Experiences of early motherhood following successful reproductive procedures

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ABSTRACT

Background: The current research aimed to explore how women, who have conceived via assisted reproductive procedures after experiencing infertility, describe their experiences of the first year of motherhood, as well as, what psychosocial and contextual factors impacted on their experiences.

Methods: A qualitative methodology was employed, with Reflexive Thematic Analysis (Braun & Clarke, 2006, 2021a, 2021b, 2022) as the chosen method of data analysis. Data was collected by interviewing 12 women who had become parents after successful reproductive procedures.

Results: Four key themes were derived from the data analysis process, representing women's account of how their prior infertility and IVF journeys impacted on their experiences of early motherhood: 1) "It is a big adjustment": Feeling unprepared for the realities of motherhood; 2) "We've got what we wanted": Navigating early motherhood with a highly sought after and longed for child; 3) "You've gone through this physically and mentally draining thing": Experiencing exhaustion and painful emotions associated with the difficult journey to motherhood; and 4) "That sense of support and sense of community, was *really* helpful": The importance of community, connections, normalisation and support.

Implications and conclusions: For many women, the psychological impact of infertility and infertility treatment influenced their experiences of early motherhood. To minimise difficult feelings experienced by women post-natally, healthcare professionals should normalise different experiences of early motherhood after infertility, as well as, giving women the chance to reflect on and process the "trauma" of infertility and infertility treatment during and after pregnancy. What is more, protective factors, such as greater partner support and self-compassion, could be increased through policy changes or therapeutic support.

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1.1. Terminology

1.1.1. Mother and motherhood

Throughout this research project the term ‘mother’ is used to describe a woman with at least one child and ‘motherhood’ is used to describe the overall state of being a mother. Whilst giving birth and the presence of an infant/ child is assumed within this research to be an objective reality, the experience of motherhood is assumed to be influenced by numerous factors including: historical and cultural constructions of motherhood; social, political and environmental context; the individual mothers’ previous experiences as well as their current psychology and meaning making.

1.1.2. Women

Historically, definitions have defined a ‘woman’ as ‘ an adult female human’, with ‘women’ representing the plural (Stevenson, 2010). More inclusive definitions make a distinction between ciswomen, i.e., those assigned female at birth, and transwomen, those who were not assigned ‘female’ at birth but identify as a woman, including those who may undergo surgery to change their sex specific organs (Faye, 2022). At the point in time that this research project was conducted, uterus re-construction surgery for transwomen is still in its experimental stages, and not something commonly offered (Samuel, 2016). This unfortunately means that the vast majority of transwomen are not yet able to give birth to their own children. As this research project is interested in women’s experiences of motherhood after experiencing infertility, it is therefore important to note that all women encompassed within this will be ciswomen. Throughout this thesis, the term ‘women’ will be used as an inclusionary term as both ciswomen, and transwomen, may be impacted by social constructions of womanhood, and how they link to motherhood, but it is recognised that the research project itself (due to the reasons outlined) will be predominately focused on the experiences of ciswomen.

1.1.3. Infertility

The term Infertility is currently used within a UK context when a heterosexual couple, having regular unprotective sex, are not able to conceive (become pregnant) for twelve months or more (NHS, 2020; World Health Organisation, 2020). A distinction can be made between 'primary infertility', when a couple have never been able to conceive, and 'secondary infertility', when difficulties conceiving occur after a couple have previously been able to conceive one or more children (NHS, 2020; World Health Organisation, 2020). Some couples labelled with infertility may go on and become pregnant with time, whilst others may need medical assistance to be able to conceive (NHS, 2020).

1.1.4. Assisted Reproductive Procedures (ARPs)

Assisted Reproductive Procedures (ARPs) are medical procedures which aim to aid conception and pregnancy. They are also often referred to as Assisted Reproductive Technologies (ARTs). The main ARPs currently used in the UK for heterosexual couples is In Vitro Fertilisation (IVF) (Haslett & Griffith, 2022; NHS, 2020).

1.2. My positions in relation to the research topic

As a researcher I bring my own intersecting identities and positions and it is important to acknowledge these, and the impact that they may have on the research project. I identify as a white British, straight, non-disabled, middle class ciswoman, who although hopes to become a mother one day, is not currently. This lack of children is thus far chosen, although like many other women, I experience worries around the possibility of future infertility, and what this may mean for me specifically as a woman. It is also important to note that I identify as a liberal and a feminist, and as no research is free of political and personal biases, these positions will undoubtedly come across within my writing and analysis. I will aim to reflect throughout on how my own positions and identities may shape this research project and bring in as many different perspectives on the topic as possible.

