialist ethnography.

The observations took place within the everyday moments in the ECE settings. Gabb and Fink (2015), in their 'moments approach', highlight that by focusing on ordinary, everyday moments one can observe the messy and emotional realities of life, while being privy to the processes and routines which occur daily. This itself is a multi-sensory, embodied endeavour, as the moments which I observed/experienced throughout the fieldwork at the three ECE

settings were overflowing with multi-sensory stimuli, which embedded the lived experience of being within the walls of a vibrant, dynamic ECE setting.

The typical starting point of data generation within the ethnographic approach is participant observation (Coffey, 2018a). ‘Participant’ is a key term as it highlights the participatory nature of the researcher within the research. However, within traditional ethnography, the ‘participant’ in participant observation implies that participation is optional. In feminist new materialist ethnography, it is understood and acknowledged that researcher participation is never optional. Rather, as ‘we’ do not exist outside of phenomena (Barad, 2007), the researcher is intrinsically entangled with/in the *researched* through intra-action. Therefore, ‘participant observation’ in feminist new materialist ethnography acknowledges the active role that the researcher plays in data generation and can be better described with Barad’s (2007) concept of agential cuts (chapter three, section 3.2.2), where temporary separation in entanglements are enacted so observations can be made and knowledge can be acquired (Hickey-Moody, 2020), but the researcher is still entangled within larger assemblages.

As a researcher, I was entangled with the concepts and perceptions associated with the terms ‘PhD’ and ‘researcher’, terms and identities that were further enhanced through the information sheets, consent forms, notebooks, and observant eyes. There was potential for concern from the ECE practitioners as such concepts are also entrenched with perceptions of authority, which could trouble those who work in a sector which is often undervalued (Basford, 2019). However, I was, at one time, also an ECE practitioner and, as Barad (2007, p. 181) highlights, “The past matters as does the future, but the past is never left behind, never finished once and for all, and the future is not what will come to be in an unfolding of the present movement; rather the past and the future are enfolded participants in matter’s iterative becoming”. I was/am/will be entwined in what it is to be an ECE practitioner. As such, I decided to share with the practitioners that I had worked in ECE prior to being a PhD research student. By doing this, I was often included in friendly conversations rather than seen as strictly an ‘outsider’. In terms of the infants and young children, building relationships required more effort and patience. It is not unusual for infants and young children to be wary of, or conversely overly interested in, strangers (LoBue & Adolph, 2019). However, I was not completely unfamiliar or unusual as I shared traits with the practitioners in terms of being a white woman, aged between 19 and 40 years old. However, as noted, the knowledge, skills, and experience I

acquired through my ten years in the ECE sector form part of my identity as a person and researcher. Being within the infants' space and engaging with them was, therefore, familiar. Most of the infants initially grew curious and eventually were (seemingly) unphased by my presence, even sharing toys with me and sitting themselves on my lap.

The older children were far more curious about who I was and what I was doing at their nursery. They showed a level of fascination at the novelty of a new person in their space. I was often invited into play scenarios where I was able to share experiences. Such moments of data generation were recorded using multiple pocket-sized notebooks and a pen. The agentic power of the notebook and pen were clear throughout the research. The children were drawn in, as curious about the objects as they were about me. There was a novelty in the notebook and pen as digital tablets replaced notebooks and pens in practitioners' pedagogical observations. The notebook and pen intra-acted with children and produced drawings (see figures 2 and 3 for examples), experiences, and contact with a time before digital tablets, a time when I was an ECE practitioners, and all pedagogical observations were taken with ink and paper. The past and the present forever entangled.

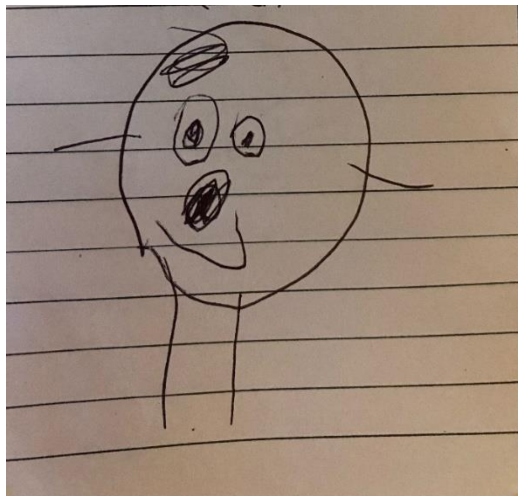

Figure 2: *"a picture of you" by Ivy (girl, 4)*

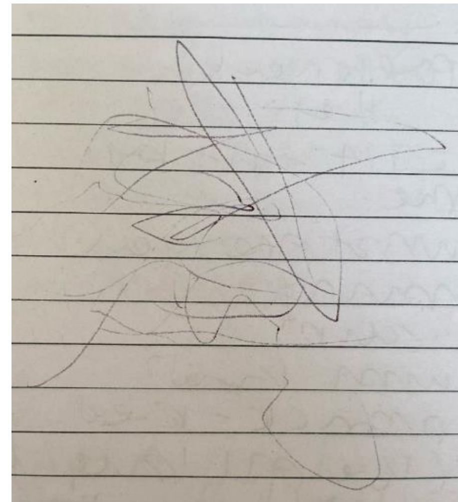

Figure 3: *"Forest" by Frankie (girl, 1)*

4.5.4 Time and space

Feminist new materialism focuses on aspects of the more-than-human world, including the impact of time and space on how phenomena are produced (Quinones, Li, & Ridgway, 2021). Time and space construct how ECE settings operate, such as through routines which

regulate the day, how the spaces are designed to encourage development, learning, and even to regulate how rooms can limit movement (e.g., toddlers running through the rooms). This point will be revisited through the analysis in chapter five. Time and space are, therefore, hugely influential on how the day is experienced in an ECE setting (Collins, Jones, & Tonge, 2022). Hill Day Nursery and Bunnies Nursery (sites one and two) organised the infants and children according to age, across three rooms (see section 4.3.2). This meant that I could not observe the whole nursery in action at one time. Rather, I had to consider when would be the most effective time to place myself in each space so that I could observe the events of the day. Of course, it was not possible to observe everything that happened all the time, rather I looked at the infants and young children who were participating in the research and I placed myself within the rooms at the time when most of the research participants were in attendance. However, I was also conscious of the role that time played in how and when I moved between spaces. For example, it was not practical to enter the baby rooms during mealtimes as it was distracting for the infants. Therefore, I would ensure that I was in the room before mealtimes began or once they had finished. The spaces and the routine, then, influenced how and when I engaged in research activities, therefore shaping which moments I was able to share in with the infants, young children, and practitioners. Despite this, a large data set was generated due to the use of a semi-longitudinal ethnographic approach which allows for the generation of thick data sets (Geertz, 1973).

Burroughs Nursey School (site three) was set out slightly differently in that the spaces were accessed by all children (see section 4.3.3). This meant that I was able to move through the spaces with the children. Similarly, to how I approached observation at sites one and two, I engaged in research activities on days when the majority of the participating children were in attendance. This meant that there were fewer limitations on what I could include in my fieldnotes, as I ensured that I respected non-participation across the sites. In some ways it was easier to observe the children at Burroughs Nursery School because they all typically shared one space. However, it meant that there were many more children to observe than in the smaller, aged-based room such as those at sites one and two.

Time and space, therefore, were key in producing phenomena through intra-action with the human participants. The ECE settings were filled with movement with/in time and space that highlighted interwoven networks of dynamic shifting phenomena. Higgins (2023) suggests that phenomena are simultaneously a moment and movement in their co-

constitution through constant entwined intra-actions. As such, the time, space, and the movement with/in it were taken seriously. From a feminist new materialist perspective, the moments, or events, experienced and observed within the ECE settings can be viewed as ongoing and emergent, rather than as in a state of progression (Lenz-Taguchi, 2010). Therefore, from a post-qualitative methodological perspective, time and space are not fleeting and separate, rather they are connected and affective. They are influential and agentic, contributing to the current research. Chapter five considers the role of time and space through data analysis.

4.5.4 Practitioner interviews/conversations

As noted in section 4.2, I started the research with a plan of what methods I would use and how I would use them. However, being open to uncertainty meant that I needed to follow the occurrences within the complexity of the ECE settings. Therefore, the way I had initially planned to conduct interviews with practitioners did not work (nor were such fixed ideas in keeping with the feminist new materialist theoretical framework). Reconfiguring the interviews was thus necessarily on multiple levels. St. Pierre, Jackson, and Mazzei (2016, p. 105) argue that this requires “a re-imagining of what method might do, rather than what it is or how to do it”. Rather than being fixated with what an interview is ‘supposed’ to be, the interviews became conversations that had the potential to become a moment of sharing, where experience and their entanglement with social, cultural, and political contexts, and the research itself (McKibbon, 2024) could be accounted for.

The practitioner conversations were short, casual and took no longer than 15 minutes. The conversations took place with volunteering practitioners at times during their working day that was convenient for them. At site one, I was able to converse with the manager briefly during the first research block when she had some spare time. The rest of the conversations, of which there were a further three, took place at the end of the second research block when there was a quiet day. The baby room had been ‘shut’ due to low attendance, whereby the infants that were present spent the day in the toddler room. Therefore, the baby room was quiet and still. At site two, the practitioners worked in shifts with some of them starting work at 7:15am, where they prepared the nursery for the arrival of children at 7:30am. I was able to converse with two practitioners during this time. Three other practitioner conversations took place at site two, one took place in the manager’s office, the others in the very small,

staff room during a quiet afternoon when the number of children in attendance was low. Finally, site three tended to have more practitioners than were required to meet that statutory child to adult ratios (see chapter one, section 1.3). This meant I was able to converse with three practitioners during an afternoon, utilising the Montessori classroom which was not open to the children at that time.

All practitioner conversations were recorded using an electronic audio recording device, which was then transcribed verbatim. The audio recording device's agentic capacity was influential in how the conversation data were generated. During other moments of conversing with practitioners, they were all confident and articulate in expressing their views. However, when conversing in the presence of the audio recording device, the practitioners' confidence, articulation, and even tone of voice was changed, i.e., there was a sense of social-desirability bias (Bergen & Labonté, 2020), whereby the practitioners' appeared to be attempting to give the 'right' answer. However, as the recorded conversations progressed, most of the practitioners relaxed and seemed to talk more freely, where others remained tense. One of the practitioners was undertaking a level three qualification (see chapter one, section 1.3), which required that an assessor would come out to the setting and talk with her about her practice. This practitioner expressed to me that being recorded for the current research made her feel the same as when she was being assessed as part of her qualification. I reassured her that the conversation was to gauge her opinion and not to judge or assess her answers. However, Vähäsantanen and Saarinen (2013) point out that due to the nature of the researcher/interviewer being responsible for determining the questions and topic, power can be viewed as being held by the researcher. Along with the perspective authority based on my position as PhD researcher. Therefore, I focused on the conversations being informal and largely unstructured. I aimed for a conversational flow rather than having a structured set of questions.

4.6 Analysis

4.6.1 Diffractive analysis

Diffraction, taken from the concept of diffractive interference patterns of waves from quantum physics (see chapter three, section 3.2.2), is described as a force and movement that is "part of the productions, performances and phenomena created in the processes of intra-actions in between different matter" (Lenz-Taguchi, 2010, p. 44). As Haraway (1992, p. 300)

described it, diffractive methodology (and/or analysis) is a mapping of the effects of difference. Diffraction allows for moving away from reflection and representation in data generation and analysis (Truman, 2020). Rather, it highlights the importance of recognising the impact of the apparatus (for example, the researcher, notebook, pen, audio recorder) which is/are entangled in moments of observation. This also challenges dualisms. There is no separation between the *researcher* and the *researched*, human and more-than-human. Rather, for Haraway (1992), the concept of diffraction draws focus to differences that make a difference. In other words, diffraction is a method for mapping the ways in which differences appear (Fox & Alldred, 2023). For Barad (2007, 2011), diffractive analysis allows for the reading of data through multiple mediums, such as personal experiences, multiple disciplines and literature, and even other data. This then provides a method of analysis which accounts for the entanglements and differences between and within the social and material worlds (Fox & Alldred, 2023).

Thinking diffractively means that simply producing much of the same in research can be avoided (Geerts & van der Tuin, 2016). That is because the notion of being *reflective*, where something is mirrored back, is replaced by the concept of *diffraction* which puts difference at the forefront of data analysis (Moxnes & Osgood, 2018). Diffractive analysis allows for reconfiguration of entities as perpetually entangled, without clear and distinct boundaries (Barad, 2008). Agential cuts (Barad, 2007) are produced through observation which allows for a temporary cut to exists just long enough for knowledge to be produced (Hickey-Moody, 2020). Therefore, the acts of observation throughout the current research produce agential cuts as part of how knowledge is produced and, therefore, analysed diffractively. "Diffractive analysis as an embodied engagement with the materiality of research data: a becoming-with the data as researcher" (Lenz-Taguchi, 2012, p. 265). This embodied, post-qualitative approach to data analysis does not aim to reflect the human world, rather it aims to shift focus onto the potentiality of research when the material world is taken seriously, which produces new ways of thinking and living (St. Pierre, 2020).

4.7 Further considerations

4.7.1 Covid-19

The outbreak of the Covid-19 pandemic in 2020 had a sizeable and extended impact on society, including children (Walton, 2021), frontline workers (Osgood & Andersen, 2022), and,

therefore, ECE. The fieldwork took place between the end of 2021 and 2022. The impact of Covid-19 was particularly tangible in ECE settings such as it was recognised that young children might aid the spread of the virus (Cox, 2023). I had to ensure that I had given attention to the risks associated with carrying out in-person fieldwork as part of this research during this challenging time. Each of the field sites' gatekeepers were happy for me to go ahead with the fieldwork. To reduce the risk of spreading and contracting the Covid-19 virus, I made sure that I did not attend the sites if I had been exposed to the virus, and I would leave the setting or not attend if there was a Covid-19 outbreak. Such events did occur during my fieldwork which were at times frustrating. However, it is recognised that, although at the time it felt frustrating, it was a privilege to stay at home during outbreak of Covid-19 at the settings. A privilege that the practitioners and the children did not have. Health and safety protocols at the time required me to do this. For the purposes of the research, it was an appropriate cause of action. Covid-19 is addressed later in chapter eight, section 8.6, where it is considered through a feminist new materialist lens.

4.7.2 Making the familiar strange

'Making the familiar strange' (Mills, 1959) is a phrase that is steeped within the foundations of traditional ethnography (Allan, 2018). This was of relevance as I was researching within a sector which I had been involved with since I was a teenager. ECE was more than just familiar, being an ECE practitioner had become part of my identity. I had initially thought that researching within a sector so familiar to myself would be easy; that I would already 'know' so much about how ECE settings operate that it could only aid me in my fieldwork. I realised during the initial fieldwork sessions that this had been a rather naive perspective. Instead of my knowledge of the sector making the research easy, it brought forth an array of unexpected challenges. Firstly, the presumption that I already 'knew it all' meant that I was drawn to assessing how the practitioners were engaged in practice. I initially found it difficult not to focus on what sometimes seemed like 'bad practice'. However, I realised quickly that this was not my role. I was not there to judge or make assumptions, I was there to observe, record and analyse. Cooke, Press, and Wong (2020) also described the tension between roles as they negotiated the change from practitioner to researcher. They described how their experience brought attention to the impact the researcher has on data generation. This also highlights the importance of the considering Haraway's (1988) concept of situated

knowledges, as I was coming to the research with certain experiences and knowledges which would, undoubtedly, influence my engagement with the research sites, participants, and the analysis. Taking account of this makes for more response-able research, where the role of the researcher is embedded in the research instead of attempting to portray complete objectivity.

Secondly, there were times when the practitioners would ask me to help with duties unrelated to my role as a researcher, such as supporting an ECE activity or to read to the children while they prepared the room for mealtimes, likely a consequence of the practitioners being aware of my ECE background. They had incorrectly concluded that I would be able to 'help out' when needed. However, I was not at the settings as a practitioner and therefore, it was not appropriate for me to participate by being responsible for children or being assumed to be included in their adult-to-child ratios. I recall feelings of awkwardness in such moments. I had many conflicting feelings, particularly at the beginning of my fieldwork, where I felt empathetic regarding the pressures and stresses of the everyday experience of the ECE practitioner working in a setting. This made me feel a sense of guilt about 'sitting back' and not stepping in when help was needed, I also felt moments of social pressure, where I felt I would be looked on unfavourably by not joining in with practitioner activities.

Finally, 'making the familiar strange' can also be applied at a feminist new materialist level. Traditional and conventional research is steeped in positivist notions, which had consumed much of the academic learning I had experienced leading up to undertaking my PhD. Therefore, I had to rework and reconfigure what I understood research to be in the context of posthumanist, post-qualitative research. It looks like research, it feels like research, but it was new (to me). As such, my knowledge and understanding (the familiar) had to be *made strange* to allow for adventures beyond humanist conventions. Feminist new materialist research requires a willingness to rethink the place of the human as part of the material world, not exceptional to it and how they come into being together (Bennett, 2010). Conventional research aims to make meaning and create complete, tidy research findings, where post-qualitative research perceives research as part of a world-becoming and ongoing (Higgins, 2023). As such, *making the familiar strange* transcends beyond my own human intentionality, and reaches out and connects with all aspects of my becoming-researcher.

4.8 Conclusion

This chapter has detailed the methodology which underpins the research presented in the thesis. It began by describing the process of designing the research. Drawing on a feminist new materialism allowed me to acknowledge my place as embedded within the research. The methodology of this research is influence by my own life experiences of working in ECE, which meant that the way that I engaged with the infants, children, practitioners, and the environment was informed by my own professional knowledge and skills. The chapter then discussed the participants. The human participants for the research included those who frequented the setting. This included the infants, young children, and practitioners. The chapter laid out in detail each of the ECE environments, which in themselves were more-than-human participants. Each of the settings have similarities as well as characteristics which make them unique. As such, in line with data protection and ethical research guidelines (British Educational Research Association/BERA, 2019), the research findings do not refer directly to a specific ECE setting within the analysis. This is to protect the identity of the participants. This is also because the data was analysed as one data set. The methods used to generate data are also detailed in this chapter. They provide an illustration of the approach to data generation and the tools involved. Finally, the chapter discussed the ways in which the data was analysed. This chapter then sets up the analytical chapters by explaining and justifying how and why this methodology was chosen. The next chapter will consider the role of time and space in how gender in produced in ECE.

5. Chapter Five: Time, Space, and Gender

5.1 Introduction

This chapter, along with the following two chapters, presents findings and analysis from the current research. Chapter four, section 4.3.2 provided a detailed description of the ECE settings who participated in the research. This first analysis chapter explores time and space in ECE. As it will be articulated throughout this chapter, the temporal aspects of ECE are central to how the settings operate. The daily routine is powerful in its control of the human and more-than-human entities in the ECE spaces, likely because of the developmental importance placed on routine for young children (Selman & Dilworth-Bart, 2023). The routine is similar across the three sites and determines when the children arrive, eat, sleep, play outside, tidy up, and go home. Such events *are* the temporality of ECE (Farquhar, 2016). The structure and routine of the day, which was repetitive in that it was the same every day, added to the feeling of monotony which is the reality of working in ECE. The routine regulated lives while also providing a sense of time for those who have not yet learned how to read the hands of the big round clocks. These hung from the walls of the rooms throughout the settings, providing a contact temporal reference point for the practitioners and a learning opportunity for children. Space was also a structuring factor within the settings. There was ongoing consideration from the practitioners regarding how to best set up the rooms to maximise the opportunities for children to play and explore. This also ensured that the children were in clear view of the practitioners and could, therefore, always be regulated. Strategic placement of furniture prevented the toddlers from running up and down the rooms, to prevent harm and contain disruption. The materiality, temporality, and spatiality (of the ECE setting) is therefore co-constituted.

Infants and young children moved between rooms according to their age. Thus, as time moved forward, so did the infant or young children's physical journey through the rooms of their nursery. Space, as this chapter demonstrates, therefore plays an important role in how ECE comes into being. Time and space intra-act with the human and more-than-human bodies in the ECE environments and contribute to the material-discursive ways in which gender materialises (Prioletta & Davies, 2022).

5.2 Moving through time and space

Time in infancy and early childhood is wrapped up in the developmental view of the child in ECE discourse (see chapter two, section 2.2.2), where linear progression is positioned as the norm (Farquhar, 2016). This is evident in the ECE settings as the infants and young children progressed through rooms according to their age, with the expectation that they will meet certain developmental milestones at around the same age as their peers (with measures put into place to support those who have additional needs) (Watson, 2022). When the current research commenced, there were two infants in the baby room, Elizabeth (girl, 1) and Benjamin (boy, 1) who were nearing the age of two which was when they would be moved up to the toddler room. This section uses data extracts to follow Elizabeth's and Benjamin's journey through their nursery, considering the intra-actions that occurred across time and space in the ECE setting and how these brought concepts of gender into being.

Although not tangible, movement is a fundamental feature of ECE. Human and more-than-human entities are in a constant state of to-ing and fro-ing, coming and going in the ECE spaces. The ECE structure is centred around movement as infant and child bodies are moved, willing or not, between spaces based on their ascension through time or restrictions on spaces (such as child to adult ratios). Toys and objects are also moved, willing or not, between spaces based on human constructs such as appropriateness for the space/time/child. However, the movement of entities was not always based on such structured norms. Rather, some experienced the various spaces of the setting in ways that pushed at the normative boundaries of the constructed 'usual' order. Elizabeth and Benjamin were two such infants. At the time of the fieldwork, the central government for England provided up to 30 hours of funding for children from three-years-old, and up to 15 hours for some two-year-olds (chapter one, section 1.3.1). However, this funding was only available to cover 38 weeks of the year (the number of weeks in the academic year) (Education & Skills Funding Agency, 2023), meaning that ECE settings had the option for all the funded hours to be spread over the whole year (resulting in less hours per week for the child to attend) or to charge parents for their child's attendance during school holidays. Elizabeth and Benjamin's setting did the latter. Therefore, during the summer holidays there were far fewer children in attendance than usual (11 rather than 60 children on average, per day). This meant that it was more cost effective to close the toddler room and leave only the preschool room and baby room operational during these weeks. This happened to coincide with Elizabeth and Benjamin's second birthdays, meaning

they were deemed too old to remain in the baby room and were subsequently, and temporarily, moved up to the preschool room. The following data extracts and analysis consider the ways that time, space, and the human and more-than-human entities intra-act to (re)produce gender.

Fieldnotes: 22nd January 2022: Baby room

> *After snack time, the infants are free to explore the open space of the baby room. Elizabeth (girl, 1), although she can walk, crawls over to the wicker basket which rests on the carpeted side of the room. She looks inside then reaches her right hand in and pulls out a piece of purple netted fabric and sits herself on her bottom. Elizabeth takes the fabric in each hand and holds it across her face, so it is covering her eyes, and she waits. Penny (female practitioner) notices and says, "Oh* [laughs], *where's Elizabeth?". Elizabeth then pulls the fabric down, looks around the room to meet Penny's eyes and when she does, she smiles. Penny excited says, "There she is!". Elizabeth then holds the fabric over her eyes again then rapidly pulls it down, this time her eyes meet mine and I say "Peek-a-boo" and Elizabeth smiles at me. Penny, tending to the third infant in the room who has just woken up, sits on the carpet, she is on the opposite side of the room to me, but close to Elizabeth. Benjamin (boy, 1) walks over to Elizabeth as she puts the fabric over her eyes again. Benjamin, who is standing up, reaches out and grasps the fabric which is concealing Elizabeth's face, and he pulls it away from her. Penny says "Oh no, that's Elizabeth's. Here's one for you". Penny takes the purple netted fabric and hands it back to Elizabeth (who is silently watching on) as she hands a square of pink netted fabric to Benjamin. Benjamin takes it from Penny and puts it on his head.*

The agentic power of the purple fabric is evident as faces and hands intra-act. This intra-action brought into being moments of socially meaningful learning and power. From a developmental perspective, the game 'peek-a-boo' is suggested to contribute to infants' learning of object permanence (Seland, 2015). However, this developmental view misses the importance of that which conceals the eyes. In the case of Elizabeth, this was the purple fabric. The purple fabric makes the learning possible. The purple fabric contributed to the way that the power dynamics in the room were formed as it drew attention from Penny, the adult professional care-provider. The purple fabric brought generational and gendered power relations into being as Elizabeth, Benjamin, and Penny intra-acted. This (re)produced gendered ways of being - submissive/girl and dominant/boy - and the power of adults to structure infants' ways of being through prescribed developmental and gender norms.

Lenz-Taguchi (2010, p. 25) comments “Power is produced and performed by all of us-collectively-in every little thing we do”. Therefore, on the surface it may seem as though Benjamin had the power in the moment described above, however; it was the intra-action between the human and more-than-human entities that co-produced the power which followed the purple fabric. As such, it could be argued that the material world influences and transforms the way that children play (Procter & Hackett, 2017). There is an expectation that girls will behave ‘well’, and boys will push back against the rules (Wingrave, 2018). However, to ascribe such normative assumptions to the occurrence between the purple fabric, Elizbeth, and Penny would be reductive. Rather, drawing on Bennett’s (2010) concept of vital materialism, it is possible to acknowledge and take seriously the agentic capacity of the more-than-human (the purple fabric) in the co-constitution of how power and gender norms come into being in the baby room. There were many objects in the baby room that contributed to such networks of gender production. This included dolls, books, wooden blocks, playdough, and plastic animals. These objects were hugged, thrown, kicked, kissed, snatched, and pulled. These intra-actions co-created a culture in this particular space (i.e., the baby room) as power shifted between vital materials (Bennett, 2010) and infants, towards Benjamin and away from Elizabeth.

Part of this entangled network was also sound and silence. This baby room, at this particular time was a large and open space which seemed to carry the loud screams, cries, laughter, and shouting of words from Benjamin. It was almost impossible to avoid the sound of Benjamin’s voice or the sound of the objects which flew from his hands and crashed onto the floor. Benjamin, a small one year old infant was able to fill the entire space with his presence. Elizabeth, on the other hand, was relatively silent. She played largely by herself, exploring the objects in the room. When she did make verbalisations, they were generally quiet. Hackett and Somerville (2017) discuss the interconnectedness of sound and movement. They suggest staying with movement to find out what else gets produced. Movement produced sound *and silence* in the baby room. As infant and more-than-human bodies moved throughout the room, sound was ever-present. There was the crashing of objects hitting the floor, clicks of buttons on interactive toys with caused tunes to be played, stamping of little feet across the floor, screeches, cries, giggles of little high-pitched voices. Sound filled the large square space but the feeling of calmness (in comparison to the other rooms) made the room feel almost quiet. The space itself, therefore, had the capacity to affect while also being

affected by the human and more-than-humans in the room. That is, the walls and floors of the baby room *became* the baby room through intra-actions with the vital materials that made up the baby room (such as sensory toys and behavioural codes of conduct) and the infants who spent their time in this space.

How the moments came to be in the room were also affected by me as the researcher. The presence of the researcher in the researched environment is like a pebble being dropped into a pond, causing ripples to spread out and diffract around objects on (and below) the water's surface. My presence disrupted the normalcy of the room as moments of intra-action spread across the room, instigating diffraction of the material world. This is part of what Barad and Gandorfer (2021) term 'thinking *matterphorically*', where meaning is articulated through its interconnectedness with matter (Gandorfer & Ayub, 2021). That is, thinking with diffraction brings about meaning through its entanglement with the materiality of the baby room. During my first visit to the baby room, this produced silence and curiosity. A plastic ball flew across the room followed by the sound of laughter expressed by Elizabeth while Benjamin looked on in silence. With each visit to the baby room my effect on the space became less and less novel. The dynamics in the room thus evolved. The materiality of the events in the baby room during my initial visits produced meaning in terms of what gets produced through the disruption of the typical daily routine (i.e., the presence of a researcher).

Aslanian (2023) describes a method of a *doing nothing.* That is, by not looking for data it surfaces via its own agential capacities. This was the case in the baby room. My presence in the room and acknowledgment of how I was affected by and affecting this environment, enabled the genderedness of the space to become apparent. At one years old, there was already normative gendered behaviours being expressed by Elizabeth and Benjamin which were reinforced by the practitioners and the toys provided to them. For example, Penny rarely challenged Benjamin's domineering behaviour directed toward Elizabeth. In response, the silence from both Penny and Elizabeth served to reinforce and normalise Benjamin's assertive, attention seeking and sometimes aggressive behaviour. The dominant cultural norm is that children *just* play in gendered ways, epitomised by sayings such as by suggesting that *boys will be boys* (Callahan & Nicholas, 2019). This legitimises aggression towards other people, objects, and the environment as a *natural* part of being a boy. The assemblage of sound, space, power, and gender normative expectations thus contributed to how gender was being reproduced in the baby room.

As previously mentioned, (see chapter four, section 4.3.2), the baby rooms were for infants from three months to two years old. Therefore, once a child turned two years of age, they were 'moved up' to the toddler room. Elizabeth and Benjamin were only two months apart in age, therefore they 'moved up' at the same time. However, because of the summer closure of the toddler room, Elizabeth and Benjamin moved from the baby room to preschool room (for three- and four-year-olds). The preschool room was markedly different to the baby room. It was set-up to produce a sense of formality and school-like expectations. The multiple tables, the bigger (but still small) chairs, the activities and toys, and the sensorial experiences of being in the preschool room encouraged a sense of difference via the spatial environment, human and non-human matter, and the behavioural codes that followed children as they 'moved up' into this space.

Fieldnotes: *11th August 2022: preschool room*

Martina (female practitioner) is sat in front of a rug on a child-sized chair. Once all the children have made their way over to the rug, which is by the back door, they are told to sit down and cross their legs. Martina calls the register, and all children are expected to say "yes" in response to hearing their name. Elizabeth (girl, 2) and Benjamin (boy, 2) have only recently been moved out of the baby room. This is a very different experience. In the baby room, their interests and needs are followed, and the routine and activities are shaped around their needs and interests. Now, they are expected to sit for an extended period, in a specific position while being still and quiet. First, Martina updates the 'day, week, and month' board with the children, which also includes seasons. Elizabeth and Benjamin look around the room, quietly babbling to themselves. They put their hands in their mouths and look at the other children. All the preschool children join in with Martina as they actively watch and listen. Next is a story. Once again, the preschool children join in with the key words – this is clearly a familiar book. Elizabeth and Benjamin, however, look from the book to the floor, to the wall, across the room while twiddling their fingers, stretching and retracting their legs, and scraping shoes across the floor. Elizabeth, while looking at the book with the fingers from her right hand curled up in her mouth, stretches her body upwards and makes a loud vocalisation. "Elizabeth!" Martina says in a firm and slightly raised voice. Elizabeth's posture sinks slightly as she quietly looks at the book in Martina's hands. The long story draws on and the other slightly older toddlers and younger preschool children (all between the age of 2 and 3) become filled with movement. There's

yawning, tapping fingers and toes, fingers go in ears and mouths, bodies twist, bottoms shuffle. Chatter begins to slowly erupt from the younger children. Elizabeth looks around the room and then to the other, wiggly children, and she begins to make repeated loud vocalisations. Martina stops reading, looks at Elizabeth and puts her right index finger to her lips and says "Shh!", signifying that Elizabeth should be quiet. The long story goes on.

These fieldnotes demonstrate how a movement in time and space (that is moving from the baby room because they have had their second birthday) had implications for Elizabeth's and Benjamin's experiences. In the baby room, movement is encouraged as developmental milestones for infants include learning to walk, crawl, and gain control of their bodies (Department for Education, 2023a). They are praised for their multisensory exploration of objects, textures, tastes, smells, and sounds. However, for Elizabeth and Benjamin the expectations of their bodies changed in the sudden move from the baby room to the preschool room. Where their small bodies were free, only constrained by their physical development, they became regulated by the rules and expectations usually associated with the perceived physical and cognitive skills of three- and four-year-old children and the linear (developmental) ascension through rooms (Farquhar, 2016). Here, in the preschool room, time governs. The nursery routine takes precedence over most things. In the moment depicted above, it is group time. Lenz-Taguchi (2010, p. 5) discusses how sitting "in a specific space with specific other human and non-human organisms and matter will regulate how and what we might say or do, or not say or do". Time (group time/length of time it takes to read the story), space (sitting on the rug by the back door), the more-than-human entities (rug, chair, book, sound, expectations) and human entities (practitioner and children) are interconnected in this moment which produces rules and the policing of bodies. The rules and expectations in the preschool room only became apparent when they were 'broken' and/or challenged. The act of 'shh-ing' evolves the intra-action by embedding gender normative expectations. *Girls are quiet and sit nicely.*

The nursery routine is generally introduced in the toddler room, which had not yet been part of Elizabeth and Benjamin's nursery experience. For Elizabeth and Benjamin, the rules which they are familiar with held no relevance in this moment. Rather, a new set of rules were to be learned through time (group time), space (the rug), and adult expectations (to sit still and be quiet). It is evident that there are many factors which contribute to how Elizabeth and

Benjamin experience gender and social norms, all of which are connected through a web of ever changing and evolving more-than-human entities.

Within ECE, there is often emphasis on teaching young children to be polite (Mina, 2023). Stillness during times of sitting and listening contributes to this as such stillness is considered to be a form of 'good' behaviour (Bone, 2019a). Such values likely informed Martina's expectations around the children prioritising her moment of teaching over their physical comfort and cognitive understanding. This extract, then, describes a moment where bodies, matter, and values, and infant and adult bodies converge within the nursery routine and the preschool room. Bennett (2010, p. 24) comments that such assemblages are always changing and uneven "so power is not distributed equally across its surface. Assemblages are not governed by any central head: no one materiality or type of material has sufficient competence to determine consistently the trajectory or impact of the group". Bennett (2010) takes seriously the vibrant materiality of the more-than-human world and recognises that power can be in flux. From this perspective, the power from the materiality of 'group time' can be acknowledged. Although the power *appears* to lie with Martina, as an adult 'in charge', the book and the rug also have power in the moment. The book demands silence so it's words can be heard and the rug's significance, '*where group time takes place*', demands stillness. It is the intra-action between these entities which produce the expectations associated with group time. However, such values and expectations around stillness and listening seemed to be directed towards girls (in this instance Elizabeth) and not boys (like Benjamin). In the preschool room the girls tended to know the rules and expectations, and they would generally adhere to them. For instance, there was a moment where Ivy (girl, 4) told me that I was not supposed to stand up when I was writing (fieldnotes in my notebook), and Karolina (girl, 3) told me that another child (a boy) was breaking the rules by looking in the cupboard under the sink. Challenging of these rules by the girls appeared to be conducted out of sight of the practitioners. Section 5.3 will discuss the role that space plays in challenging normative assumptions.

For Elizabeth and Benjamin, the preschool room was an unfamiliar space, different from the baby room. There was a subtle manifestation of gender in the baby room which, although contributed to the infants' early construction of their own identity and gendering of bodies and objects. However, such concepts did not obviously segregate infants into clear-cut binary groupings (i.e., girl or boy). Many of the preschool girls had already learned the socially

accepted ways to perform gender as by age four children have already begun to examine how they present themselves in relation to others (Black-Delfin, 2020). For Elizabeth, she had to first understand what the expectations of her were. This provides a glimpse into the beginnings of social conformity, where peers (and arguably the material world) are key contributors to the gendering of young children (Xiao et al., 2019). The interconnectedness of worldly practices can reveal the different ways that children are entwined within the relational situations which are in constant co-constitution in ECE (Osgood, 2020).

The Statutory Framework for the Early Years Foundation Stage (DfE, 2023, p. 7) states that "[children's] experiences in early years have a major impact on their future life chances" and "Children learn and develop well in enabling environments with teaching and support from adults, who respond to their individual interests and needs and help them to build their learning over time." The importance placed on children's becomings with their environment and the practitioners is therefore seen as crucial. However, there is muddled complexity across the becomings in the ECE spaces. The Statutory Framework is tightly entangled with the practices and design of the spaces in ECE settings, but constraints of time and funds are also embedded in this assemblage. This impacts the materiality of the settings and the intra-actions that produce different ways of being and becoming in sometimes unexpected ways. "Pedagogical practices and the use of matter in such practices- are not external to one another; rather, the material and the discursive are mutually implicated in the dynamics of intra-activity" (Lenz-Taguchi, 2010, p. 144). Pedagogical practices like group time are inalienable from the human and more-than-human entities which co-constitute group time and bring it into being. These provide opportunities for and disruptions to normative ways of *becoming-preschooler.* That is, preschool children are typically the three- and four-year-olds who attend the ECE setting and who have been ascending through the other rooms (baby and toddler) *en route* to the preschool room. However, the preschool room brings gender into focus. Gender is an entrenched part of the encounters of young children in the ECE setting (Osgood, 2024), and in the preschool room normative gendered understandings are performed by the children. Returning to Elizabeth and Benjamin on the carpet, their presence in this (preschool) moment disrupted the embedded gender norms which had been normalised. Rather than sitting 'nicely' and following/knowing the rules, Elizabeth's making of sound and movement momentarily unsettled the accepted, normalised behaviour of the rule-abiding preschool girl. Although Martina's response seemed to attempt to re-normalise the

moment, potentially reproducing gender norms, Elizabeth's disruption forged a new way of being in that moment.

As their time progressed in the preschool room, Benjamin found his friendship group in the younger preschool girls. He was accepted as part of their group. The power he seemed to hold in the baby room, however, had been significantly weakened. The older boys in the preschool room were now the producers of loud sounds, physical movement, and aggression. Benjamin's small stature could not challenge them, and he did not try to. The older preschool girl group featured Benjamin's older sister; he was therefore largely excluded. Adaline viewed her younger brother as "a baby" and "annoying". Despite this, Benjamin managed to settle into the room. He blended in as he played with his new friends. Elizabeth, however, did not find connection or a friendship group in the preschool room. Her behaviour in the preschool room mimicked her play in the baby room. She was quiet and explored the various open-ended materials (e.g., dress up jewellery, wooden baskets, and fabric samples) in the preschool room through touch, taste, sound, and sight. She seemed content in her kinship with the more-than-human world. Haraway (2008a) describes all human and more-than-human entities as *communications systems,* whereby "discourses, materials and affects are inseparable" (Hohti & Osgood, 2020, p. 41). Elizabeth's engagement with the materials in the preschool room opened up moments of meaning where potential and properties were discovered (Wohlwend, Chen, & Maltese, 2023).

After the summer, the toddlers who had not attended nursery over the summer holidays had returned and the toddler room was reopened. Elizabeth and Benjamin would now experience a new room and a new set of expectations.