1.3. The route to diagnosis and treatment in the UK context

In the UK, approximately one in seven heterosexual couples experience infertility (NICE, 2017). The National Institute of Clinical Excellence (NICE) guidelines recommend that heterosexual couples concerned about conception difficulties after 12 months of trying, should be referred onto a specialist fertility clinic for an assessment of their fertility (NICE, 2017). This assessment is likely to involve questions around the medical and sexual histories of the couple, lifestyle factors and regularity of the women's menstrual cycle, as well as, further investigations such as blood tests, semen testing, assessment of ovulation and tubal damage, and screenings for infections (NICE, 2017). This process may result in a specific diagnosis of the cause of infertility or if no specific cause is found, the couple are likely to be given a diagnosis of 'unexplained infertility' (NICE, 2017). Once a diagnosis has been reached, there are three treatment options: 1) surgery to repair physical problems impacting on their ability to conceive; 2) medical treatments to support regular ovulation; and 3) assisted reproductive procedures (NICE, 2017).

1.4. Experiences of infertility

Infertility has been described as holding a central position in the lives of those who experience it, but particularly for women, who it has been described as having a 'devastating' impact on (Greil, 1997). Having children is something that many couples long for, and the inability to do so is experienced as a huge loss; a loss of an imagined family life, a loss of an expected role as a parent, and a loss of control over their lives and/or bodies (Cousineau & Domar, 2007; Greil, 1997). Many experiencing infertility have also reported it feeling like a personal failure, as well as, a failure to achieve societal expectations of becoming a parent (Cousineau & Domar, 2007; Greil, 1991). As with any experience of loss, or sense of failure, infertility has been described as leading to feelings of stress, anxiety, frustration, hopelessness, anger, inadequacy, low mood and depression (Cousineau & Domar, 2007; Greil, 1997).

Quantitative studies have tried to examine the extent to which infertility impacts on individuals by comparing scores of psychological distress with population norms, or matched controls, and have consistently found individuals experiencing infertility report high levels of distress when compared with others. For instance, Wright and colleagues (1991) asked couples to complete self-report questionnaires, measuring levels of psychological distress, during their first appointment at a fertility clinic, and compared both partners' scores with same-sex population norms. They found that both men and women experiencing infertility reported significantly more distress than population norms. Furthermore, the women in the study reported significantly more distress than their partners on a general distress scale, as well as, on specific anxiety, depression, stress and self-esteem subscales (Wright et al., 1991). In another study, Domar, Zuttermeister and Friedman (1993) compared the self-reported psychological distress scores of women experiencing infertility, with women with chronic pain, cancer, hypertension, undergoing cardiac rehabilitation, and those with a HIV positive status. It was found that the anxiety and depression scores of women experiencing infertility were significantly lower than those with chronic pain, but not significantly different than any other group. Such studies demonstrate how significant distress associated with infertility is, particularly for women.

As well as impacting on each individual within a couple, infertility also impacts on the relationship between the couple, as well as, their relationships with others in their lives. For some couples, the shared struggle of infertility has been described as bringing them closer, but for many couples, infertility can result in marital and sexual dissatisfaction (Greil, 1997), with divorce rates being higher in those who have had difficulties conceiving (Kjaer et al., 2014).

1.4.1. Infertility, identity and social disconnection

A key commonality across qualitative studies of infertility is the profound impact it can have on an individual's identity, and social relationships, particularly for women. Many have suggested that infertility can become a predominant part of a woman's identity, overshadowing other aspects (Olshansky, 1996). This can lead to a loss of the self, and to low self-esteem (Cousineau & Domar, 2007; Olshansky, 1996). It can also lead to women feeling less connected to previously important identities and relationships, such as that of a co-worker, friend or family member, and may mean that over time, as infertility becomes their main focus, they dedicate less time and energy to such relationships (Olshansky, 1996). What is more, people experiencing infertility have described how previously enjoyable social interactions involving children or pregnant women, bring up painful feelings associated with their infertility, meaning that they are likely to avoid such interactions (Greil, 1991). Some women even cut off close friendships with others who have young children due to the pain that hearing about their pregnancies/ children brings up for them (Haslett & Griffith, 2022). Individuals experiencing infertility also report having their feelings misunderstood, minimised or invalidated by people in their social circle, further feelings of disconnectedness (Cousineau & Domar, 2007). What is more, in some communities or cultures where there is a large stigma associated with infertility, individuals (predominately women) have reported experiencing ostracization, verbal abuse and at times physical abuse from their partner or extended family (Dyer et al., 2002).

1.4.2. Gender differences in the experience of infertility

As has already been touched on, the experience of infertility appears to be different for men and women. Specifically, studies have consistently reported that women experience higher levels of stress, anxiety, depression, low self-esteem and lower overall life satisfaction when experiencing infertility than men (Cousineau & Domar, 2007; Epstein & Rosenberg, 2005; Wright et al., 1991). Qualitative studies have also highlighted the difference in the subjective experience of infertility between men and women. For instance, Greil (1991) reported that during interviews with both men and women, the women in the study described infertility, and their sense of failure associated with it, as something that they constantly thought about, causing deep and long lasting distress. The men on the other hand, described the distress associated with infertility taking up less of their headspace and having less of an impact on them day to day (Greil, 1991). It has also been noted that men tend to experience infertility as a personal failure, or a failure in their expected societal role, if they perceive themselves as the cause of the infertility, whereas women experience a sense of failure irrespective of the perceived cause of infertility (Cousineau & Domar, 2007; Greil, 1991).

Many possible and interrelated explanations for this difference in the reported experience of men and women have been hypothesised and it is likely that a myriad of factors all interact together to create gendered experiences of infertility. Greil (1991) hypothesised that women may experience a sense of personal failure, irrespective of the cause of the infertility, as ultimately, it is the women's body who fails to become pregnant. What is more, as women are largely the child-bearing partner[1], they tend to be the focus of ovulation monitoring, and infertility treatment regimens (Greil, 1991; Cousineau and Domar 2007). This means that women are consistently reminded of their infertility, as well as, taking on the predominant responsibility and stress for sticking to infertility treatment schedules, undertaking and recovering from invasive procedures, and often find that due this, infertility impacts more on other important aspects of their lives, such as their careers and social lives (Cousineau and Domar, 2007; Greil, 1991).

What is more, it has been suggested that socially constructed gender norms, as well as, how fertility and the responsibility for conception has historically and culturally been more saliently linked to women, is important in understanding the difference in the experience of infertility between men and women (e.g., Greil, 1991; Cousineau and Domar 2007). Many cultures (but not all) have defined two genders, linked to the idea of there being two sexes; male and female, each with a distinct role in human

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[1] Note that this is an gender based assumption and may not necessarily be the case e.g., transmen or non-binary people can have a uterus and bear children.

reproduction. In most societies across time, there have been distinct ideas about what it means to be a man and what it means to be a woman. For example, in many cultures, such as the UK, men have been traditionally seen as the main ‘breadwinner’ whilst women have been seen as the main ‘caregiver’ within a family. This construction in gender roles is indorsed by many religious texts, such as the Bible, and can be seen in portrayals of families in TV and film. Some view this as an inevitable result of evolution, or the way that God meant it to be, arguing that women, through their hormones, neuropsychology and role in breastfeeding, are primed to take on more of a caretaking role in raising children, especially infants (Cousineau & Domar, 2007; Gerhardt, 2015). However, arguably a large part of how the roles of men and women are viewed has been constructed through social processes over time. For instance, feminists have argued that the idea that women naturally know how to meet an infant’s needs is a myth, perpetuated by patriarchal societies to keep the predominant responsibility of child-rearing on women (e.g., Nicolson, 1998).

In many countries, such as in the UK, we have seen a dramatic liberation in ideas around gender in the last half a century. Despite this, many of the traditional gender roles and expectations still exist in our laws, parental leaves allowances and social discourses. It is perhaps not surprising therefore, that women, whose main role has traditionally been seen as bearing and raising children, may experience the inability to conceive as more of an affront to their sense of identity, as a more significant failure, more stressful, and more of a loss than men.

On top of this, women have historically been, and in many belief systems still today, blamed for infertility. Within British narratives across time, this can be seen in discourses around historical British royal wives, such as those of Henry IV, who ‘failed to provide an heir’, in 20th century discourses where infertility was blamed on women’s immorality, sexual deviance or perusing of work outside of the home; and more recently in the ‘psychogenic infertility’ hypothesis – the idea that women could not conceive due to their own psychological difficulties or characteristics (Jensen, 2016). Although the medicalisation of infertility we have seen in the last century has aimed in part to take away the specific blame on women (Jensen, 2016), for many women this has simply shifted the blame to focus on their reproductive systems, and as studies have demonstrated, even when a woman's partner is shown to be the cause of the infertility, this does not lead to less distress for the woman (Greil, 1997).

1.4.3. How intersecting identities may impact on experiences of infertility

It is important to highlight that gender is not the only part of identity that may impact people's experience of infertility. The gendered experience of infertility discussed above will also be influenced by many other intersecting aspects of identity. Crenshaw (1989) was the first to discuss the importance of considering intersecting aspects of identity, specifically highlighting how the experience of being Black and being a woman interact together to impact on the discrimination experienced by Black women, and that this interaction is more than the sum of the parts. By this Crenshaw meant that we cannot understand how, for instance, a Black woman may experience the world by simply summing together what we may understand about their experience as a woman and their experience of being Black, but that we need to understand how both aspects of identity intersect together to impact on experiences.