Fieldnotes: *8th September 2022: Toddler room*

I walk out of the baby room and across the central garden to the wooden cabin on my left and enter the toddler room. The toddler room is quiet due to the low number (six) of toddlers in the room. However, there is movement as Melinda (female practitioner) encourages the toddlers to tidy up. She tells me that she is going to do a "little group time" because she feels the toddlers need to get into a routine. Melinda instructs all the toddlers to sit on the carpet while she gets a book. Benjamin (boy, 2) sits down first and shouts "Sing song!". I ask Benjamin what song he will sing "Baa baa sheep!" he says with a grin. The rest of the toddlers sit on the rug alongside Benjamin as Melinda gets a child-sized chair and sits in front of the group. Melinda begins to sing a song in which she says hello to each of the children using their names while she rhythmically waves

her hand from side to side. All the toddlers look up at Melinda and wave their hands too. Benjamin beams a smile as he hears his name and joins with the singing and waving. Next, Melinda reads a story about a tiger. Benjamin looks up at the book as he stretches his legs out in front of him and rests the palms of his hands on his knees. He is quiet and still as he listens to the story. If any of the other toddlers make a noise Delilah (girl, 2) looks at them and loudly says, "Shh!". She is engaged in the story initially, but she grows wiggly as she slowly lays herself down so that her face is on the rug. Melinda pauses the story to tell Delilah, with humour in her voice, "It's not bedtime. It's time to sit up". Delilah laughs as she sits herself back up. Elizabeth (girl, 2) has her right leg stretched out in front of her and her left leg bent so that the bottom of her left shoe is pressed up against the inner thigh of her right leg. She runs her fingers from both hands over her left shoe, then stretches her right leg out too and twiddles her fingers in her lap, then rubs her elbows. Although she is constantly moving, her gaze remains on the book.

The temporality of the nursery routine was less strict in the toddler room than it was in the preschool room. Group time, a recurring feature of the routine across the ECE setting, was experienced through expressions of joy and laughter (Quinones et al., 2021). The toddlers sat on the rug, their wiggly bodies free to explore orientation and movement. The freedom and autonomy they had over their bodies seemed to ignite the capacity to concentrate their attention on the story. The way that time was experienced during this toddler room group time was also influenced by the institutional understandings of this specific space (Farquhar, 2016). In the toddler room, the children were expected to behave in ways which are considered stereotypically toddler-like. For example, they are expected to have lots of energy and show high emotional responses towards other people and objects (Fincham, 2022). Like the preschool room, routine governed the day in the toddler room, but the toddler room had a feeling of flexibility and fluidity that was not so apparent in the preschool room. However, the events in the toddler room were brought into being through intra-action which produced possibilities in the moment. Thinking diffractively, Barad (2014, p. 168) argues that "there is no moving beyond, no leaving the 'old' behind. There is no absolute boundary between here-now and there-then". While the baby room and the preschool room were seemingly in Elizabeth's and Benjamin's past; the past, present, and future remain interconnected (Barad, 2007), always contributing to how occurrences are propagated. Knowledges of group time informed understandings of expectations. However,

gender was undone in the toddler room. The becomings with/in the toddler room were fraught with aggression, emotion, violence, and caring. However, such performances were not reserved for being a girl or a boy, rather there were many possibilities and different ways if being girl/boy in constant flux within the toddler room. For example, Mindy (girl, 2) would often snatch, push, and shout to get what she wanted. This may not be unexpected behaviour from a toddler; but such *toddler behaviour as the norm* is a notion that can be disrupted through research with young children. Fincham (2022) suggests that the assumptions about toddler's behaviour does not account for how practitioners engage with and teach toddlers. It also does not account for the role of the material world. For example, having one desirable item such as a particularly shiny toy car, may mean that all toddlers want to see, touch, and play with it. Whereas, if there were multiple shiny toy cars there would be less reasons for aggressive or defensive actions from toddlers. Despite this, there seemed to be less hierarchy amongst the children in the toddler room.

Benjamin, perhaps because of his time in the preschool room, seemed to exhibit less aggressive and attention-seeking behaviour, while Elizabeth began challenging the rules. On one occasion during lunch, she dipped her potatoes into her cup of water. When asked to "eat nicely" by Sara (female practitioner). She smiled and then (perhaps defiantly) continued to dip the potato in the water. Such changes in behaviour seen in Elizabeth and Benjamin could be as a result of *becoming toddlers.* However, the toddler room had a wildness to it that seemed to be subtly encouraged by Melinda (female practitioner). The toddlers were often given the space to figure things out for themselves. As such, there were multiple ways of *becoming* through the entanglement of the embodied self, other human bodies, and the material world (Elwick, 2020) that were in constant motion through the chaos and calm of the toddler room.

This section has explored how time and space were not always fixed or linear in the ECE settings. The infants and children were in a constant stage of movement as they journeyed through the rooms based on their age. This contributed to how gender was produced and reproduced because the expectations in each room challenged and contributed to how the infants and young children could make sense of their own and other people's gender. This was through their engagement with practitioners, socio-cultural and institutional expectations, objects, responsibilities, values, and peers. The next section will look at the ways in which

individual spaces in the rooms could provide opportunities for children to engage more closely with themes of gender in their play.

5.3 Out-of-sight: gender and spaces

Fieldnotes: *19th January 2022*

Ivy (girl, 4) and Joey (boy, 3) are in the play kitchen, which is positioned under the wooden platform and is surrounded by small, wooden play kitchen units. In the middle there is a table and chairs. They are sat on the floor between the back wall and the table, out of the sight of the practitioners. Ivy is sat on her bottom with her back against the wall and her legs stretched out in front of her. Joey is to her right, laying on his front with his head next to Ivy's right leg. Ivy strokes Joey's head and leans down sideways to her right to cuddle him. "I love doggies" she says, "Woof, woof, woof", Ivy laughs. Joey pushes himself up using his hands and gets up onto his feet. He walks all the way around the table so that he is on the other side of Ivy, (but still in close proximity to her) and next to the play kitchen unit and he crouches down. Ivy turns her body around to look at Joey and smiles as she says, "Stop being a cheeky doggy". Ivy then picks up a wooden toy wrench from the table and rubs it on Joey's head, "This is an itching thing for dogs" she says. Joey sits back on his knees; he is positioned in the corner with Ivy almost blocking him in. Joey looks at Ivy, who is now on her knees too, facing him. Ivy leans forward and kisses Joey on his cheek. Joey looks at Ivy with confusion as she giggles.

In these fieldnotes, space and the objects are essential in providing the opportunity for *becoming dog.* The queerness of the ECE space is evident in the moment depicted in the extract, where 'queerness' "entails the disruption of an entity by rejecting its categories, binaries, and norms" (Zaman & Andersen-Nathe, 2021, p. 106). The binary of human/animal is disrupted as Joey *becomes dog* through Ivy's projection of desire, concealed by the units which surround the play kitchen. The play kitchen is a space that is largely heteronormative as is conjures images of the nuclear family. However, the children are experts at both reinforcing heteronormativity *and* queering gender and sexuality norms (Taylor & Richardson, 2005). Ivy is made powerful by the hidden space. Ivy spent much of her time attempting to play with the boys, and this will be explored in detail in chapter six, section 6.4.1. The play kitchen's location in the corner of the room by the wall, and under the platform was the perfect space for the children to be *hidden* from the practitioners. Black-Delfin (2020) describes the design of the ECE setting in their research as having some spaces which were *open* (i.e., in full view of the practitioners), and others which were *subversive* (i.e., out-of-sight). Black-Delfin found that

such spaces impacted how the preschool children played, including their own challenging and reinforcing of gender norms in the *subversive* spaces (Black-Delfin, 2020). This can be seen in the play kitchen space in the ECE settings in the current research. When the children were sat on the floor in the play kitchen, they were obscured from view by the table and the units that form the play kitchen. For the practitioners to situate themselves within the play kitchen was impractical as it would mean squeezing their larger bodies into a relatively small space which would be physically taxing as well as limiting the space for children to access. Therefore, this was a largely adult-free un(wo)manned space. This allowed for the queering of gender binaries and human/animal binaries. The conception of childhood innocence results in naïve assumptions about children's play as being free from aggression (Dyer, 2017). However, in the extract above, Ivy holds the power as Joey *becomes dog.* There is transcendence across species in this moment (Taylor & Richardson, 2005), where human exceptionalism is performed by Ivy. She *becomes human/master,* while Joey is positioned as the subordinate dog, who is subjected to a kiss. The space intra-acts with Ivy and Joey to disrupt gender norms and heteronormativity that, without closer examination, is projected by the play kitchen.

Although Ivy's intention when kissing Joey-as-dog cannot be determined, what was clear was that it was an intimate moment where Ivy dominated Joey-as-dog. It was rare that any intimacy between children would take place in front of practitioners or peers within the open spaces of the classrooms. This suggests that the environment itself shapes how and when children engage in such play. As such, Ivy could disrupt the typically observed *boy power* by asserting her own power within the confines of the play kitchen.

The ECE environment can be described as another educator (Lyttleton-Smith, 2019). The materiality of the ECE spaces have the agentic capacity to regulate children's gendered knowledges and subjectivities (Osgood & Robinson, 2019a). The intra-action between Ivy's lips, Joey's cheek, the dog/master concept, and the out-of-sight location of the play kitchen floor, recreates heteronormativity while simultaneously disrupting patriarchal power. Huuki and Renold (2016) suggest that kissing-related games are not necessarily unusual amongst young children, they also found in their own research that it was perpetuated by the boys and entangled with themes of violence. However, within the current research, Ivy is the perpetrator of the kiss and holder of the power. Huuki and Renold's research took place outside in the playground, an open space. While Ivy's kiss took place in the play kitchen under the platform, an out-of-sight space. As such, the hidden space may have provided shelter for

the children to incorporate play themes which might not be considered *acceptable.* We cannot know whether Ivy would have kissed Joey if it were in full view of the practitioners and the other children, where the risks of teasing may have been present. What can be understood from the encounter, is that the spaces created in the ECE environment intra-act with the children's bodies to create new ways of *becoming* gendered, through opportunities to take their play out of the main scrutinised play and learning space (Black-Delfin, 2020).

Fieldnotes: *23rd August 2022*

Jack (boy, 4) walks down the steps of the platform holding a small, lined piece of card. He shows it to me and says "Look!" with smile on his face. I say, "It's like mine!" holding up my notebook, which is also lined. Jack turns and walks back up the step and sits on a blue cushion on the platform. He is facing inward towards the wall with his back to the room. He picks up a pencil from the floor of the platform and begins mark making on the lined paper. He is quiet and focused. Meanwhile, also on the platform, Ivy (girl, 4) stands while Nate (boy, 4) and Joey (boy, 4) sit with their backs against the wall. Nate and Joey look up at Ivy as she loudly and with a gruff voice says, "Sick, sick! Spit, spit, spit, sick!". She is animated as she leans forward and almost towers over Nate, Joey and Jack as they sit. Jack is unperturbed as he focuses on his mark making, while Nate and Joey giggle quietly at Ivy's forbidden words. Ivy then drops down to her knees and picks up a white blanket from the floor and puts it over Jack's head. He pulls it off and firmly tells her, "Stop! I'm doing my writing!". Ivy laughs as she picks up the blanket and shuffles on her knees over to Joey and lays it on his lap. Nate reaches forward and picks up another white blanket and tucks it between his legs. He calls to Jack through giggles, "Look Jack, I got a nappy! I got a nappy on". Jack ignores Nate and continues to look at the paper and his mark making.

This moment took place on top of the wooden platform, around five feet from the ground. Most of the time the practitioners would be sitting on the floor or on child-sized chairs. As such, this rendered the platform relatively out of sight and out of ear shot of practitioners. Typically, Jack was the instigator of all-things silly and comical. However, prior to the children going up to the platform, my notebook and pen had sparked an interesting moment. Jack had sat on the floor next to me in the play kitchen and asked me what I was doing with the notebook. When I told him I was writing a book about the nursery he gasped and said, "I didn't know girls can write!". In this moment I am gendered by Jack and by my

capacity to write. Jack's knowledge of *girl* is brought into focus by the power of the notebook, the pen and the transfer of ink. This is an example of the role of the apparatus (which in this moment was the pen, notebook, and me – the researcher) in how waves of phenomena can be diffracted (Barad, 2007) across sites. When I told Jack that we can indeed write, I offered him my notebook and pen where he proceeded to draw the picture in figure 4. Jack's surprise at my ability as *a girl* to write highlights the culturally loaded ideas that young children can hold regarding what it means to be a girl or a boy, where boys often see girls as *other* and/or *less able* than themselves, something which Prioletta and Davies (2022) term *femmephobia.* The intra-action between Jack, the notebook, pen, and myself seemed to influence Jack and how he chose to play when on the platform (e.g., drawing on lined paper).

While Jack would typically be the one making lots of noise and saying *rude* words, he instead sat quietly and was engaged in writing. The lined paper and pencil assisted Jack in his mimicry of me – *a girl* (according to Jack). Ironically, this behaviour was seen more often from the preschool girls, who Jack characterised as unable to write. The lined paper inspired difference in Jack's approach to play. The notebook's 'thing-power' to affect (Bennett, 2010) opened-up space for Jack and Ivy to *become differently*. While Jack engaged in quiet writing, Ivy, instead, took on the role of instigator-of-silliness all while being concealed by the height of the platform, keeping them placed above the rest of the room. The out-of-sight spaces therefore intra-acted with the children (Black-Delfin, 2020). They co-created moments where gender norms were both upheld and/or challenged. Jack and the rest of the boys would often disrupt the quiet play of the girls, but out-of-sight it was now Ivy who was disrupting Jack in his quiet play. The white blanket which covered heads and bodies became a "nappy", strategically deployed in parodic pejorative sense as a means to distract Jack and to lure him away from the lined paper and pencil. The white blanket, lined paper, pencil, and the wooden platform created the opportunity for the distortion of gender normative play which is typically associated with preschool children. The materiality of the objects and the platform as a play space thus combined to shape gender (Osgood & Robinson, 2019a) by facilitating non-stereotypical multiple ways of *becoming* gendered.

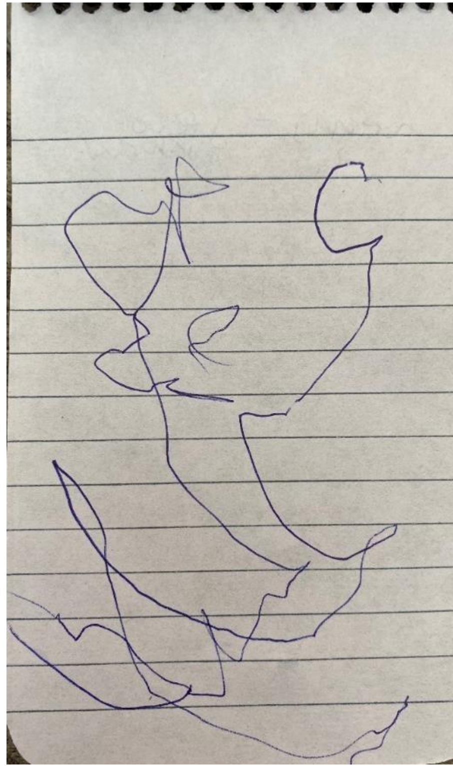

Figure 4: Jack (boy, 4) “A stegosaurus”

The next extract of fieldnotes considers how being *out-of-sight* transcends the physical spaces within the ECE.

***Fieldnotes**: 18th October 2021*

Margot (girl, 3) is quiet. She makes small movements and keeps to herself. She is dressed in a pink jumper and glittery trousers. Margot quietly narrates her own play, sometimes using baby talk rather than recognised words. There is a big black plastic tray in the middle of the room filled with oats. Margot has a look in the tray, she then goes over to the play kitchen and collects a small stack of small plastic plates. She scoops up and places handfuls of oats onto each plate. Margot then collects some small plastic cups from the play kitchen and fills them with oats. There is a table at the back of the room which has nothing on it, so Margot takes each of oat-filled plates and cups over to the table and sets it up as though it were a mealtime. She is careful when carrying each receptacle so as not to spill any oats on the floor. Once Margot has finished setting up the table, she claps her hands together and shouts “Lunch! And, everybody lunch! And, and, preschoolers! Lunch!”. Margot is mimicking the practitioners. Some children seem to respond and sit at the table (all girls). Margot checks on them by putting her hand on their shoulder, leaning her face down to meet theirs and cheerfully saying “Ok?”.

Margot then goes back over to the play kitchen and gets out the frying pan which she takes over to the table where the oats are. She puts some oats in the frying pan and begins stirring. Margot then gets every container, cup and bowl she can find in the kitchen and proceeds to fill them all with oats from the frying pan. The oats thus begin to travel around the room. She uses the filled container to set out more places on the other tables. Margot spends about 30 minutes in total doing this by herself. Suzi (female practitioner) sits herself at the back table where the children have been pretending to eat Margot's 'cooking'. She reaches behind her to get the black plastic tray. Suzi puts it on her lap and begins to pour all the oats from each plate and cup back into the tray. Margot runs over, waving her hands as she frantically tries to communicate that she wants Suzi to stop but she cannot find the language.
She is largely ignored and gives up. Margot walks over to the play kitchen and silently cries to herself.

These fieldnotes demonstrate that to be out-of-sight does not necessarily mean to be concealed by furniture. For Margot, her limited expression of language and her quiet reserved personality rendered her out-of-sight and not seen in a room full of loud, busy children and practitioners. Margot's appearance and engagement with the play and learning environment was typically steeped in gender norms associated with being a girl. She was almost always dressed in pink, purple, or glittery clothing. Pink can seek to gender girlhoods (Osgood & Mohandas, 2020), with *girl* being associated with caring, kindness, and being well-behaved, as performed by Margot in the data extract. The oats are spread across the room and co-create imitative pretend play, where the (gendered) role of the ECE practitioners to provide food to hungry children is re-imaged through the oats. Here, the idea of gender as an ongoing, evolving performance as described by Butler (1990) is apparent. That is, that gender is suggested to be a copy of a copy. The oats became with Margot through expressions of femininity through mimicry of actions and behaviour which are observed in the practitioners. As such, a specific, care-focused expression of femininity is constantly being re-imagined and performed within the spaces of the ECE setting, through intra-actions between roleplay items and children.

The spaces in the ECE environment, typically created by the practitioners (Black-Delfin, 2020) had the capacity, intentionally or not, to reproduce normative, stereotypical ideas about gender (Prioletta & Davies, 2022)**.** Margot demonstrated her reproduction of gender norms and roles in the play kitchen initially uninterrupted by the practitioner. It has been suggested that practitioners have the opportunity to offer a counter narrative when they are involved

with children's play (Brito et al., 2021). However, as mentioned above, the heightened sound and movement in the room had the power to render Margot out-of-sight. The oats connect the children in the preschool room and embed the cultural practices of mealtimes. Conversely, the oats also produced affective forces which become a point of distress for Margot as Suzi (the practitioner) does not *see* Margot's roleplay, rather she sees messiness. The oats, in their rationality with the human and more-than-human entities inspire power dynamics and emotional reactions. They are perceived as being in the incorrect place (I.e., not in the play kitchen), as their power as food projects a requirement to be located within an area where food (real or imaginary) is 'made'. Therefore, the movement of the oats around the room ignites disruption which brings about the practitioner's desire for tidiness and the child's desire to perform their imaginative play.

Out-of-sight spaces co-constituted different forms of gendered play, including intimate and caring moment from boys who were, as the next section demonstrates, typically engaged in aggressive and/or dominant play. This will be revisited in detail in chapter six, section 6.4.2.

5.4 Outdoor open spaces: promoting movement, rule breaking, and gender norms

Fieldnotes*: 3rd February 2022, outside.*

Willow (female practitioner), Adaline (girl, 3) and Ivy (girl, 4) are sat on the grass. They are building with the giant plastic bricks. Nicoleta (girl, 3) is sat next to Ana (female practitioner). They have collected lots of crispy brown leaves and I can hear Ana loudly and slowly counting the leaves, encouraging Nicoleta to join in. I am distracted by the intense high volume coming from Nate (boy, 4), Noah (boy, 4) and Luke (boy, 4). They scream, shout and roar as they run around the garden. It appears that they are pretending to shoot each other. Noah has the blue plastic spade, which he holds by the handle with one hand and his other hands grips it lower down as he points it at Nate and Luke. Luke has found another large, blue plastic spade and he also holds and uses it in the same way as Noah. Nate has a small, thick stick, which he holds with one hand as he pretends to shoot. They shout *"Psssshhh, pssssshhh" as they aim the spades and sticks at each other.*

Willow has stood up and Luke runs over to her. He holds the spade up, aims and pretends to shoot Willow "Psshh, psshh. Willow, you're dead! You're dead Willow", he repeatedly tells her as he waves the spade in her direction. Willow

ignores him as she sits back down, but he is repeatedly shouting "You're dead" at her. Willow then firmly says to Luke "Luke, that's not very nice. Can we use kind words please!". Adaline looks up from her building to ask Willow what Luke had said, and Willow just tells her that "He just said something that wasn't very nice". Luke runs off to continue his gun fight with Nate and Noah.

The main garden is Nate, Noah and Luke's domain; all the girls, younger children and adults are in the right-hand corner either building with bricks, collecting and counting leaves and sticks or in the mud pit where Alfie (boy, 2) is also now playing. Nate, Noah and Luke's gun play has now evolved into Marvel superhero play. The boys stand in one spot, but they are by no means stationary. They wiggle, shuffle, move closer to each other, move away from each other. They all speak solely in shouts which makes it sound like they are arguing, but they aren't. They are simply informing each other of which superhero they are. Nate announces that he is Ironman, Noah shouts that he is Spiderman, and finally Luke begins swinging his arms about in front of him growling the words "Hulk smash", so I'm guessing he is The Hulk. Along with the names of the superheroes and The Hulk's famous catch phrase the only other audible word I can hear is "Avengers". Adaline, Ivy and Willow continue to build their "shelter", it is now a square shape with one high wall. Luke runs over to the girls and Willow (female practitioner) as they sit on the grass, he holds up his hands, so his palms are facing the girls, and he utters "Tsshh" and then runs off again.

These fieldnotes describe an outside play session that was not unusual in this setting. The boys ruled the garden while simultaneously relegating the girls, practitioners, and younger children to the outer boundaries of the outdoor space. It is recognised that outdoor play spaces are often places where gendered play involving themes of domination and subversion occur (Kostas, 2022). Although the boys are the group who are exhibiting gender norms associated with masculine power, the practitioners seem to accept this rather than challenging the boys, meaning the practitioners play a reinforcing role in the gendered garden space (Prioletta & Davies, 2022). During the interview/conversations I had with the practitioners, many of them (including Ana) expressed that they believe the boys preferred outdoor, physical play while the girls were viewed as preferring quiet, stationary activity. Ärlemalm-Hagsér (2010) also found that practitioners viewed children's outdoor play in binary way, as the practitioners in their study felt that girls were simply not interested in *boys' play.* Such views are played out in the above extract where the practitioners are passive observers of gender normative play, and themes of violence and aggression go unchallenged. As such, the agency

of the material world (i.e., the garden) is a key part of how this play is formed (Procter & Hackett, 2017). The elongated objects from the garden such as the blue plastic spades and the stick intra-act with the boys as they become entangled in the assemblage of guns, violence, killing, and misogyny, while ironically role-playing superheroes.

It has been suggested that violence from boys is often observed as directed towards the girls (Thornburg, 2018), including in this instance, violence towards Willow, a practitioner. Sherbine (2020) observed a similar scenario where a boy threatened his teacher in violence-based roleplay. However, in Sherbine's scenario the teacher responded with resistance, whereby she reframed the play by asking the boy questions. Here, instead, it was Willow who directed Luke to *be kind.* Being *kind* is a somewhat abstract concept. It can be linked with being *polite,* which is often taught as a matter of priority to young children (Mina, 2023). Her meaning was clear though. She wanted the boys to curb their behaviour. The stereotypical view of boys *preferring* physical, outdoor play is seen across young children's lives beyond the ECE setting, and regular outdoor play leads to physical fitness (Boxberger & Reimers, 2019). Without adult intervention in the roleplay, the narrative and physicality of the boys' play was left to continue. Lenz-Taguchi (2010) describes a moment captured by one of her undergraduate student's projects, where a similar event took place with two- and three-year-old boys. The boys used sticks in their gun/violent roleplay which elicited concern and intervention from the practitioners. However, such intervention did not prevent the play from occurring. Rather, it became more desirable. The play morphed through changing the meaning around what the sticks represented in the play. The sticks' power morphed played across themes. In the moment described in the extract above the plastic spades inspired a similar violent play, which was reinforced by the layout of the garden space. However, through a feminist new materialist lens, it can be argued that the space *and* the human and more-than-human entities collectively generate meaning through intra-action. Jobb (2019) argues that spaces are (re)produced through their entanglement with entities where they are always becoming. Place differs from space in that "The legacies of those who live, act and experience places are inscribed by discursive and material forces that shape responses to place" (Fairchild, 2021, p. 7). Therefore, the moment in the extract depicts one moment in time where space and place are entrenched with experiences and expectations which, through their ever-shifting assemblages, generate moments where gender norms are made visible.

5.5 Regulated time and space

Fieldnotes: *24th May 2022: Lunch time*

Louis (boy, 4) is sat on the middle table. He has a packet of chocolate buttons in his lunch box which he asks Nora (female practitioner), who is also sitting at the middle table, to open by standing up and waving them in the air. Nora firmly tells Louis "No. Yogurt. Buttons last". Louis sits down and quietly eats his yoghurt. Once finished, Louis once again asks Nora if she will open his chocolate buttons, but she says "No". Rather, Nora mentions each one of Louis' food items and tells him to eat them before she will open his chocolate buttons. Meanwhile Kayla, Steph, and Grace (female practitioners), who are sat on the table over from Nora, discuss whether children are made to eat all their lunch at the local village school (where Kayla and Grace have children), "Absolutely not at all", says Kayla. Grace mentions human rights and that children should not be made to keep eating when they're full. Steph agrees while Kayla jokes that her children "always have room for pudding".

The ECE environments featured in the research were highly regulated (see chapter six, section 6.3.1). This included when, where, and how activities took place. As such, time and space were at the core of such regulation. The extract above demonstrates how key parts of the nursery routine, such as mealtimes, were regulated. Practitioners use what Quinones, Li, and Ridgway (2021) call *restrictive* strategies during mealtimes. In this instance, the chocolate buttons unsettled the (Western) tradition of eating savoury foods before sweet foods (Lauden, 2000). Chocolate (amongst other high-sugar foods), although edible, is interconnected with concepts of ill-health and obesity in children (and adults) (Roblin, 2007). The agentic capacity of the chocolate buttons to affect is, therefore, evident in the extract. The child desires the sweet tasting chocolate while the practitioner seeks to uphold social (and institutional) rules (perhaps in care of the child) by denying the child choice and autonomy. The intra-action occurs while intertwined with the conversation happening on another table, where the rest of the staff practitioners how enforcing rules around how a child *should* eat would be unacceptable – or even a rights violation – if they were to take place at the local primary school attended by their children. This intra-action produces tension as the chocolate buttons challenge the practitioner/child binary.

Adult power, or authority, often disrupted the flow of the day. As section, 5.2 highlighted, each of the three settings were governed by time via nursery routines. As such,

at points throughout the day the power that the routine held to mould and disrupt the day was evident. This included, tidy up time, snack time, going outside, coming back inside, lunch time, group/story time, Montessori 'work', naptime, and nappy changing time. This determined how and when spaces within the ECE settings were accessed. Although the extract highlights the way that elements of the routine can be regulated, it also highlights the how gender roles were manifested with the practitioners through the expectation of care. For example, the concept of 'care' (chapter 2, section 2.2.1) is central to ECE and being a practitioner. However, the extract demonstrates that 'care' can be manifested in different ways. On the surface, it seems that Kayla, Steph, and Grace are discussing caring practices around how children 'should' eat from the point of view of a kind and caring practitioner. This is contrasted by Nora's actions where she enforces her ideals around the order food should be eaten. However, it could be argued that Nora is attempting to ensure Louis eats healthy food, which is also entrenched in the concept of 'care'. Such caring practices are brought into being by the power of the chocolate buttons which disrupt the expectations around promoting health in ECE, which features in the Statutory Framework (DfE, 2023b, pp. 9, 13, & 34). Bennett (2010) discusses food as being agentic. She describes food, once it reaches the human gut and begins to be digested, as becoming inseparable from the eater. Bennett (2010, p. 51) states that "it [food] enters into what we become". From this perspective, the chocolate buttons are agentic as they will, if eaten, become a part of Louis. They're high levels of sugar and fat becoming one with Louis's metabolic system will then impact Louis's body. Certain fats in food affect humans in negative ways, such as by having a negative impact on cognitive function and behaviour (Bennett, 2010). Therefore, the chocolate buttons have the agentic capacity to change Louis's behaviour, therefore, this may account for the way in which the chocolate button elicited a response from Nora.

A space that was highly regulated was the Montessori classroom (see chapter one, section 1.2.2). This space was not always freely available to the children. The children would be collected, one by one, to engage in one-to-one Montessori *work* with their assigned Montessori teacher. There were also times when the *practical life* (see chapter one, section 1.2.2) area was opened for free play.

Fieldnotes: *21st October 2022: Montessori*

I take an opportunity to talk to Steph (female practitioner) about how I've noticed that the practical life play is usually accessed by the girls. I ask Steph if

this is always the case, and she tells me that it is usually the girls who choose to do the practical life free play. I asked her why she thinks this might be. She tells me that the boys who have formed close friendships with other boys don't tend to do it. The only boys that she has noticed who will choose to access the practical life play are the ones who haven't yet formed close friendships with other boys. She also tells me that a former member of staff, who has recently left would actively choose particular children who she believed were capable of completing the practical life activities and the children that she chose always 'happened' to be the girls. This is in conflict with the idea of the practical life being free play, or free choice. Lacey (female practitioner), who is still in the Montessori room, interjects confessing that she had not realised that the former member of staff had done this but, on reflection, she agrees that she did only ever seek out the girls to participate in practical life play. Steph then shares that perhaps one of the reasons why it is mainly the girls that access the practical life play is because that is what they've become accustomed to. Steph then tells me that very recently Gillian (manager) had inquired as to why certain children had lots of observations based on their Montessori learning where some have only one or two. Steph explained that it was because this former member of staff would select certain girls to do activities rather than focusing her attention on all the children fairly.

The above fieldnotes illustrate how space can be regulated. The Montessori classroom and the vital objects within it are designed to be cognitively challenging while projecting a sense of calmness, care, and intelligence. The former practitioner mentioned in the extract had only invited girls who she had perceived as capable. This view of girls as sensible and that they take things more seriously (Callahan & Nicholas, 2019) reinforced the gender binary in ECE. It positions boys as incapable of carrying out the intricate activities which make up the *practical life* area. This had gone on to impact which children accessed the space, which was mostly the girls. However, the area was not exclusively accessed by girls. There were occasions when some of the boys would play in the Montessori classroom (when not engaged in the one-to-one 'work' session with the practitioners, which all the children were encouraged to take part in). While the above extract demonstrates how the *practical life* area was gendered (I.e., a preferred play space of the girls), the extract below adds to this by providing an example of other ways of accessing the space.

Fieldnotes: *21st October 2022*

Phoenix (boy, 3) runs into the Montessori classroom and heads straight for the wooden unit. He chooses a blue plastic tray which houses a big transparent plastic bowl, a clear vial filled with green liquid, a blue plastic hand whisk and a sponge on the tray. He places the tray on the table in front of a chair which is directly opposite to where I am standing. He walks in a hurried way over to the sink and reaches forward, leaning his body against the sink as his hand reaches the tap and turns it on with a twist. He then takes a plastic container from the draining board and fills it with water. He holds the container with both hands as he carefully puts it down on the draining board and he reaches forward again to turn off the tap. Phoenix then quickly carries the container of water back to where the tray is, using both hands and looking down at the container as he goes. He stands between the table and chair, and he promptly tips the water into the large bowl causing it to flow up and out of the other side of the bowl. Phoenix watches the water fill his tray and splash over onto the table and, still clutching the container he looks up at me, his eyebrows raised, eyes wide and his mouth open. I simply smile at Phoenix. He asks Irena (female practitioner) to help, but she does not hear him (or chooses not to respond). Phoenix hurries back over to the sink, leans forward and reaches his arm out and turns on the tap and runs the soap under the water. He then suddenly announces "I need a wee!". He runs back over to the table and drops the soap on the tray and announces again, "I need a wee!". He is fidgety on his feet as he turns towards Irena, (female practitioner) "Irena, I need a wee!". Irena tells Phoenix to go but to come back when he has finished. Phoenix runs off down the hallway but returns shortly after, running back into the room and stopping in front of Irena with a jump. "I did it!" he says proudly to Irena who is on her knees in front of the wooden unit, tidying the activities which rest on its shelves. "Well done. Now you can finish your work", Irena tells Phoenix. Irena notices that water has been spilled over Phoenix's tray and the table. She keeps him back to help tidy up with her as all the other children go back into the playroom for snack time.

By *thinking with water* (Hackett & MacRae, 2023; Pacini- Ketchabaw & Clark, 2016) one can see what else is happening beyond the human-centric world. It would be easy to assume that Phoenix is the main contributor to this moment. However, this entire moment is centred around the power of fluid. Water is an essential part of ECE. It is used to keep human bodies and plants hydrated, it is used to wash hands and faces, to flush toilets, to jump in when rain forms puddles outside, and it was a permanent feature of the Montessori classroom. In the

extract above the water flows from the taps, into a plastic container, and then through its fluidity of movement it travels into the bowl and immediately back out. The water spreads quickly across the tray, over the sides of the tray, under the tray, and across the table. This brings into focus the nature of water as it travels through the body, as Phoenix declares he *needs a wee*. Water regulates the Montessori classroom as it disrupts Phoenix's exploration when he needs to use the toilet, and it disrupts his snack time as the flowing water that sits on the tray and table must be cleared up. The water spilling onto the table is in marked contrast with the girls who are also playing with water at the same time. The water in their containers remains contained throughout their activities. Phoenix and the spilling, dynamic water present a moment of disruption. Feminist new materialism positions the human body as part of the materiality of the ECE environment, the skin that forms it is not a boundary, rather it is a relational zone (Barad, 2007; Procter & Hackett, 2017). As such, Phoenix *becomes* gendered *with* the water. His and the water's physicality, dynamism, and disruptiveness contribute to ways in which boys can dominate spaces. Therefore, how gender comes to be in ECE is through the connectedness of human and more-than-human entities.

The disruption of the ordinary in the Montessori classroom highlights the way in which spaces can be gendered beyond the obvious, stereotypical use of colours (i.e., pink, and blue) or gendered toys, such as dolls and cars. Rather, this space which is, on the surface, neutral (I.e., the objects are generally made of natural materials, or they are open-ended and are not designed to attract a particular gender). Therefore, what is happening in this space can be described as an assemblage of expectations, understanding, gender norms, and physical skills. It is recognised that ECE practitioners can perceive young children's behaviour and play through binary gender stereotypes (Reddington, 2020). This is evident in the quotes from the ECE practitioners in section 6.3.1 of the current research, whereby there is a perception that girls are more competent in focused activities because they 'enjoy' quiet or calm activities. Where boys are seen to 'prefer' messy, noisy, and physical play. The latter did not fit with the expectations of the play in the Montessori room, where the activities were intended to be carried out correctly and independently. As such, a culture seemed to have developed around the Montessori classroom whereby the girls, who were perceived as competent were encouraged towards engaging with this play, while the boys were not.

In their study the object control (i.e., kicking or throwing a ball) of three- to eleven-year-old,s Taunton- Meidema, Mulvey, and Brian (2023) found that boys had more refined skills

than girls, but that this was linked to the gender stereotyped view of boys being better as such physical activities. In the current research, a similar phenomenon is seen in that the girls are perceived at being better at quiet activities, therefore they were more likely to access the activities. As such, there were less opportunities for the boys to practice the skills required to access such activities (e.g., fine motor skills), of which many relied on the ability to use small, controlled movements including using tweezers, picking up small objects, and, like Phoenix, pouring water. As such, without practicing such skills and, instead, being encouraged towards activities like climbing, running, and jumping (which require gross motor skills), fine motor skills may have been hindered. Therefore, it could be suggested that without practicing such skills, when the boys decided to have ago at engaging with the activities in the Montessori classroom (e.g., pouring water) their lack of practice and skill may be perceived as disruptive and, therefore, such disruptive behaviour could be seen as a result of gender (i.e., being a boy). That is, this may embed the idea that boys are better at, and more interested in, physical activities. It is suggested that without practitioner intervention of such stereotypical gender norms, issue of limiting gender norms can persist (Whitford, 2023). However, looking at the Montessori room through a feminist new materialist lens, gender norms and expectations can be seen as discretely woven into the fabric of the space which means the intra-action between the gender norms and expectations of young children's physical development, the Montessori activities, and the space itself result in an ongoing culture of predetermined ideas about the competencies and interests of young children based on gender.

Like the disruptive power of the water in the Montessori room, in a preschool room the water and the water tray became a part of the restriction of a child, Felix (boy, 3). Felix had a diagnosis of autistic spectrum disorder, and he seemed to find comfort and joy in the sensory activities in the preschool room. This included the water tray. The water tray was stomach-high on the three and four-year-old children who occupied the preschool room. It was a plastic, almost-transparent tray atop a metal frame, which sat on the linoleum floor next to the sink. The water flowed back and forth in the tray as it was splashed and stirred by curious hands and plastic toys. Shoes got wet, the floor got slippery, and the volume increased as the cool water dripping and flowing through red plastic tubes made little yellow cogs spin. The water tray enticed Felix. He collected additional water toys from under the sink to add to the collection already forming within the water in the water tray. This was met by squeals of excitement from the other children as they were delighted to see more and more toys added,

causing more splashing and puddles on the floor. Once the water tray was almost filled by plastic toys and water, Felix took two of the plastic animals and moved to the dry carpet. Wet hands and wet (plastic) animals dripped onto the carpet. This was in conflict to the rules. Abby (female practitioner) noticed. The rules inspired Abby to encourage the watery Felix/plastic animals back to the water tray.

This intra-action between the drops of water, the carpet, the rules, and the child and the practitioner produced conflict as screams and movement erupted from Felix. The toys are water toys and, therefore, the rules dictate that they should remain in the water tray. However, the plastic-moulded-into-animals affects Felix, and he wanted to continue his play with them outside of the water. However, the concept of the rules enforced a location on the plastic animals as they are designated as water toys. As a practitioner, Abby was compelled by the rules to relocate the plastic animals back to their designated space, even though Felix was content in his play on the dry carpet. The physical removal of the plastic animals produced a strong emotional and physical reaction from Felix where he screams, cries, and lashes out at the floor. This did not disrupt the upholding of the rules.