Ceballo, Graham and Hart (2015) explored how the intersections of gender, race and social economic status, impact on the experience of infertility in a sample of African American women. Their analysis of interview data highlighted that expectations of women to be mothers is mediated by race, religion, culture and historical context. Specifically, they discuss how due to the legacy of slavery and racial discrimination in the US, there has been an emphasis on reproduction in African American communities, and that motherhood is often tied in with ideas of what makes a "good Black woman". They also discuss how stereotypes about hyper-fertility in Black women, internalised by many of the African American women interviewed, led to them feeling isolated and ashamed, and that due to this, many kept their infertility a secret from everyone in their lives, outside of their partners. Although this study is based within one specific sociocultural context, it highlights how powerful an impact the social, cultural and historical context that a person is a part of can have on experiences of infertility.

1.4.4. Experiences of primary vs secondary infertility

Despite secondary infertility (where a couple already has one or more children) effecting a greater proportion of individuals than primary infertility (Borumandnia et al., 2022), the majority of infertility research has focused on those experiencing primary infertility. Raque-Bogdan and Hoffman (2015) suggest that this is due to the assumption that primary infertility results in greater psychological distress than secondary infertility, due to the social stigma associated with childlessness. This assumption has been supported by a study conducted by Epstein and Rosenberg (2005) which found that heterosexual couples experiencing primary infertility were significantly more depressed than couples experiencing secondary infertility. In the discussion of their results, Epstein and Rosenberg suggest that this difference in overall depression is due to the fact that for women who already have a child/ children, the experience of infertility is not an affront to their sense of identity in the same way that it would be for a woman without prior children.

However, other studies have found no differences in the levels of self-reported infertility distress, or overall wellbeing between women experiencing primary and those experiencing secondary infertility (Raque-Bogdan & Hoffman, 2015). It is likely that although some of the experience of infertility e.g., feelings of loss associated with not having a hoped for child, may be common among infertility type, there may be other aspects of the experience that do vary between those that have prior children and those who do not. Of note is that those experiencing secondary infertility have described having their infertility related distress minimised or invalidated by others, and that this has led many couples experiencing secondary infertility to feel isolated from the both the fertile and the infertile worlds (Ceballo et al., 2015; Raque-Bogdan & Hoffman, 2015).

1.4.5. Factors which protect against the negative effects of infertility on well-being

As well as research indicating how challenging experiencing infertility can be for individuals, especially women, it is also important to highlight that there are many factors that have been found to buffer against high levels of infertility distress. Employment and having a strong affinity to an identity as a worker is one factor that has been found to positively impact levels of distress associated with infertility, particularly in women who have no children (McQuillan et al., 2007). Faith and religious practices have also been shown to buffer against the reduction in life satisfaction many people experience as a result of infertility (McQuillan et al., 2007), and has been discussed by participants in qualitative studies as being something that supports them during infertility (Boz et al., 2021; Ceballo et al., 2015). Additionally, high levels of self-compassion have also been found to buffer against infertility distress and global wellbeing in women experiencing infertility (Raque-Bogdan & Hoffman, 2015). Supportive relationships with partners, family and wider social networks, particularly others who have been through similar experiences, has also been described as helping individuals during infertility (Allan et al., 2021; Dyer et al., 2002; Kiesswetter et al., 2020).

1.5. Assisted reproductive procedures (ARPs)

Some couples experiencing infertility will be able to conceive after undergoing surgical or hormonal treatment, however, many will require the support of ARPs. In the UK about 53,000 patients undergo ARPs, the majority being IVF, each year (Human Fertilisation and Embryology Authority, 2021), with about 90% of those being due to infertility (the remainder 10% being either same-sex couples or single parents) (Human Fertilisation and Embryology Authority, 2020). APRs such as IVF do offer some hope to couples struggling to conceive, but, can in themselves be a stressful and distressing experience, due to lengthy waiting times and the low success rates causing uncertainty and disappointment, and often the need to undergo multiple treatment cycles (Haslett & Griffith, 2022).

1.5.1. The emotional impact of undergoing ARPs

Going through the process of IVF and other ARPs have been described as an ‘emotional roller coaster’, where couples experience waves of hope at the beginning of a cycle or new embryo transfer, followed by disappointment, anxiety and despair after an unsuccessful attempt (Papadatou et al., 2016). The emotional impact of ARP treatment has been found to be stronger for women than for men (Kissi et al., 2013), with the despair after an unsuccessful treatment attempt being so high for women, that as many as 13% want to end their own life (Cousineau & Domar, 2007). As well as distress associated with the possible outcome, women going through ARPs also have the pain and emotional distress associated with the procedures themselves (Haslett & Griffith, 2022), and experience more disruption to their working lives than their partners due to the treatment regime being focused on their bodies (Hammarberg et al., 2001).

What is more, women have reported feeling a lot of pressure to conceive during ARP treatment, with those in one study describing this pressure as the most difficult aspect of the ARPs process (Boz et al., 2021). For many of the women in this study, the pressure they felt to become pregnant resulted in them hiding it from their social circle and those who were open about undergoing ARPs described feeling unsupported, lonely, inadequate and hopeless when hearing comments from others (Boz et al., 2021). Perhaps related to this pressure, as well as a strong desire to become pregnant, people (but particularly women) have reported the most stressful part of the IVF process being the period of waiting after an embryo transfer, or after receiving a negative test result (Hammarberg et al., 2001).

Undergoing ARPs can also represent a time of significant financial stress for a couple, although within the UK, this can depend on the local provision of ARPs funded by the national health service (NHS). Many undergoing IVF in the UK either face the reality of having limited cycles and chance of conceiving through NHS funded IVF, or seeking private treatment, which can be extremely costly, adding further stress and financial strain to couples during an already incredibly emotionally challenging time.

1.6. Conception and pregnancy after ARP treatment

Women who conceive after successful reproductive treatment have reported experiencing feelings of joy and relief on learning of their positive pregnancy tests; although many have also described feelings of disbelief, emptiness or fear (Boz et al., 2021; Ranjbar et al., 2015; René et al., 2022). Some women express experiencing pregnancy as a shift away from the ‘infertile world’, have been found to have increased self-esteem and self-confidence, and describe feeling increased social connection and social acceptance during pregnancy (Ranjbar et al., 2015; René et al., 2022). However, others report feeling caught between the infertile and fertile worlds, and struggle to shift their identity towards being an expectant parent (Boz et al., 2021; Ranjbar et al., 2015; René et al., 2022). Many women describe high levels of anxiety and worries during pregnancy after an ARP conception, specifically, about their foetuses reaching full term, and some have also reported struggling to connect or bond with their foetuses (Boz et al., 2018; Ladores & Aroian, 2015; Ranjbar et al., 2015; René et al., 2022; Stevenson et al., 2016). Of particular note is that distress and anxiety during pregnancy has been linked to how much infertility related distress women experienced, and how many treatment cycles they went through before they conceived (Hjelmstedt et al., 2003; McMahon, et al., 1997). Specifically, those who underwent a higher number of treatment cycles report more distress during pregnancy (McMahon et al., 1997). Anxiety has also been described as being higher for women who experienced heavy bleeding during pregnancy and/ or low movement of their foetuses (René et al., 2022). For some couples, fear and anxiety about their child reaching full term means that they do not tell friends and family about their pregnancy for as long as possible and delay buying items for their child (Ranjbar et al., 2015).

It is important to note that unlike quantitative studies on distress associated with infertility, which tends to produce consistent and similar results, quantitative studies comparing distress experienced during pregnancy after conception through ARPs can be contradictory, with some studies showing no difference in the anxiety or general distress levels of women who conceived through IVF and those who conceived naturally (e.g., Halman et al., 1995), and others showing significant differences in anxiety levels (e.g., Hjelmstedt et al., 2003). This has been suggested as reflecting methodological differences between studies (Hammarberg et al., 2008), but may also reflect how nuanced and varied individual’s experiences of pregnancy after infertility are, and the inability of quantitative studies to represent this. A recent meta-synthesis of qualitative studies by Rene and colleagues (2022), discuss how experiences of pregnancy after an ARP conception are complex and nuanced and at times paradoxical, not just varying between individuals but also varying continually for an individual over the course of their pregnancy. For example, they detail how many people who are expectant parents after infertility oscillate between feelings, such as anxiety, associated with viewing the pregnancy as vulnerable, and feelings of hope and excitement about the possibility of finally having a child after such a long and hard journey of infertility.

1.7. **Parenthood after an ARP conception**

1.7.1. The transition to parenthood

Despite the widespread portrayal of welcoming a new child into the world as being a joyous time, many parents, irrespective of their journey to conception, experience a lot of difficulties during this transitional period (Cree, 2015). In fact, statistics suggest that in the UK 10-20% of women develop difficulties such as depression, anxiety and psychosis during pregnancy and/or the first year of the child’s life (Bauer et al., 2014). The research evidence and statistics on men/ the non-childbearing parent is less complete and has mainly focused on the construct of Post Natal Depression (PND), suggesting that about 10% of fathers experience PND (Paulson & Bazemore, 2010). For both parents, a new child brings with it responsibility to care for the needs of that child, something which can feel like an unrelenting task and can lead to neglection of their own needs, or previously enjoyed activities. In the UK context, parental leave allowances favour the mother with fathers/non-child bearing parents often getting very little time off work (Topping, 2021). This brings up different challenges for each parent; mothers have to adapt to loss of an identity as a worker, loss of work related social interactions, becoming more financially dependent on their partners, as well as, often having sole responsibility for their infant whilst their partner is at work (Nicolson, 2006). The non-child bearing parent, or parents who work, on the other hand, may feel like they are missing out on time with their infant, feel guilty leaving their partner at home to look after their new infant alone, and feel exhausted or stressed by the addition of their new childcare responsibilities on top of continuing work demands (Ruggeri, 2022). This transition is particularly difficult for parents if it is their first child, with greater levels of emotional difficulties being reported in first time parents (Nicolson, 2006). An individual's or couple's first child represents an identity shift to being a parent and the societal expectations of what this involves for mothers or fathers may vary with, as has been discussed earlier, more emphasis and responsibility often being placed with the mother for looking after the needs of the child. This may explain, in part, why women have been shown to experience more distress post-natally than men (Hughes et al., 2020; Vismara et al., 2016).