While rules in ECE are present to manage behaviour (Gable, Hester, Rock, & Hughes, 2009), this example of the regulation of the location of *where* certain objects can be played with actually leads to what could be described as disruptive in terms of volume and movement. Feminist new materialism allows for the affective power of objects and toys to be brought into focus. Reddington and Price (2018, p. 474) argue that by taking account of children's "connections to non-human things can inform and capture new understandings on how children and youth with disabilities experience school." This is true for all children in ECE but can also demonstrate the unique challenges that children with SEND may experience (Gihara & Liverpool, 2022). However, what this moment highlights is the affective power of the more-than-human. The movement of the plastic animals (which are water toys in this context) from water tray to dry carpet incites calmness and contentment, enforcement of rules and power, and strong emotions. This simultaneously produces a moment of disruption in the preschool room which embeds preschool norms, where rules and regulation of human and more-than-human bodies inspire different ways of being and becoming within the constraints of what is deemed acceptable or unacceptable. This means that socially accepted norms around behaviour, play, and gender, for example, are constantly reproduced through such intra-actions.

5.6 Conclusion

This chapter has explored the ways in which time and space contributed to how gender manifested within the participating ECE settings. The temporal and spaces that make up the ECE settings are part of the entanglements and assemblages which produce and reproduce social phenomena, including gender. These are moments of learning for the infants and young children who live their experiences within the temporal and spatial structures which are designed by the adult practitioners (Lyttleton-Smith, 2019) who look after them. This chapter has demonstrated the ways in which infants and young children move through time and space within the ECE settings and how the movement from room to room, based on the age of the child has implications for how they experience expectations in terms of gender. The baby room has a focus on the infants' individual routines, while the toddler and preschool rooms require that the children follow the nursery routine. Gender expectations are more apparent in the older age group rooms, where the spaces and objects provide different opportunities for exploring, policing, and challenging gender norms, roles, and expectations. The way the spaces are designed create spaces within spaces. This means that there are parts of the nursery rooms which provide cover. These allow the young children to play and explore while not being within eyesight of the practitioners (Black-Delfin, 2020). Such exploration would incorporate multiple types of play, however, play that could be considered gender non-conforming or challenging gender norms, particularly from the boys, would take place in these hidden spaces. There were times when girls where more comfortable to perform gender non-conforming play in open spaces. These will be discussed in more detail in chapter six, section 6.4.2.

The outdoor spaces within the ECE settings were generally open spaces where the children could be viewed by the practitioners. However, the openness of the outdoor spaces provided a sense of dynamism and energy that was not possible in the indoor spaces. Despite this, the time that infants and young children were permitted to go outside was regulated by the practitioners and the routine. The outside space provided an opportunity for more physical play such as climbing and running, which would manifest games which incorporated themes of violence and aggression, typically from the preschool boys. The boys would use their bodies as well as objects and sound to take control of the outdoor space. This then reinforced a sense of binary gender- boys versus girls, us versus them.

In conclusion, the temporal and spatial structures, the ebb and flow of the days, weeks, months, and years which contribute to an infant and young child's experiences in an ECE setting contribute to how and when gender norms are encountered, embedded, reinforced, and challenged. The constant movement between and within time and space is typical in an ECE setting, but not always linear. This chapter has highlighted how infants and young children are sometimes moved between rooms based on operational issues, such as being short staffed or in holiday periods. However, each room has age-related differences in the expectations of how children conduct themselves and what they understand about their peers and the social world in which they live. Therefore, the infants in the baby rooms are not expected to recognise gender or play with gendered items, despite the practitioners reinforcing (perhaps unknowingly) gender norms within their intra-actions with objects, space, and the infants. However, by the time the children reach the preschool room there is an expectation that boys behave in a certain way, and girls in a different way. The children begin to learn that they exist in binary opposition to each other, which limits how they are able to express themselves and become themselves as socially conforming gendered people.

6. Chapter Six: Power and Gender

6.1 Introduction

Foucault (1987) highlighted that power is omnipresent and an inescapable aspect of all social encounters. That is, that power is far reaching, and it exists in all aspects of life (e.g., political power). Power is manifested through human and more-than-human intra-acting bodies in the ECE setting. From a feminist new materialist perspective, structures of power within the ECE setting are conceived through continuous moments of entangled human and more-than-human bodies which create and recreate perceived social structures of power (Alldred & Fox, 2017). Like power, gender is also an inescapable social phenomenon (Callahan & Nicholas, 2019). Power and gender are interconnected; they are entangled through the norms associated with binary gender, i.e., that there is a powerholding gender (boy/man) and the 'other', oppressed gender (girl/women) (Grosz, 2010). Gender as a binary i.e., girl/boy, positions bodies within a set of characteristics or attributes associated with being female or male (Callahan & Nicholas, 2019), feminine and masculine. This is considered the norm. Because power exists within and emerges from the positioning of gender as binary, it also acts to influence and embed gendered learning in infants and young children.

Power is not static or unitary, nor is it uncontested: "where there is power, there is resistance" (Foucault, 1978, p. 95). The analysis in this chapter will demonstrate power and resistance in action. Foucault's comment, however, suggests that power and resistance are two separate phenomena in opposition to each other. From a new materialist perspective, the presumed opposition of *power* and *resistance* can be observed as "different phases of one and the same entity" (Delanda, 2006, p. 6). That is, power and resistance are symptoms of the entanglements of bodies (human and more-than-human) which create and recreate moments of evolving social phenomena. Arguably, the same can be applied to gender, which, regardless of how one identifies, is a phase of being that is of the same entity. Meaning, human, and more-than-human bodies can be gendered in different ways despite similarities in composition.

This chapter explores extracts from the data with analysis to consider how power manifests in the ECE environment and the role that this has on how gender is promoted, challenged, and learned in the ECE settings. The chapter will begin by looking at how power informs gender (and vice versa) in the baby room, drawing on object-oriented ontology to

analyse how the material world influences how gender and power entangle with humans and objects. The chapter will go on to examine the toddler room, including how age and size became part of asserting power. The chapter will then consider power and gender in the preschool room. This section will present findings on the ways that gender can be reproduced in unexpected ways which challenged the normative assumptions concerned with young children's expression and knowledge of gender norms.

6.2 The Baby Room

Although three ECE settings participated in this research project, only two of them had baby rooms (designed for infants up to two years of age) (see chapter four, section 4.3.3). The two baby rooms felt different from the toddler and preschool rooms across the three sites. They had a subjective calmness that was not experienced in the other rooms. The toddler and preschool rooms were larger spaces with more children and objects in them. The senses were overwhelmed by the dynamic movement of human and more-than-human bodies, as well as multiple sounds (crying, shouting, scraping, banging), smells (faeces, food, playdough, paint, glue), and colours, which felt visually, olfactorily, and audibly chaotic. The baby rooms, although they featured crying infants and movement from the mobile bodies, were calmer from a multi-sensory perspective. There were fewer bodies, less movement. The baby rooms typically smelled and looked sterile, and there was a calmness from the practitioners which was not necessarily mirrored in the toddler and preschool rooms.

In discussing the findings from their project which looked at baby rooms in nurseries in England, Goouch and Powell (2015) describe how the material environment influenced the ways in which infants and practitioners responded to each other. This was evident in the baby rooms at the participating sites. The ambient calmness of the room seemed to influence the practitioners, who typically seemed more relaxed in the baby rooms. This gave a feeling of contrast between the baby rooms and the rest of the spaces, something that was aided by the baby rooms' being situated somewhat 'out of the way'. There was a general perspective that these rooms should be quiet and away from the noise and chaos of the other rooms so that the infants could sleep without being disturbed. The infants were also considered to not require as much outside play time as the older more physically capable children and therefore the rooms either had limited or no access to a garden, or they had a very small section of the outside space.

One of the baby rooms (featured in the fieldnotes below) was long, narrow and had a coldness to it. The back section of the room had cribs along each wall and sat in darkness providing a space dedicated to sleep. Sounds of infant crying would often flow from the darkness and echo throughout the room. The linoleum floor that the practitioners and I sat upon crossed legged added to the coldness of the space. The floor acted as though it were a drum skin stretched across the room where every little foot that met it through hurried movement would create a metronomic beat. The room was nevertheless always relatively quiet. However, the quietness amplified the subtle sounds that would otherwise go unnoticed in the toddler and preschool rooms.

Fieldnotes: *5th July 2022*

I sit down on the floor to the side of the room. There are minimal chairs in here as the room is designed for infants who are predominantly crawling, cruising or immobile. Jonah (boy, 1) is sat in the soft corner which has a back support around it for the younger infants. He has a small metal shopping basket on his lap. He has a plastic bread roll in his mouth and some purple plastic grapes in his right hand. He is sucking on the bread roll looking up out of the window. Suddenly, Jonah drops the grapes and spits out the bread roll and gets up causing the shopping basket to fall off his lap. He climbs out of the soft area and runs down the room, his shoeless feet banging on the floor as he goes. The sound of crying from the other infants fills the room. Frankie (girl, 1) is just to the right of where I am sitting, she is trying to balance the small wooden blocks on top of each other. Jonah joins her, standing to her left. Where Frankie had been silently investigating the blocks, Jonah brings noise and energy as he swipes his forearms over the table causing the wooden blocks to fly left and right. Kyra (female practitioner) sits opposite Frankie and Jonah, and she smiles, "Jonah". Jonah runs across to the other side of the room, feet banging on the floor. Frankie then picks up one block at a time and throws it down on the table. Bang! Kyra asks Frankie not to throw the blocks, but she asks in a very gentle voice. Kyra redirects Frankie's play by showing Frankie a block, stating its colour which Frankie repeats. Jonah runs back over to the table and joins in with saying the colours of the blocks with Frankie and Kyra. Kyra then adds the shape as well as the colour and Frankie and Jonah continue to parrot the words. Jonah then runs off to the unit on the opposite side of the room, he picks up a plastic toy and throws it on the floor, "Jonah!", Kyra says with a slight laugh. Frankie has found a little wooden ball and her, and Kyra are rolling it across the table to one another.

The moment above took place when the baby room was half in motion and half in slumber. Mac (boy, 11 months) lay in his crib while Kay (female practitioner) attempted to get him to sleep. He would drift between almost silence and crying out, while Kay sat in the darkness with him, on hand to provide a caring touch. The rest of the room was lit by bright ceiling lights and natural light poured in through the windows at the top of the walls. From my position on the floor, a similar vantage point as the infants in the room, the windows only let in light. Nothing of the outside world was visible. The baby room felt like a box. The infants were rarely taken outside as steep steps led down to the outside space, which proved challenging with multiple young infants who needed to be physically carried down the stairs by practitioners. This contained space was therefore where the infants spent most of their time.

Sumison, Harrison and Stapleton (2018) describe a similar feeling when first entering the baby room in their study. They describe the feeling of confinement; however, they go onto state that as they became more familiar with the occurrences in the baby room, they recognised the cosy, safe environment that had been created for the infants by their practitioners. This was mirrored in the baby rooms in the current research. The rooms were designed with purpose, to support small infant bodies. They contained miniature wooden chairs, tables, and scaled down wooden toy storage units which were around the same height as Frankie and Jonah's chests. The concept of small furniture for small bodies was introduced by Maria Montessori in the early 1900s (Bone, 2019b), a child-centred approach which seeks to prioritise small bodies, but that does not cater for the larger practitioner bodies who sit on the cold floor. Infant bodies are thus prioritised over the comfort of practitioners who spend many hours in uncomfortable positions. The infants' chairs are rarely used during activity times. Their main purpose is to contain the infants' bodies during mealtimes (see section 6.5). For the rest of the time, the chairs remain stationary, waiting to be called into action at mealtimes. The tables, however, were a source of support throughout the day. They *become with* tiny hands and bodies – the pull, push, and lean during exploration to facilitate developmental milestones such as learning to stand and walk.

In the extract above, Kyra (female practitioner) intervened by asking Frankie (girl, 1) to stop throwing objects. However, when Jonah (boy, 1) threw objects to the floor, Kyra laughed. At the heart of the values of ECE in England is an inclusive approach to practice which, as was mentioned by multiple practitioners throughout the research, inspires a desire for

practitioners to 'treat all children the same'. However, what this approach does not do is account for the differences that infants and young children begin to manifest and notice about themselves and others in their early years (Osgood, 2020). The play and exploration of young infants revolved around sensory exploration of objects, regardless of the gender of the explorer. As the infants got older and neared the age of two, the practitioners had the capacity to influence how the infants' perceived differences between themselves and others, under the mantra "we treat them (infants/children) the same". Haraway (1992) highlights the value in recognising difference, specifically in how differences come to matter. The view that children should all be treated in the same way fails to account for the importance and realness of difference (Osgood, 2020). Within the data generated in the fieldwork, there was a tendency for practitioners to state that they treated all children the same without consideration of differences, such as gender. However, this was not what was observed. The idea of treating all children the same may not account for how such differences can become problematic through the reinforcement of gender norms and roles. In other words, some differences can be addressed to challenge normative assumptions around gender expression. What was seen through observation was that infants were rarely given much choice. For example, infants were not able to choose their clothing or what adults presented them with in terms of toys.

Jackson, for example, was seven months old when fieldwork commenced at his setting. The temporality of the baby room structured Jackson's day, through mealtimes, bottle feeding, nappy changing, and sleep times. Alongside the care routines, the practitioners also wanted Jackson to meet developmental milestones. For example, he was provided with soft cushions to aid him in sitting (and preventing him from injury if he lost his balance). He was also provided with interactive toys –always chosen by the practitioner (Pinto et al., 2019) – which produced sounds as Jacksons hands met plastic buttons, wheels, and flaps. How he intra-acted with the temporal routine and the interactive toys did not obviously produce gender norms. Rather, as seen with Kyra's different responses to Frankie and Jonah, the entangled networks which (re)produced gender norms in the baby room included the intertwining of the environment, routines, knowledges, language, and objects. For example, Jackson's size (although seemingly average for an infant of his age) was often commented upon by the practitioners, through adjectives such as "big", "heavy" and "handsome" when referring to him. Even though Jackson was only seven months old at the time, such language set him in motion to *become* a certain set of attributes associated with (powerful) masculinity.

Such notions were brought to life through gendered knowledges and histories, where the past, present, and future are entangled as (outdated) gender norms inform the infants becoming future becomings. This gendered approach to describing and praising infants and young children limited their ways of becoming themselves without rigid expectations of how they are 'supposed' to be (Callahan & Nicholas, 2019) and *do* gender, while simultaneously embedding culturally valuable attributes associated with being a boy/man, such as being big and taking up spaces which equate to gravitas and authority. Lenz-Taguchi (2010, p. 4) argues that "Material objects and artefacts can be understood as being part of a performative production of power and change in an intertwined relationship of intra-activity with other matter and humans". Jackson was becoming with multiple material objects in the baby room, including the toys that were given to him. The materiality of the baby room *was* the entangled network of physical toys and objects. It situated the human practitioners, Jackson, the words that flowed from mouths, power dynamics, and gendered norms. These vital materials intra-acted to manifest moments where such gender norms became part of Jackson's becoming through 'performative production' (Lenz-Taguchi, 2010).

Throughout the fieldwork, the baby rooms remained physically similar in design. They were also similar across sites. The toddler and preschool rooms were often reorganised by the practitioners in that furniture was moved into different places or new roleplay items were introduced. This did not happen in the baby rooms. The space intentionally provided a sense of consistency, something that is considered beneficial for infants and young children (Essa & Burnham, 2020). Gender is not produced in isolation. Rather, it is through multiple, interconnected relations that gender comes to be continuously reproduce. This includes through the material factors which influence ECE, such as toys, the environment, policies, and social structures, which the following paragraphs will explore.

The two sites which had baby rooms were in a moment of flux during the fieldwork. The Department for Education had recently introduced a new Statutory Framework for the Early Years Foundation Stage (EYFS) (Department for Education, 2021) and the nurseries were changing their approaches to the planning and delivery of learning and development. There was also a turn from the old plastic, colourful resources towards natural materials. Large plastic boxes filled with once brightly coloured but now faded plastic resources such as stickle bricks, musical instruments, and Duplo sat in the back room of the preschool while practitioners considered whether they should sell them or throw them away, while

introducing wooden construction blocks. Display boards in the rooms were also changed from being brightly coloured to having a more natural aesthetic. This was done by using a beige coloured background and, ironically, using plastic leaves as a border. Further irony was evident in the plastic moulded toys that were designed to represent pretend food and the importance of healthy snacks. Plastic is known to have toxic chemicals in it (Hodgins, 2019). Yet, plastic play food items indirectly encouraged infants to put the toxic material into their mouths with the payback that plastic toys for infants are easy to clean. This is something which had even more value during the Covid-19 pandemic, highlighting the potential of a deadly-virus to do good. That is, by attempting to minimise the spread of Covid-19 through the deep cleaning of children's playthings, the spread of other germs and viruses were also limited. All 'things' can and do have affective capacities (Bennett, 2010), including the Covid-19 virus, which was damaging to health and education (amongst other aspects of society), but also gave respite to the environment from human (destructive) activity (Loh, et al., 2022) and through protective measure, ultimately pausing the spread of other viruses.

There was a sense among the practitioners that moving towards more natural resources projected a transition towards sustainability. In terms of environmental issues, plastic is a major contributor to pollution of the ocean and to landfill, impacting the health of human and more-than-human bodies (Hodgins, 2019). However, moving plastic items into storage and replacing them with 'natural' materials projected a desirable image for marketing purposes. Being marketable has become a prime objective for nurseries as many of them in England are private for-profit companies rather that state run (Moss, 2020). This means that the power of government policies alongside capitalism directly impact the priorities of private ECE settings. The care and safety of the infants and young children are a priority, ultimately, that is why the sector exists; however, in a privatised ECE system for the settings to remain operational they must be able to compete in the market and make money. This neoliberal approach to ECE has impacted how funds are gained and invested (West & Noden, 2019). For example, the government benefit from ECE in that it supports the economy by allowing parents to go to work. The government thus funds ECE places for children aged three and some children aged two, with plans to make funding available from an earlier age (see chapter one, section 1.3.1). This has prevented settings from charging whatever they like for children to attend and, therefore, has meant a reduction in profits which impact on staff investment. Consequently, the only way for ECE settings to remain financially operational is to ensure that they remain at

capacity in terms of the number of children accessing the setting. The power of capitalism and the market has thus had a direct impact on how ECE settings are shaped through policy, aesthetics, and pedagogy.

There were some practitioners in the current research who expressed that plastic toys were sometimes necessary as traditional objects that were once made of wood are either no longer available or are now made from plastic. Others also commented that popular character toys which are made of plastic, such as Barbie dolls and superhero figures, are what the older children desire. However, such toys are highly gendered as they are marketed at girls or boys based on gender stereotypes (Azmi et al., 2021), which are then perpetuated through play within the settings. Therefore, the plastic, formed into the likeness of a popular heterogender character, intra-acted with the children to perpetuate gender norms and power in play. Such figures, however, were not seen in the baby rooms. The baby rooms were stocked with what is termed 'open ended resources', such as wooden blocks. They also had cars, trains, animal toys, musical instruments, balls, books, dolls, teddy bears, sensory play items (such as playdough, sand, and other types of messy play). The play objects in the baby rooms were not assigned gender in the same way as they were in the toddler and preschool rooms. However, arguably, no space is completely free of gender (Chapman, 2022). The objects in the baby rooms were largely explored by touch and taste. As the infants neared the age of two, how those objects were engaged with began to change. In the next section, I will explore the role of objects in how toddlers encounter gender, and the role of power in practitioner reinforcement.

6.3 Infants and toddlers

For young children objects hold value; they can be currency for bargaining, show status, or be used to claim territory through obtaining and being defensive about possessing particular 'things' within the infant and toddler rooms (Fincham, 2022). Where the infants' spaces were typically calmer in terms of movement (or lack thereof) and sound (despite the sound of crying), the toddler spaces were much more dynamic, chaotic, and encompassed a sense of wildness that was not so apparent in the infant spaces. The toddler spaces were filled with action from toy cars whizzing across the cold, hard floor or on the tops of small tables and wooden units, to the crashing and banging of baskets of toys being emptied onto the floors, and bodies moving at pace across the spaces, changing from standing, crouching,

sitting, walking, crawling, and running. At times across the sites there were staffing issues. This meant that the infants were occasionally moved into the toddler rooms to 'free up' practitioners to be utilised elsewhere in line with the required adult to child ratios (see chapter one, section 1.3) (Sumison, et al., 2018). Through this movement/displacement the infants would be confronted with an unfamiliar space with unfamiliar social rules, where they were forced to negotiate new, and often temporary, relationships (Recchia & Dvorakova, 2012). This was seen in chapter five (section 5.2) as Benjamin and Elizabeth travelled through their nursery. This section, however, will look more specifically at the ways in which power played out, and what that meant for where, when, and how gender manifested.

> ***Fieldnotes*** *8th December 2021 Toddler room*
>
> *Callum (boy, almost two-years-old) is sat on his knees on the floor next to the car mat, which lays flat in the corner where a wooden toy unit and beige wall meet. He has three blue wooden trains. The trains connect to each other via magnets. Callum has connected the trains and is pushing them along the floor in a line as he shuffles along on his knees. He is talking to himself in baby talk that I do not understand. He suddenly stops still, turns his body to left and waves with his left hand (his right hand is on the floor supporting him) "Bye" he says, before continuing to push the trains along the hard floor. Lexi (girl, one-year-old) walks over and without pause she bends down and takes two of the trains from Callum. Lexi then stands up and walks away, back down the room, looking at the trains she is now holding. Callum sits up on his knees and silently watches Lexi as she walks off, but he doesn't react. He then bends forward again and carries on his game with the one train he has left. Once Lexi reaches the other end of the room, she stops and watches Calvin (boy, almost three-years-old) push two larger plastic trains across the top of one of the tables as he stands. She drops the wooden trains that she had taken from Callum and approaches Calvin. Lexi quickly reaches for and takes the trains from Calvin and begins to run away, back down the room with a smile on her face. Calvin screams loudly and with distress as he chases Lexi. He grabs the trains back from her, with force, and then he turns and rapidly walks back to the table, his face red and flustered. Lexi doesn't react. She just turns and wanders off down the room.*

These fieldnotes show how objects can be steeped in meaning and value. The toy trains hold value. That is, the trains (and other toys) have affective power which can contribute to

(and take away from) human power (Bennett, 2010). Humans exist *within* the material world, not as separate or exceptional to it, but as *part* of it (Barad, 2007). Therefore, the analysis here provides insight to a momentary 'cut' where power transversed the material world of the toddler room. Haraway's (2008) concept of worlding is useful here to explore the interconnectedness and the complexity of the children's becoming with the materiality of the toddler room. That is, the children are "bringing the world into being as [they] respond within it" (Simon & Salter, 2019, p. 2). Worlding is active and performative rather than representational and, therefore, is always in a dynamic state of becoming (Hamer, 2021). Therefore, the intra-actions between the children and the trains bring about shifting power dynamics which form part of the world's becoming. Calvin was older, taller, and held power within the toddler room. Callum was younger and typically a quiet child who tended to favour solo play. Lexi was visiting from the infant room where she was one of the oldest and confidently mobile. This meant that the objects in the infants' room were easier for her to take as and when she wanted, while her less-mobile peers had to wait for the objects to be given to them by practitioners, or for objects to end up in their vicinity as they were pushed, thrown, and kicked around the room by little feet. The small wooden trains were seemingly enticing, and they drew Callum's full attention. Lexi made her move, taking the trains successfully and without protest from Callum. Here, the social rules and power dynamics within the toddler room were made visible. Age, physical size, mobility, and gender all contributed to the power dynamics in this room. Lexi was confident and curious, but it was Calvin who typically held the power in the toddler room. He was taller, more verbal, and he had better control of his body than many of his younger peers. He was also able to utilise sound and movement to assert and maintain a level of status over the favourable objects in the room. As such, like many of the boys across the three sites, the attention of the practitioners (both positive and negative) was often focused on the boys, such as Calvin.

Research has shown that within Western social norms, boys tend to show more aggression and physicality in their behaviour (Medland et al., 2019). In the extract, Calvin's power was, seemingly unexpectedly, challenged by Lexi – a younger girl. The coming together of the plastic train, the table, power, gender, Lexi, and Calvin positioned the boy as momentarily vulnerable in a space that he usually dominated. He screamed out in distress while Lexi smiled with glee at her success in acquiring the trains. This time, however, there was protest and Calvin desperately attempted to reassert his power as he forcefully took

back the trains. Here, power is not stable or exclusively held by one entity, rather it shifts between and across. Gender norms become disrupted as the smaller girl takes from the bigger boy. The train held power, which transversed the toddler room as it was snatched and grabbed at, inciting screams and movement as power changed hands at pace. Worlding practices blur the boundaries between subject and object/the world (Haraway, 2008). Therefore, through this performative *becoming-with-world,* gendered bodies are brought into being through intra-actions of children, trains, space, and power as the materiality of this moment as active, agentic, and productive is taken seriously. The gender norms associated with being a boy, which are entrenched in power, size, volume, and status become momentarily warped when Lexi, for a brief moment, holds the power.

The material-discursive nature of the toddler room is steeped in the early learning of gender norms produced through intra-acting networks of peers, power, objects, and space. It is less visible in the infant rooms where much of the gendered entanglements begin with the practitioners. However, in the toddler rooms, gender began to become more visible in how objects were used and categorised. Amelie (girl, 2) and Helena (girl, 2) were generally very quiet and spent much of their time playing on their own or with the practitioners in the play kitchen or with the construction toys (I.e., wooden blocks), which were generally open-ended and not gendered in stereotypical ways (e.g., through colour). They took up little space in contrast with Calvin. During a session where playdough was placed on a table, Calvin took possession of most it, apart from some which he had shared with Gus (boy, 2). Research suggests that by the age of two to three years old, children ordinarily begin to show preference for gendered peer groups (Medland et al., 2019), something that is reflected in Calvin's inclusion of Gus and exclusion of Amelia and Helena. Amelie and Helena sat quietly watching the playdough as it was poked, cut, torn, and rolled. Neither Amelia or Helena attempted to ask for some of the material, nor were they offered any by Calvin or Gus. Amanda (female practitioner) joined the children at the table. She insisted that Calvin should share some of the playdough, which was retrieved by Amanda, but she did not give any to Amelie and Helena who then wandered off. The playdough had thus become an object that represented the gendered hierarchy between girls and boys. Those who held the playdough held the power, including the practitioners. The playdough became a divisive tool which separated boys and girls. My observations suggested that both Amelie and Helena rarely showed assertiveness, particularly where Calvin was concerned. Medland, Kaltvedt, and Reikerås (2019) comment

that even at a very young age, girls and boys are learning to behave in ways which concur with norms and expectations around gender. Calvin's power was brought into being by the material world of which he was a part. Bennett (2010, p. 13) points out that "If matter is itself lively, then not only is the difference between subjects and objects minimised, but the status of the shared materiality of all things is elevated". Calvin is not the sole producer of power in the toddler room. Rather, it is the agency and vibrant capacity of the more-than-human objects that performatively co-constitute power *with* Calvin. Bennett (2010) highlights that it is through such co-constitution and interconnectedness that phenomena come to be. Therefore, it is the intra-acting of human and more-than-human that perpetuates power dynamics which are steeped in gender norms.

Later in the fieldwork (July 2022) when Lexi was two years old, she became an established member of the toddler room and power continued to be produced in different ways through the entangled networks of human and more-than-human entities. Hats and other clothing/accessories are objects that hold value for infants and young children. The hats the children wear during the summer months are intended to protect them from the hot summer sun, but their meaning and value exists beyond this primary purpose. Clothing (including hats) are steeped in gender and power (Lyttleton-Smith & Robinson, 2019). Hats also facilitated acts of rebellion. Hats were made mandatory by the practitioners, who do not wear hats themselves. This created a sense of Otherness between the practitioners and children, where adults are permitted autonomy over their own bodies and children were perceived as in need of protection through adult intervention (Lupton, 2013). However, there was rebellion against the hat rule, as children's hats were thrown onto the ground and lay strewn across the garden. Children's hats were typically gendered by colour (i.e., pinks and purples for girls; blues and greens for boys) or by the popular character printed on them (e.g., Batman for boys). Not unusually for their age, toddlers would often be possessive of what they deemed to be theirs (Fincham, 2022), including their sun hats, which showed to be entrenched in the shift of power. Lexi discovered this when her pink hat was repeatedly snatched off her head by Simon (boy, 3) while she and I played together in the garden. Simon ran past, snatched the hat from Lexi's head and ran off laughing loudly. Lexi chased him while crying out until Simon stopped and gave it back to her. Simon repeated this until Lexi gave up. Mission accomplished and power asserted, Simon then dropped the hat and ran off to play elsewhere. The hat became more-than-hat in this moment. Rather, the hat's affective capacity was

brought into being because “Things do in fact affect other bodies, enhancing or weakening their power” (Bennett, 2010, p. 3). Power is generated through this intra-action which conjures affective forces of memories of a (gendered) childhood, steeped in gendered stereotypes where the power-holding boy torments the ‘vulnerable’ girl. However, there is no requirement to choose either/or (Lenz-Taguchi, 2010). Rather, one can stay with the complexity of what the intra-action produces in order to disrupt binary thinking regarding being-girl/being-boy. Instead, by focusing on the material world, one can explore how gender manifests.

A similar encounter happened later that month when Lexi had collected pink items (clothing for dolls, a hairbrush, and a plastic doll potty) and put them in the basket of a pink plastic ride-on car. When she moved to collect another item, Simon took all the pink items from the car basket. Lexi cried out while Simon laughed. The colour pink is culturally synonymous with modern *girlhood* (Osgood & Mohandas, 2020). Of note, Lexi’s interest in the colour pink appeared to have begun after moving into the toddler room from the baby room. Abby (female practitioner) intervened by telling Simon to return the items. The comfort and familiarity of the baby room had provided a space for Lexi to hold power. However, the toddler room was busier, louder, and contained more toys than the baby room. The space thus opened up possibilities for different ways of being and becoming.

The infant room was a space where infants began to engage with other people and objects outside of their own home (Stratigos et al., 2014). They were introduced to the social norms that existed in the nursery through their encounters with the practitioners, peers, and the environment itself. However, the move to the toddler room at two years of age sees them mixed with other toddlers up to the age of three. By this time, the toddlers appeared to be beginning to understand the expectations associated with gender, social norms, rules, and hierarchy (Callahan & Nicholas, 2019). In the toddler room emotions are high as toys are embedded in performances of ownership, loss, and negotiation. This performance brings about a cacophony of cries and screams which affect and induce feelings of stress and auditory discomfort, add to the ebb and flow of emotional responses. For example, wooden hammers knocked repeatedly against a wooden table and the lino floor, respectively. The metronomic knocking underscored the rising volume which accompanied tidy-up-time. Tension rose. Isabella (female practitioner) was drawn to the knocking. Helena (girl, 2) and Callum (boy, 2), and the wooden hammers were bringing the sound into the world. Only Helena was asked to stop. Amelie (girl, 2), who was verbally silent most of the time, found her voice as she shouted

(in her still relatively quiet voice) "Stop it!". This resulted in Amanda (female practitioner) asking her why she was shouting, something that was seldom asked of the much louder boys (i.e., Calvin, Gus, and Simon). Sound is part of the more-than-human world and its intra-action with the eardrums of practitioners exposed moments of where gendered notions collided with the early learning experiences of the toddlers in the room. The toddlers seemed to perform behaviours in similar ways. However, the reactions to such performance/behaviours provided moments where binaries were momentarily created, giving stereotypical notion of gender potential to be reproduced.

6.3.1 The regulation of bodies

Power in ECE can manifest through how bodies are regulated. Chapter five, section 5.5 addressed how time and space is regulated in ECE. This plays a factor in why and how bodies are regulated, due to the entanglement between bodies and the material world (Quinones et al., 2021). Infants and young children's bodies are perceived as being on a developmental path, and as such, they are viewed as in need of adult intervention to ensure they achieve and develop in line with milestones (Gabriel, 2020). This means that their bodies are regulated to attain social conformity. In ECE, this was often achieved through routines and expectations as demonstrated in the extract of fieldnotes below which describes sleep time in the toddler room.

Fieldnotes: *20th January 2022*

I walk into the toddler room, and it is dark with only a little bit of natural light filling the room. Laura (female practitioner) is sat on a chair in the corner, opposite the entrance door. I whisper "Hello. Is it alright if I come in?", I see all the children, except Quinn (girl, 2), are sleeping on little beds at the far end of the room. Laura replies, not whispering, "Yeah, you don't have to be quiet, they've all got to get up soon anyway". I am still quiet though; I almost can't bring myself to use my normal talking voice. The environment feels perfect for nap time. It is warm, dark, and quiet. The sound of the children's heavy breathing as they sleep is the loudest sound in the room. I sit on a child-size chair, close to Laura. Quinn is quietly playing with the play kitchen. She's on her knees in front of the unit, opening and shutting the cupboard doors gently and playing with the play food inside. I ask Laura if the children must be woken after a certain amount of time and she tells me that 1 or 2 children have to be, but most of them don't. I ask if they are allowed to sleep for as long as they

like, and Laura replies "Well, around 2 I'll turn all the lights on and if they get up, they get up. If they don't, they don't".

In the toddler room, small rectangular sleep mats are laid out in rows across the floor. Sheets are added and the toddlers are directed to their bed. The lights go off and the room falls into silence as the practitioners gently pat the toddlers until they fall to sleep. This takes place after lunch time. Laura had a relatively relaxed approach to sleep time. Despite this, sleep time was governed by the temporality of the routine. At almost 2pm sound began to feature again as the practitioners stopped whispering and began talking at their usual volume. At 2pm, the bright ceiling lights were turned on. Laura suggested that the toddlers could sleep for as long as they like, however, the sudden brightness from the ceiling lights wakes all the toddlers, as groans can be heard from wiggly bodies.

Time and light, behaviours and practices thus regulate the children's sleep. The importance placed on the nursery routine (see chapter five, 5.5) tended to take precedence over other aspects, as evident in the extract above. At 2pm the children have snack time. Therefore, it was deemed necessary for the toddlers to awake and be ready to move onto the next part of the routine. The nursery routine, therefore, dictated much of the ebb and flow of the day for the children. Rarely was the routine changed to accommodate tired children or in other circumstances to adapt for children who were ready for their lunch earlier than 12pm (when lunch was served). Rather, young bodies had to adhere to the strict routine that governed their lives at nursery in the toddler and preschool rooms. Sleep in ECE is a contentious issue, as mandated day sleeping time is thought to adversely impact sleep at night and, as a consequence, the well-being of young children (Staton, Irvine, Pattinson, Smith, & Thorpe, 2015). The infants in the baby rooms also experienced their day through the temporality of routines. However, the practitioners would follow the routines that had been put in place by parents at home in some circumstances. Power, therefore, was in a constant state of flowing between the home and ECE environment, and it was largely dictated by adults (parents/guardians or practitioners) with influence from developmental norms.

Through consideration of Haraway's (1988) concept of situated knowledge (chapter three, section 3.2.1), how knowledge is produced is considered to be through a partial perspective where the researcher is embedded within the research, rather than 'standing' outside and 'looking in' (Blaise, Leung, & Sun, 2013). My ECE practitioner self was compelled

to be quiet so as not to disturb sleep, but my researcher self still asked questions to the practitioner. Here, I am complicit in the disruption of the quiet calmness produced by the low light, heating, and soft mats in their co-creation of nap time. The turning on of bright lights and the volume increase of adult voices is dictated by the power of time and, therefore, the routine, which regulates the children's bodies. However, the turning off of the lights and the silence required for the children to sleep regulates, again through the power of the routine, the adult bodies. As discussed in chapter two, section 2.3, the concept of care in ECE requires practitioners to be selfless and prioritise the health of children's bodies over their own. Therefore, naptime means sitting on the floor or on small chairs in silent discomfort while monitoring the breathing of the children who sleep. What is produced is the ebb and flow of power which disrupts the adult/child binary. In this sense, the power of the routine and the lights regulate all human bodies within the room, shifting power beyond the taken-for-granted perspective of the authority-holding (adult) practitioners.

The inside spaces were highly regulated in comparison to the outside spaces. In the outside spaces the practitioners tended to either sit or stand back and permit the children a sense of freedom to engage in unfettered abandon as they ran, jumped, crawled, threw, and kicked objects, and used their voices to make loud sounds that were not allowed inside. Feminist new materialism seeks to disrupt dualisms and the binary between human and nature; as such there is benefit in refocusing on the child as *wild* and situated within nature (Harju & Rouse, 2018) something that I explore in the following section. The outside spaces were associated with lively, physical play while the inside space was expected to be a place of calmness and focus, in terms of play and learning. However, this distinction was rarely the case. The entrenched expectations and assumptions meant that spaces were also interlinked with stereotypes about how children express gender. For example, the outside space was considered to be, by many of the practitioners, a space for boys to be "boisterous".

Practitioner conversation extracts:

February 2022:

"Erm, I think boys they are more outdoors. They exploring. Girls they are listening, they are practicing what you say to them". – Ana (practitioner)

May 2022

"Girls develop quick, faster with the social side of thing than boys. Boys, physically, develop quicker than girls. Unless they've got special needs. So, a boy would be quicker at picking up how to ride a bike than a girl. Then, the girl would be more into playing with other children. Like, the girls will go and join in groups and play together a lot quicker, like sitting down and reading stories together, doing puzzles together and that lot. Whereas boys, just want to run around a lot more." – Lacey (practitioner)

July 2022

"Boys, I've noticed recently, are very boisterous with one another, the way they play. Erm, girls aren't really like that, they play nicely and happily by themselves, quietly. So, erm, yeah in that way the boys are like, they're very much more physical with each other than the girls are." - Emma (practitioner)

The practitioner conversation extracts above highlight that the boys were perceived as needing space for 'boisterous' activity. They needed lots of space to carry out their perceived innate need for physical play and exploration, while girls were seen to prefer quiet spaces. These views about activities being gendered can be described as stereotypical (Romero- Abrio, 2021). Such play was associated with either the inside or outside space more than *who* was playing. When in the outdoor spaces, the boys were typically left to play how they liked, including being loud, physical, aggressive, and violent. This was not permitted in the inside space. The practitioners tended to either congregate and talk amongst themselves or station themselves in a specific area of the outdoor space, such as the mud kitchen or sand pit, where children would play. However, it was usually the younger children or the girls that gravitated to these areas and opted to play with the adults.

The rules regarding the spaces in the nursery resulted in regulation of how bodies, voices, and play objects were used. This regulation was linked with stereotypical views about how girls' and boys' play. However, the data show that the stereotypical views of how boys, for example, like loud, physical play and girls like quiet, stationary play, was contested by the nuanced views held by practitioners. For some of the practitioners, this was recognised, or was beginning to be recognised, as the conversation extracts below suggest.