1.7.2. Early parenthood after infertility

The majority of research to date exploring the experience of parenthood after infertility and conceiving through ARPs has been quantitative, looking at whether such parents, differ from parents who conceive naturally on rates of PND, or other mental health diagnoses, or measures of parenting stress, attachment behaviour or marital satisfaction. In particular, there have been a lot of studies looking at PND diagnosis rates specifically. Such studies tend to involve looking at whether there are any 'significant differences' in the rates of PND diagnosis, or self-reported scores on the Edinburgh Postnatal Depression Scale (EDPS), between women who conceived via ARPs and those who conceived naturally. Four meta-analyses have been published, pooling the results of such studies, all of which concluded that there is little or no evidence of any meaningful difference in rates of PND, between women who conceived after ARPs and those who conceived naturally; although they do acknowledge that there are inconsistencies in findings across studies (Capuzzi et al., 2020; Chen et al., 2019; Gressier et al., 2015; Ross et al., 2011).

Some of the findings from quantitative studies looking at other aspects of the post-natal experience, include findings that women who conceive through ARPs report lower maternal self-confidence (Gibson et al., 2000; Hammarberg et al., 2009), are more likely to be admitted to a mother and baby unit (Fisher et al., 2005, 2012; Hammarberg et al., 2009), experience more anxiety in the post-natal period (Agostini et al., 2018), and have higher rates of 'maternal mental illness' on a population level (Dayan et al., 2022), than women who conceived naturally. Other studies have painted a different picture, suggesting that those who underwent more IVF cycles experienced less anxiety in the post-natal period (Jongbloed-Pereboom et al., 2012; Pottinger & Palmer, 2013), and women who conceived through ARPs were less impacted by social and child related stressors (Repokari et al., 2005), showed greater levels of bonding with their infant (Özdemir et al., 2022), had more positive 'representations' of their child (Paterlini et al., 2021), displayed more 'positive parenting behaviours' (Fata et al., 2021), and report greater marital satisfaction (Sydsjo et al., 2002) than women who conceived unassisted. Meanwhile, as with the studies of PND, other quantitative studies have found no meaningful difference between women who conceived naturally, and those who conceived using ARPs, on measures of health related quality of life (Vinturache et al., 2015), levels of parenting stress (Greenfeld & Caruso Klock, 2001; Hjelmstedt et al., 2004), rates of 'post-partum psychosis' (Vikstrom et al., 2017) and 'marital adjustment' (Greenfeld & Caruso Klock, 2001; Hjelmstedt et al., 2004).

1.7.2.1. Limitations of quantitative studies

Despite the emerging body of quantitative studies looking at particular aspects of parental experiences in people who have conceived through ARPs, arguably they have done little to advance understanding of the nuanced experiences of parenthood after infertility. Quantitative studies only look at one, or a few aspects of an individual's experience, and compare this to people who conceived naturally to determine whether there are any significant differences. This reduces what is a complex human experience, influenced by a myriad of individual, social and cultural factors, down to a single aspect, or way of conceptualising that experience, and fails to give a holistic picture of experiences of parenthood after conceiving via ARPs. Additionally, most studies also rely on self-reported scores on questionnaires, and it has been suggested that women who become parents after infertility may experience more guilt expressing difficulties experienced in parenthood, and thus, may downplay any difficulties when completing self-report questionnaires (e.g., Olshansky & Sereika, 2005). What is more, many studies exclude women who had multiple births, had previous children (secondary infertility), or conceived with the support of donors. As these groups represent a significant proportion of women who conceive via ARPs, it means that many quantitative studies only represent a minority of individuals who become parents after conceiving through ARPs.

It is also important to note the problems with the predominant focus in quantitative research on mental health diagnoses such as PND. Post-natal depression and other ways of conceptualising parental distress as a 'mental illness' has been criticised as medicalising normal and understandable human responses to change and loss. For instance, Nicolson (2006) discusses how 90% of new mothers experience emotional difficulties, such as anxiety and low mood, in the post-natal period, and that it is understandable for it to be a challenging time. She argues, that the problem lies with society's expectations of mothers to be able to adapt to the role of a parent with ease, expectations which stem from how motherhood has been constructed. When mothers (and other parents) understandably have difficulties adapting to having a child to care for, and the neglect of their own needs that this brings with it, they are bombarded with messages that they should be coping, and if they seek support for experiencing difficulties, are often labelled with a diagnosis of PND. For some, medicalising their distress in this way may serve the function of seeing their difficulties as medical/ biological, and thus alleviating any blame that they may feel, but for others it sends a message that their difficulties are not normal, and may exacerbate any blame or shame that they feel. What is more, the focus in the research on rates of mental health diagnoses, ignores highlighting areas of strength or, of overcoming of difficulties, which are also important in understanding people's experiences of parenthood after infertility.