Practitioner conversation extracts:

March 2022

"You could have a boy that perhaps you think has got more energy, need more climbing and things like that, need to be outside more but actually I think you can get some girls like that as well." – Penny (practitioner)

August 2022

"I've had boys being able to fully write names and things like that, whereas girls have shown no interest, and again, I think it's down to that stereotype where girls normally sit down and play and they play and they're quiet, and they like certain things. And boys need that big boisterous thing, I think. Yes, to a certain extent it is, but there's, I don't think, there's definitely not a gender thing to why boys can't sit down to do writing, and girls can go and be disruptive in the mud." - Alice (practitioner)

September 2022

"Boys are usually more, erm, they like to play with things like dinosaurs and cars and boisterous things, running and football. While girls will [pause], then some boys like to play with the dolls and everything, [pause] even the home corner." - Melinda (practitioner)

The above three extracts taken from practitioner conversations highlight that, despite practitioners having stereotypical views about children, their nuanced understandings of what they considered to be normative behaviour exhibited by girls and boys meant that when discussing children's behaviour, they began to consider what they saw in practice. Wingrave (2018) found that practitioners did not always account for their own/the ECE setting's role in how gender was produced. The practitioners in the current research reflected on this, they seemed to realise that their own experiences of practice did not meet the commonly believed stereotypes about young children. Rather, it can be argued that their own situated knowledges (Haraway, 1988) contributed to how gender was produced within the settings. This was particularly true for Melinda. The pauses in her comment allowed me to observe a moment of consideration from Melinda. This demonstrates how power and gender are entangled in evolving assemblages. In other words, the practitioners have the power to change their practice and update the material environment to provide more opportunities for children to explore gender in new and creative ways. Or as Black-Delfin (2020, p. 14) states, opportunities

to challenge and disrupt gender norms through the materiality of space requires practitioners and children's "active and intentional participation".

6.4 Preschool: gender and power

The preschool spaces were highly gendered within the binary of girl/boy seemingly by the children, practitioners, and objects in the spaces. There were some children who challenged the norms around gender. However, most of the children aged three and four played in gendered peer groups and with gendered objects and activities. However, some of the practitioners believed their setting did not encourage traditional gender stereotypes and norms. Alice commented:

> *"I think nurseries try and work around everyone's likes and dislikes and interests. We try and offer all opportunities for them [children], but obviously parents are their main, like, one of their main influences [of gender], at the end of the day."*

Alice felt that the setting catered to the needs of everyone, and that parents were the main influences in how children learned gender. The current research asserts that gender is omnipresent (Callahan & Nicholas, 2019), and therefore, Alice's reflection that a parent's view influences their children in terms of gender is likely to be true, as laid out in chapter two, section 2.4.1. However, Alice felt that, as a result, the setting and the practitioners created a more gender neutral, and equitable environment. Penny had a similar view:

> *"Sometimes the girls are playing with the dolls, that's not down to, that's not down to something we've done."*

Penny, worked in the baby room. She did not seem to have an answer as to why the girls started playing with dolls and was unable to explain the phenomenon when I enquired. But she felt that the practitioners did not influence children's behaviour, similarly to the practitioners in Wingrave's (2018) study who held similar views. Finally, Abby acknowledged that ECE practitioners whom she had previously worked with had viewed gender in stereotypical ways which included actively encouraging children to play in normative ways.
She explained:

"I think nurseries are more relaxed now. Like, when I first started working in nurseries and if a boy wanted to wear a dress, then people might have been more like 'Why don't you dress up as a builder?'. But I think since gender nonbinary has come about people are more relaxed, like no one says a boy has to be a builder and a girl has to wear a dress now. I think staff just, yeah, we just have a better understanding."

Abby mentioned the term *non-binary* (i.e., a gender expression which does not 'fit' with the characteristics of being a girl/woman or a boy/man). Although Abby commented that the rigid and fixed ideas around how girls and boy *should* play had been reconsidered in ECE practice, what was observed during the fieldwork suggested otherwise. Warin and Price (2020) found that issues concerning gender were generally seen as unproblematic by trainee ECE practitioners, and that gender was not a prominent theme throughout ECE training. Therefore, it can be suggested, through analysis, that practitioners (in this research) may feel as though gender issues are either not relevant in their ECE setting, or that practice has evolved beyond such issues (i.e., Abby's comment regarding practitioners having a better understanding now). However, in practice, there were many instances where the practitioners (and the spaces which they helped to create) reinforced gender norms. This was particularly true in the open spaces (see chapter five, section 5.3) where practitioner surveillance of the children was at its highest. As such, this is where power dynamic between adults and children were most apparent.

Fieldnotes *20th January 2022: Preschool room*

Noah (boy, 4) stands and watches the group who are inside the book corner/tent and ignoring him. Joey (boy, 3) and Jack (boy, 3) are sitting with their backs to Noah while Luke (boy, 4) and Nate (boy, 3) lay on their backs looking at the disused mobile phones. There is quiet chatter between them. After a few seconds Noah picks up a metal object that resembles a toilet paper holder and drops it on the floor. BANG! He tries to regain the attention of the group "Look guys, look did you see what this does" he says as he laughs before picking it up and dropping it again "See!". Joey and Jack turn to look, and Noah takes his moment, he quickly squeezes into the tent between Jack and Joey and lays down next to Nate. Noah puts his feet up, so they rest on the side of the tent. He turns his head and looks at Jack, and says something quietly to him, frowning and showing his teeth as he does. I can't hear what Noah says but

Jack reacts. He clenches both fits and punches Noah in the arm three times, alternating fists. Martina (female practitioner) sees this and calls Jack over to her. Martina is crouched next to a table just outside of the book corner tent. She asks Jack to sit next to her but carries on talking to Ivy (girl, 4) and some of the other girls at the table. Jack tries to move away "No, Jack I just want to talk to you, but in a minute" Martina states firmly. Jack sits on the floor on his bottom looking down at his hands. He doesn't say anything. Martina then has a talk with Jack. She tells him that he and his friends are "being silly" and that he should choose something for him and his friends to do. Jack doesn't say anything, but Martina suggests a game and Jack smiles "Yeah! A game!".

Martina calls the boys out of the book corner tent. She leads them over to the rug in the back corner and asks them to all stand up "We're going to play a game". Luke, Nate, Noah, Joey and Jack stand behind Martina as she crouches down next to a large, wooden cupboard. Martina opens the door and rummages around inside. The girls begin to gather around too, the children push up closely to try and sneak a peak in the cupboard. Adaline (girl, 3) asks, "Can I play?". Ivy joins in, "Can I play?". Without turning her head from out of the cupboard, Martina tells them, "This is just for the boys". Martina reappears from the cupboard with a dominos-type game. She sits down on the rug surrounded by children. Martina says the names of all the girls followed by "Can you go and play please. Jack, Luke, Nate, Noah, and Joey, can you sit down please". Nate, Luke, Jack, and Noah sit around Martina (who is sat in the corner) to form a small circle. Joey wanders off. Ivy, Adaline and Nicoleta (girl, 3) stand around and watch. Adaline asks, "Can we have a go?". Martina replies, "You will all get a go, it's just the boys first". The girls watch for a little longer as the boys have Martina's undivided attention. They soon wander off.

These fieldnotes illustrate the ways in which spaces in the preschool room are entwined with bodies, matter, power, and gender. The tent's fabric provided an enclosure, or subversive space (Black-Delfin, 2020), where masculinity, jealously and violence were performed. The table, however, was a feminine domain, where the girls chatted quietly with the female practitioner, Martina. A sense of calm surrounded the conversations taking place at the table, while aggression started to erupt in the tent. Noah led the group of boys consisting of Luke, Nate, Jack, and Joey. He held authority which the rest of the group followed, generally without question. However, in the extract above, Noah was momentarily excluded from the gathering in the tent. He used sound and the rebellious act of throwing an item onto the floor to draw the attention of his peers. This was enough to create a moment of physical space for Noah to squeeze his body into the tent. There was a vulnerability to being on the outside of the tent

and the boy group disappeared as Noah reasserted himself by baring his teeth and making a comment to Jack. Jack reacted with forceful violence. The tent and the table were part of the networks of becoming gendered in the moment. The tent was the facilitator of violence. It hid the boys' bodies to allow for quiet whispers to antagonise, and for fist to meet arm. The table, out in the open space, was entwined with the 'acceptable' behaviour. The quiet chatter of well-behaved girls.

Violence was often a theme in the play of the group of boys in the preschool room. It was generally 'pretend' violence such as in superhero play, but Jack's reaction to Noah was 'real' physical violence, which Martina witnessed. However, this violence and conflict between Noah and Jack was not punished, rather it was rewarded by the privilege and thrill of being allowed to play a game from out of the cupboard, a space which only practitioners were granted access. The cupboard brought excitement and mystery, while facilitating segregation. The cupboard and the game became with the boys and Martina to manifest a binary of girl versus boy. Where being a boy meant a special treat and being a girl meant being dismissed.

Practitioners have the capacity to influence gendered learning by, consciously or not, bringing their own socio-cultural views into practice (Paechter, 2007). This moment created a sense of gendered power where the girls were positioned as lesser and Other to the boys. The power held by practitioners was often a source of gendering across the three sites. Groups of children were consistently referred to collectively as "girls" or "boys". In the same vein, children were praised in gendered terms e.g., "good girl/good boy", something that ascribed normative attributes according to binary gender (Callahan & Nicholas, 2019). Practitioners also appeared to reinforce gender norms more often than they challenged them. For example, Cora (girl, 4) was working one-to-one with Gillian (female practitioner). They were discussing different animals and Cora stated that she liked pink animals. This led to the focus of the one-to-one learning being derailed by the colour pink. Gillian did not try to bring Cora's attention back to the subject of animals. Geoffrey (boy, 4) often became disruptive during any activity which required sitting, such as group times and mealtimes. Boys often receive more practitioner attention than girls in ECE (Ärlemalm-Hagsér, 2010). Geoffrey's disruptions typically resulted in him receiving practitioner attention, usually concluding in Geoffrey being granted special roles or responsibilities at mealtimes or choosing the songs or activities at group times. This was rarely granted to the children who were quiet and listened – typically the girls. Data thus showed how practitioners often attended to boys more than girls. This is

likely because girls and boy's behaviours (even if they are similar) are perceived differently by practitioners, which reinforced gendered behaviours (Gansen, 2018).

Across the sites, most of the preschool boys showed a strong aversion to anything that was associated with the girls and femininity. Masculinity is associated with being dominant, brave, and strong and as such dismisses other ways of being (Paechter, 2012). The discourse around traditional notions of femininity and masculinity are subtly embedded in the material-discursive nursery environment. Toys, roleplay items, dressing up, language, music, practitioners, peer groups, and activities are all entwined with gender norms which then produce gendered bodies and gendered knowledges in the ECE settings. Boys begin to associate things which are considered feminine to be lesser, or Other to themselves and therefore they reject such activities, toys, behaviour, and even the girls themselves. It is further suggested that boys tend to enforce gender norms more so than girls because there is less flexibility, in terms of social acceptance amongst other boys, to deviate from normative masculine behaviours (Prioletta & Davies, 2022). Therefore, rejecting femininity becomes part of what it is to be masculine.

Nate and Jack initiated a chasing game where they recruited Adaline (girl, 4) and Amara (girl, 3) to chase them while whispering and giggling to each other that the girls were the "baddies". On the surface, this play narrative created a goodies/baddies oppositional binary (Sherbine, 2020), reflecting the already established and understood distinction between girl/boy, which the preschool children adopted in the way they organised their play. However, the power of movement and its interconnectedness with sound brings forth the queerness of the moment. Hackett and Somerville (2017) discuss movement and sound, where movement is often required to produce sound. The physicality of running towards and away from other children produced sound through giggles and whispers. The movement and sound inspired new ways of being. Hackett and Rautio (2019, p. 1020) argue that "Rather than viewing running as something children do, we want to consider running as ontologically *a priori* to 'child' – as giving rise to diverse modes of being a child." The environment and the child are not separate in the event, rather they produce each other *with* movement and sound. The environment, steeped in rules/lack of rules which allow for more physical, noisy encounters, as well as the layout and shape of the outdoor space, inspire and create different movements from the children which, in turn, co-constitute the outdoor space as being *for* loud, physical activity. As such, the movement, or running, produces the child in that moment. Hackett and

Rautio (2019, p. 1021) state that "Different kinds of running emerge temporally, spatially and materially –all producing different variations of a 'child'". Gender norms are reproduced in such play, but this transcends accepted notions of human intentionality. Rather, how the children become gendered bodies is through intra-actions between all entities in the moment.

This can be applied to the events in the earlier extract, where the movement and volume of sound in certain spaces in the preschool room co-constituted the reproduction of gender norms. The 'hidden away' nature of being inside the tent provided shelter which produced movement, tension, violence and increased volume. Where the table, in it's exposedness of being in the middle of the room, co-created, with rules and expectations, quietness and stillness. This was disrupted by the movement around the room and the intra-action with the cupboard and the game which produced different ways of being. The girls became loud, and the boys became quiet as power shifted and, with the materiality of the room, reproduced 'Otherness' which was steeped in gender norms.

6.4.1 Ivy and the boys

In the preschool room, gender was perceived as binary (girl/boy). This was reinforced by the children, the practitioners, and the toys in the room (e.g., cars and dolls). Gender as binary is steeped in assumptions around essentialism and gender roles (Callahan & Nicholas, 2019). Such assumptions have an historic genealogy. However, modern misogynistic movements fuelled by popular figures on social media, or 'influencers', have seen a more recent popularisation of misogyny amongst boys and men. A recent and notably pernicious example of this is the 'Andrew Tate Effect'. As Haslop, Ringrose, Cambazoglu, and Milne (2024) explain, from the summer of 2022, Tate, a social media 'influencer', used his online platform to promote misogynistic opinions about women, including how they "should" be subservient to men, that they "should" take responsibility for rape, and that they "are" the property of men. While Tate has been banned from some social media platforms, he is still active on others (e.g., he has a podcast available on Spotify). As such, his perspective on the treatment of women has become accessible for boys and young men who have, concerningly, demonstrated an uptake of Tate's values (Fazackerly, 2023). His ideology and persona have gained cultural traction and has a powerful impact on boys and young men:

"Tate's ability to play on boy's fears about their place in a concocted gender war by positioning himself as an 'authentic' voice of 'realism', and to appeal to boy's interest in shock, cringe, and banter humor, are potent forms of online homosocial currency which can be routes to making Tate's misogyny seem more acceptable." (Haslop et al., 2024, p. 8)

This has far-reaching implications which reach even very young boys in ECE. It has been argued that the communities formed on social media can have more wider spread implication that what is realised (Pérez-Torres, 2024). A study on the impact of online misogyny conducted by the UK internet safety group, Internet Matters (2023), found that some of the younger dads surveyed held a favourable opinion of Andrew Tate.[1] As discussed in chapter two, section 2.4.1, family values can influence young children's understanding of gender norms and gender roles. If parents and/or older siblings are influenced by misogynist figures such as Tate, this has the capacity to trickle down and influence the perspectives of young children. Therefore, concerns have been raised around "how social media influences the early shaping of self-image and identity in children" (Maltby, et al., 2024, p. 12).

Misogynistic views position maleness as brave, strong, assertive, and powerful, while positioning femaleness as Other, subservient, and emotional (Medland, 2020). The majority of the preschool boys in the current study were loud, domineering, and exhibited behaviour that was steeped in aggression across the sites. While the preschool girls tended to play together, engaging in different types of play such as drawing, roleplay, but sometimes they too engaged in aggressive play (see section 4.2). However, there were rarely moments when the girls and boys played together. The assemblage created by the intertwining of gender, misogyny, expectations, knowledge, and bodies created a vehicle for power amongst the children. The boys in preschool rooms formed a group from which none of the younger boys or the girls were permitted to join in. This seemed to be an established unwritten social rule that tended to be adhered to by the children as well as the practitioners. However, one girl, Ivy (aged 4) often attempted to push back against this rule. Ivy generally played with the other preschool girls, but she also and often attempted to infiltrate the boy group. The following

[1] The study from Internet Matters (2023) surveyed 1,000 children aged 9 to 16, and 2,000 parents of children aged 4 to 16. It does not state what percentage of the parents were dads. However, the study does state that 32% of the participating dads held favourable opinion of Tate, while 56% of dads aged 25 to 34 held Tate in positive regard.

extracts from fieldnotes, alongside ones included elsewhere, depict moments where Ivy's persistent desire to engage with, sometimes lead and/or dominate, and *be one of the boys* is demonstrated.

Related extracts from fieldnotes from 2022:

23rd August 2022:

Ivy and Joey (boy, 4) return from the bathroom. Joey gets a cereal box and joins in at the table with Jack and Nate (boy, 4). Ivy stands at the table and watches for a few seconds before using both hands to push her hair from with side of her face and asking, with almost a hint of annoyance in her voice, "are you cutting out boxes again?". Nate doesn't look up but simply says, "yeah", in response. Ivy picks up some scissors and cuts up some of the off cuts of the boxes, but after less than a minute she leaves the group and walks across the room to another table.

23rd August 2022:

Jack and Nate are sitting in the tunnel in the garden. Jack turns to Nate and says, "I wish spiderman could be alive". Nate replies, "I wish spiderman could be alive too". Jack: "And the Hulk, and the whole universe". Nate: "And Sonic, and Harry Potter". Jack: "And a [sic] eyeball", they both laugh loudly. Ivy climbs into the tunnel next to Nate, he sits up and looks at her before firmly asking, "what do you even want?". Ivy smiles but then she gets out, Nate follows her, and Jack gets out of the tunnel at the other end. Nate and Jack run off over to the mud kitchen where they sit on a bench with Amara and Adaline, leaving Ivy behind.

30th August 2022:

At the drawing table, Jack draws three human-like figures on the paper followed by some other drawings that aren't clear. Jack loudly says, "Blue for Joey! Blue for Joey!". He has drawn Joey in blue and a girl in pink. He then uses yellow to draw animals including "a dog" and "a jellyfish". Ivy, who is on the right, leans towards Jack and firmly tells him "Put the lids back on the pens!". Jack looks at Ivy and tells her "I putting [sic] animals on my paper 'cause [sic] I like animals!". But Ivy continues to firmly tell Jack to "put the lids back on the pens!". He ignores her and continues drawing.

30th August 2022:

Luke (boy, 4) comes into the book corner and lays down to one side. Ivy also comes over and lays on top of Luke, he firmly tells her "Get off!", as he

scrunches up his face. Ivy then lays next to Luke; Jack is next to her, and Joey sits next to Jack at the end. They all lay on their back and look up at the wall to the birthday board. Luke says "Noah, where are you?" which causes Jack, Ivy and Joey to join in as they all repeatedly and rhythmically chat it over and over. Ivy seems to become over excited as she reaches her hand over to Jack and squeezes his face shouting "Silly boy!". Jack laughs too.

The extracts from fieldnotes presented above suggest an evolving narrative of gender and power in the preschool room. There are multiple factors at play across the extracts, including time, space (see chapter five), expectations, social understanding, and the objects in the spaces. However, what can be seen through the extracts is something which was also observed in Lyttleton-Smith's (2019, p. 667) research, whereby there was a "constantly shifting subject positions of power". Power is in constant flux within the ECE settings, which is evident in the above extracts. However, this power is produced as part of the ever-shifting assemblages which *are* the settings' *becomings.* As Bennett (2010) points out, things do not act by themselves, rather things are brought into being through intra-action. Situated knowledges (Haraway, 1988) are brought forth through these extracts, where the children's own knowledges are complicit in contributing to how events occur. However, it is important to point out that this is part of larger assemblages which inform their knowledge and which also, in turn, shapes how they gender each other and the objects around them whilst simultaneously being gendered by each other and the objects around them. Lyttleton-Smith (2019, p. 667) describes this in the following way: "When considered as a performative phenomenon, gender is not matter or a discourse that interprets matter but is something that comes to matter through the iterative becomings of subjects and objects in space and time." That is, gender, like power, is part of the larger assemblages and, therefore, part of the materiality of the ECE setting. From this perspective, the affective power of the objects in the extracts such as, the boxes, scissors, tunnel, pens, and the book corner can be taken seriously.

Bennett (2010, p. 5) describe the objects/things she encountered as "not restricted to a passive "intractability" but also included the ability to make things happen". This is true of the objects in the extracts. The scissors, as they cut the boxes, generated affect. That is, they affected Ivy to feel frustration. It was the scissors-cutting-boxes and their affective force which excluded Ivy from the activity. Therefore, what was generated from this moment was messier and more complex than a simple reinforcement of the gender binary. Rather, this intra-action

generated emotions and movement which directed Ivy away from the group of boys. Similarly, the pens and the pen lids had capacity to make things happen. The moment highlights Ivy's knowledge of the rules (lids must go back on pens) as the animacy of the pens and pen lids are affected by and affect Ivy and Jack through their colour (e.g., Jack's ascribing of colour to his drawings which highlight his associating of colour to gender) and their materiality. Here, Ivy is compelled to reinforce the rules which she has learned through the practitioners and the pens themselves. The pens and their requirement to stay moist with ink demand their lids be return to them in order to remain functional. Whether this reason for putting the lids back on is understood by Ivy is not clear. However, the pens need for their lids is still produced through this intra-action. Ivy's concern is steeped in care and concern which, through its association with femininity, seeks to gender her and Jack (through his un-caring) in this moment.

Thinking with feminist new materialism "expands our focus from thinking purely about what ideas surround children, to considering what opportunities and possibilities for gender enactments surround them" (Lyttleton-Smith, 2019, p. 668). That is, the spaces within the setting, such as the book corner, provided different ways of *doing* gender. A reductive reading of such events could binarise children in terms of gender. However, by considering the possibilities of the material world in its emergence *with* children, new ways of *doing* gender can materialise. For example, the entangled bodies in the book corner grab, shout, scream, and laugh. Likewise, the tunnel provides shelter and conjures thought and discussion. The environment is part of the children's becomings as they *become with* the environment. That is, "children's intra-action in these spaces and with these materials contributes to the manifestation of the children's co-construction of themselves" (Black-Delfin, 2021, p. 601). As such, how gender is manifested in ECE settings is embedded in the intra-actions which take place. Gender produces, and is produced by, intra-acting human and more-than-human entities which co-construct how children-as-gendered-bodies come to be.

6.4.2 Dissenting voices

Despite the rejection of, and hostility towards, the feminine seen by the boys in the preschool rooms, there were moments where this social rule was temporarily ignored. Jack (boy, 4) enjoyed the company of Adaline (girl, 4). They often played together and even described themselves as 'best friends', something which Ana (female practitioner) had also shared with me on my first visit to the preschool. On one occasion as he raced up the wooden

steps of the wooden platform to meet Adaline, Jack proudly announced "*Nate said that boys don't like girls, but I like girls*". Despite Jack's enthusiastic declaration, such interactions with Adaline only occurred when Luke (boy, 4), Noah (boy, 4) and Nate (boy, 4) were not at nursery. Jack's masculinity was thus complex and expressed in multiple ways (Thangaraj, 2022). While Jack might sometimes engage in violent roleplay with the boys, he would also engage in silliness with Adaline. However, gender expressions are not fixed; they are flexible. How they are policed by other children can also be flexible. For example, there was a particular occasion when Jack did express his gender in a less conforming way with Luke.

Fieldnotes: *24th March 2022*

Jack and Luke are both laying on the ground. Jack lays on his left side and Luke, also laying on his left side, is tuck up close behind Jack and Luke has his right arm of Jack, holding him close and whispering, "baby is sleeping". Ivy (girl, 4) is sitting on the ground next to Jack and Luke's heads. She leans forward so her head is over theirs, she then leans in further and hugs them. Jack then wriggles free and sits on the red chair which is just behind where Ivy had been sitting. Luke rolls on to his tummy and looks up at Jack who is smiling at Luke, "That's your baby chair" Luke says with a smile on his face. Luke then stands up and backs up to Jack then opens his legs and backs up further so that one leg is either side of Jacks legs as he sits on the chair. Luke wiggles his bottom from side to side and Jack puts his hands on Luke hips as he wiggles. Both Luke and Jack giggle loudly. Luke then sits down on Jack's lap and Jack wraps his hands around Luke so that they meet on Luke's tummy. Luke looks back and says, "My turn now", and they swap places. Jack now sits on Luke's lap, and Luke wraps his arms around Jack's waist. They do not giggle this time, rather they sit quietly, both looking around the garden.

This extract shows a moment of intimacy between Jack and Luke. They physically touched and hugged each other, whilst showing what appeared to be joy and contentment. The uncertainty of not knowing Jack and Luke's intentions in this moment provides an insight into the messiness and unpredictability of material encounters (Osgood & Odegard, 2022). By staying with the movement rather than *looking for data,* or by conversely *doing nothing (*Aslanian, 2023) insights emerge. It is possible to see how the boys' bodies become connected with each other, with the ground, and the chair through movement and through the sense of

touch. Connecting through touch (and the other senses) can be described as producing knowledge that goes beyond discourse (Pink, 2015b). That is, Jack and Luke communicate through touch, as well as movement and sound (e.g., giggling and whispering). The co-operative entangled dance between the two human bodies and the chair, consisted of taking it in turns to experience being sat on/sitting on. It would be easy to apply assumptions to this scenario; but we cannot know the boys' motivations or their feelings. However, what the moment demonstrated was that Jack and Luke were not always engaged in violent and/or aggressive play. Rather, they were able to connect in more gentle ways – albeit such moments only occurred when the older more dominant boys were not around (i.e., Noah and Nate).

It was not only the boys who pushed back against gender norms. The girls did too. Cora (girl, 4) tended to challenge the gender norms associated with being a girl. Rather, she enjoyed physical play, playing in the dirt, and finding bugs. She would occasionally show pride in wearing the colour pink whilst practitioners would reward her with praise such as telling her she looked "pretty" when wearing more feminine-looking attire. Cora's favourite activity was evidently running. She would spend much of the outdoor play time running around the garden asking practitioners to watch her and stating that she was "*really fast*". Bailey (boy, 2) and Louis (boy, 4) would often join in by running with Cora. Bailey seemed to like Cora, and he would often follow her around during inside play and join in with whatever activities Cora would be participating in. Louis, however, would sometimes disrupt Cora's running by antagonising her by caller her "*a chaser*", to which she insisted "*I'm not a chaser, I'm a runner!*". This seemed like an important distinction for Cora. *The runner* (i.e., Cora) seemed to be *out in front*. They were leading the pack. It is possible that, for Cora, being *a chaser* would mean relinquishing the role of *being in the lead.* Being in the lead of a race or being at the front of the line can present as important for young children, as seen throughout the preschool rooms whenever the children were instructed to *line up.* This position could be a source of power for Cora. Louis frequently tried to disrupt Cora's primary position or lead. On one occasion he threw a wooden plank at Cora while she was running, causing an injury to her leg. The theme of violence in boys play has been noted in chapter five, section 5.4. However, this is not exclusively the case. Although it occurred less frequently, there were times when girls expressed themes of violence in their play, as the following extract demonstrates.

Fieldnotes: *9th August 2022*

In the garden on a hot and sunny summers day, Adaline (girl, 4), Nicoleta (girl, 4), and Imogen (girl, 3) pick up plastic hula-hoops from the ground and crowd around me as I sit on the ground. All three of them tell me to watch them do something. Adaline puts the hoop around her waist and spins it while wiggling her hips, Imogen laughs as she copies Adaline, and Nicoleta attempts to do a handstand in the middle of her hoop which she has placed on the ground. I make general comments such as "Wow, that's good", "Good moves", "Well done". Amara (girl, 3) approaches with a hoop of. Imogen and Adaline move away so I stand up. I position myself in a more shaded area, by the fence. Amara pushes her hoop through Nicoleta's, so they look linked, as they smile and giggle at each other, Nicoleta says "Stop". However, she doesn't get upset or move away, rather she continues to giggle. Amara then pulls her hoop back, then lifts it up and puts it over Nicoleta so it is around her waist, Amara is still holding it. Nicoleta continues to laugh as well as telling Amara to stop.

Nicoleta manages to wiggle downwards and escape from the hoop as she runs and shouts for Amara to follow her to the log, on which she stands. However, Amara doesn't follow Nicoleta, rather she sits on the ground just in front of me, leaning back on her arms with her hands pressed on ground slightly behind her. Her knees are bent up as the hoop lays over her legs. She wiggles from side to side as she tells me "Nicoleta wee'd on spider [sic]", smiling with glee as she says it. I repeat this back as a question and Amara laughs, "Yes, she wee'd on the spider". Nicoleta is close enough to hear what Amara is saying, and she shouts out "No I didn't!". Amara looks at Nicoleta and smiles then looks at me and smile as she tells me that Nicoleta had kicked her. I ask, "Did she?" with scepticism. "I didn't!" Nicoleta shouts. "She did" Amara tells me, still smiling, "I will smack her". Amara giggles as she turns her head to look at Nicoleta. Nicoleta laughs while throwing the hoop she has been holding towards Amara, "I throw it at your back!", Nicoleta informs us. They both laugh as Amara stands up to meet Nicoleta as she jumps down from the log. Nicoleta tells Amara, "I [sic] smack you". They both look at each other and laugh.

In this extract of fieldnotes, there is playful talk of urinating, smacking, and throwing objects between Amara and Nicoleta. These themes are not typically seen in the play of the girls. Both Amara and Nicoleta often demonstrated attributes and games associated with themes of kindness, caring, and being creative, during roleplay and drawing. Earlier on in the day, Amara had noticed that Nicoleta had a cut on her knee. She gently examined Nicoleta's wound, and in a soft voice asked her if she was ok. The violence that is presented here by

Amara and Nicoleta, which was brought into being through the plastic hoop, could be considered aggressive and somewhat at odds with the rules of good behaviour in the preschool. However, the violence is received by each child with laughter and joy. There is a sense that these testing topics are being played with, and boundaries are being crossed for exhilaration. The extract thus indicates that there are multiple ways of *becoming* girl (or boy).

There are many themes which developed through consideration of the intra-action between children and the material world, each contributing to how gender is reproduced in dynamic conforming or nonconforming ways (Lyttleton-Smith, 2019). Staying with the violence expressed by Amara and Nicoleta in the extract, the way that they expressed violence was different from how the boys expressed it. Their behaviour seemed influenced by how practitioners engage with them (Gansen, 2018). The way that the violence was presented by Amara and Nicoleta hinted at fun (e.g., expressed through their giggling). It differed to the boys violent/killing/superhero play presented in chapter five, section 5.5, which was taken very seriously by the boys. This (along with the other examples in this section) inspires thinking around how girls and boys are able to *become* in ECE. There are expectations around what is deemed acceptable according to gender, which has been referred to as the *hidden curriculum* (Gansen, 2018). That is, where the assemblage of the wider social and cultural values, the institution, the material environment, and practitioner expectations contribute to the ways that children *become gendered bodies* (Lyttleton-Smith, 2019).

6.4.3 Baby play

***Fieldnotes** 20th January 2022*

The boys are up on the wooden platform playing babies and calling each other 'Dad'. Noah (boy, 4) sits on a wooden chair at the table, Luke (boy, 4) is sat on the other chair but quickly transitions onto the floor, on his knees in front of Noah who proceeds to put a pink bib around his neck. Nate (boy, 4) is crawling around the floor shouting "Daddy! Daddy! There's a spider", in a baby-like, high-pitched voice. On the wall at the top of the steps leading up to the platform, is what looks like a vent of some kind. I assume it is disused as the Noah stamps over and flicks the switch on the vent as he shouts, "I lock him away!" Jack (boy, 3) crawls over, he is behind Noah who is standing and giggles as he says, "I fart on him". Noah turns to Nate who is on all fours to the left of him and firmly says "Don't open it again!". Noah walks back over towards the table and Nate, in the baby voice says "Ow! The spider bit me!" Luke has been on his knees, crawling around with Jack and Nate but has remained almost

silent. Noah, who is the only one standing, stamps back over, flicks the switch and crossly says to Nate "I won't play if you're cheating and keep opening it!". Jack sits back on his knees and wraps his arms around Noah's right leg "Dadada" he says in a baby voice. Noah points to Luke and Nate and says, "you're the baby and you're the baby" then he points down to Jack who is still holding onto this leg and says, "You're not the baby". Jack, his voice sounds upset, "But I'm the baby!". Noah rapidly pulls his leg away from Jack "Get off me, Jack!". Jack lets go and backs off. His face has gone red as his facial expression suggests he is unhappy. Nate and Luke are still on the floor. Noah, with his back to Jack, kneels and quietly says to Nate and Luke "Go and tell the teacher that Jack pinched me. Go tell her that he pinched me". Nate and Luke look at Noah and then look at each other, but they don't do what Noah asks. Noah stands up, stamps down the steps and begins to shout in a sad voice "Martina! Martina!".

As mentioned in chapter five, section 5.3, the platform provided an out-of-sight space where children could explore themes that they may not necessarily explore under the observation of the practitioners. There are three key points that I want to draw from this extract. The first is the assigned roles in the play. The roles incorporated in this play are either *baby* or *dad.* The role of the baby in children's imaginative play does not seem to be viewed with the same fixed relation to gender as the roles of *mum* or *dad* are. The *baby* seems to be androgynous. There are no objections about playing the *baby.* This contrasts with other types of baby roleplay, such as dolls, where dolls are perceived as highly gendered through their association with girls and femininity (Hodgins, 2019). This will be revisited later. A moment in this roleplay shared similarities with an encounter analysed in section 6.4.2. Here, Jack and Luke took it in turns pretending to be the *baby*. This involved one of them sitting on the other's lap while they were hugged from behind. This moved to both Jack and Luke laying on the floor, face-to-face but close enough to each other that their noses touched. They then hugged each other tightly and held hands. This level of intimacy was rarely seen amongst the preschool boys, and certainly not when Noah and Nate were at nursery. However, pretend play can be ambiguous and allow children to experiment with norms and roles (Kohja, 2020). This type of roleplay is also often heteronormalised, where there is a mum (who looks after the baby and prepares the food) and a dad (who goes to work) (Lyttleton-Smith, 2019; Taylor & Richardson, 2016). This version, as depicted in the extract, was devoid of the *mum* role. The boys instead opted for having a dad and his babies.

The next point that I want to call attention to is the expression of power. Power appears to be central to this play. The positionality of how the boys arrange their bodies on the platform signifies who holds the power. The *babies* remain on the floor while the *dad* stays standing up, towering his tall, standing body, over the small, crouched babies. The *dad* uses his power to discipline the *babies*. Discipline and violence are the third key point taken from the extract. Black-Delfin (2020) found that girls would often enact caring routines with the dolls, where boys would change the dynamic of the play and introduced themes of violence. In the scenario described in the extract, the boys' focus seems to be on discipline rather than on care. There is even a moment of humiliation for Jack when he is excluded from the play. This led to the introduction of specific types of violence (e.g., pinching), despite the violence not actually occurring. Noah seemed to realise that he could tell the practitioner that Jack had hurt him, and that she would believe him due to the nature of the (non)event happening in an out-of-sight space. The platform thus had the power to co-constitute play topics that would likely not occur in front of the practitioners or other children. However, this was not seen from all boys. Figure 5 shows a picture drawn in my notebook by Kai, who had just turned three.

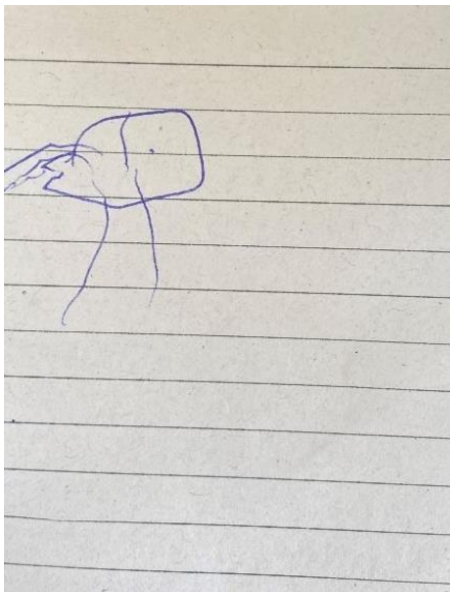

Figure 5: Kai (boy, 3): "Baby eyes. 1, 2 arms. Baby mouth"

Kai drew this picture during a sunny day when all the infants and children were outside. Jackson (boy, 7 months) was sat on the artificial grass playing with some plastic blocks. Kai showed great interest in Jackson. He offered him toys while excitedly telling me what Jackson was doing with the toys. Kai then took my notepad and pen and drew the above picture. This occurred in an open space in the middle of the garden, where all children and practitioners were able to see and hear Kai. As such, it could be argued that due to his age and perhaps limited knowledge of gendered expectations, he was not as restricted as the older boys in how he chose to direct his interest. The older boys rarely showed interest in caring for (or about) infants. This suggests why the baby roleplay between the older boys likely took place out-of-sight. In other words, Kai seemingly did not share the same limitations in terms of how he could express himself.

***Figure 6**: Dolls in the baby room.*

As mentioned earlier in this section, baby roleplay is also associated with dolls, which were popular across all rooms. However, how children approached such play varied. Doll play, which typically involved a level of roleplay, was generally the realm of the girls. Dolls were present in all rooms (from the baby room to preschool room) at each of the sites. They came in different shapes and sizes, and they were made from different materials. However, as figure 6 shows, they were typically designed to resemble white infants. As such, dolls were racialised as much as they are gendered (Hodgins, 2019). Some were designed to look like infants, some were more of a caricature, and then there were Barbie dolls which represented an idealised

version of white womanhood (Bae-Demitriadis & Ivashkevich, 2018). Dolls bring the historic into the modern nursery. They have long been a play object of children across cultures, and they remain popular today (Hodgins, 2019). Dolls have been incorporated into educational setting as well as therapeutic settings. with the perception that they have the capacity to teach nurturing and caring behaviours in young children (Blundon- Nash, 2021).