1.7.2.2. Theoretical underpinnings of quantitative studies

It is also important to consider the epistemological and ontological assumptions of quantitative studies. Epistemology and ontology are distinct but related branches of philosophy concerned with what exists (ontology) and what can be known about what exists (epistemology) (Vincent & O'Mahoney, 2018). The epistemological and ontological position that a researcher adopts is key to the methodology that they subsequently use to study the phenomenon of interest. Psychology as a discipline has traditionally identified with 'realist' ontological and 'positivist' epistemological positions (Howitt, 2016). Specifically it has posited the view that there is an objective reality (a realist ontological position), which we can gain knowledge about through direct experiences of, or through the scientific study of, the world (a positivist epistemological position) (Payne & Payne, 2004).

Quantitative studies looking at parental experiences of the post-natal period after an ARP conception appear to be influenced by these ways of viewing knowledge and of conducting research. Specifically many of the quantitative studies have assumed that there is an objective, generalisable truth about how people experience parenthood after infertility, i.e., that it may lead to higher or lower rates of post-natal psychological distress, that can be gained through a well-designed, and controlled study. Within such an approach, it is assumed that a post-natal psychological state has an objective existence and can be measured using specific instruments (e.g., the Edinburgh Postnatal Depression Scale). However, such an approach to trying to understand the psychological experiences of individuals has become increasingly criticised over the past half a century for being reductionist, not considering nuance, or the person within their psychosocial context, and laden with power imbalances as they favour the researcher's interests and conceptualisation of distress over those of the individuals being researched (Howitt, 2016; Willig, 2013).

1.8. Scoping review – qualitative papers on the experiences of motherhood after infertility

During the process of systematically exploring and mapping out the research on early parental experiences after an ARP conception, it was decided that it would be most insightful and enriching if this review focused on studies utilising a qualitative methodology. Qualitative studies aim to generate rich, detailed descriptions of people's experiences of a particular phenomenon (Willig, 2013). This decision was made following initial literature searches and after extensive reading and summarising of the quantitative and qualitative studies. The decision was based on how limited current quantitative studies are in adding to the understanding of complex and contextualised experiences of early parenthood after infertility (as is outlined above), and the thinking that a rich exploration of what qualitative studies have found on the topic would be more useful in developing our understanding, and the narrative of this report, around the nuanced and complex, post-natal experiences of women who conceive following ARPs.

Due to the consistent finding that infertility has more of a profound impact on women, I was particularly interested in the experiences of women, although wanted to also include within any review, papers on parenthood after an ARP conception more generally to ensure no useful papers were missed. Thus, a scoping review to identify qualitative papers about experiences of parenthood after infertility was conducted. A 'scoping review' is used to refer to a method of conducting a literature review which systematically searches for relevant papers, in the same way as would be done in a 'systematic review', but aims to summarise the results of the studies found, rather than integrating them, as systematic reviews aims to do (Arksey & O'Malley, 2005; Munn et al., 2018). A scoping review has been suggested as being the most appropriate method for reviews wishing to systematically find and map out all the current studies on a certain topic area, with a Systematic review being most appropriate for those who want to question the feasibility or appropriateness of a treatment or practice by combining the results of multiple studies (Munn et al., 2018). Thus a scoping review was chosen as the literature review method as it best fit with the aims of this review to 'scope' out what qualitative studies have already been conducted, and indicated, about experiences of early motherhood/ parenthood after an ARP conception.

1.8.1. Search strategy

The search strategy was guided by group teaching and individual consultation gained from the Academic Services Librarian for Psychology and Counselling within the University of East London. The following databases: Psychinfo, Academic Search Complete, Scopus and Science Direct were searched for relevant papers using the following search chain: ("Reproductive Technology" OR "Infertility") AND ("Mothers" OR "Parents" OR "Postnatal Period"). The key terms were selected, based on looking at common terms used in initially identified papers and looking at how different databases tended to categorise papers e.g., by looking at index term names. The 'OR' and 'AND' function was used between search terms to try and ensure all relevant papers related to motherhood/ parenthood or the post-natal period for those who has previously experienced infertility and conceived via ARPs were captured. For Psychinfo and Academic Search complete, which have the index term function, these were utilised. The search chain was adapted slightly when using Academic Search Complete due to slight changes in the index term wording from Psychinfo. The searches were limited to academic journal articles which had been published since the year 2000, and in the English language. The year 2000 was chosen as a cut off as it was felt from initial searches that the topic has been a relative recent area of interest for qualitative research, and it was deemed unlikely that any studies would be missed by adding this limiter. When using Scopus, the 'psychology' subject area limiter was used and when using Psychinfo, age (over 18) was also included as a limiter, as parenthood is generally associated with adulthood (i.e., those over 18). Full details of the search strategy can be found in Appendix A.