The dolls were often cared for in moments of play. Mindy (girl, 2) spent a session hugging a doll close to her body and then became distressed when another child took it from her. Benjamin (boy, 1) took a soft bodied doll from the wooden crib and cuddled it briefly while walking around the room. The older, preschool aged girls, however, were much more involved in caring-based roleplay that featured the dolls. For instance, Rachel (girl, 3) carried a large soft-bodied/plastic head doll around with her for the entirety of an afternoon session. When she stopped to join an activity or play with an object, she would gently lay the doll down on the floor or the table next to her, she would then pick it up for a cuddle again once she had finished. When Suzi (female practitioner) suddenly announced that it was tidy up time, Rachel found herself in a predicament. Suzi had instructed her to put the doll away, but for Rachel the doll was more than plastic and stuffing, sewed together to form the shape of a human infant. For Rachel, this entanglement of matter was *her baby.* Rachel approached me as I wrote my notes and in her quiet voice she asked, "Will you look after my baby?". I agreed to do so as I took the doll from Rachel and without much thought, I almost instinctively held the doll as though it was indeed a *real baby.* It is only on reflection, after this moment occurred, that I can consider my response to Rachel. Why did I take the doll and hold it as I would a human infant? What more could I have done in the moment to gauge Rachel's view of the doll, or rather, how did the doll *affect* Rachel in that moment? MacRae (2012) discusses an encounter that she had with a girl in an ECE setting during her research. She describes how the presence of a doll which she had brought into the setting evoked a response from a child, Lena, who stated that she could not remember what it was like being in her 'mummy's tummy'. MacRae goes on to explain that her response to Lena was to state that she too could not remember being in her 'mummy's tummy'. Reflecting back on her response to Lena, MacRae comments:

> *"I felt that in order to propel the idea forwards I needed to consciously develop it through communication. This could all too easily have led me back to a long educational tradition where objects are harnessed in terms of their*

> *ability to instruct. With the object rendered docile in the service of 'learning' from it*" (2012, p. 123)

MacRae's experience with the doll and Lena holds similarities to my own experience with the doll and Rachel. It is only *after the event* that I realised that the doll was not a docile, unaffecting, lifeless object. Rather, like MacRae's doll, it had much more power than I had initially considered. Returning to Bennett's (2010) concept of *thing-power,* which Bennett describes as "the curious ability of inanimate things to animate, to act, to product effects dramatic and subtle" (2010, p. 6), the doll- *a thing*- had power. In the intra-action between the doll, Rachel, and myself created gendered bodies. This object which is perceived as inanimate subtly influenced the ways in which Rachel and I handled and cared for the doll. More-than-human matter is brought into being by the norms, affordances, and restrictions, which influence how such matter is read and engaged with, which in turn affects how humans engage with such *things* (Oulanna, 2021). My own experiences with dolls throughout my life have generated situated knowledge (Haraway, 1988) which influenced my feeling of empathy for Rachel when she was told to put the doll/her baby away at tidy-up-time. I spent my own girlhood infatuated with Barbies and baby-shaped dolls. I felt a real love for each doll that I was given. These objects of love remain in the loft at my parents' house due to my insistence that they should not simply be discarded. I still feel a sense of connection to and *with* these *things.* The sense of vitality that I recognise in my dolls clearly influences how I engage with dolls as an adult. The plastic and soft stuffing, held together by stitched fabric conjure a feeling of care and comfort in me that began at a time in my girlhood so far back that I cannot pinpoint it to a certain moment in time. Cultural norms associated with being a girl at the start of the 1990s (when I was born) would have influenced why I was given dolls as a young child. My career then became taking care of infants in a baby room in the ECE sector. I was then emersed in a world of human infants and matter spliced together to resemble the infant human (I.e., dolls). Therefore, it is no surprise that I agreed to look after Rachel's *baby* in that moment. The doll's power here evoked a sense of caring and familiarity that has been embedded in me since I was a young child, like Rachel is now.

Stepping out of the moment and looking more closely at what else was happening below the surface brings into focus how the doll is a gendered play object. It is steeped in femininity that is enacted in gendered play and reinforced through the cultural connotations of it being

a *girl's toy* for learning empathy and caring. The doll itself makes gendered bodies while disrupting the generational distinction between adult and child. The doll gendered Rachel and I in similar ways. We both held the doll with care. We both saw the doll as a baby. The doll affected us both. Matter (the doll) and meaning are not separate (Barad, 2007). Rather, that are entangled and, together, produced meaning.

The dolls intra-acted with different children in different ways. Rachel (and I) was enticed to care for the doll. However, Peter (boy, 3) and Dawson (boy, 3) created a game which involved holding the dolls as high as they could and then letting them drop to the floor with a thud; something which they both found hilarious. Miles (boy, 3) held a doll by the legs and repeatedly swung it up and down so the hard, plastic head would hit the table resulting in a loud bang. Such intra-actions created gendered bodies steeped in masculinity, where the caring and empathy typically associated with baby doll play and femininity was absent. Rather, the Peter, Dawson, and Miles did not seem to see the dolls as babies that required protection. Rather, the hard plastic head of the dolls made attractive loud noises. It is tempting to impose adult interpretation to these boys-doll intra-actions, such as ascribing violence to how the boys were playing with the dolls. The boys in these moments may not have seen the dolls as 'real' babies but simply as objects of play. This, I want to argue, *de*-situates knowledge. Dolls are generally marketed as ideal objects for learning how to care (Hodgins, 2019), ideals which are associated with femininity (see chapter two). For many children (typically the girls), the dolls are treated as though they are real babies, intra-actions that are repeated and thus reinforced by the women in the settings. This is evident in how the practitioner, Suzi intervened in Miles' doll swinging, where she reminded him that "We look after our babies". Suzi reinforced the sentiment that dolls are for caring for, for looking after. They are *babies*. This, then, is the power of the doll to gender bodies. The social and cultural norms which act on the doll to produce femininity then equips the doll with the power to gender children in different ways, which then influences how the children play with the dolls. That is, "individuals, just as non-humans and things, emerge through, and as a part of, their entangled intra-actions with everything else" (Lenz-Taguchi, 2010, p. 41).

Jack (boy, 3) engaged in doll play with Adaline (girl, 4) on the platform (which is mentioned in the above extract). However, Adaline's and Jack's approaches to the care of the doll manifested in different ways. Adaline handled the doll gently while sitting it onto the pink plastic potty. Jack changed/disrupted the caring roleplay by insisting that "*Baby's done a poo*

poo. We need to wipe he's [sic] *bottom*", causing giggles from Adaline. Jack's comment resembled a care routine; after all, the practitioners at the settings did wipe the children's bottoms if they required assistance. He seemed to be engaged in care-focused roleplay, but he disrupted the seriousness of Adaline's approach to this play by incorporating forbidden words. The naked, pink, plastic doll was made to look anatomically female. However, Jack referred to the doll as "*he*". Objects are often assigned male gender through pronouns calling them "*him*" or "*he*". Arguably, Jack could also simply be using a familiar term which is used to describe him. However, Adaline does not contest Jack's use of language. As highlighted at the beginning of this section, *babies* seem to be positioned as powerless and *un-gendered*. Therefore, Adaline may not have been concerned with Jack's perception of the doll as *he.*

Baby roleplay was common throughout the preschool spaces, particularly in the play kitchen areas. Play kitchen areas offer a space in the setting where gender roles can be played out, particularly for the girls (Gelir, 2022). The girls would enact the roles of babies/infants, sisters, and mothers, while the boys would take on the roles of babies/infants, brothers, or dads. The role of infant in this play seemed to have no fixed gender assigned to it. The children had all recently been infants themselves; however, their knowledge of being a mum, dad, or sibling was gendered. Often, the children would engage in such roleplay in groups of boys and girls. Karolina (girl, 4) would typically take on the role of infant, sister, or babysitter. Quentin (boy, 4) tended to always adopt the role of infant. This roleplay typically involved mimicking domestic life. The children acted-out mealtimes, nappy changing, and bedtimes, while demonstrating affection and caring. On one occasion, Gregory (boy, 4) and Quentin were roleplaying nappy changing, where Quentin lay on his back in the outdoor area with his legs up and Gregory pretended to change his nappy. On seeing this without context, Gemma (female practitioner) showed concerned as she firmly asked "Erm, what are you doing?" causing embarrassment for Gregory and Quentin leading them to quickly stop their roleplay. Practitioners can find roleplay that they consider too intimate to be troubling (Grieshaber & McArdle, 2010), limiting the experiences in which children are willing to engage with in the open spaces. Perhaps unsurprisingly then, when groups of boys came together to engage in baby roleplay without the girls, this tended to happen when they believed they were out of sight of the adults. Arguably, there is an expectation that girls will engage in such play, but it is not seen as typical for boys due to normative ideas about masculinity. The materiality of the

spaces in the ECE setting, and the objects in such spaces (which are typically roleplay items) construct spaces where *differences* in play and desire can be achieved.

6.5 Chairs as objects of power

Chairs are an ordinary everyday item within ECE. Although there are different types of chairs in ECE (e.g., see figures 7, 8, and 9), they share a commonality in that, by design, they are all small. It was Maria Montessori who introduced the concept of scaled-down chairs and tables in the 1990s. These scaled down objects are designed to accommodate the smaller stature of young children (Bone, 2019b) and have, as such, become a standard feature in the ECE child-centred toolbox (Bone, 2019a). Feminist new materialism provides the space to account for the taken-for-granted and the mundane everyday objects and occurrences, to consider what else is made possible through encountering the typicalness of ECE differently (Osgood, 2022). This section will explore the affective capacity of chairs in the ECE spaces, including how power is shifted between and across human and more-than-human entities.

Figure 7: *highchair*

Figure 8: *wooden chair*

Figure 9: chair as seen in toddler and preschool rooms

During my observations in the baby room, and as discussed in chapter five, section 5.2, Benjamin (boy, 1) was loud, physical, and demanding of Penny's (female practitioner) attention. It was difficult for Penny to ignore Benjamin because his actions would often disrupt the otherwise calm and quiet baby room. Elizabeth (girl, 1) was often in the baby room with Benjamin; however, she was quiet and more self-contained and explored the toys and objects in the room on her own without seeming to need or want Penny's support. Snack time took place around a small wooden table where Benjamin and Elizabeth sat on small wooden chairs (see figure 8). However, during the beginning of my fieldwork in this baby room, Elizabeth would be strapped into a highchair (see figure 7) ordinarily reserved for the younger infants (I.e., those under 1). The white plastic highchair was restrictive. The seat of the chair sat atop extended legs which raised it to around 2 to 3 feet off the floor. It had straps that clipped together around the infant's small body. It held the infant's body in place as it towered above the small wooden chairs where the more physically capable infants would sit. The positionality is paradoxical, as *towering over* someone/thing is typically associated with power and authority. Instead, here it reflected a sense of powerlessness. Elizabeth was strapped in and restricted. Elizabeth, two months younger than Benjamin, could walk competently and was physically capable in terms of control over her body. However, Penny judged that she was not ready to be placed in a wooden chair like Benjamin. Control over the infant body was framed as a necessary part of the care routines (Fincham, 2022), but the reasoning for Elizabeth requiring the restrictive highchair for mealtimes when Benjamin did not was unclear.

Mealtimes are part of the typical, everyday occurrences which take place across the ECE settings, and which include the use of chairs. However, as Osgood (2022) points out, the entangled encounters between the human and more-than-human can produce affects which allow us (human researchers) to "figure with materiality and affect so as to think more intensely and act more response-ably" (p. 120). Therefore, what I could see as an observer in the baby room were two chairs, differently occupied by a girl and a boy. One chair provided the (male) body with the space to wiggle and twist, and freedom to move away from the table at will. The other chair limited the movements of the (female) body and confined it to one place. Objects, *things,* have vitality in their capacity to affect (Bennett, 2010). Where the (gendered) child sits at mealtimes is a material-discursive phenomenon (Lenz-Taguchi, 2010),

as infant body and chair intra-act. The chairs in the baby room have vitality and are steeped in power.

Mealtimes in the toddler and preschool rooms are social occasions. The children are encouraged to talk to each other and the practitioners during these times. During such events, practitioner bodies were predominantly squeezed on to small chairs around the tables with the children. The shared heights of children and practitioners alike were essential to the social and communicative aspect of mealtimes. In contrast, the differing heights of the small wooden chair and the highchair in the baby room (as discussed above) disrupted the flow of communication. Once placed in the chairs, the infants were no longer in clear sight of each other. For example, Elizabeth, once strapped into the highchair, was no longer able to clearly see Penny if she moved behind her (e.g., to get something from the small kitchen area). When Penny did sit at the table, she was positioned on the floor, at table level. The highchair, literally a *high* chair, thus positioned Elizabeth above Benjamin and, at times, Penny. The chair thus served to isolate as well as restrict the child's sightline and movement. The chairs reinforced Penny's intra-action of gender and power relations. In free play, Penny typically gave Benjamin more freedom to move and make noise, while Elizabeth's quietness was often praised. The small wooden chair gave Benjamin the freedom to move, while the highchair removed Elizabeth from the social encounters happening below her at table level. This intra-action between the infant body and the chair produced affective moments (Bone, 2019a), that is, the chairs and the human bodies are entangled to produce regulated knowledge.

The power of the chairs as described in this section contribute to the knowledge production of how gender is reproduced in the ECE setting. As discussed in section 5.4 the practitioners felt that boys were more physical and girls preferred quiet, still activities (although data throughout this thesis disputes such claims). The 'moments' (Gabb and Fink, 2015) which I observed in the baby room - where Elizabeth and Benjamin were sat in different types of chairs - demonstrated gender norms of *the physical boy/the still girl.* However, this was not through the choice of the infants. Rather, it was because of the affective properties of the chair: what the chair *did.* Within such moments, the chair initiated and enforced a gendered assumption about young children which was tightly threaded into the fabric of the ECE setting. These moments of being sat in/confined to chairs in the baby room reinforced and created cultural assumptions about what sort of activities girls and boys *like* to do as they

get older and engage with their peers and the environment. Such assumptions and practices are not limited to the children who populate ECE, but also affect the adult practitioners.

The adult practitioner is expected to sit in the small chair in the ECE setting. This uncomfortable practice signifies the de-professionalised status of ECE and the practitioners working in the sector (Mohandas, 2022). Bone (2019a) points out that the gendered nature of scale-down chairs, where adult (predominantly female) bodies are meant to rest, is not unintentional. The woman who cares is not *supposed* to put her own comfort first. The cultural image of ECE is one of perpetual happiness, positivity, and enthusiasm, something that does not necessarily reflect the range of emotions felt by practitioners working in the sector. Such emotions transcend the human body and come into being through commercialised affective forces produced by the intra-action between practitioner, the materiality of the ECE space, and cultural discourses that shape ECE contexts. This includes the small chairs which require physical and emotional labour, (Hochschild, 1983), where smiling faces conceal pain and discomfort.:

> *"Beneath the difference between physical and emotional labor there lies a similarity in the possible cost of doing the work: the worker can become estranged or alienated from an aspect of self-either the body or the margins of the soul-that is used to do the work."* (Hochschild, 1983, p. 7).

Hochschild insists that the strain of repetitive labour, in this instance repeatedly sitting on a too-small chair, changes the body. This 'alienation' between worker and the cultural artefacts of female-dominated professions, is epitomised in the vitality of the chair and its power in the production of gendered (adult) bodies in the ECE environment. Mohandas (2022) describes the painful experience of having to sit on the small chairs when researching. I experienced similar discomfort in my knees after each research session, from the repeated standing up from, and sitting down on, small chairs. I considered how I had once managed to do this all day, five days a week when I had been a practitioner myself. I felt a sense of guilt for my internal complaining about the small chairs when a practitioner, Suzi, who was in her 50s told me she had a diagnosis of Fibromyalgia, a condition which causes chronic pain throughout the body. Suzi somehow managed to negotiate sitting on the small, uncomfortable chairs all day. She shared with me that she was waiting for a larger chair to arrive to help ease her pain at work. Once the new chair arrived, it conjured excitement in the preschool room. A new

chair. A big chair. While it relieved some of Suzi's discomfort, it also created hierarchy and divide. This was a big chair for big people: for adults, not children. Site three also had big chairs. However, there were enough for all the practitioners. These chairs were a permanent fixture in the rooms and, as such, caused less excitement than newly arrived 'Suzi's chair'. The big chairs created a distinction between adult and child. When an adult body rested on a small chair, a reaction was conjured from the children with one laughing as they announced, "that's a little chair for a little girl". Discomfort, restrictiveness, and hierarchy are brought into being through the intra-action between chair and human body and become common themes felt by girls and women across all spaces in the ECE setting.

Returning to how the chairs featured in the play and learning spaces, there were only a few chairs in the baby rooms. That is, the small wooden chair and the white plastic highchairs. There were no chairs that an adult could sit on. The chairs which featured in the toddler rooms were small plastic chairs with metal legs (for an example, see figure 9). They were designed for small bodies. There were more chairs in the toddler room than in the baby room, and then even more so in the preschool room. The preschool room chairs resembled the toddler room chairs in height and material. Children's bodies intra-acted with the chairs to produce human bodies that were social and contributing. That is, in the preschool room, children were expected to sit on chairs for most of their activities. Despite the preschool children being young, the floor was no longer an appropriate place to lay, crawl, and roll on as it was in the baby and toddler rooms. As noted above, chairs restrict bodies (Bone, 2019a). The chair in the preschool room has been associated with the child *becoming* 'school ready' (Grifoll, 2019). Or part of becoming a member of society who *knows the rules.* The power of the chair to limit the movement of otherwise wiggly, and curious bodies, became a sign of success (Mohandas, 2022) served to control children's bodies and enforce their readiness to be a 'big girl/big boy'. This was evident when Ivy (4) reminded me, while I was stood writing field notes, that I was not supposed to stand up when writing (a rule set in place by the practitioners for the children). Ivy caught me more than once and each time reminded me of the rule. I complied, of course. Good ethnographic practice is to abide by the rules of the research context. The small chair and my discomfort have thus materially shaped the current research. The chair, in its different shapes, forms, and materials, is more than *just* an object. It has what Bennett (2010) refers to as 'thing power': that is vitality. Bennett explains "by "vitality" I mean the capacity of things…not only to impede or block the will and designs of humans but also to act

as quasi agents or forces with trajectories, propensities, or tendencies of their own" (2010, p. viii). Chairs across the ECE settings were active agents: human-chair intra-actions shaped generational relations and gendered bodies.

6.6 Conclusion

This chapter has considered the role of power in the manifestation of gender norms and roles in the ECE environment. Power structures the intra-actions which occur within the ECE spaces including the base rooms and the outdoor play spaces. The spaces the infants and young children occupy, the objects within them, and the gender norms, roles, and expectations which exist within the context of the nursery environment are entangled and generate powerful hierarchies. This includes the power the practitioners hold in their authoritative, care-taking role, the size of infants and young children, and the level of sounds and movements they make, which draw practitioners' attention while silencing less assertive (routinely girl) peers. Gender and power co-exist and are co-constituted. This is evident in the data as practitioners, intentionally or not, provide boys the opportunity to hold power through their responses to their assertive, disruptive behaviour, while simultaneously praising girls when they are quiet, caring, and kind. As infants and young children grow and their understanding of gender norms becomes manifest in their behaviours and sense of self, they themselves police gender norms, with boys projecting power in their othering and rejection of the girls.

Despite this, there are some moments, although somewhat rare, when gender and power were reproduced in other ways. For example, some of the preschool boys showed joy in engaging in more intimate and sensitive acts with each other. However, this tended to be in the out-of-sight spaces, such as the platform, or when other children who may tease them were not in attendance. Whilst some children would challenge gender normative play, such as Cora being loud, physical, and assertive. It is argued that it is more acceptable for girls to engage in play, which is associated with boys, than it is for boys to engage in play which is typically associated with girls (Prioletta & Davies, 2022). Therefore, Cora's assertive, masculine play occurs in sight of the practitioners without comment from the practitioners or her peers. While boys tended to restrict their feminine play to the out-of-sight spaces, to avoid teasing and ostracization from the other boys (Black-Delfin, 2020). Power is inextricably tied into and structures how infants and young children learn gender in ECE. Power hierarchies are not

immutable. They are flexible and unstable and can evolve and change through intra-acting human and more-than-human encounters. However, gender norms are perpetuated and upheld through the power structures which inhabit and shape the spaces of ECE.

7. Chapter Seven: The Co-Constitution of Matter and Gender

7.1 Introduction

> *"…inorganic matter is much more variable and creative than we ever imagined. And this insight into matters inherent creativity needs to be fully incorporated into our new materialist philosophies" (DeLanda, 1997)*

The materials that exist within ECE settings are vibrant and dynamic; they intra-act (Barad, 2007) with human and more-than-human bodies to forge moments of learning, play, being, and becoming. As such, like DeLanda says, matter has much creative potential in the becomings of the world, including matter within ECE. Within ECE settings, ongoing intra-actions produce moments where gender manifests and is co-constituted within the ECE spaces. Feminist new materialism recognises the value of decentring the human and the role of the material world (Truman, 2020). It also offers a way to highlight meaning that comes from attentiveness to difference through diffractive analysis (see chapter four, section 4.6.1). This chapter focuses on seven specific more-than-human materials which featured in the data from the participating ECE settings: a purple bucket, playdough, sand, outdoor play equipment, multispecies (e.g., snails and humans), hair, and the notebook used to record fieldnotes. Each section starts with the objects, viewing them as participatory (Pacini-Ketchabaw et al., 2017) and illustrates how gender is co-constituted with and through more-than-human matter in ECE. By starting with more-than-human intra-actions, subjectivities become multiple across entangled actants rather than oriented around the individual (Osgood & Giugini, 2015). "All matter can be understood as having agency in a relationship in which they mutually will change and alter in their on-going intra-actions" (Lenz- Taguchi, 2010, p. 4). Therefore, understandings of how gender transgresses the human body and is manifested in multiple ways through multiple intra-acting entities within (and including) the daily routines are highlighted. The objects of focus in this chapter are not special, rather they are among the usual, *ordinary things* entangled within the usual, everyday routines that can be observed within the ECE settings.

7.2 The purple bucket

The nursery rooms across the three sites featured human and more-than-human matter which came together to in a range of dynamic and generative intra-actions. One such more-than-human object was a purple silicone bucket, like the one shown in figure 10. As noted in previous chapters, intra-action is the coming together of the human and the more-than-human which are then changed by the event (Barad, 2007). As the purple bucket travelled around the toddler room, its purpose was changed by the toddlers as they negotiated its function as well as their encounters with each other. By decentring human subjects (the toddlers), focus can be shifted to what the purple bucket made possible through the multisensory and affective intra-actions across the observed moment (Osgood & Giugini, 2015). This section will use data extracts and analysis to illustrate how the purple bucket, a vibrant material object, informed how gender materialised within the toddler room. The fieldnotes in this section are split into chunks of interlinked data with diffractive analysis running throughout. The data describes a free play (that is, where play or learning is not structured or adult-led) session in the toddler room where the infant and toddler cohorts had been joined together due to staffing issues.

Figure 10: *The purple silicone*

Fieldnotes: *23rd November 2021*

There is a large purple silicone bucket in the toddler room which has handles either side of its rim. Gus (boy, 2), who is standing in the middle of the room, has the bucket placed over his head and resting on his shoulders. Gus and the bucket remain still in the middle of the otherwise loud and chaotic toddler room. Helena (girl, 2) notices what Gus is doing and walks slowly towards him,

her eyes fixed on the purple bucket. Helena reaches her hands up high, places them either side of the outside of the bucket which rests over Gus's head. She then lifts the bucket, taking it from Gus. Rather than taking it back, Gus looks on at Helena, his arms bent at the elbows and his palms facing up expressing confusion. Helena puts the bucket on her own head. Gus looks down at the floor, pokes out his bottom lip and begins to cry silently to himself. Head still hanging, Gus slowly walks over to the rug and sits down in front of a wicker basket filled with wooden cube-shaped blocks.

The purple bucket provided a sense of curiosity and contention in the room. Its official function was primarily as a container to store objects. However, in the moment in this extract it rested over Gus's shoulders, concealing his head. This changed the bucket's role in the toddler room. The bucket *became with* the child as it rested over the head and shoulders giving the illusion of an upturned bucket having a human body, or the human body having an upturned bucket as a head. They became one entity in this moment. Helena approached and the bucket was transported from one human body to another, now the bucket conceals another head. This intra-action between the bucket, Gus, and Helena provided a moment of metamorphosis. Once placed over the head, one can imagine the bucket providing a separate space for the senses, a confined darkness where sound, smell, and sight were obstructed. This space, created by the coming together of the human head and the upturned bucket, contrasted with the loud, chaotic, and brightly lit toddler room. The multi-sensory nature of the environment inside and outside of the bucket contributed to the decentring of the human child (Osgood & Giugini, 2015). It also changed the child as it concealed their head, only the child's clothing could determine who they are to others in this moment. Both Helena and Gus were wearing jeans and jumpers of neutral colours (grey and orange, respectively). The bucket placed over the child's head thus also temporarily concealed gender. The bucket's temporarily changed purpose calls attention to the role of clothing in how gender is expressed and read, especially in early childhood. Clothing, along with other social cues, acts as a way to assign gender to a body which prompts social interaction based on essentialist binary ideas about gender (Callahan & Nicholas, 2019). However, the intra-action of the bucket, the child's head, and the clothing worn by the bodies being of similar design, made possible the potential for something new. For a masking of such social cues, where gender norms are obscured and disrupted through the concealing of indicators of gender.

The movement of the bucket from Gus to Helena conjured an emotional response from Gus. He gesticulated confusion as the bucket was removed from his head. This was followed by sadness as he silently cried at the sight of the bucket resting atop another body. Gus's emotional response was personal, it was not a moment that was outwardly shared despite his production of tears. In fact, if research observations had not occurred here, at this time, the moment would have passed by unnoticed as no one else reacted to or perhaps even saw the emotions being expressed by Gus. Certain emotional responses, such as sadness were not typically expressed by the older toddler boys or the preschool boys. Rather, anger was expressed more frequently, and it was performed loudly and physically. Gus's emotional response appeared to be due to sadness or disappointment. A proportionate response from a toddler who has experienced unfairness. Due to the older boys avoiding such displays of vulnerability in their expression of emotion, his age is therefore notable. In the toddler room, the girls tended to either cry in response to negative emotions, or show a degree of stoicism, seemingly unaffected by snatching, hair pulling or minor injury (e.g., falling over). The boys, however, would loudly erupt at things that made them angry and sometimes seek adult comfort during times of sadness. Prosen and Smrtnik-Vitulić (2018) comment that preschool aged girls tend to show emotions which are deemed to be positive or socially effective (e.g., joy and gratitude). However, when girls do exhibit negative emotions, it typically includes sadness or forms of fear, while boys are more likely to show anger (i.e., an emotion which is expressed externally). They also state that in their research such emotional expression went relatively unnoticed in the toddler room (Prosen & Smrtnik-Vitulić, 2018). Indeed, the emotions observed from the toddlers during the encounter with the purple bucket did appear to go unnoticed by the practitioners and other toddlers. Comfort was sought from the material bodies rather than humans. For Gus, the wooden blocks provided solace as both he and they rested on the soft rug. Finding comfort with the wooden blocks was also sought by Helena, as illustrated in the continuation of fieldnotes.

Extract continued…

Helena is lifting the bucket to show her face and saying "Boo". She is doing this repeatedly, but it does not appear to be directed at anyone. Helena then uses both her hands to pull the bucket off her head. She throws it on the floor and then kicks it. Amanda (female practitioner), who is standing by a wooden toy

unit, firmly says "Don't break that, Helena! We need that for the babies' toys". Helena briefly looks up at Amanda with a blank expression before turning her eyes back towards the bucket. She wraps the fingers on her right hand around a handle on the rim of the bucket and drags it over to where Amanda is standing. Helena puts her free hand on her head and says "Ha, ha" to Amanda who says "Hat" back to Helena. Helena nods in agreement. Frankie (girl, 1) is sat on the floor just behind where Helena has been talking to Amanda.

Helena turns the bucket upside down and lifts it up and places it over Frankie's head. Frankie uses one hand to push the rim on the bucket up so she can see. Helena stands and watches, a look of concentration on her face. Frankie pushes the bucket upwards hard, and it falls to the floor with a bang. Helena walks at pace over to the bucket and she bends forward at the hips to retrieve it with both hands. Helena then proceeds to put the bucket over Frankie's head again. Amanda says "Helena, don't put that on Frankie's head!" as she then takes the bucket off Frankie, and she puts it in the corner of the room by the large rug. Helena lets out a loud sigh as she stamps her foot, lowers her head, puts her arms by her side and frowns. She is visibly annoyed. However, within a few seconds she seems to forget her annoyance and she sits down on her knees next to the wooden blocks by Gus on the rug and begins to build a tower. She places one block at a time on top of each other.

The physical entanglement of human and non-human entities thus continues in the fieldnotes above. The bucket both falls and is pushed to the ground, its silicone structure meeting the hard floor with a 'bang'. It was kicked and used to conceal the head of another infant against their will. The adult practitioners perceived the bucket as a container that is to be treated with care by the toddlers so that its functional capacity to contain other objects can continue. However, for Helena's intra-action with the bucket brought into the being the potentiality of child/bucket. The bucket was changed from an object of possibilities back to a functional container by Amanda's interjection, initiating an emotional response from Helena. Helena seemingly released her anger through a sigh and by stamping her foot. In their research and description of differences in emotional expression based on binary gender Prosen and Smrtnik-Vitulić (2018) found that boys were prone to expressions of anger while girls were prone to expressions of sadness. In contrast, in the toddler room during this moment with the purple bucket, Helena, although quietly, expressed anger while Gus (also quietly) expressed sadness. Prosen and Smrtnik-Vitulić suggest that boys are prone to expressing anger while girls are prone to expressing sadness. However, their paper does

attribute this to preschool children. Irrespective of this, as has been argued previously in this thesis, there are gender dissenting voices in ECE. This discrepancy then could imply that there is a significant change in how gendered patterns in terms of emotions are expressed between the toddler room and the preschool room. It is instead more nuanced. The focus, rather, is their notion of certain forms of emotional expression being un- (or under) acknowledged in the toddler room. Therefore, like Gus, Helena privately seeks comfort from the wooden blocks which lie strewn across the soft rug.

Extract continued…

Callum (boy, 2) is sat on his knees on the rug. The purple bucket is within his reach, so he extends his arm, wraps his fingers around the bucket's rim and pulls it towards him. Callum lifts the bucket and puts it on his head. Callum, with the bucket on his head, begins to bounce up and down on his knees while making a loud, excitable noise "eee, eee, eee, eee". He then takes the bucket off his head, puts it upright on the rug, gets up onto his feet and runs off across the room. The bucket is now next to Helena, and she begins picking up the wooden blocks and putting them inside the bucket. She then sits on her bottom as she fills the bucket, one block at a time using her right hand. In Helena's left hand she is gripping a sensory bottle (i.e., (a plastic bottle filled with water and gold glitter). Once all the blocks are in the bucket, Helena gets up onto her feet. She looks around the floor seemingly to check that she has picked up all the wooden blocks. Helena then picks up the bucket using its handle, she is still holding the sensory bottle in her left hand as she manages to negotiate holding both the sensory bottle and the bucket handle in her left hand. She begins to shuffle across the room, Callum walks towards her and takes the bucket by the handles. Helena looks at Callum, but she lets go of the bucket handles and continues walking in the direction she was already heading. Callum takes the bucket back over to the rug and tips the wooden blocks out into the large wooden basket which they were in to begin with. Not all the blocks make it into the basket during the tipping of the bucket, so Callum sits down on his bottom, legs stretched out either side of the basket, and he picks up all the stray blocks and puts them back into the basket.

The purple bucket covered another head in this section of fieldnotes. It was seemingly a high value item for the infants and served many purposes. The sensation that the bucket covering the head had on the senses was apparent during the meeting of the bucket and Callum. The sensation triggered movement and excited vocalisations from Callum. However,

this was short-lived as the bucket returned to the rug and Callum moved away. Helena once again had possession of the bucket. This time, however, the bucket became temporary storage for the wooden blocks. As the bucket was then transported across the room, hands met via the bucket's handles as Callum once again took the bucket. Helena did not contest this. She allowed Callum to take the bucket. There was fluidity in how the bucket was transferred between Helena and Callum, as though choreographed. Arguably, the bucket provided an insight into how gender is expressed within this interchange as Callum assertively took the bucket and Helena submitted without protest. The bucket was a desired object of multiple possibilities that are shut down by the practitioner when she took it from Helena, causing her to react with annoyance. But there was no strength of emotion in the exchange with Callum. Helena's response was more subtle acceptance. Through the wooden blocks and the bucket, Helena enacts the role of practitioner as she tidies away the wooden blocks and navigates them and the bucket back towards the rug. Through the movement between hands and bodies and the purple bucket it becomes a signifier of power (see chapter six), something that is further enacted in the fieldnotes below.

> *Extract continued…*
>
> *Jonah (boy, one) picks up the purple bucket by the handles, one in each hand. He is unbalanced on his feet as he carries it across the room and puts it down next to the door. He then walks back over to the rug where he squats down and picks up a wooden block in each hand. Jonah stands back up and walks over to the bucket and drops the blocks into the bucket, leaning slightly forward to watch them drop. Isabella (female practitioner) spots the bucket in front of the door, and she walks over and picks it up and moves it back over to the rug. Isabella then begins to put the sensory bottles into the bucket. Kyra (female practitioner) then walks over to the bucket, holding two more sensory bottles and drops them inside. It seems that the sensory bottles are items which have been brought down to the toddler room from the baby room in the purple bucket.*

Here the usual, that is *adult*, purpose of the bucket is revealed. The practitioners put the sensory bottles into the bucket and the bucket became a container and vessel for the transportation of sensory bottles between the baby room and toddler room. Throughout the above play session, the purple bucket contained the wooden blocks for sporadic moments as blocks are put in and removed from the bucket. The bucket itself had been transported to

different spaces in the toddler room by multiple hands grabbing, lifting, and dragging it. For the infants and toddlers, the bucket was an attractive and novel addition to the toddler room and warranted multi-sensory exploration, but for the practitioners its purpose as a container for the sensory bottles was fixed. As such, intra-actions with the bucket produced difference and multiple becomings. It became storage, transportation, a space for concealing faces. It was an object of high value for some, while an almost irrelevant object to others. It also facilitated moments of contention and negotiation which highlighted emerging gender dynamics and knowledges within the toddler room.

7.3 Playdough

Playdough of many different, vibrant colours featured in the rooms across the sites. Some of it was bought ready-made (this playdough only came out in the baby rooms) the rest was made from edible ingredients that were mixed by the hands of the practitioners. Due to the Covid-19 pandemic, fresh playdough was made most days to limit the spread of germs between children. Playdough is a colourful tactile substance which facilitates malleability in play and imagination. Playdough featured in a variety of play themes, and it was always *more-than* the sum of its parts. Playdough does not and cannot precede its relational intra-actions with 'other' bodies. The intra-action of playdough and small hands had dynamic and generative potential, and it brought into focus the vital capacity of the playdough in its capacity to affect (Bennett, 2010). It metamorphoses into various shapes and textures as it is pulled apart, squashed, cut, rolled, and combined with other materials. From its early days, playdough has facilitated change through its versatility. It began life as a product used to clean soot from wallpaper in the early 1900s, but by the 1950s the need for such a product had significantly declined (Kindy, 2019). The sister-in-law (a nursery schoolteacher) of the owner of the company, Kutol Products, noticed its capacity and suggested the change of use from wallpaper cleaner to children's modelling material. This resulted in the birth of the material commercially known as 'Play-Doh' (Bellis, 2020). This section explores the role of playdough as an ever-changing material in the play of children and its role in how gender materialised.

Fieldnotes: *23rd November 2021*

> *Beth (girl, 3) is sat at the playdough table. She is wearing pretend grey cat ears on her head. A soft-bodied doll is tucked under Beth's arm, hanging limply as she rolls out a big flat piece of dark blue playdough with a small wooden rolling pin. Beth sings the Happy Birthday song as she rolls. She then picks up the blue, plastic number 1 and puts it on top of the piece of playdough, "That's how old my baby is" she says cheerfully to herself. Gregory (boy, 4) approaches the playdough table where Beth is sat with the doll, he shouts "Hey, she has a baby!". He doesn't seem to be directing the comment at anyone in particular. He laughs and then runs off. Beth lays the doll on the table and rolls the piece of playdough into a long sausage shape with her hands and then puts it across the doll's head from ear to ear. As she does this, Beth sings the tune of Twinkle, Twinkle Little Star. However, she is not using words, rather she is using the sounds "dee-dah, dee-dah, dee-dah-dee". "I don't know how to sing, and I don't want to sing" Beth states as she stands up but stays by the table. Beth continues to push playdough onto the doll's head. Her fingers grasp around the dolls hard plastic head and her thumbs push down on the smooth, soft playdough. "Look at my baby's hairstyle, my baby's hairstyle is so beautiful". Beth announces without looking up. Beth then picks up the wooden rolling pin and rolls it over the playdough on the dolls head. The playdough is now a big blob, all squeezed together and spread out across the top of the doll's plastic head. Beth uses her thumbs and index fingers to create a ridge in the playdough and she begins singing "You are a boy baby, you are a boy baby, you are a boy baby". Another doll sits on top of the playdough table. It is designed to reflect a white baby with male genitalia, but the children consistently refer to it as 'her' and 'she'. The soft-bodied doll which Beth has been playing with and adding 'hair' to does not have any representations of genitalia. Both dolls are unclothed.*

The blue playdough featured in the extract above becomes a birthday cake, the doll's hair, and then an evolving hairstyle that appears to gender the doll. However, the child also becomes gendered through this intra-action as the there is a mutual moulding; the hands mould the playdough, and the playdough moulds the human (Lenz-Taguchi, 2010). The representations of genitalia on the doll are irrelevant in place of the blue playdough which forms a recognisable gendered attribute such as a hairstyle, or the blue colour of the playdough (Jonauskaite et al., 2019) which is easily recognisable as a gender marker by young children. It is suggested that by the age of four, binary gender norms impact children's social understanding, expectations, and their play (Osgood & Robinson, 2019b). For example, if a toy

‘small-world person’ has long hair, a young child may gender this toy as being a girl/woman. When the playdough is spread out smoothly across the doll’s plastic head and resembles a longer hairstyle, it is described as “beautiful” by Beth, an adjective arguably associated more with femininity than masculinity. In contrast, when the playdough hair is fashioned into a spikey style Beth describes the doll as a “boy baby”. Genitalia, then, were not an obvious marker for gender in terms of the young children’s understanding of gender as clothing restricted the opportunity to observe other human bodies. Therefore, the doll that is designed to reflect the biological body of a baby boy is referred to with female pronouns by the children. This could arguably be a feature of the association between dolls and femininity, something that is reinforced through the marketing of baby dolls as being for girls (Hodgins, 2019).

The capacity of playdough to evolve and to change can affect how gender is produced and reproduced in ECE. During a play session where the majority of children in attendance were girls, some of the children engaged with the purple playdough which had been put into a large, black, plastic tray along with some shiny gems, plastic cutlery, and wooden rolling pins. The playdough was squashed, cut, and rolled into different shapes. Adaline (girl, four) made a “princess cake” while Ivy (girl, four) rolled a piece of playdough until it was flat and then pushed gems into it. Jack (boy, four) vigorously cut the playdough with a plastic knife while shouting “Cut! Cut! Cut!”, for which he was reprimanded by Ana (female practitioner). Initially the playdough provided an opportunity for gender normative play to be enacted; Adaline and Ivy were focused on princesses and gems while Jack’s loud, dynamic approach to cutting the ‘cake’ dominated the play. Jack had announced that he was making a birthday cake for his dad and the cutting was a necessary part of this process. Jack then proceeded to add gems to his playdough cake as Adaline and Ivy had done. The purple playdough thus facilitated play that appeared to challenge gendered associations with the colour purple and shiny gems. Jack, Ivy, and Adaline’s playdough creations showed similarities in shape and how they had been adorned with the gems.

In contrast, at a later date, green playdough sat in lumps in the black tray which also held different sized containers. On this occasion Jack and Luke (boy, four) played with the playdough. This time the green playdough was changed into “poo” by Jack and Luke as they squashed it into containers. This invoked laughing, loud squeals of excitement and the additions of forbidden words associated with toileting. Adaline, meanwhile, attempted to get Jack’s attention from the other side of the black tray by dancing around and waving her arms

while calling Jack's name. The poo-playdough narrative continued as Adaline attempted to shift focus away from the topic by continuingly suggesting that they "make a lolly pop". Adaline's attempt to 'normalise' or refocus Jack and Luke from their transgressive play went largely ignored. The behaviours from Jack, Luke, and Adaline concur with expectations around gender normative behaviour. However, using diffractive analysis to ask *what else is happening?* allows for a closer examination of how gender is being reproduced in this moment. There is an association between the colours pink and blue with girls and boys, respectively. However, the playdough is green. Therefore, Adaline's neutral play of making lolly pops, and Jack and Luke's transgressive play around 'poo' takes place with the same material. Therefore, the intra-action between the children and the playing reproduced ways of being a girl or a boy, steeped in normative associations of femininity and masculinity. Their own knowledge of gender becomes entangled with the playdough as they intra-act and become neutral/transgressive expressions of play.

In the two examples from the data in the previous paragraph, the playdough facilitates different approaches to play through its capacity to change and become that which the imagination desires. In the first example the purple playdough intra-acts with the gems and produces play which is associated with femininity. The green playdough becomes part of the forbidden narrative of the implied playing with excrement from Jack and Luke. Adaline attempts to return the playdough back to something less controversial, by suggesting that it becomes a lolly pop. The playdough's versatility means that it can bring forth ideas that may challenge and enforce gender norms in play. The playdough is made of the same component parts, but when colour is added and it is paired with other objects it can influence the creative and imaginative process of the children who engage with it, highlighting the gendered knowledges of those children.

Brito, Santos-Carneiro & Nogueira (2021) found that there are many occasions where girls and boys play with the same object, however, it is the way that they play with them that differs. They state that boys tended to opt for themes associated with violence, monsters, blood, and the like, while girls tended towards themes of cuteness and the domestic. This is reflected in the examples from the data where Jack and Luke find pleasure in the forbidden, Adaline finds solace in a return to socially accepted creative play such as making lolly pops. Likewise, the purple playdough and gems provide Adaline the opportunity to express femininity through her making of a "princess cake", while igniting Jack's interest in creating a

cake with gems without the stigma of playing with "girls toys", such as dolls. Although the colour purple and gems are typically associated with femininity similarly to a doll, playdough does not inherently have the same gendered associations and therefore, can facilitate exploration of gender norms in play as well as (re)producing gender norms.

> ***Fieldnotes:*** *1st December 2021*
>
> *It is the end of the day, and the infants have joined with the toddlers in the toddler room. Felicity (girl, 11 months) is sat on the floor squeezing some yellow playdough between her fingers. She often cries but she squeezes the playdough between her fingers again and stops crying. She seems to cry sporadically without much outside influence. However, whenever Felicity cries and Jonah (boy, 1) happens to be close to her, Amanda (female practitioner) blames Jonah for Felicity's crying. Jonah has done nothing apart from standing near Felicity. The first time Jonah moves close to Felicity, Amanda says "Jonah, leave her alone". The second time Amanda says sarcastically, "Oh, I wonder who the culprit is? Oh, it's Jonah".*

The playdough here acts as a soother for Felicity. She cried out but the soft, smooth sensation of the playdough between her fingers seemed to distract, or even soothe, her. The cause of her crying was unclear. Crying out is not unusual for young infants and can be read as a way of asserting power as they learn to control their cries (Salamon et al., 2017). In the fieldnotes above, however, Amanda assumed that Jonah must be the cause of Felicity's crying. Jonah was slightly older than Felicity, he was able to walk where Felicity was still crawling, and he was considerably more dynamic in his movement and play. However, observations noted that Jonah did not touch or crowd Felicity and therefore, Amanda's reaction was unfounded. It was, perhaps, based on familiarity with Jonah or on gendered assumptions of the boy's engagement with other children. He is rough with objects as he throws, pushes, and drops them. Despite being one year old, Jonah exhibits what could be perceived as disruptive behaviour stereotypically associated with boys. However, it can be argued that behaviour that is seen as unwanted or *problematic* can result in the child being considered a problem (MacLure, Jones, Holmes, & MacRae, 2012). Meanwhile, Felicity's attention is on the playdough. The malleable playdough provides texture, sensation, and support to Felicity as she sits on the floor of the loud, busy, chaotic, unfamiliar toddler room floor after a day in the comparably calmer baby room.

Playdough is a simple object that provides creative opportunities for (re)producing gender. The children can bring forth their knowledge of gender to enact or challenge norms through their intra-action with the more-than-human object of colourful playdough. It produced moments of comfort, stability, and arguably familiarity, in the otherwise chaotic nursery environment. Playdough was a common plaything across the three sites and is therefore something familiar to the children as they move through their respective settings. As such, playdough is an everyday material which, with its malleability, becomes a canvas for exploration of expression and imagination. Therefore, it was a useful material to *start with* (and stay with) as it meant I could see what playdough *can do.* In other words, playdough was part of children *becoming gender* as they explored and challenged gender norms.

7.4 Sand

Sand is a staple in the ECE environment. The Statutory Framework for the Early Years Foundation Stage (EYFS) (Department for Education, 2023b) states that children must have the opportunity to "play with a range of media and materials" (p. 10). Sand play, which is now a common feature in ECE in many countries was introduced to ECE through the pedagogical approach of Friedrich Froebel in the mid-19th century, aiming to provide 'natural' materials for young children to play with (Livonen, Kettukangas, Soini, & Viholainen, 2021). Sand play proves to be a popular source of exploration for busy hands and provides a catalyst for social learning. The sand tray itself provides a space for social knowledges and understandings to play out as norms are contested and enforced. The fieldnotes data in this section illustrate how the sand tray and the sand within it provided a location for gender norms to be learned, observed, and challenged.

Fieldnotes: *13th January 2022*

Alexandra (girl, 3) has been playing at the black, plastic sand tray since I arrived in the room. She is very quiet as she kneels next to the sand tray, playing with the object that sit in the sand. The objects are plastic and wooden small world people and animals, brightly coloured plastic letters, two toy cars, a small wicker basket and a small, plastic, yellow plate. The sand tray sits on top of a black, metal frame but it is quite low, so the children sit on their knees to play with the sand. Adaline (girl, 3) joins Alexandra at the sand tray. She kneels next to the sand tray and reaches her arms into the sand. Adaline and Alexandra play next to each other, but independently. They run their fingers through the sand, move animals and people around, push

the cars along. Luke (boy, 4) and Jack (boy, 3) join Adaline and Alexandra at the sand tray. They fall to their knees and stick the hands straight into the sand. The sand tray transforms from almost silent focused play consisting of small movement, to loud play with big movements. Jack pushes animals into one of the cars and shouts "Let's get the baddies!", Luke laughs. Noah (boy, 4) approaches Luke from behind, he bends slightly at the knee and hip and whispers something into Luke's left ear - I am standing the other side of the sand tray and cannot hear what he says. Luke immediately turns his head around to look at Noah and they both begin to laugh loudly. Adaline and Alexandra pause their quiet play and look up at Luke, Jack, and Noah. Their play has been disrupted.

When it is not crowded by children, the sand tray offers a quiet place of focus, reflection, and solo play for children like Alexandra whose first language is not English. Alexandra's chosen silence is not uncommon in children where English as an additional language (Martín-Bylund, 2018). In the observation above, Alexandra appears to prefer the company of the objects in the room to that of her human peers. This was not unusual for Alexandra. Adaline also engaged in quiet solo play at the sand pit. Although the same sand and objects within the sand tray are used in both Alexandra's and Adaline's play, they play in harmonious parallel to each other, neither interweaving their play nor disrupting each other. Small-world people and animals and toy cars travel though the sand as directed by the internal narratives in Alexandra's and Adaline's minds, demonstrating how the girls think *with* materials and how they *speak back* to children (Pacini- Ketchabaw et al., 2017). The soft, grainy sand, hard objects, and the two children appear consumed by calmness as small movements and quiet narrative is facilitated by the sand tray. The sand tray was an ever-evolving play area that was regularly moved within the room. It often had different objects in with the sand and provided a multi-sensory canvas through which children's imaginative creations could be played out. This meant, as seen in the extract above, that the sand tray could be transformed in an instant. The sand meets with the skin through entangled relations, as the skin is not a limiting boundary (Barad, 2007). The sand spreads out across the tray and over the sides through the dynamic movement in the tray. In this example, the sand tray changes from calm and still, to loud and active. Alexandra's and Adaline's focus is forcefully shifted from their own quiet play to the looking on at the loud chaotic play of Luke and Jack. In this moment, the sand tray has two sides: the calm side and the chaotic side. On the chaotic side, the boys throw their bodies

around purposefully, sound is projected, and there are hints at violence and heroism. On the calm side, the girls watch on with a sense of suspense at what might happen next. Gender norms consume the sand tray in this moment. The girls are transformed by the intra-action into concerned on-lookers who avoid challenging the disruptiveness brought to the sand tray by the boys. The boys take up space through volume and movement without consideration of the sand tray's prior role as a place of quietness.

The sand tray was an attractive feature in the ECE space, regardless of the age of the children in the room. In the fieldnotes above, the sand tray intra-acts with the children and produced different becomings with the sand play. In the baby room it regularly enticed Benjamin (boy, one) away from the snack table. He did not have the vocabulary to ask Penny (female practitioner) if he could leave the table, rather once the distraction of food had been consumed, the sand tray (which rested on the floor in the baby room) beckoned him. The baby room sand tray contained colourful plastic objects such as spades and containers along with the soft white play sand. The sand tray had become a regular distraction for Benjamin during mealtimes and other adult-led activities.

The sand tray is one of the features of the ECE space which contributes to gendered learning for infants and young children. As addressed in the previous paragraphs, the ways in which the sand tray is engaged with contributes to how gender plays out. The sand tray and the sand within it, provided a textured surface for sensory and imaginative play (Livonen, et al., 2021). It also enforced a level of domestic tasks as sand regularly escaped the confines of the sand tray and travelled to the far corners of the ECE rooms by fixing onto hands, clothes, shoes, socks, and hair. It is tipped, thrown, and flicked out of the sand tray and onto the floor, aiding its journey around the room. As such, the sand at times would irritate the practitioners who shared with me that they felt like they were "always sweeping up the sand" throughout play sessions. The end of session tidy-up-time also featured a practitioner sweeping up sand from the floor. During the end of one particularly play session in the toddler room, sand had found its way out of the sand tray (which stood on a stand) on all sides. Small piles of sand sat on the floor around the sand tray, while some sand had spread itself thinly across the floor underneath and around the sand tray. Sara (female practitioner) collected the broom which had been leaning up against the wall and began to sweep the small mounds of sand into a bigger pile. Mindy (girl, two) and Saffron (girl, two) noticed that Sara was sweeping up the sand and they decided to help. They both crouched down in squatted positions where they

scooped up the sand in their hands and reached up to return it to the sand tray. However, their hands were very small so, despite their best efforts, each handful grabbed from Sara's big sand pile caused the sand to spread further across the floor. Due to sand's natural properties, it was difficult to contain and as such it could be described as playing back with the children (Lenz-Taguchi, 2010). It would not be contained – in either imaginative play or physical receptacles. It's more-than human properties became something which defied order.

Domestic tasks are a usual part of the ECE practitioners job role. This is observed by the children and often mimicked. The older toddler girls and the preschool girls showed joy in being granted responsibility, such as handing out plates at lunch time. Nicoleta (girl, 3) assisted the practitioners by reminding the other children to collect cutlery on their way to the lunch table. She took pleasure in the practitioners' thanks for her help. The girls would often remind peers of the rules and tell the practitioners if they observed any perceived wrong-doing or rule-breaking. The infant girls often mimicked the caring roles that were regularly carried out by practitioners by cradling dolls gently. During fieldwork, this was only observed once with an infant boy. The messy sand tray provided an opportunity for children to observe tidying and then participate themselves. As the above example illustrates, this was often the girls.

7.5 Outdoor objects

Having access to outdoor play is considered of particular importance in ECE (Josephidou, Kemp, & Durrant, 2021). It provides opportunities to engage in physical, risky play that is not always possible inside (Harper & Obee, 2021). This sort of risky play is encouraged in ECE as it encourages young children to learn about and develop their physical skills and limitations (Kleppe, 2018). The outdoor spaces across the three sites provided a sense of freedom that was not matched inside. There seemed to be less regulation and monitoring of the children in their free play in the outside spaces (see chapter six, section 5.4). However, objects in the outdoor spaces contributed to how gender manifested. Objects such as bicycles, tricycles, climbing frames, slides, and tunnels impacted the outdoor space and contributed to the ways in which spaces were engaged with, regulated, dominated, and changed by the children through intra-actions with the outdoor equipment.

Fieldnotes: *24th March 2022*

There is a small, black plastic tunnel next to the large tunnel which is fixed to the ground in the middle of the garden. Jack (boy, 4), Luke (boy, 4) and Joey (boy, 4) are standing on the small tunnel and leaning against the large tunnel. Jack is in the middle with Luke on his left and Joey on his right. They rest their tummies against the tunnel as they hold on by draping their arms over the top. They laugh as they hold on and try not to fall off. Joey slips off and lands on his feet on the artificial grass. Luke laughs and looks back "Joey, Joey, you're in the lava!". There is an iPad on the top of the tunnel which is playing music from various Disney films. Ivy (girl, 4), Adaline (girl, 4) and Alexandra (girl, 3) are the other side of the tunnel to Jack, Luke and Joey. They spin, twirl and jump while dancing to the music. Luke holds on to the edge of the entrance to the tunnel and using it to pull himself up as he starts to climb on top of the tunnel. Sara (female practitioner), who is standing next to be at the side of the tunnel, tells Luke not to climb. He smiles at Sara, but he lowers his legs down so that he is back to standing on the small tunnel with Jack and Joey. Jack then immediately starts to climb up the tunnel. Sara walks around so that she is now behind the three of them and tells Jack to get down. Sara moves away briefly. Joey is now in the middle as all three of them scramble, wobble, and pull themselves up the tunnel. Jack announces, "I trying a sleep on it!". Disney music continues from the iPad. Adaline and Alexandra are still dancing. Ivy drags a tyre over and stands on it. She has her hands resting against the tunnel for support as she jumps up and down with glee to the music. Jack and Luke are the other side of the tunnel, standing on the small tunnel (Joey has moved away). They ask if they can have Spider Man on, Jack then says, "I want Spidey!". But they are ignored by the practitioners as more Disney music is played much to Adaline, Alexandra, and Ivy's delight who giggle, jump, and spin to the music. Luke and Jack turn to each other and take it in turn to squeeze each other's faces and make funny noises as they laugh.

The large tunnel created a physical barrier between the girls and the boys. On one side there was lava to fall into if balance is lost, the other side there was Disney music and dancing. The large tunnel facilitated different approaches to play. As noted in section 7.3, girls and boys may play with the same items but different themes may occur (Brito et al., 2021). The iPad which provided the Disney music, which included *Let it Go* from the film *Frozen* and *Colours of the Wind* from the film *Pocahontas,* was set up by a practitioner who sang along. Ivy, Alexandra, and Adaline conform to the gendered expectations of the practitioners and those implied in gender stereotyped princess narratives perpetuated by Disney (Hamilton & Dynes,

2023). Although their movements were excited and exaggerated, they remained quiet as they moved their bodies in response to the music. The boys on the other side of the tunnel were more physical in their play. They added imagined risk to their play as falling from the smaller tunnel on which they were stood meant falling into “lava”. The tunnel lies at the centre of the different approaches to physical play. The girls were enticed by the theme of dancing and princesses, while the boys pushed back against Sara’s rules to not climb on top of the tunnel. The tunnel offers support for grasping hands which cling to it in an attempt to escape the control of gravity which pulled the children’s small bodies toward the ground/lava. The size of the tunnel as it sat, fixed to the middle of the outdoor space meant it drew attention. In the moment described above, the location of tunnel meant it could create spaces of opposition where quiet movement insighted by the Disney music was in contrast to the happenings on the other side of the tunnel. The smaller, black tunnel becomes with the children as they test the boundaries and break the rules as the bigger tunnel beckons the children to climb on it. The agentic capacity and affective forces between the children/tunnels/music intra-action produce different ways of engaging in physical play outside.

The outdoor equipment had the capacity to create not only separation but also conflict. The bicycles and tricycles sat parked up against the tall wooden fence in the garden. On entrance to the garden, the preschool children erupted with energy as they ran for the bicycles and tricycles, some more popular than others. Energy seemed to be transferred from human body to the wheels of the bicycles as they moved in unison across the garden. On one occasion, Margot (girl, 3) managed to acquire one of the popular (high value) yellow bicycles. Her feet shuffled along the ground as Margot and the bicycle slowly move across the grassed area of the garden. Quentin (boy, 4) ran over to Margot and the bicycle and stood in front of them, the front wheel positioned between his lower legs. Quentin stated to Margot “But I wanted that one”. Without hesitation, legs are swung, and the bicycle is swapped from Margot to Quentin. Margot walked over to a small, weathered-looking plastic wheelbarrow laid awkwardly on its side on the grass. She picked it up by the handles and then ran off, pushing the wheelbarrow around the garden. Quentin asserted himself to get the bicycle that he wanted to play with. Margot submitted to his will without hesitation. Children are not passive in how they come to be gendered (Lyttleton-Smith, 2019). Rather, there is a web of entangle agentic contributors. Margot and Quentin’s respective knowledge of social expectations, the bicycle, and the less-monitored outdoor space were consequential. It would be easy to suggest

that Margot gave up the bicycle because Quentin is a boy, with power. However, this would not account for the full picture. Margot is a quiet, reserved child who almost seemed out of place in the preschool room. Her tone of voice and her short hair meant that she could easily be perceived as a toddler. As such, she may well have given Quentin the bicycle because of a generational power imbalance that shifted in the direction of Quentin rather than because he is a boy. It could have been because of his confidence and clearer speech. As such, gender, size, and age work together in complex ways, and the motivation cannot be known with any certainty.

The garden spaces did nevertheless evidently contribute to how gender was reproduced in the ECE spaces. This was particularly true during one research block of time, where the nursery garden was being landscaped. This was a source of multi-sensory excitement for the toddlers and preschool children. While for the preschool children this evolution of the garden was steeped in gender.

Fieldnotes: *13th January 2022*

I walk out into the garden and immediately Jack, who has one foot on a scooter and the other on the ground, his hands gripped around the handles, shouts "I told Alice that we watching the digger!". I reply, "Oh, did you?". Then Jack (boy, 3) scoots off back around to Alice's (the manager) office. I notice that the garden smells of a building site, a familiar smell for me, the daughter of a builder. The digger sits in the middle of the garden as it spreads out the pile of the grey hardcore across the garden. The sun is bright and shining right into my eyes, but it feels surprisingly warm. The sun is only hitting one small part of the garden and as I move to my left, so the sun is no longer in my eyes, I feel the cold, dampness of the shade and I'm quickly reminded that it is mid-January.

Luke (boy, 4) is standing at the fence, his body pushed up against it as he peers through the gaps watching the robotic movements of the digger as it scoops, spreads and twists, making metallic, clunky, rumbly, buzzy noises. There are also three landscapers in the garden. They are all men. A contrast to the all-female nursery staff. Luke shouts "Hello!" to them.

At the time that the garden was being landscaped, the grass (now mud) area was cordoned off with a silver metal temporary fence. As such, the boys in the extract were confined to a small patio just outside the preschool classroom. Their senses were overwhelmed by the landscaping of the garden. The clunking and grinding of the large metal mud-covered machinery, the smells of cement and wet mud, and the unsightly half dug up

garden, were omnipresent. The girls stayed inside during the moment described in the extract. Meanwhile, the boys showed excitement at the presence of the (all male) landscapers and their machinery. Throughout their time working in the nursery garden, the three men became synonymous with the excavator. They became a posthuman cyborg being through their interconnectedness and joint role in destroying and remaking a space (the garden) (Haraway, 2008b). This event showed the children different adult gender roles. The men (landscapers) were *doing, building, making.* While the women (ECE practitioners) were *caring, and cleaning.* The children reacted in gendered ways too, as the girls remained close to the practitioners, and the boys became fascinated by the men/machine working in the garden. The disruption caused by the landscaping, through limiting access to the garden and through the sound and vibrations of machinery, stirred up persistent excitement within the preschool children.

> ***Fieldnotes:*** *20th January 2022*
>
> *The landscapers have moved their operations from the central garden to the toddler garden and they can now be seen by looking out of the large windows on the right side of the preschool room. Alice (female practitioner), who is standing in the middle of the room, announced "Look! The builders are in the toddler garden now. We can see them". Some of the children walk over to the window and have a look. Alice then says, "Look boys, the builders are in the toddler garden". Then then Nate (boy, 4), Luke (boy, 4), Noah (boy, 4) and Jack (boy, 3) rush over to have a look. Meanwhile, Alexandra (girl, 4) and another girl approach Alice and stand in front of her, Alice cheerfully asks them "What do you ladies want to do? Do you want to do the washing up? [laughs]". Alexandra bends forward as she laughs "Nooo!". Alice says "Ok, Alice do it". Alice goes back into the kitchen and continues washing up.*

The boys' ongoing excitement at the presence of the landscapers/machinery is clearly evident in the above extract. The landscapers/machinery also serves to highlight Alice's reinforcement of gender norms. The boys are encouraged to look out of the window at the landscapers and machinery. Meanwhile, two of the girls, who are referred to as *ladies,* are asked if they want to do the washing up. As such, the landscapers work is positioned as *for boys/men,* while cleaning duties are positioned as for *girls/women* despite both roles consisting of labour and physicality. Research has shown how intra-action between human and more-than-human entities can evoke emotional responses (Procter & Hackett, 2017) which can include how gender is perceived in relation through the Other. For example, Alice's

gendering of the children according to norms of femininity and masculinity. Thinking with feminist new materialism allows for careful attuning to the world (Murris & Osgood, 2022). It makes us attentive to the webs of connected and affective relations which produce phenomena. Here, landscapers and machinery are intertwined with masculinity and, therefore, created a gender divide amongst the preschool children, and the practitioners and landscapers alike. Adult expressions of masculinity are a rare occurrence in ECE (see chapter two, section 2.2.1). The materiality of the men and the machinery was produced through intra-action within the ECE settings, and which constructed and were constituted through their own assemblages. The complexity and messiness of entwined matter (literally and figuratively) produced gender norms which appeared less messy or *natural*. What is revealed through this entanglement of machinery, mud, nursery, human, is how binarised gender can be within the ECE preschool room. I did not witness any of the girls showing any interest in the landscapers or machinery, nor did I see any of the boys dismiss them as uninteresting. However, it is important to note that I was not there all the time, nor could I observe every moment. *This* moment nevertheless captured the ways in which real-world gender norms can influence how gender differences become normalised amongst children in ECE.

The garden space was filled with (regular and fleeting) more-than-human objects (music, tunnels, mud, bicycles, machinery). The garden was a transformative space which could look different and created difference through similarity. In other words, the landscape work in the garden was novel and a new experience for most of the children. However, what it (re)produced was traditional long-standing gender norms which segregated the children based on binary gender.

7.6 Multispecies

Anthropocentrism and Western perspectives of humanity, stemming from the enlightenment era and the influence of Christianity and colonialism. This positions humans as exceptional and as more valid than other species (Hohti & Osgood, 2020). However, posthuman theorising and the sister discipline of feminist new materialism argues that decentring the human makes space for acknowledgement of the more-than-human, both animate and inanimate (Osgood & Giugini, 2015). ECE is largely focused on child-centred pedagogy which follows developmental perspectives of how infants and young children grow and learn (Watson, 2022). Shifting the focus from the child-centredness of ECE, this section

refocuses and (re)situates infants and young children in the multispecies common world, where human exceptionalism is disrupted (Taylor & Giugini, 2012). The outdoor spaces across the three participating sites were hubs for observing multispecies intra-actions. Haraway (2016) argues for the importance of viewing the world as made up of multispecies kin, where humans are not exceptional. She states, “Flourishing will be cultivated as a multispecies response-ability without the arrogance of the sky gods and their minions, or else biodiverse terra will flip out into something very slimy, like any overstressed complex adaptive system at the end of its abilities to absorb insult after insult” (Haraway, 2016, p. 56). Garden creatures intra-acted with the children to disrupt human exceptionalism in the ECE settings. Bugs would entice the children into their worlds, where narratives were created, and social learning experiences were played out. How the bugs were responded to by the children offered an insight into the gender norms and gender roles that the young children had already started to learn. The encounter between child and insect/snail would often result in the insect/snail being inadvertently rehomed as it was moved between busy hands and into a different receptacle – flower bed or pot of mud.

Fieldnotes: *19th April 2022*

Sadie (girl, 4) is walking around the garden holding an old cooking pan which has a small snail in it. She walks past me, holding the pan with outstretched arms “Oh my god, it’s coming out!” she says, excitedly. She carries it across the garden, stopping at a small, blue picnic bench where she puts the pan down. Children crowd around the pan. Maxwell (boy, 3) climbs up onto the table to get a closer look, but Gillian (female practitioner) firmly asks him to get down. Sadie takes charge of looking after the snail. She picks up the pan, again holding it out in front of her as she begins walking with the other children crowding around the pan. Sadie pushes them away as she walks across the garden towards the outside classroom. Louis (boy, 4) and Maxwell are close to her. Sadie puts the pan down on the floor under the window where the speaker is pumping out music. She sits on her knees and leans forward to look at the snail. Louis and Maxwell do the same. Steph (female practitioner) asks Sadie if the snail likes music and Sadie quickly looks up and says “Yeah”, but she looks straight back at the snail. Sadie says, “It’s all slippy and slimy” as Louis and Maxwell erupt in giggles. Maxwell gasps as he observes, “It’s coming out!”. Maxwell turns and tells Steph that the snail is dancing as he laughs. Sadie regularly reminds the other children not to touch the snail Bobbie (girl, 4), Peter (boy, 2) and Lynnie (girl, 4) join Sadie, Louis, and Maxwell around the pan.

Bobbie asks if she can touch the snail, but Sadie firmly tells her "No!". Bobbie slowly reaches her hand towards the snail and tries to touch it anyway, but Sadie pushes her hand away and shouts "Stop!". Lynnie then tries to touch the snail and once again Sadie pushes Lynnie's hand away and tells her to stop. Steph shouts that it is tidy up time so, Sadie stands up carefully with the pan, focused on maintaining her balance, and she carefully carries the pan over to a plant pot where she tips the snail out and then she walks off. Lynnie stays by the plant pot, picking leaves from the plant and putting them on the snail. Once Lynnie and Sadie are out of sight, Bobbie takes the snail from the plant pot and throws it on the ground before running off towards the inside space.

The snail's presence in the cooking pan triggers excitement and interest. The initial perception of the small snail is that it is vulnerable and in need of care and protection. However, young children's relationships with animals other than mammals can be troubled as they are complex and transgress the idealise view of adored domestic pets (Hohti & MacLure, 2022). For example, domestic pets tend to be fury or feathered, while garden creatures are typically, hard, slimy, cold, and/or shelled. Fieldnote observations show how Sadie, one of the older preschool girls, wanted to observe and care for the snail as well as keep it safe. Lynnie also covered the snail in leaves once Sadie had put it in the plant pot. Being covered can be equated to the feeling of being secure, so it can be assumed that Lynnie was likely being caring. Maxwell and Louis shared excitement over the snail as it moved around in the pan, but Bobbie took the snail and threw it on the hard tarmacked ground. While it is not possible to determine Bobbie's intentions or whether she considered the consequences of throwing the snail, she did not wait around to find out what the consequences were. Sadie and Lynnie became gendered bodies through the intra-action with the snail and the affective forces enticed the children to care for the snail. Caring is itself entrenched with notions of femininity and, therefore, conforms with social norms and expectations. However, the complexity of gender means that expressions of gender can be varied, beyond the norms and limitations of binary gender. Bobbie showed no care in how she handled the snail. She did not show a sense of concern or a need to protect the snail, unlike Sadie. However, that is not to say that her actions were malicious. Rather, her actions were likely steeped in human exceptionalism which positions humans as higher value than more-than-human species which can be viewed as lesser value and/or insignificant.

Later in the year, Cora (girl, 4) found a small snail and a larger snail under a plant pot. She excitedly exclaimed that she had found a baby snail and a mummy snail. When I asked Cora how she knew it was a mummy snail and not a daddy snail, she laughed and told me "Because Daddy's at work". On closer inspection, there was in fact another larger snail. Cora felt that this slightly larger snail was the "daddy" snail as, in her words, "it's maffive [massive]!". Here, then, the snails were anthropomorphised as they were talked about in terms human gender roles, despite the snails being another species and not resembling humans. Cora's understandings of binary gender roles were highlighted during her observations of the three, different sized snails. Cora suggested that *Daddies* are bigger than *Mummies,* and that *Daddies* go to work. The application of binary gender norms and roles to more-than-human entities drew them into an entanglement of human cultural discourse. This assertion by Cora provided insights into her knowledge and experience of families and gender norms. The encounter with the snails also disrupted Cora's usual fast-paced running around the outdoor space. Osgood (2024) experienced a child-snail encounter in her research. This intra-action provided a child with a different way of being and becoming, whereby a child who was typically quiet became verbalised by her interest in snails. In the current research, Cora's movement slowed as she became entranced by the snails, pondering their relations with each other. In this moment she played in a different way, through her imagination rather than the physicality of her body. Malone and Taylor (2022, p. 90) highlight that "We are implicated in our existence on the planet through our multispecies companions". The children's engagement with the snails largely focused on care and concern, familiarity and connection. Early engagement with these more-than-human entities, with whom humans share the planet, requires us to think outside ourselves. In adult terms, it requires recognition of the value of responsibility for a world that transcends human exceptionalism and human existence.

Similarly to Cora's application of gender norms to the snails, an earthworm was gendered by a group of children and me. The earthworm sat in Sadie's palm. She gently placed in on the small plastic table and placed her hands either side of it to protect it. Maxwell (boy, 3) and Zoe (girl, 4) leaned over the table to getting a closer look at the earthworm. I recall feeling a sense of responsibility for the earthworm and I remarked to the children that *she* (the earthworm) might be scared. I am unsure why I referred to the earthworm as *she,* but Maxwell immediately replied, "It's a boy". Sadie agreed informing me that "Worms are always

boys". Zoe turned to me and quietly and softly said, "I think it's a girl too". I had not thought that the earthworm was a girl or even female. Rather, it was a slip of the tongue; an unthoughtful remark that had consequences for how gender manifested in that moment. Like snails, earthworms have both female and male reproductive capabilities (The Royal Society for the Protection of Birds, n.d) and are therefore neither strictly female nor male. What the intra-action between myself, the children and the earthworm did was highlight human tendency to personify more-than-human bodies rather than drawing focus on their roles within our own, interconnected ecosystems (Gabb et al., 2023) However, Bennett (2010) discusses Charles Darwin's anthropomorphising of worms where he accounts for the history that worms make. Bennett (2010) explains how worms create vegetable mould through their digestive processes which create the earth that seeks to provide protective shelter for human antiquities to be discovered by curious future generations. This entanglement with the past, present, future, and human and more-than-human entities brings into focus the role of worms as being *more than* what human exceptionalism allows for, opening up possibilities of *becoming-with* multispecies kin.

7.7 *Doing* hair

The hairstyle of a young child typically reflects gender norms and gender binaries as it represents and personifies physical similarities between girls and boys while reinforcing differences between the groups (Xiao et al., 2019). As such, the way hair is worn is a way that children determine the gender of a person (Callahan & Nicholas, 2019). For example, Beth (girl, 3) had noticed on my photograph on the identification card worn around my neck that my hair was short. Beth asked me if the reason that I had short hair in the photograph was because my hair was "still growing". It appeared Beth had understood that the photograph was not recent, but she seemed confused about why I, a woman, would have short hair. Her conclusion was because my hair must have been still growing. As Beth was only three years old during this conversation, her own hair would have only just reached the length it was now (just above her shoulders). Across the preschool rooms many of the girls had longer hair, like Beth's. Most of the boys had short haircuts. However, there were five boys across the three sites who also had long hair down to and, for some, past their shoulders. Due to hair taking time to grow, for many infants and toddlers their hair length was relatively consistent across cohorts. However, it was not unusual to see the use of accessories such as bows, clips, and

hair ties in the short hair of infant and toddler girls to seemingly signify the child's gender through their hair. Laura (female practitioner) commented to me that, based on their similar curly blonde hair, from behind Maggie (girl, 3) and George (boy, 3) they "look the same". As such, hair became a contributor to how gender was (re)produced across the sites. *Doing* hair was a regular activity which took place between the preschool girls and the (all female) practitioners. For example, the girls would often ask the practitioners to *do* their hair, as illustrated in the fieldnotes below.

> ***Fieldnotes:*** *29th September 2022*
>
> *Kayla (female practitioner) walks over to and then sits down on a chair behind Cora (girl, 4) and removes the hair ties from her hair. I ask Kayla if Cora had asked to have her hair done, and Kayla tells me that she "wants a bun". Kayla smooths Cora's hair up into a bun. Cora reaches back and feels her hair and then smiles. Nellie (girl, 3) then tells Kayla that she wants a plait (braid). Nellie already has a plait, but it looks a bit messy. Kayla tells her that she can't do plaits as well as Maddie (female practitioner), but she tries anyway and plaits the end of Nellie's hair. Gillian (female practitioner) walks into the playroom. She stands next to me as she tells me "They (the practitioners) do a lot of hair dressing here". Gillian goes on to tell me that the "Mums like it", particularly when Maddie plaits hair. Maddie returns to the playroom, and she pulls out a chair in front of her and calls Nellie to sit down. Maddie then plaits Nellie's hair in an intricate way, followed by Cora. She continues until most of the girls have plaits in their hair. There are two girls who do not want plaits. The three boys with long hair are not invited to have their hair plaited.*

The process of hair being braided in this intricate way is steeped in learned femininity. It was an activity that Maddie engaged in frequently. This hairstyle was often referred to as an 'Elsa plait' by the girls and the practitioners, in reference to the Disney princess movie *Frozen.* The three boys who had long hair at this particular ECE setting were never invited to sit in the chair and have their hair braided; this activity was rendered exclusively for the girls. As Ringrose and Rawlings (2015) point out, how someone wears their hair is steeped in concepts of femininity and masculinity. They found that certain ways of wearing hair might convey an image of *getting gender wrong.* Although Ringrose and Rawling's research was with older children, such connotations begin in early childhood. The 'Elsa plait' being formed in the girl's hair by the practitioner's fingers was for the girls. Boys' hair is typically cut short.

A boy wearing his hair in this 'Elsa plait' may have conveyed being the "wrong type of boy" (Ringrose and Rawlings, 2015, p. 89).

Gillian's (female practitioner) comment that "Mums like it" when their daughters were sent home with their hair braided by Maddie, consolidated the gendered symmetry between mothers and ECE practitioners. The femininity associated with the braids was not for boys or dads to enjoy, rather it was an expression of gender for the girls and their mothers. The braid connected with and signified a Princess narrative, as the character Princess Elsa from *Frozen* has an iconic braided hair. *Frozen* was a favourite film of the girls and the practitioners at the research setting. During the rehearsals for the Christmas concert, the song *Let it Go* from *Frozen* prominently featured. This inspired movement in the girls who passionately sang along to the song with the practitioners. The boys, however, sat silently as though waiting for the moment to pass. The entanglement of braids, Princess Elsa, and the association with expressions of hyper-femininity excluded the boys. Princess narratives in play often excluded boys as they are historically and culturally linked with femininity, so if boys attempt to join in, they run the risk of being othered (Adriany, 2019). As such, this was rarely seen in the ECE settings.

Furthermore, *'doing'* hair and working in childcare are linked through the class system. It has been argued that the careers that working-class girls/young women choose are gender delineated, and disproportionately include vocational careers such as childcare/ECE or hair and beauty (Osgood, Francis, and Archer, 2006). Women working in the sector, including the participating settings in the current research, may, therefore, be said to be 'typically female' in that they are conforming to career gender norms. This is an example of where identities meet and merge. Eaude (2019, p. 8) states "We all live within many intersecting and overlapping micro-cultures and sub-cultures, so that personal identities are nested within several collective identities". Maddie, a woman and an ECE practitioner, was positioned as the skilled hairdresser who could create extravagant, mum-pleasing, braids in the girls' hair. Kayla, who was also mentioned in the data extract above and who also engaged in some hair-doing, left the setting towards the end of the research to start working in elderly care. She explained that she wanted a change, and she felt that she would enjoy working with older people more so that young children. Therefore, working-class career options can overlap. Gender and class identities influence how young women select their future careers

(McDonald and Stahl, 2024), which contributes to the ongoing gendered nature of sectors such as ECE.

The preschool girls would generally wear their hair up across all sites. The boys with long hair, however, typically wore their long hair down. How the boys wore their long hair was at times contentious for the practitioners. On one occasion a boy arrived at nursery with his hair in a high ponytail, with his fringe brushed down across his forehead. As he arrived in the preschool room, Abby (female practitioner) quietly commented to her colleague "I'm not against non-binary or anything, but you'd think they'd [his parents] at least try and make him look like a boy". Here, the tied back hair contested the normalisation of binary gender through hair. Abby pointed out that the child is a boy but suggested that his hair projected gender in a non-normative (and therefore problematic) way. Returning to Ringrose and Rawlings (2015), for Abby, the child was not performing *boyness* in the 'correct' (conforming) way due to the way he wore his hair. This conflicts with Abby's comment in section 6.4, where she expressed that ECE practitioners have more knowledge about gender and, therefore, do not limit children's expressions based on binary gender norms. It demonstrates that perhaps that the view that concepts of gender norms are limited may be recognised by ECE practitioners, but this may not always translate into practice. There also seems to be a theme whereby the practitioners largely felt that the parents were responsible for how children learned and expressed gender. This is evident in how Abby assumed that the boy's parents made the choice to tie his hair back in a ponytail rather than considering that he may have requested this hairstyle. Despite the ponytail gendering children as feminine, ponytails do have a long history of being worn by both men and women across cultures (Broch, 2023). The ponytail in this moment provided an insight into gendered expectations within the time and place.

The act of *doing hair* reinforced the production of femininity between practitioner and children and spilled over into the children's roleplay. Roleplaying hairdressers was typically acknowledged as being a girls' activity as the play sets tended to feature pink, purple, and glittery accessories. As such, hair was gendered by the act of *doing* and codified by the colour of the objects which were included in the roleplay set.

Fieldnotes: *21st October 2021*
The contents of the hairdresser roleplay box are spread over a table. There are four hairbrushes. They are all pink. There are lots of hair ties, these are pink or

white or black, but the white and black ones are glittery. There are lots of pink and glittering hair clips too. There is a small free-standing mirror with a plastic transparent frame resting on the table. There are also black plastic pots with long black brushes, the kind that are used to dye hair with. Suzi (female practitioner) is sat on a chair while the children stand around her brushing her hair and applying clips and hair ties. Gregory (boy, 4), the only boy in the preschool room today, takes great joy in pushing the hair clips into Suzi's hair. He then spots me sitting opposite on the floor and picks up one of the hair dye brushes. He runs behind me and roughly brushes it through my hair. He then jumps back in front of me and giggles before running back over to continue his work on Suzi's hair.

Gregory showed joy in *doing* Suzi's hair, followed by 'brushing' my hair. Callahan and Nicolas (2019) observed in their research that hairdressing roleplay was usually played by the girls, with active encouragement and participation from the practitioners. On the day when the above data were generated, there were only six children in the preschool room, which was far lower than usual. All six of the children (five girls and Gregory) were engaged in the hairdressing roleplay with Suzi. The hairdresser play set was not a regular feature in the room and, therefore, brought a level of novelty which evoked squeals of excitement as eager hands dynamically rummaged through the box which contained the items, which consequently ended up being spread all over the table and the floor. Gregory was not excluded from this play for being a boy, rather him being a boy was ignored by the girls and Suzi. His play was similar to that of the girls in this moment, as he brushed the hair of the adults in the room. Gendered play groups can be enforced through similarities and through positive and negative feedback from peers contributing to their learning of gender norms (Xiao et al., 2019). There were no other boys to comment on Gregory's engagement with the hairdresser roleplay nor did the girls and the practitioner comment. As such, the gender norms that typically surrounded pink, purple, and glittery objects, and hairdresser roleplay, were challenged. Gregory's excited exploration was not disrupted by gender and/or the desire to conform.

Fieldnotes continued…

Margot (girl, 3) picks up one of the pink hairbrushes and gallops over to me with glee, her shoes banging on the hard floor. She does not interact with me verbally, instead she moves behind me (I am sat crossed legged on the floor) and begins gently brushing my hair. Once she is finished, she walks in front of

me so she can see my face, she holds out the brush with a straight arm and says "Look, it's a girly one". I enquire as to why the hairbrush is a "girly one", to which Margot informs me "Because it's all pink!". Margot then excitedly tells me that the hairbrush "got all stars and pink and I can shake!". Margot shakes the hairbrush up and down as she jumps on the spot. She then turns and runs back over to the hairdressers play set as it rests on the table.

The pinkness of the hairbrush ignited excitement in Margot, demonstrating her familiarity with the association between the colour pink and being "girly". The pinkification of girlhood is complex (Osgood & Mohandas, 2020). Prior to the 1920s, pink was associated with both girls and boys (Jonauskaite et al., 2019). However, more recently, the rise in popularity of so-called *gender reveal* parties has securely attached the colours pink or blue to the foetus depending on whether it is predicted to be female or male, respectively (Gieseler, 2018). As such, infants in Western culture are born into a world of gendered clothing, toys, and colour schemes (Pélage, 2019). The colours of objects in the ECE settings, then, contribute to how gender was reproduced by and with young children. For Gregory, the experience of playing with the objects in the hairdresser roleplay set was the object of his joy. For Margot, her excitement seemed to stem from the pinkness of the hairbrush. This ignited movement and excitement in her body, and she shook the hairbrush and jumped up and down. A similar event took place between Adaline (girl, 4), Jack (boy, 3) and Laura (female practitioner). Adaline used toy hair straighteners and a toy hairdryer, which were both pink and plastic, to *do* Laura's hair as she sat in a chair. Jack stood next to Adaline also *doing* Laura's hair, but his hairdressing tool was a wooden wrench which he ran over Laura's long, brown hair. Jack, like Gregory, was the only boy in the preschool room at that time (it was just before the last few children were collected by their parents at the end of the day). However, Jack, who was usually engaged in typically masculine play along with the other boys, avoided the pink hairdresser objects in favour for a wooden wrench, a tool associated with masculinity. Here, the power of things to affect to create meaning is apparent. The wrench gave Jack permission to engage in play that is steeped in femininity, but in a modified form. Bennett (2010) argues that collaboration and cooperation between multiple interconnected 'things' (human and more-than-human) bring about vibrancy and dynamism, as 'things' alone "probably never cause anything" (Bennett, 2010, p. 33). In other words, the intra-action between hair, femininity, wrench, masculinity made it possible for Jack to feel as though he could engage in play that is considered *for girls*

while maintaining a level of (masculinity) difference from Adaline. In this moment, the rigidity of the usually gender-segregated play between the girls and boys in the preschool room was blurred through the meaning attributed to materials.

Hair, as seen in the above discussion, is steeped in gender norms. Hair is also entangled with ethnicity and cultural difference. During the research my hair was long, blonde and (naturally) very straight. At the time I did not consider the impact of my hair on how data would/could be generated. However, diffractive analysis recognises the role of the researcher on how data are generated. My own hair influenced how some children engaged with me, for example when Gregory and Margot brushed my hair during hairdresser roleplay. However, there was one child who became infatuated with my hair. This was Amara (girl, 2). Amara was of African heritage. Her hair looked distinctly different from my own. Her hair was dark brown, curled and generally worn in braids. Mine was blonde and straight. Each time I saw Amara she insisted that I sit on the floor so she could 'do' my hair. She would stand behind me or beside me, running her fingers through my hair and telling me that my hair was 'beautiful'. It was only during analysis that the complexity and cultural significance of this moment became starkly apparent to me. Osgood (2020) had a similar experience during her research where two young girls who were of Black heritage handled her hair to investigate the texture. The experience between Amara and I was therefore not an isolated event in ECE research.

Bordo (2008), a white woman, wrote about her experiences of raising her adopted daughter, Cassie, who was Black. Bordo specifically discussed how she experienced the beauty standards associated with hair, particularly how long, straightened hair is typically perceived as more desirable even though this straightening process can damage the hair, Bordo became acutely aware of how hair had agency. It signified social inequalities and cultural norms. Long straight hair was preferable to the afro hair of her Black child. Bordo's experience forced me to reflect on the moments where I sat on the floor and allowed Amara to play with my hair without consideration of the historic ideals associated with gender, race, and hair. I cannot know what Amara was thinking in those moments, but certainly her fascination with my hair could be out of curiosity for something different to her own experience of hair. However, it could also be that social norms regarding beauty standards may have already started to intra-act with this two-year-old child, producing an understanding of what hair *'should'* look like.

All the practitioners at the ECE setting attended by Amara were white and had long hair (apart from one, who started working at the setting when Amara turned three). Therefore, the hair that was available for Amara to see was generally of a similar length and texture, but different to her own hair. As children are positioned by and position themselves within different identities (Kuby & Vaughn, 2015), such early experiences concerned with physical attributes can have implications for identity formation as a child grows and tries to make sense of the world around them, including their reciprocal relationships (with the human and more-than-human), and resulting emotions (Eaude, 2019). Hair is not simply part of the body and humanness; it is an entanglement of gender, race, and beauty ideals which flow across the ECE setting.

7.8 The notebook

The notebooks used to record fieldnotes often became a source of disruption in the everyday routines of the ECE settings. The practitioners took pedagogical notes, but they did this using electronic tablets rather than notebooks and pens. Therefore, as suggested in chapter four, section 4.5.3, the novelty of the notebook and pen drew the attention of the children across the settings. When the children showed an interest in the pen and/or notebook, both were offered to the children to mark-make in the notebook as they pleased. Huf and Kluge (2021) describe a similar experience in their ECE research as a "shared desire to inscribe something on paper" (p. 257). They describe how the notebook became a material expression of the experiences and views of children through the fieldnotes, which entangle the researcher within the field. Forty-six drawings were created in the notebooks by the children. Some examples can be seen in figures 11, 12, 13, 14, and 15.

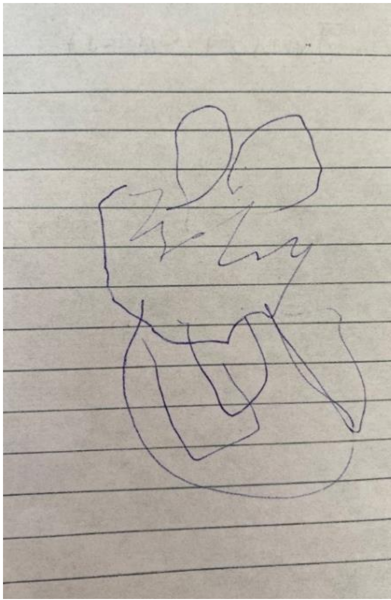

Figure 11: Nate (boy, 4) "A ghost"

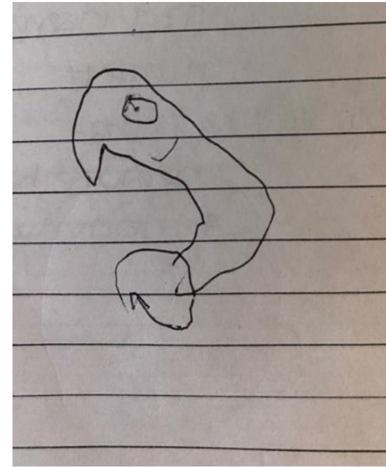

Figure 12: Adaline (girl, 4) "A hammerman"

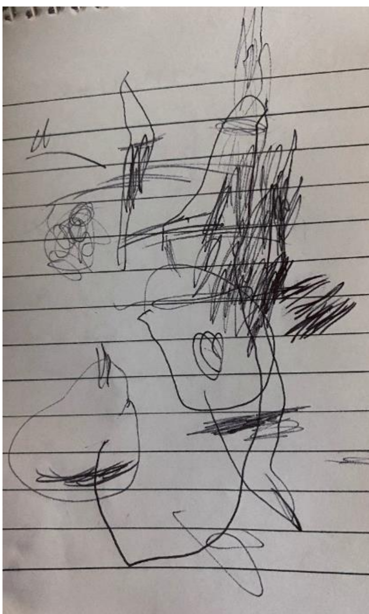

Figure 13: Amara (girl, 3): "A monster"

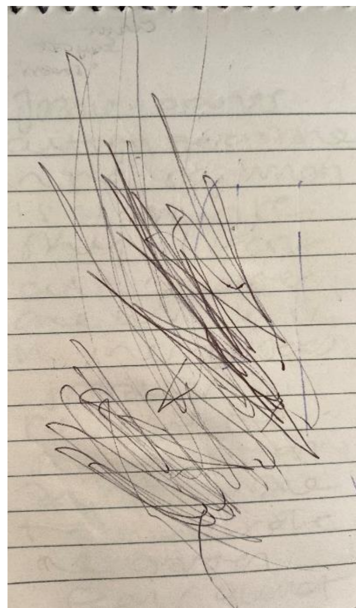

Figure 14: Moira (girl, 2): "A scary cat"

Figure 15: Beth (girl, 4): "A hunter fairy"

Intra-action recognises the dynamic forces between human and more-than-human entities (Barad, 2007). If, as Barad (2007) suggests, 'things' (human and more-than-human) do not pre-exist encounters, then such intra-actions mean that "'things' are constantly changing, exchanging, and diffracting, blending, mutating, influencing, and working inseparably"

(Hickey-Moody, 2020, p. 707). By considering the drawings in the figures above as more than just an end product, but instead as intra-action between researcher, notebook, child, pen, and hands, opens up exploration of the ways that the material and discursive are *becoming* together. In this sense, the capacity for such material objects (notebook and pen) to "agitate and activate" (Osgood and Andersen, 2019, p. 365) is acknowledged. Starting with diffractive analysis, which allows for the exploration of difference and meaning making, focussing attention on how knowledge and meaning are not created in isolation (Mazzei, 2014), the production of expected patterns and similarities can be challenged (Gabb et al., 2023), bringing focus to messiness and unpredictability that emerges when the agentic power of the notebook and pen are taken seriously.

In the rooms across the three sites there were paper and drawing materials. These included individual sheets of paper, brightly coloured crayons, chalks, colouring pencils and, in some cases, marker pens. What was not provided was small, lined paper and a black Biro. As such, my small notebook with its lined paper pages, and my black Biro pen were novel items in the rooms. Their agentic potential and affectivity were clear as they enticed some of the children who were drawn towards the notebook and pen. In discussing agency, Bennett (2010, pp. 31/32) comments that agency is creative in its "capacity to make something new appear or occur…a theory of distributed agency…does not posit a subject as the root cause of an effect. There are instead always a swarm of vitalities at play". The drawings produced in my notebook with my pen were not simply created because the children decided to draw the pictures. Rather, there were multiple, intra-acting vitalities involved in the production of these drawings.

Children's drawings are often perceived as being reflective of their developmental stage (Lenz-Taguchi, 2010). This was highlighted in a study by Giorza (2022) which looked at the role of early literature in reception classes in South Africa, where they found that the view of young children's drawings, in terms of developmental perspectives, meant that such drawings were considered as a precursor to writing and literacy. This humanist perspective of children's artistic creations ignores the role of materials in creativity. Hickey-Moody (2020, p. 707) explains that "Through a diffractive lens, the materials used to make art are seen as part of the distributed assemblage of "the artist," or author of a work. Here, diffraction is the relationship between materials, people, and ideas. Materials have agency, they change ideas in certain ways, and they "diffract" human agency in unexpected ways." The drawings were

not simply created by the children; they were created by the intra-action between the children, the notebook, the pen, and the disruption occasioned by this novelty.

The disruptive power of the notebook and pen opened up further possibilities beyond drawing. There was no direction or expectation in terms of how the notebook and pen could be used. The pen was also black; there was no choice of colour to influence the creation of the drawings. Due to the gendering of colours (i.e., pink for girls, blue for boys), infants and young children learn from a young age that there are expectations and implications around colour choices (Jonauskaite et al., 2019). As such, gender and colour (particularly pink and blue) are linked. The absence of colour left only black ink on white, lined paper. There were occasions during the fieldwork when I observed children drawing with the materials provided to them by the practitioner, which included brightly coloured mark-making tools. Jack (boy 4) drew his friends using blue and pink to depict the boys and girls, respectively. Adaline drew a pink and purple fairy with love hearts. The children only used the black ink pen to draw in the notebook. None of the children ever attempted to bring other mark-making tools to the notebook, they always used the pen. The black ink, then, was the only (perceived) colour available, potentially challenging the limitation that comes with the gendering of colours. The absence of colour, or rather the black ink in isolation from the colourful signifier of markers and pencils, intra-act with the paper of the notebook and the fingers and imaginations of the children entangled in their creation of the images (see figures 11-15).

In their research, Giorza (2022) suggests that the creation of fanciful characters in young children's drawings tends to be considered, pedagogically speaking, as part of children being on the way to learning about reality. As seen in the drawings discussed here, many of the children's creations are imaginary, non-human characters or entities, forms that contest easy and/or humanist interpretation. By sitting with the uncertainty of not knowing the thought processes or perspectives of infants and young children (Elwick, Bradley, & Sumison, 2014) and their reasoning for drawing the pictures, the agentic capacity of the notebook and pen, comes to the fore. How the notebook and pen themselves co-created, with the children, and how the marks were formed on the paper.

The drawings themselves reaffirmed the value of feminist new materialist theorising and analysis in researching with young children, as they (re)focused on the more-than-human and acknowledged the vibrancy of matter and the power of things. As Bennett says (2010, p. 20): "Thing-power perhaps has the rhetorical advantage of calling to mind a childhood sense of the

world as filled with all sorts of animate beings, some human, some not, some organic, some not." She notes that children tend to see animacy and vibrancy in the more-than-human. As such, rather than considering the drawings as being depictions created in immaturity or ignorance, they show imagination and connection to the possibility of the more-than-human world. The drawings show the materiality of the lines of black ink on the paper as *becoming* meaningful through intra-action. The children did not state what they were going to draw and then set about drawing it, rather they made marks on the paper, looked at the marks, and then stated what they had drawn. That is not to say that the drawings were not in any way predetermined, rather that the black ink marks on the paper influenced the titles assigned to the drawings by the children.

What can be read through the drawings is that gender is nuanced, and it is not always stereotypical and normative in its occurrence and performance. The drawings are not void of gender; instead, through the analysis here I have shown that gender is not always the only or most important influence in terms of how meaning-making is enacted by young children. Young children may categorise objects and people by binary gender in increasingly rigid ways (Brito, et al., 2021); however, by sitting with the messiness of the ways in which the drawings were created and by acknowledging and considering the agency of all contributors (human and more-than-human) to their creation, gender becomes less pivotal. It demonstrates that gender is in constant flux throughout the ECE spaces and is entwinned within and between the human and more-than-human entities that populate such spaces. Its power and influence are unstable, inconsistent, and ever changing.

7.9 Conclusion

This chapter has considered the role of materiality in how gender is produced and reproduced across and within ECE contexts. By considering children as entangled with the material world, the child becomes more than simply a human body, rather they are connected to, and embody the more-than-human world (Quinones & Duhn, 2022). This chapter has drawn on seven aspects of the material world which were fairly ordinary features of the ECE environments. This focus on the ordinary highlights the extraordinary meaning that can be accounted for when focus is shifted from humans (Osgood & Robinson, 2019a). By starting with material objects, this chapter has demonstrated the messiness and unpredictability of how gender comes to be in the ECE environment. Gender is (re)produced through the multiple

assemblages which are continuously evolving via entangled human and more-than-human participants. Through the material world, gender norms were often reproduced as children's play and exploration of objects went unchallenged, and feminised identities were reinforced with girls, for example, through their hair. The children's drawings in the notebook suggest that drawings in themselves are not irrevocably gendered, rather the application of colour and its association with themes of femininity and masculinity serves to reify how gender is reproduced. However, as the chapter has indicated, without colour gender is not so obvious in children's drawings. These remain more open in their crafting and their meanings. Overall, then, this chapter has demonstrated that gender is complex in how it is produced and reproduced in the ECE context, and this both reinforces *and* challenges gender norms and binary gender.

8. Chapter Eight: Conclusion

8.1 Introduction

This concluding chapter synthesizes research findings detailed in chapters five, six, and seven and returns to the underpinning research questions and the overarching question: how are concepts of gender reproduced within the ECE environment? The chapter also reflects on the research journey – from the research design to writing the thesis. This will be done through the concept of diffraction (see chapter four, section 4.6.1), which provides the conceptual and methodological framework for consideration of difference and potentialities, which will be discussed in more detail in section 8.2. The chapter will go on to propose the unique contributions of the research project, while highlighting implications for ECE practice and policy, and recommendations for future research. This draws on the analysis and findings of the current research which have highlighted areas where further research would provide additional insights. Finally, the chapter closes with the concluding remarks which seek to locate gender within the lived experiences of infants and young children in their daily routines in the ECE settings.

8.2 Revisiting the beginning: research design, methodology and fieldwork

This concluding chapter represents the end of the design, fieldwork, analysis, and writing up aspects of the doctoral studies research. However, when designing the research project, through consideration of relevant literature and methodological approaches, I retained the concluding part of the project always in mind. I regularly reflected upon the ways in which I would be able to get from the beginning to the end efficiently, effectively, with the aims and objectives of the research at the forefront of my mind. However, now I am at the end of this journey I can think back to the beginning of the project, where four years ago I looked ahead towards the end. In this section, I return to the methodology chapter and consider the ways in which the research evolved and challenged my own perspectives about ECE and, indeed, myself. Feminist new materialist scholars (see chapter three) recognise the inseparability of ontology, epistemology, and methodology (Barad, 2007; Lemke, 2021), leading many to advocate a diffractive approach which places emphasis on the congruity between the knower and the known (Palmer, 2016).

Feminist research has placed emphasis on reflexivity in research by placing accountability on the researcher for their role in the research itself (Linabary, Corple, & Cooky, 2021). This, then, requires critical examination of how one contributes to the research, recognising the situatedness of knowledge (Haraway, 1988). As such, by looking back on the journey – from designing the research to finishing the writing of the thesis through a diffractive lens – I can see how the design, fieldwork activities, and my own personal qualities have ultimately impacted the research findings, and thus how the research questions are addressed (see section 8.3). Barad (2007) acknowledges that entanglements are moments that cannot be recreated, including through reflexivity or through the production of fieldnotes. Rather, each entanglement (of which I was apart as a researcher) is a moment made up of intra-acting matter that do not pre-exist the encounter. Therefore, this thesis is a product of the whole journey and all the agentic (human and more-than-human) entities which participated and contributed to the generation of data.

When initially designing this project, I already had extensive experience of working in the ECE sector. I had therefore assumed that I already knew what the settings would be like and, as such, I planned research activities that I was confident would work and be straight forward to implement. However, although each of the settings had aspects of familiarity, the researched environment was not how I had expected (see chapter four, section 4.7.2). Some of the settings were organised in different ways, there were less qualified practitioners than I was expecting, but most importantly I was no longer a practitioner. However, I was once a practitioner. This meant that I understood the pressures of working in ECE and I could relate to the practitioners in the settings. I was also already comfortable in communicating with infants and young children which enabled me to quickly immerse myself in each of the settings. This was aided by my other similarities to the practitioners across all three sites. Notably, all the practitioner participants were white women aged between 19 and 40 (except for two who were slightly older). Although this had its benefits in that I was able to comfortably engage with the practitioner participants and the environment, it did also have it draw backs. For example, as an experienced practitioner myself, it was at times easy to get distracted by occurrences in the nurseries such as instances of less-than-best practice. Throughout the process I had to constantly negotiate my role and my focus while at the ECE settings. I therefore balanced, sometimes uncomfortably, my previous experience in ECE and my

research approach to the study design, data generation, and position within the researched environment.

Revisiting diffraction, the diffractive analysis which was drawn on in the current research allowed for a close exploration of what was produced through intra-action and enacting agential cuts (Barad, 2007) when reading the data. Thinking *matterphorically,* which is described as "a material-discursive practice of doing theory" (Barad & Gandorfer, 2021, p. 14), questions can be asked regarding how matter (and meaning) comes to matter. Gandorfer and Ayub (2021) argue that *thinking* is often posited as solely of human consciousness, separate and unaffected by 'other' matter, such as physical forces or molecular bonds. *Matterphorics*, then, is ethics of thought, that "calls for an ethics of both sense-making and sensing in the making" (Gandorfer & Ayub, 2021, p. 2). Thinking is non-representational but rather of matter and meaning production, where theorising itself is of the (material) world (Barad & Gandorfer, 2021). Therefore, a diffractive analysis recognises that thinking/theorising is never done in isolation, but rather through colliding, interwoven, affective forces (Lenz-Taguchi & Palmer, 2013). As such, my own characteristics and experiences impacted how intra-actions between practitioners, infants, young children, objects and the physical spaces occurred. That is, it *mattered* as it accounted for the affect I was having on the environment and vice versa. Therefore, what diffractive analysis has provided is a method for seeing the entangled aspects of concepts and thinking (Moxnes & Osgood, 2018).

Diffractive analysis has been utilised in the current research to explore the intra-actions that came into being between the researcher, the researched, and the data (Lenz-Taguchi & Palmer, 2013). It propelled me away from interpretation to "reading-the-data-while-thinking-the-theory" (Mazzei, 2014, p. 743). That is, by accepting being a part of the shifting assemblage and by considering the assembled nature of how phenomena are (re)produced. Gender is not simply encountered, that would suggest it was always there to *be* encountered. Rather, by thinking with diffractive analysis, gender is understood as something which is produced through intra-action and, arguably, diffraction itself.

8.3 Research questions and findings

This section will (re)introduce the research questions. Each subsection will focus on one of the research questions, which will explore how the analysis from chapters five, six, and seven address the inquiry. Section 8.3.4 will combine my analysis and thinking developed in

these sub-sections to answer the overarching research question: how are concepts of gender reproduced within the ECE environment?

8.3.1 How do gender norms inform the human and more-than-human encounters that take place in the ECE setting?

This thesis has been shaped by and developed through feminist new materialist theorising which, as detailed in chapter three, seeks to decentre the human and refocus attention on the agentic capacity of matter and the assemblages of matter which make up the moments that were observed through the feminist new materialist ethnography. As such, the data and analysis presented in this thesis, particularly in chapter seven, demonstrate the impact that gender norms have on how matter becomes entangled and how, in turn, intra-action between matter produced and reproduced gender norms. The analysis throughout the thesis draws on the observed entanglements between human and more-than-human participants. Chapter seven focuses on this in specific detail. Here, various objects and activities are presented as the starting point for each section, which focus on specific moments which created opportunities to observe the messiness and complexities of the ordinary (Gabb & Fink, 2015). By starting with the more-than-human rather than the human (e.g., the children) analysis has been able to explore the role of matter in how gender manifests within the ECE settings. Chapter seven is an example of moments when intra-acting bodies, matter, time, space, and institutional contexts are brought into being through their mutual affect. Gender norms are threaded through the core of ECE and influenced the ways in which these encounters and intra-actions took place.

The data and analysis concerning the objects and activities in chapter seven, contribute to the consideration of how gender norms informed the human and more-than-human encounters that took place. The purple bucket (chapter seven, section 7.2), in its intra-action with the human and more-than-human entities in the toddler room, inspired a variety of movements, emotions, and sounds. Which contributed to the ways in which gendered encounters were made possible. The bucket was placed over heads, concealing identifiable features of the toddlers while leaving only their clothing to identify them. This highlighted how gender was produced through the material, colours, and accessories which make up clothing.

Gender norms around clothing and emotional responses were highlighted by the presence of the purple bucket, as well as other matter in the spaces within the three ECE settings. The playdough and sand tray were staples across the settings. They featured across

all the rooms and were popular with the infants and young children. Gender norms were constantly being produced around the sand trays and playdough tables. Green playdough opened up the meanings and deployment of gender norms. The tactile properties, associated noise, and movement of the sand and sand tray pushed at delimiting boundaries. Although gender norms in these scenarios appeared to be ever-present, they were neither fixed nor often intentional. However, when moments did appear to transgress gender norms they were typically reframed at some point within the realm of social customs as play was redirected into something which adhered to the interwoven rules and expectations of the preschool room. Gender norms materialised through intra-action whereby the children's age and associated developmental goals reinforced heteronormativity as positive and negative attention from the practitioners adhered to gendered expectations. Here the perceived dominant, disruptive behaviour from the boys, and the more submissive, rule abiding behaviour from the girls was informed by gender norms. However, gender non-conforming behaviour was arguably also informed by gender norms. Gender norms became undone through play which did not fall into neat normative categories of gender. In other words, gender was produced through the ebb and flow of intra-acting human and more-than-human entities (Lyttleton-Smith, 2019).

Research findings have shown that practitioners play a role in how gender norms are promoted and challenged, their subjective knowledges, which is partly informed by ECE policy, curriculum and training, and their own lived experiences of gender. For example, chapter seven discussed how practitioners engaged with doing the hair of the girls. It is acknowledged that how hair is worn is entrenched with social and cultural meaning, including as a signifier of gender. Hair between the (female) practitioners and girls was a routine activity that was exciting and enjoyable, while multiple boys (across the settings) with long hair were not included in hairdressing activities because it was considered a feminine activity. On the surface, preschool aged boys often reject anything associated with femininity. This routine *habituated* practice entrenched the notion of gender as binary, where femininity is for girls/women, and masculinity is for boys/men. Whereas, in the social world, such characteristics are not exclusively differentiated by gender (Halberstam, 1998) as male beauty and haircare regimes are becoming increasingly normalised in mainstream culture. This was reflected by taking account of what happens beyond the surface, where children would find security in being out of sight so they could play in more gendered ways, but ways that were not always stereotypically conforming for their own gender.

8.3.2 How does infants' and young children's engagement with time, space, and the environment influence their knowledge of gender?

Throughout this thesis there has been an emphasis on the role of time, space, and the environment itself as a contributor to the generation of data. Time and space (as set out in chapter five) exist and flow in a unique way within the ECE environment, whereby the day is governed by routines designed to encourage development and learning opportunities, such as mealtimes (Quinones et al., 2021). There is an emphasis on the importance of routine and the timings of activities, which also regulate which spaces can be inhabited and how, such as when children eat, sleep, and play, and how long each activity should last. Spaces in the environment are designed, from an adult perspective, to encourage the meeting of developmental goals, and to meet legislative requirements (Jobb, 2019). Therefore, the way that the temporal and spatial exist within ECE is highly regulated by practitioners and can also be policed by children in search of praise. Time and space are intertwined which, as part of the assemblage of ECE, affects all other entities within the assemblage. This includes the infants and children as they move/are moved between spaces, spaces which are each entwinned with their own culture, expectations, and different, agentic, objects. The generational and gendered expectations in the preschool room were very different to those in the baby room. The preschool room expectations were centred around a certain set of social-informed behavioural norms whereas in the baby room there were few expectations, and the infants were given the space to explore as they wanted with patience and acceptance from the practitioners. Objects drifts inside and outside across time, aging, decaying, producing memories and new skills for young, curious hands and brains.

Moving through time and space in the ECE setting came with having to adapt to the expectations. In the baby room, all infants generally focused on the material objects in the room rather than their peers. However, there were moments where this solo exploration met with other infants as they began to learn and engage with social norms. In the toddler room playing *with* other children became part of their experience; in the preschool room, friendships were firmly established. Such friendships were largely gendered, and each group had different levels of power within the room (or outside spaces). In two of the ECE settings, the group which held the most power in the preschool room were the older boys. However, in one of the sites gender and generation intersect, and the power-holding preschool group

consisted of the oldest boys and girls. This progression of gendered learning supports other research where it is suggested that gendered knowledge begins to develop between the age of two and six (Callahan & Nicholas, 2019). Such generational markers are seldom clearcut and in the current research the toddlers did not seem to have the same rigid view of gender in binary form as seen in the preschool room. Therefore, representation and interpretation are of no use here. Rather, what diffractive analysis produces is knowledge of gender as constantly shifting, morphing, *becoming* across and between the rooms of the ECE settings, rather than it being associated with children based on nothing but their age and perceived understanding of the world. Children are therefore entangled in larger assemblages where being and knowing are brought about through intra-action.

The design of the spaces across all three sites influenced how, where, and when gender was manifested. In the preschool rooms there were multiple hidden spaces which had been (intentionally or not) created by the arrangement of storage units and/or furniture. Black-Delfin (2020) found that such open and hidden spaces were created within the larger space of the room. They found that the practitioners could create and, therefore, maintain control over open space, it was the children themselves who had created the hidden spaces in order to engage with forbidden topics. This was observed across the three sites in the current research. Hidden spaces and the materiality within them have been identified as a source of learning which surpasses the practitioners (Lyttleton-Smith, 2019). This includes social learning which takes place in open as well as hidden spaces. For example, chapter five discusses the play kitchens in each site which tended to invite play that was partially or, at times, completely out-of-sight of the practitioners. This meant that play that was considered taboo (such as kissing or using forbidden language) could take place undetected. It also invited gender normative play which embedded gender roles, such as girls pretending to bake and take care of the dolls, or even taking care of the boys. Typically, it was the more open spaces where gender normative and rule-respecting play took place, as this is where the practitioners could view the children with ease. However, there was an overlap in that at times the practitioners would congregate in particular areas which meant that the children were not always being observed, even in open spaces. Therefore, children sometimes engaged in non-conforming play in the open spaces when the practitioners were not observing, including moments where the older preschool boys engaged in more gentle, intimate play such as hugging each other and holding hands. The material world is agentic as it provides and creates

spaces which allows for difference in play and exploration to occur, which brings about gendered ways of being in non-conventional ways, which are not considered appropriate (by the practitioners) to enact within the open spaces.

Intimate encounters between the preschool boys also occurred in the outdoor space which was a far more open space, unrestricted by walls and ceilings and the material boundaries that may contain behaviour. The practitioners tended to have a more laid-back approach to the children's behaviour when in the outdoor spaces (see chapter five, section 5.4) than they did in the indoor spaces (where routines were highly regulated). This meant that the boys were able to run around and take up space (physically and audibly) while engaging in roleplay themed on violence, which was at times directed towards the girls, without consequence. The boys would thus use the unguarded outside space to assert dominance and take control. There were, then, understandings amongst the preschool room children concerning how they could engage with each other based on the space they were in. There was a sense of social understanding emerging around what those with authority deemed acceptable and what was not, depending on the time and space in which the children found themselves. This was not observed in the toddler and baby rooms in the same way. The toddler and baby room spaces were designed so that the practitioners could always see the infants and children. The space, furniture lay out, practitioners, and objects in the baby room intra-acted to produce a safe environment for the infants to learn and grow. There were fewer opportunities for them to hide away, likely due to the perception that capability comes with age, and that infants and toddlers need constant observation to ensure their safety.

Salamon & Paoloiologou (2022) note that ECE environments for toddlers are designed to promote their safety. ECE spaces are influenced by the age of the infants and young children who will be accessing the space, this includes the objects in the environment, the lay out of the space, and the developmental expectations of the children. Each of these aspects contribute to how, as they journey through time and the spaces at their ECE setting, infants and young children learn about their gender and the social implications of being assigned such a gender. The infants in the baby room were learning about their environment more so than engaging with their peers. In the toddler room the children began to form relationships with their peers as they played together. While in the preschool rooms, children were more likely to have a more rigid idea about what it is to be a girl or a boy and this dictated who they should

play with along with the socially acceptable ways to play (Brito et al., 2021). For example, for the boys this meant that being caring and loving was sometimes reserved for the hidden spaces where practitioners and their peers could not observe them. Time, space, and the ECE environment thus contributed to how infants and young children learned about their own and other people's gender. However, this was not a linear or straight forward process. Rather, it was informed by interconnected aspects including the age of the child, adult expectations, social norms, and social, cultural, and political contexts within each moment in time.

8.3.3 How are gender norms promoted and challenged in ECE?

Gender norms were produced through the affective forces between human and more-than-human entities within the ECE settings. They did not exist in isolation. Rather, they were constantly being negotiated, policed, reinforced, and challenged by the practitioners, infants, young children, and by the presence of more-than-human *things*. Chapter six addressed the ways in which power influenced how gender was manifested. ECE is entrenched with power, from the power of capitalism and its impact on how nurseries must market themselves (Moss, 2017), to how practitioners engage with each other and the children, and how the children engage with each other. By its very nature ECE is also gendered. 98% of the ECE workforce in England are women (see chapter 2, section 2.2.1), a consequence of longstanding gender norms that associate looking after children with the domestic sphere (Langford & White, 2019). As such, powerful gender norms structured the current research in diverse intersecting ways including perceptions of ECE in society, and the past and present (lack of) investment by central government (see chapter 2, section 2.2.1). The way that one experiences the world is impacted by their gender, and this begins in early years. Change-Kredl (2018) argues that the ECE workforce is predominantly made up of women due to connotations of it being 'women's work', and this may influence some girls in how they experience being 'a girl' and their later life choices. This was further reinforced in the current research by the temporary arrival of the landscapers/machinery which juxtaposed women and men and their gendered roles. Men were entangled in web of machinery and masculinity in contrast to the caring labour of female practitioners. This brought into sharp relief the binary gender divide in adults and, through their responses to this disruption in their environment, preschool children alike.

From the time that infants are in the baby room, they affect and are being affected by the objects in their surroundings. Typically, the material items in the baby rooms tended to be

made of wood or plastic and did not inspire obviously gendered play. However, the infants' actions were often reinforced or challenged in particular ways which had the capacity to promote or challenge gender normative behaviour. Chapter six discussed how practitioners responded differently to the infants according to their gender. When boys threw toys on the floor these actions went unnoticed while girls were admonished and asked to stop. This embedded and promoted norms associated with what is considered appropriate for girls and what is appropriate for boys. Conformity was (re)produced through moments of intra-action that produced entanglements of gender norms, the toys, the floor, the table, and the disruption of sound. As these human and more-than-human entities entangled, gender was simultaneously produced as children began to negotiate what they were permitted (or not) to do. Gender norms were therefore promoted across the rooms of the nurseries.

The toddlers tended to play with other children regardless of gender, but even here practitioners' interventions could subtly transpose gender norms into scenarios. For example, the practitioners in the toddler room would often give more attention to the boys who were loud, where the girls who were quiet were often left to their almost-silent play. There were also times when the girls were overlooked by the practitioners when engaging in the same activities as boys. In the preschool rooms, the boys were often loud and at times engaged in play and behaviour that was viewed as unacceptable by the practitioners. To mediate this, the practitioners might identify a group of children that needed their attention to regain a sense of order in the room. However, this had the potential to reinforce disruptive behaviour, and this tended to be enacted by the boys, as demonstrated when a practitioner gathered boys together and played a game with them, while excluding the girls who had been engaging in quiet play. For girls, this informed a sense of 'Otherness' within the preschool room. For the boys, it rewarded play that was steeped in aggression, and let them know that taking up space and being loud could have positive consequences. Findings thus showed that the practitioners have a role in how the children experienced and enacted gender.

The aggression that the boys exhibited seemed to be influenced by their knowledge of *how boys play*, however, the same boys also engaged in baby roleplay albeit in the hidden spaces. Here the boys would take turns being the baby or the dad, but they would not take on roles associated with being feminine. For the preschool boys, engaging in that which is perceived as feminine was known to have social consequences such as peer teasing. The masculine approach to boy play was thus enforced by the boys themselves and limited other

ways of being and behaving (Paechter, 2012). When the preschool girls engaged in baby roleplay, it would be focused on caring, whereas the boys' version would be focused on power. Therefore, there was a sense of the boys challenging gender norms around roleplay, while their understanding of such roleplay seemed to be influenced by their own experience. Girls were often reminded to be kind and caring, while boys were given opportunities to be assertive.

When the rest of the boys were not at nursery, gendered behaviours became less fixed. For example, though one boy was often engaged in rough, aggressive, loud play with the other boys, in their absence he adapted his approach to play as he played with the girls because he was also no longer at risk of taunting or social rejection from his male peers. The materiality of what it is to be a boy is therefore, in part, produced through peer relationships and also through intra-action with the objects that could be encountered within social groups. As such, the more-than-human play object often produced gender and segregation between children. There were other moments when gender norms were similarly disrupted by the children, and gender roles were challenged by the practitioners. As discussed in chapter six, section 6.4.2, there were examples of the girls challenging the normative assumptions around girls being kind, quiet and still. As they talked of 'smacking' and urinating on each other and demonstrated what could be seen as aggressive play. Another girl enjoyed running and building and was interested in physical activity. However, whenever she wore pink, she was praised by the practitioners for how 'pretty' she looked, and she would often point out to me whenever she had an item of clothing on that was pink. Despite this, she tended towards playing with the boys and being loud. Gender norms are, then, a dominant force in ECE, including the makeup of the workforce, the expectations of the children, and the ways in which children play. However, they are disrupted and challenged by the children in multiple ways. Nevertheless, the data in the current research clearly shows the complexity of how gender emerges with children.

8.3.4 How are concepts of gender reproduced within the Early Childhood Education environment?

The preceding three sections address how the research findings addressed each of the sub-questions. In this section I focus on gender within the institutional context of ECE. Gender was reproduced within ECE in multiple ways. As argued throughout this thesis, gender was not

something which simply existed, waiting to be encountered. Rather, it was produced and reproduced by the assemblages of human and more-than-human entities. The data in the current research were generated within a specific time and space, therefore the social and cultural understandings of gender at the time further influenced how gender came to be within the ECE settings. At the time of the field work, England was still in the grasp of the Covid-19 pandemic, albeit that 2022 was a time when things were improving as the world emerged from so-called lockdowns and extreme regulations that were put in place to limit the spread of the virus. Many ECE settings only closed their doors for a short period during the height of the pandemic, the practitioners otherwise had to work through it, despite fears around being able to provide adequate care to children combined with fears for their own health (Hobbs & Bernard, 2021). As such, issues around gender were seldom on the minds of the practitioners at this time.

However, issues around gender were never absent during these times and, arguably, have been much more visible in mainstream discourses in recent years. For some, this has provided much-needed representation of gender diversity; for others, it has felt contentious as it challenged the notions of longstanding norms. Here, I return to the quote from the very beginning of this thesis. Lacey's gasp and questioning whether researching gender was "allowed" made me consider if my mention of the word 'gender' had led Lacey's mind directly to issues around gender diversity, which have arguably been problematised and hotly contested in recent cultural debates (Cumming-Potvin, 2023). More positively framed comments by another practitioner indicate this may be the case, when she suggested that staff now had a better understanding and were "more relaxed" around issues of gender and non-binary identities. From her perspective, dress conformity and fixed ideas around how girls and boy should play had been reconsidered in ECE practice.

The time when the fieldwork took place was one contributing factor which undoubtedly influenced how gender manifested within the settings by influences. Other contributing factors which have been discussed in detail throughout this thesis, are the intersections of time and space (within the ECE settings), power, the material world, expectations and rules, knowledge, the practitioners (as gendered ECE professionals), and infants and young children (as developing social actors). This assemblage of multiple contributing factors is what results in the manifestation of gender as it is produced and reproduced. Sometimes gender norms are challenged and begin to morph, but some gender norms stagnate in the same rhetoric of

years gone by. The research findings suggest that ECE is a place where gender is a key part of how infants and young children begin to construct and understanding their identity and the identities of others. It influenced how they played, what they played with, and who they played alongside. Gender is not a passive concept which *just is*, in the current research it was a core part of the ECE experience for all who access and inhabit these spaces.

8.4 Diffractive patterns: What is produced?

Diffractive analysis breaks down dualisms and instead examines diffractive patterns. That is, the way that phenomena are co-established through interference, fusion, and meshing together and across (Geerts & van der Tuin, 2016). Therefore, rather than *interpreting meaning* from the research findings discussed in sections 8.3.1, 8.3.2, 8.3.3, and 8.3.4, diffractive analysis instead asks *what does it do?* While the text that is written across the pages of this thesis contributes to existing literature which is concerned with gender in ECE, the content also poses a challenge to wider gender binaries, and this may have implications for childhood and society more generally. The current research demonstrates that gender norms and, arguably gender inequity, have foundations in early childhood (Robinson & Osgood, 2019). Young children in the preschool room tend to have rigid ideas about gender, particular in a binary sense (Callahan & Nicholas, 2019) wherein boys do not *do* femininity because it is perceived as *lesser* than masculinity. However, the research findings make it possible to look beyond this to see what else is possible. Throughout the research, on the surface, it did appear that the boys avoided things and behaviours which they considered to be feminine. However, when considering the intra-actions between the objects, children, and spaces it became apparent that the boys did not completely avoid the objects that were associated with concepts of femininity (e.g., the dolls). Rather, for example, the intra-actions between boys, dolls, and hidden spaces produced new ways of doing doll-play. In an article for the early learning and parental advise website 'First Five Years', Dent (2022) suggests that: "In early childhood settings and playgroups there is more opportunity for cross gender play and that has to be good for both boys and girls." What emerges through the current research is an argument for gender-full play, rather than gender-neutral play. That is, where gendered objects are not villainised, rather made available and normalised for all infants and young children.

The inclusion of infants and infant spaces (i.e., the baby rooms) in the current research is a novel contribution. Infants are typically the focus of developmental research in ECE, but it

is far less common for them to be included in research regarding social phenomena such as gender. Studies in this vein tend to start with verbal preschool children (Orrmalm, 2020). Researching with non-verbal infants has its limitations (see section 8.5) because it is solely reliant on observations and thus researcher interpretation. However, infants are a key part of the population of ECE. Using a feminist new materialist approach helped to ameliorate such limitations by situating infants, toddlers, and preschool children as actors within entangled networks of human and more-than-human becoming. Through the inclusion of infants, the current research demonstrates that gendered becomings begin in infancy. This has implications for childhood, as it highlights that binary gender norms and expectations are embedded from the early stages of education. This has implications for how infants and young children experience the world around them. This includes their experiencing of gender-based adversity, or being the instigators of such adversity (e.g., misogyny towards girls), which all too often begins in infancy. This, then, has further implications for wider society.

Rigid gender norms, which are learnt throughout infancy and early childhood, may become engrained within the very fabric of society as children grow and engage with the world around them. Children are part of many ongoing intra-actions which continue to (re)produce gender, which contributes to the ongoing gendering of society, including the ways in which gender is *expected* to be expressed, conforming to social norms. This means that any expression of gender that is non-conforming is considered 'Other' (Callahan & Nicolas, 2019) and, therefore, *not normal.* However, disrupting gender norms in ECE through gender-full practice, where playing with a variety of toys, activities, and objects is actively encouraged and normalised, could help to dissolve gender binaries in ECE and beyond. It also begins to unsettle the power dynamics between the human and more-than-human world. This could take shape through breaking down hierarchal views associated with the (gendered) value assigned to certain objects by humans who self-organise value to certain gendered behaviours, attributes, and bodies over others. Rather than gender being produced and reproduced in restrictive ways, then, gender norms could be disrupted and unsettled, making room for new ways of *doing* gender.

8.5 Implications for ECE practice

The findings from the current research have implications for ECE practice and policy. It has been highlighted in previous literature that there is a need for gender-related training for

the ECE workforce (e.g., Reddington, 2020; Warin & Adriany, 2015). This is typically focused on challenging gender stereotypes and consideration of pedagogy. However, while the findings from the current research reinforce such need for training (e.g., practitioners in the current research did express stereotyped and binary views of the infants and young children in their care), it also brings into focus the need for training on the role of vital materials and how these feature in ECE and contribute to the ways that gender comes into being. Gender goes beyond human interaction and social norms and is an active part of the assemblages that make up the ECE settings. It arguably cannot (and should not) be eradicated through the act of neutralising difference. Rather, gender is part of heteronormative Western culture but can extend beyond the limits of the gender binary. That is, children should not feel compelled to explore objects that are steeped in gender norms. They may explore other possibilities and different ways of being. This re-worlding could be facilitated by ECE practitioners with sufficient nuanced training in the politics and power of gender, giving them the knowledge and skills to support infants and young children in their exploration of all toys, activities, and objects. This requires a reframing of gender as expanding out beyond the binary of girl/boy, female/male, where potential and possibility is present in place of limitation and embarrassment.

The current research therefore has implications for ECE policy. ECE policy (national and local- in the context of the participating settings) does not currently address gender in any detail. However, the research findings demonstrate that gender has considerable power, and it is constantly being reproduced by infants, young children, practitioners, and the ECE environment itself. This contributes to all aspects of the areas of learning in the Statutory Framework (DfE, 2023) (see chapter 1, section 1.3), and the ways that gender is embedded within what and how children *become.* ECE policy could, or I suggest should, addresses gender beyond the binary in mandatory training for ECE practitioners. Policy could/should recognise the embeddedness of gender in the ECE environment and work to reframe limiting notions of gender. This does not challenge children's sense of gendered identity – something that rings alarms bells for those against proposed expansions to the relationships and sex education curriculum. Instead, it could provide more freedom and flexibility in infants and young children's sense of themselves.

8.6 Challenges

The aim of the current research was to explore the ECE setting through a posthumanist feminist new materialist lens. This aimed to disrupt normative concepts of how research *should/can* be done and explore gender as being in flux and entwinned within the fabric of the ECE setting. Feminist new materialist research seeks to decentre the human and challenge the idea that it is only the human that has agency, and that matter is passive (Mazzei, 2014). Feminist new materialism explores that relationality between matter (human and more-than-human) as it is/they are brought into being through intra-action (Barad, 2007). The current research has attempted to meet such aims. However, as with any research, this has not been without challenges. While the research was able to refocus on the vibrant material world of the ECE settings, there were moments when my focus was more inclined towards human intentionality. Through living and learning in an anthropocentric world, it was at times difficult to challenge such an embedded, internalised worldview. This meant that I had to revisit data and analysis and *look again*. Engaging in feminist new materialist research requires finding peace within a complex, morphed and unfamiliar reality, or moments entrenched in feelings of unease (Giamminuti, Merewether & Blaise, 2021). Therefore, revisiting data multiple times became a requirement during analysis and beyond, as revisiting data became part of the 'writing up' of the thesis.

As discussed in chapter four, section 4.7.1, the Covid-19 pandemic impacted the field work. Due to parents being restricted from entering the nursery building, it became very difficult to find time or space to communicate with them. It was also difficult to know to which child they parented. Due to the already highly demanding nature of work in an ECE setting, practitioners were not able to facilitate this; they were either too busy, or they forgot. This resulted in adjusting the scope of the research. To focus on what occurred *within the boundaries* of each ECE setting. This did not include the parents. Although this did not appear to have any detrimental impact on the generation of data or the analysis, it does mean that insight on the role of parents and young children's home lives cannot not feature in my research. Covid-19 also interrupted data generation on multiple occasions. To ensure the safety of the participants and myself I had completed a Covid-19 risk assessment prior to commencing the field work. This included taking a two-week break between research blocks to avoid any transmission of the virus from one setting to the next. It also meant that if I encountered, or contracted the virus, I would not attend the setting for a period of two

weeks. I often felt frustrated when I was not able to go into settings because there had been cases of Covid-19 infections amongst the children. However, the reasons for this were to ease the spread of the virus and to prevent myself from contracting it. This was a privilege that the practitioners' working in the settings did not have.

Although it seemed, at the time, like Covid-19 was simply disruptive to the lives of humans, my own included, a reconsideration of this through a feminist new materialist lens offers another way of considering the pandemic. The Covid-19 pandemic brought into sharp relief the fact that humans are not as separate from the rest of the world (and that which inhabits it) as humanist anthropocentrism would suggest (Osgood, 2022). Rather, Covid-19 challenged human exceptionalism as humans became at risk, with our own mortality confronting us. During this time, what was once familiar became unfamiliar (Osgood, Andersen & Otterstad, 2022). It felt strange to be going into an ECE setting in 2021 after such a long time of being in lockdown and watching the world that I knew change so rapidly. The strong-smelling translucent hand sanitising gel had become the norm, and it permeated the fabric of ECE settings. However, once I had breached the boundary of the door the settings were once again familiar and strangely normal. There was no social distancing, no facemasks, no panic. The world outside was still in fear, but in the loud, chaotic nursery rooms, all was well. Osgood, Andersen & Otterstad (2022) have posed the concept of 'virusing-with' to explain this disconnect. This helpfully enables us to make sense of the impact of the Covid-19 pandemic in the context of ECE. They suggest that using the research lens of virusing-with children makes space to see what else unfolds in the potentialities of children. During the current research, the perceived delicate, vulnerable infants and young children were thriving in their ECE settings. The Covid-19 pandemic did disrupt human life, but it also made possible an appreciation for our place in the world where humans are not indestructible. Rather, humans are as vulnerable as all other lifeforms. However, life, of all kinds, goes on as it did within the walls of the ECE settings in the current research. The words that are compiled in the analysis here were done in 'freedom' of the post-pandemic world.

The participant sample of the current research is that analysis was limited in terms of its size, meaning that the data was not rich enough to deeply explore aspects identity such as culture, religion, ethnicity, and SEND. However, future research could explore this in greater detail in terms of how identity, in this sense, has implications for inclusivity and diversity within ECE settings. This may include how ECE environments shape and are shaped by the

people who occupy them, as well as how aspects of children's identities may influence practitioners' behaviour.

The use of video as a method for recording data would have been useful in this research. It would have enabled me to see things that fell outside my line of sight and allowed for moments to be revisited to aide clarification. However, I was unable to use this method due to video recording devises being forbidden in most ECE settings in England for safeguarding reasons. In the context of ECE, any videoing device is unwelcome and feared. Recent history has demonstrated that unforeseen (and criminal) acts can take place when opportunities for video recording are present in ECE. As such, I felt that it was better to respect safeguarding policy and maintain positive relationships with setting gatekeepers rather than push for the use of video recording. This may have strained relationships between myself and the gatekeepers. It would also require permission being granted by each parent which would likely result in only partial data being usable due to non-consent. Instead, I was able to gain consent from all participating settings and a large number of parents of the children in attendance.

8.7 Recommendations for future research

The nature of ethnography (including feminist new materialist ethnography) is that it is concerned with a specific focus on the complexities of the human (and more-than-human) world (Harding, 2019): what it lacks in breadth, it makes up for in depth. What this does mean is that further wide-ranging research could be beneficial in the pursuit of knowledge. I have identified three recommendations for future research. Each recommendation is based on consideration of how the research evolved from the initial plan, as some research activities became difficult or impossible to incorporate (see section 4.2.2). The recommendations are also drawn from unexpected research findings and through consideration of how the research could progress to generate different types of data.

Recommendation one: the inclusion of parents as participants. As mentioned in section 8.6, parents were not permitted to enter the ECE buildings due to the Covid-19 pandemic to limit the spread of the virus. As such, they were not included as participants in the research. This meant that the research focused solely on what happened within the ECE settings, rather than looking holistically at what the infants and young children experienced within and outside of the settings. As such, the insight of parents could offer another perspective on how infants and young children express and engage with gender when they are not at nursery, notably the

impact of home environments and parental attitudes. This would also facilitate investigation of the impact of ECE and young children's emerging knowledge and understanding of their own and other people's gender on wider social networks and family members.

The aim of the current research was to look at each ECE site as a whole entity, this meant observing all the actors (human and non-human) within the environment. The research findings highlighted the role that the cultural figure and trope of princesses play in how young children engage with gender. This was not a surprise as this has been found elsewhere (Adriany, 2019; Burton, 2021; Wohlwend, 2012). However, there is a lack of literature on how princess narratives, specifically within the Disney franchise, influence the feminisation of the adult ECE practitioner and how such concepts infiltrate practice through the interests of the practitioners. There is literature on the phenomena of 'Disney Adults' (Apollonio, 2023), but further research on cultural representations of the Princess and how this impacts the hyper-femininity of adult women who work in ECE is needed. This could facilitate exploration of how the Princess narratives transcend generations and the impacts this could have on how gender is expressed, policed, and challenged by practitioners in ECE.

Finally, this research project set out to explore how concepts of gender manifest in ECE. As such, this was an initial exploration and required a broad investigation of the whole ECE setting. Further research which focused specifically on the experiences of infants and young children could make use of more participatory methods with the infants and young children to include *their* perspectives. More in-depth insights through participatory methods and the practitioner conversations could further extend practitioner knowledge, especially on the institutional dynamic of ECE settings and their relation to policy and ECE training and practice.

8.8 Infancy and early childhood: where gender is made

In this final section of the chapter and this thesis, I want to locate gender in the ECE setting; to explore gender as a phenomenon that is produced through the intra-acting encounters which occur between humans and the more-than-human. Although it is acknowledged that ECE is not the only space where infants and young children learn gender, it is a contributing factor and the focus of this thesis. The youngest of infants in the baby room begin learning about gender through their exploration of the adult-designed environment and their encounters with the objects and people. Their behaviour was reinforced based on gender

norms that were deemed as acceptable. This gendered learning evolved as infants and young children journeyed through time and space within the nurseries and as the expectations of them change.

The objects in the learning environments differed based on which age group were in the space. The infant rooms tended to be 'open-ended', in that the objects were not designed to be used in a particular way, rather they had limited social cues (e.g., wooden blocks) applied to them. However, the ways in which they engaged with the objects were praised and challenged in line with gendered expectations from the practitioners. Throughout the nursery rooms, gender norms were promoted and challenged. Gender normative behaviour was often praised (intentionally or not) by practitioners through telling girls that they looked pretty based on their clothing, or by giving boys attention when they exhibited loud and/or aggressive behaviour. Infants and children were not passive in their learning of gender, rather they also produced and challenged gender norms. Promoting gender norms resulted in positive feedback from practitioners and social acceptance from peers. However, challenging gender norms was more acceptable for the girls based on the already established social role of 'tomboy' (Paechter, 2019). Conversely, femininity expressed by boys was met with teasing and ostracising (Kostas, 2022). This is most clearly demonstrated in research findings where boys tended to challenge gender norms when out-of-sight of the practitioners and their peers, whereas the girls who would engage in violence or physical and loud activities in the open spaces. This makes a case for gender-full practice in ECE, where gendered restriction around spaces and toys, created through networks of norms, expectations, colours, and location (within in the ECE room, e.g. the roleplay area), are stripped back.

In conclusion, time, space, matter, practitioners, and the children themselves all played a role in how gender manifested in ECE. The dominant manifestation of gender in the ECE setting in the current research is one of binary gender, whereby children were seen as girls *or* boys who exhibit different behaviour and different interests based on their gender. While there were cracks where nonconforming behaviour leaked out and/or was unpoliced by practitioners; but overall, there seemed to be little room for children to move beyond *being* a girl or a boy. Gender did not, however, come into being consistently and predicably. Rather, gender norms were influenced by time, social contexts, lived experiences, toys, and friendships, which reinforced gender norms. Gender was produced in different ways through intra-actions which sometimes (re)produced gender norms, and sometimes reimagined

gender. In this sense, the child and the material world become sites for possibility and potential (Lingren, 2020) in the production and moulding of gender.

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Appendix 1: Research information sheet: Nursery manager/owner

Date: 09/08/2021

Participant Information Sheet: Nursery proprietors/managers.

Research project: *How do concepts of gender emerge within the Early Childhood Education and Care environment?*

Why you have been invited:

Your nursery has been invited to take part in this research project because of the location and the service your offer in the form of childcare and early education. Infants/children aged between three months and up to and including four years, of all backgrounds and abilities, and all members of staff regardless of level of qualification or experience are invited to take part. Educators, infants, and young children are **not** obligated to take part even if the nursery has agreed to participate. All participation in the research is voluntary.

This information sheet is designed to provide you with detailed information about the research project. Please ensure you read it before signing and returning the attached consent form.

The research project:

This research project is part of a PhD project funded by the faculty of Wellbeing, Education and Language Studies at The Open University. I, Rochelle Mallet (the researcher), aim to investigate how ideas of gender occur within nurseries and what this means for how girls and boys learn. The project will involve observations of infants and young children's daily experiences at nursery over the course of twelve months (this does not mean that research will take place every day over that period). This will include activities such as observing play, mealtimes, interactions with friends and educators, and creative processes such as painting and drawing. The project will also include discussing Early Years with the educators within the normal routine of the nursery day. The project aims to inspire policy and practice within Early Childhood Education and Care. The observations will be recorded through written notes and audio recording, where appropriate. Photographs may also be taken of children's artwork or other creations, as well as notes made by educators. However, photographs will **not** be taken of any infants, children, members of staff or any confidential information about infants/children and their families.

What will you need to do?

Infants/children and the team will just need to continue with their usual routines. The observations aim to gather information, which is reflective of real-life experiences, so there will be no expectation for the nursery or anyone who accesses its services or works at the nurser take part in any activities outside or the ordinary nursery routine. The nursery will not be asked to provide any personal or sensitive information about anyone participating in the research. Names of the educators, infants and children who do participate will later be pseudonymised (i.e. I won't use your real name or report the name of the nursery) to ensure they are not identifiable. Consent, in the form of consent forms,

Information Sheet: Gatekeepers. V. 2.0_09/08/2021

will need to be gathered from educators and infants and children's legal guardians. You will be asked to send the forms home to the parents. However, I will be available to be present at the nursery to answer any questions the parents and the team may have.

Finally, some nursery policies or (blank) forms may be reviewed. It may be that photocopies are taken of the documents, where consent is provided. No personal or confidential information about infants/children or their families will be accessed or copied.

Privacy Notice

- Any information that is gathered throughout the research project will be handled as strictly confidential in line with the Data Protection Act 2018.
- All efforts will be made to ensure that any information gathered during this project will remain private in that it will not be linked back your nursery or anyone who works at or accesses it. No information will be shared with anyone else who is taking part in the project.
- Information will not be shared with anyone who is not involved in the project. However, my PhD supervisors may see the information in order to offer advice and feedback on my project.
- No one who is taking part in the project will be named within the final report to ensure that no one can be identified. The same applies for the name of the nursery. Pseudonyms will be used.
- All records that are produced as part of this project will be kept in locked files or in password protected computer files.
- Personal data (the names and signatures on the consent forms) will be destroyed on completion of this project.
- The data that is collected throughout this research project will be kept for a retention period of ten years, in line with data protection guidelines. After this time, all data will be destroyed.
- The data that will be included within the final report and further publications will be anonymised, that is your nursery will not be identifiable.
- You have the right to withdraw from the project before the 1st October 2022. This is the date when all data will be combined and analysed, and it will no longer be possible to identify which information is about which participant.

Further information on your rights is available at www.open.ac.uk/privacy

Agreement for your nursery's participation in this project is **voluntary**. All data will be handled in accordance with the Data Protection Act 2018.

This project has been reviewed by, and received a favourable opinion from, The Open University Human Research Ethics Committee, reference HREC/4068/Mallet

If you have any questions please do not hesitate to contact me at rochelle.mallet@open.ac.uk. Alternatively, if you have any concerns you can also contact my PhD lead supervisor, Dr Naomi Holford at naomi.holford@open.ac.uk

Please read and sign the consent form attached if you agree to your nursery participating in the project.

Appendix 2: Research information sheet: Practitioners

Date: 09/08/2021

Participant Information Sheet: Early Years Educators/Practitioners/Nursery Nurses/Volunteers

Research project: *How do concepts of gender emerge within the Early Childhood Education and Care environment?*

Why you have been invited:

You have been invited to take part in this research project because you work or volunteer at one of the nurseries which have voluntarily opted to take part. Educators and volunteers of all qualification levels and job roles are invited to take part. However, you are **not** obligated to take part and your participation in this project is completely **voluntary**. Regardless of whether you decide to take part or not, it will not affect your employment at the nursery in any way.

This information sheet is designed to provide you with detailed information about the research project. Please ensure you read it before signing and returning the attached consent form.

The research project:

This research project is part of a PhD project funded by the faculty of Wellbeing, Education and Language Studies at The Open University. I, Rochelle Mallet (the researcher), aim to investigate how ideas of gender occur within nurseries and what this means for how girls and boys learn. The project will involve observations of infants and young children's daily experiences at nursery over the course of twelve months (this does not mean that I, the researcher, will be present every day over that period). This will include activities such as observing play, mealtimes, interactions with peers and educators, and creative processes such as painting and drawing. The project will also include discussing practice with the educators and nursery leaders within the normal routine of the nursery day. You will not be asked to take part in research activities outside of your usual working hours. The project aims to inspire policy and practice within Early Childhood Education and Care. The observations will be recorded through written notes and audio recording, where appropriate.

What will you need to do?

You will be asked to carry out your job role as usual as the observations aim to gather information that is reflective of real-life experiences. You may be asked to engage in conversation in response to a written scenario (provided by me, the researcher), however every effort will be made to ensure this does not distract from your usual routine. You will not be required to provide any personal or sensitive information, apart from your first name which will later be pseudonymised (i.e. I won't use your real name or report the name of the nursery).

Information Sheet: Educators. V. 2.0_09/08/2021

Date: 09/08/2021

Privacy Notice:

- Any information that is gathered throughout the research project will be handled as strictly confidential in line with the Data Protection Act 2018.
- All efforts will be made to ensure that any information gathered during this project will remain private, in that it will not be linked back to you. No information will be shared with anyone else who is taking part in the project.
- Information will not be shared with anyone who is not involved in the project. However, my PhD supervisors may see the information in order to offer advice and feedback on my project.
- No one who is taking part in the project will be named within the final report to ensure that no one can be identified. The same applies for the name of the nursery. Pseudonyms will be used.
- All records that are produced as part of this project will be kept in locked files or in password protected computer files.
- Personal data (the names and signatures on the consent forms) will be destroyed on completion of this project.
- The data that is collected throughout this research project will be kept for a retention period of ten years, in line with data protection guidelines. After this time, all data will be destroyed.
- The data that will be included within the final report and further publications will be anonymised, that is you will not be identifiable.
- You have the right to withdraw from the project before the 1st October 2022. This is the date when all data will be combined and analysed, and it will no longer be possible to identify which information is about you.

Further information on your rights is available at www.open.ac.uk/privacy

Your participation in this project is **voluntary**. All data will be handled in accordance with the Data Protection Act 2018.

This project has been reviewed by, and received a favourable opinion from, The Open University Human Research Ethics Committee, reference HREC/4068/Mallet

If you have any questions, please do not hesitate to contact me at rochelle.mallet@open.ac.uk.

Alternatively, if you have any concerns you can also contact my PhD lead supervisor, Dr Naomi Holford at naomi.holford@open.ac.uk.

Please read and sign the consent form attached if you agree to participating in the project.

Information Sheet: Educators. V. 2.0_09/08/2021

Appendix 3: Research information sheet: Parents/legal guardians

Date: 09/08/2021

Participant Information Sheet: Legal Guardians

Research project: *How do concepts of gender emerge within the Early Childhood Education and Care environment?*

Why you have been invited:

Your infant/child has been invited to take part in this research project because they attend one of the nurseries which have voluntarily opted to take part. Infants/children aged between three months and up to and including four years, of all backgrounds and abilities are invited to take part. You are **not** obligated to agree to your infant/child taking part and their participation in this project is completely **voluntary** and your infant/child taking part or not taking part will not affect their progress at nursery.

This information sheet is designed to provide you with detailed information about the research project. Please ensure you read it before signing and returning the attached consent form.

The research project:

This research project is part of a PhD project funded by the faculty of Wellbeing, Education and Language Studies at The Open University. I, Rochelle Mallet (the researcher), aim to investigate how ideas of gender occur within nurseries and what this means for how girls and boys learn. The project will involve observations of infants and young children's daily experiences at nursery over the course of twelve months (this does not mean that research will take place every day over that period). This will include activities such as observing play, mealtimes, interactions with friends and educators, and creative processes such as painting and drawing. The project will also include discussing Early Years with the educators within the normal routine of the nursery day. The project aims to inspire policy and practice within Early Childhood Education and Care. The observations will be recorded through written notes. Photographs may also be taken of children's artwork or other creations, but photographs will **not** be taken of any infants and/or children.

What will you need to do?

Infants/children will just need to continue with their usual routines. The observations aim to gather information, which is reflective of real-life experiences, so there will be no expectation for you or your infant/child to take part in any activities outside or their ordinary nursery day. You will not be required to provide any personal or sensitive information, apart from your child's first name so that it is clear which children have parental consent to take part. Your child's names will later be pseudonymised (i.e. I won't use your real name or report the name of the nursery) to ensure they are not identifiable.

Date: 09/08/2021

Privacy Notice

- Any information that is gathered throughout the research project will be handled as strictly confidential in line with the Data Protection Act 2018.
- All efforts will be made to ensure that any information gathered during this project will remain private in that it will not be linked back to your child. No information will be shared with anyone else who is taking part in the project.
- Information will not be shared with anyone who is not involved in the project. However, my PhD supervisors may see the information in order to offer advice and feedback on my project.
- No one who is taking part in the project will be named within the final report to ensure that no one can be identified. The same applies for the name of the nursery. Pseudonyms will be used.
- All records that are produced as part of this project will be kept in locked files or in password protected computer files.
- Personal data (the names and signatures on the consent forms) will be destroyed on completion of this project.
- The data that is collected throughout this research project will be kept for a retention period of ten years, in line with data protection guidelines. After this time, all data will be destroyed.
- The data that will be included within the final report and further publications will be anonymised, that is your infant/child will not be identifiable.
- You have the right to withdraw from the project before the 1st October 2022. This is the date when all data will be combined and analysed, and it will no longer be possible to identify which information is about your child.

Further information on your rights is available at www.open.ac.uk/privacy

Agreement for your infant/child's participation in this project is **voluntary**. All data will be handled in accordance with the Data Protection Act 2018.

This project has been reviewed by, and received a favourable opinion from, The Open University Human Research Ethics Committee, reference HREC/4068/Mallet.

If you have any questions please do not hesitate to contact me at rochelle.mallet@open.ac.uk.

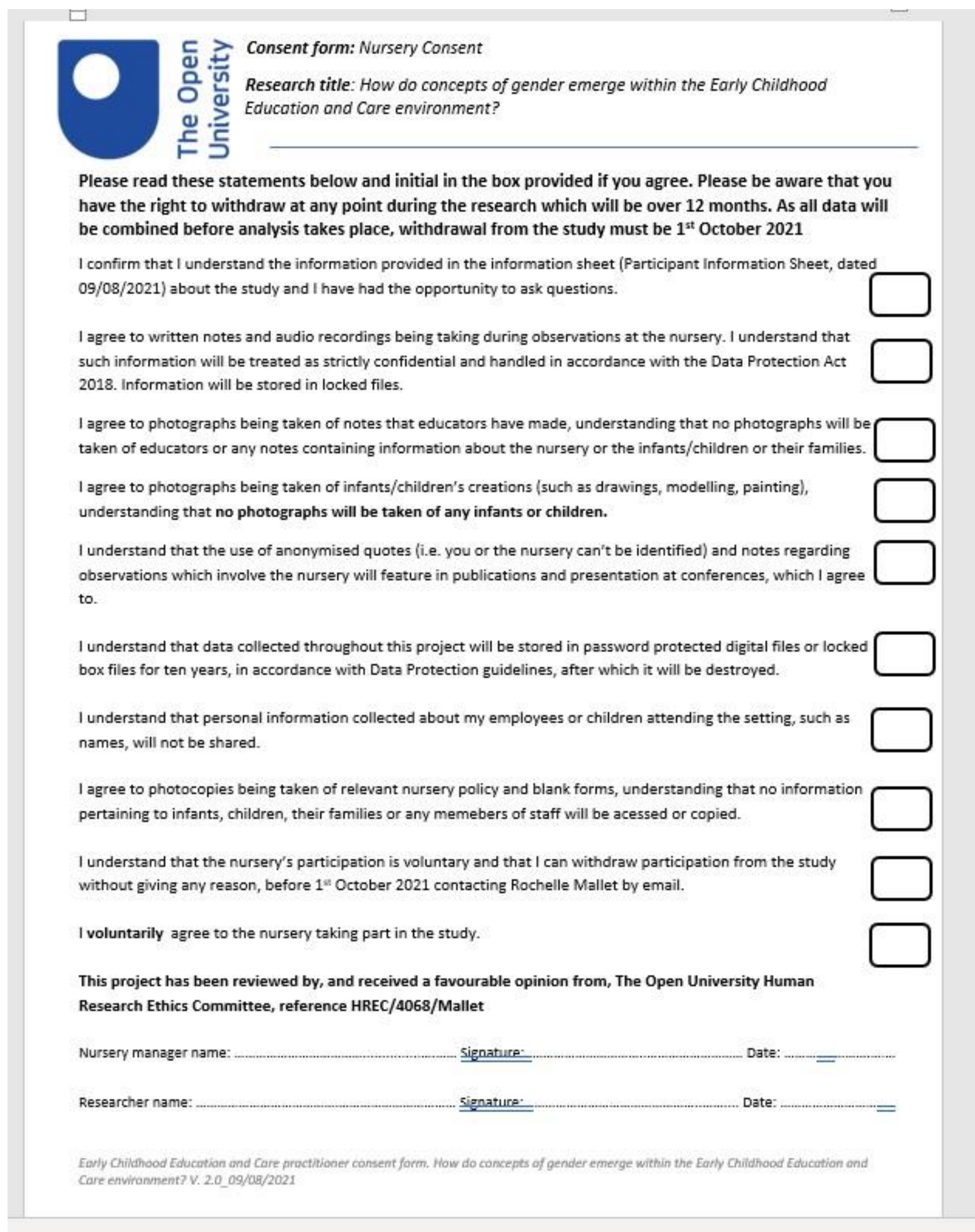
Alternatively, if you have any concerns you can also contact my PhD lead supervisor, Dr Naomi Holford at naomi.holford@open.ac.uk

Please read and sign the consent form attached if you agree to your infant/child participating in the project.

Information Sheet: Legal Guardians. V. 2.0_09/08/2021

Appendix

4: Participant consent form: Nursery manager/owner



Consent form: Nursery Consent

Research title: How do concepts of gender emerge within the Early Childhood Education and Care environment?

Please read these statements below and initial in the box provided if you agree. Please be aware that you have the right to withdraw at any point during the research which will be over 12 months. As all data will be combined before analysis takes place, withdrawal from the study must be 1st October 2021

I confirm that I understand the information provided in the information sheet (Participant Information Sheet, dated 09/08/2021) about the study and I have had the opportunity to ask questions.

I agree to written notes and audio recordings being taking during observations at the nursery. I understand that such information will be treated as strictly confidential and handled in accordance with the Data Protection Act 2018. Information will be stored in locked files.

I agree to photographs being taken of notes that educators have made, understanding that no photographs will be taken of educators or any notes containing information about the nursery or the infants/children or their families.

I agree to photographs being taken of infants/children's creations (such as drawings, modelling, painting), understanding that **no photographs will be taken of any infants or children.**

I understand that the use of anonymised quotes (i.e. you or the nursery can't be identified) and notes regarding observations which involve the nursery will feature in publications and presentation at conferences, which I agree to.

I understand that data collected throughout this project will be stored in password protected digital files or locked box files for ten years, in accordance with Data Protection guidelines, after which it will be destroyed.

I understand that personal information collected about my employees or children attending the setting, such as names, will not be shared.

I agree to photocopies being taken of relevant nursery policy and blank forms, understanding that no information pertaining to infants, children, their families or any memebers of staff will be acessed or copied.

I understand that the nursery's participation is voluntary and that I can withdraw participation from the study without giving any reason, before 1st October 2021 contacting Rochelle Mallet by email.

I **voluntarily** agree to the nursery taking part in the study.

This project has been reviewed by, and received a favourable opinion from, The Open University Human Research Ethics Committee, reference HREC/4068/Mallet

Nursery manager name: .... Signature: .... Date: ....

Researcher name: .... Signature: .... Date: ....

Early Childhood Education and Care practitioner consent form. How do concepts of gender emerge within the Early Childhood Education and Care environment? V. 2.0_09/08/2021

Appendix

5: Participant consent form: Practitioners

Consent form: *Educator consent form*

Research title*: How do concepts of gender emerge within the Early Childhood Education and Care environment?*

Please read these statements below and initial in the box provided if you agree. Please be aware that you have the right to withdraw at any point during the research which will be over 12 months. As all data will be combined before analysis takes place, withdrawal from the study must be before the 1st October 2022.

I confirm that I have read and that I understand the information provided (Educator Information Sheet, dated 09/08/2021) in the information sheet about the study and I have had the opportunity to ask questions. ☐

I agree to written notes and audio recordings being taking during observations at the nursery in which I work and of discussions which I may be involved in. I understand that such information will be treated as strictly confidential and handled in accordance with the Data Protection Act 2018. Information will be stored in locked files. ☐

I agree to photographs being taken of notes that I have made, understanding that my notes will be treated as confidential and will not identify me nor will images of me of me or any infants or children in my care. ☐

I understand that the use of anonymised quotes (i.e. you can't be identified) and notes regarding observations which involve me will feature in publications and presentation at conferences, which I agree to. ☐

I understand that my data will be stored in password protected digital files or locked box files for ten years, in accordance with Data Protection guidelines, after which it will be destroyed. ☐

I understand that personal information collected about me that can identify me, such as my name, will not be shared. ☐

I understand that my participation is voluntary and that I can withdraw my participation from the study without giving any reason, before 1st October 2022 by contacting Rochelle Mallet by email. ☐

I **voluntarily** agree to taking part in the study. ☐

This project has been reviewed by, and received a favourable opinion from, The Open University Human Research Ethics Committee, reference HREC/4068/Mallet

Educator name: .... Researcher name:..

Educator signature: .... Research signature: ....

Date: .... Date: ....

Early Childhood Education and Care educator consent form. How do concepts of gender emerge within the Early Childhood Education and Care environment? V. 2.0_09/08/2021

Appendix

6: Participant consent form: Parents/legal guardians.

Consent form: *Infant and young children's participation (legal guardian consent)*

Research title*: How do concepts of gender emerge within the Early Childhood Education and Care environment?*

Please read these statements below and initial in the box provided if you agree. Please be aware that even if you give consent, your infant/child may not always want to engage with the research and this is fine, infants/children's wishes will always be respected. You have the right to withdraw at any point during the research, but it must be before the analysis and writing up stage. This is because this is the time when the names of infants/children will be changed in the data and they will no longer be identifiable.

I confirm that I have read and I understand the information provided in the Participant Information Sheet dated (09/08/2021) about the study and I have had the opportunity to ask questions.	☐
I agree to written notes and audio recordings being taking during observations at my infant/child's nursery in which my infant/child may be involved. I understand that such information will be treated as strictly confidential and handled in accordance with the Data Protection Act 2018.	☐
I agree to photographs being taken of my infant/child's creations, such as models, paintings and drawings, understanding that the original creation will remain with my infant/child. [**of note, no photographs will be taken of any infants/children**].	☐
I understand that anonymised (i.e. your child can't be identified) quotes and notes regarding observations involving my infant/child will feature in publications and presentations at conferences, which I agree to.	☐
I understand that my child's data will be stored in password protected digital files or locked box files for ten years, in accordance with Data Protection guidelines, after which it will be destroyed.	☐
I understand that personal information collected about me or my child that can identify us, such as my name or my child's name, will not be shared.	☐
I understand that my infant/child's participation is voluntary and that I can withdraw their participation from the study without giving any reason before the 1st October 2022 by contacting Rochelle Mallet by email.	☐
I **voluntarily** agree to my infant/child taking part in the study.	☐

This project has been reviewed by, and received a favourable opinion from, The Open University Human Research Ethics Committee, reference HREC/4068/Mallet

Child's name: .... Legal guardian name: ....

Legal guardian signature: .... Date: ....

Researcher name: .... Researcher signature: .... Date: ....

If you wish to receive a summary of the research findings, please provide your email address below:

Early Childhood Education and Care practitioner consent form. How do concepts of gender emerge within the Early Childhood Education and Care environment? V. 2.0_09/08/2021

Appendix