1.8.2. Selection of articles

1.8.2.1. Inclusion and exclusion criteria

Articles were included if they were a qualitative study about experiences of motherhood, or parenthood generally, in the post-natal period (i.e., the first year of a child's life) after an ARP conception. No paper was explicitly excluded if it was solely about fathers' experiences as no paper specifically focusing on fathers' experiences of early parenthood after an ARP conception was found, although this may have been because the search terms did not include 'fathers' so may not have picked up such papers, as the focus of interest was mothers' experiences.

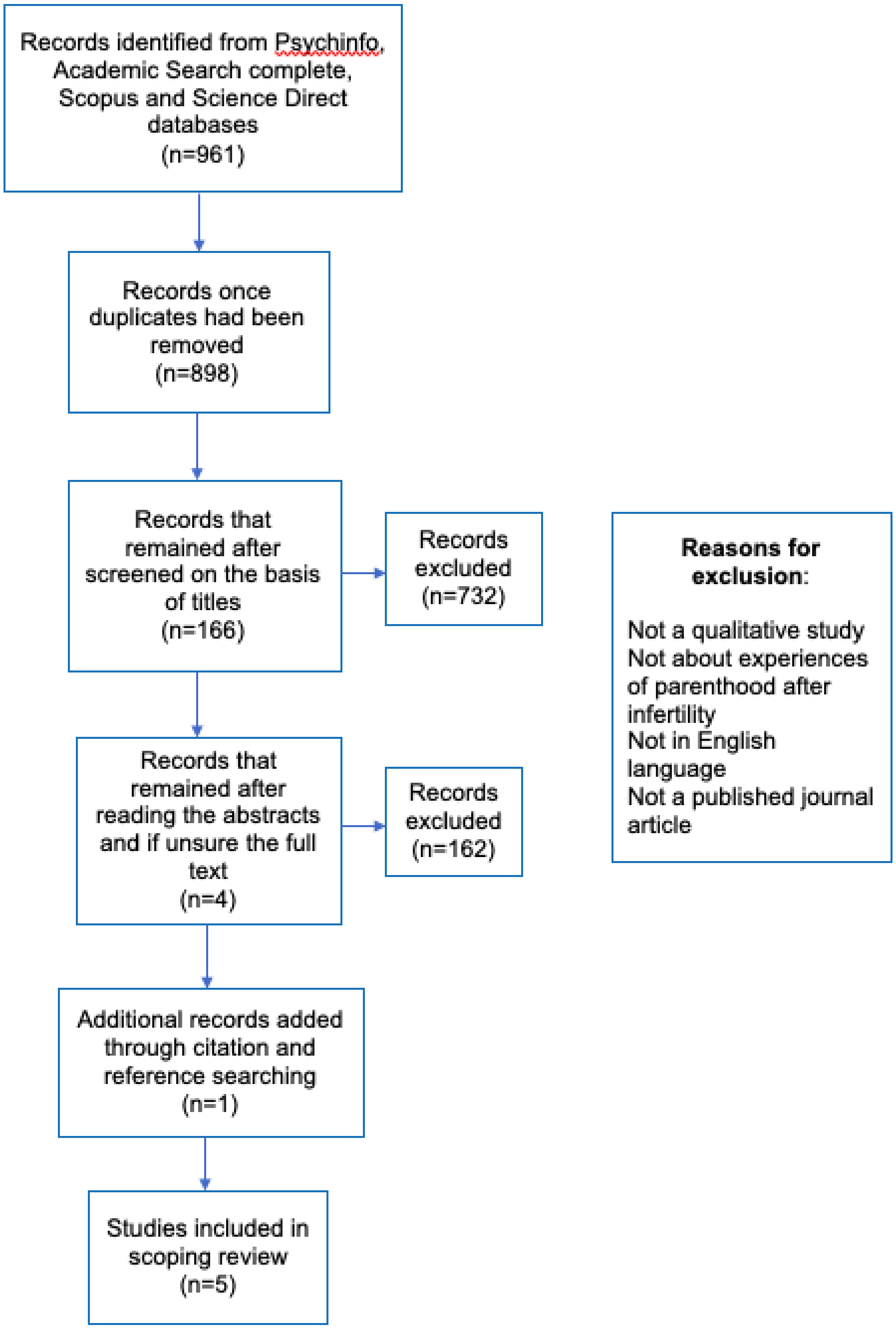
Studies were excluded if they were solely about the experience of pregnancy after an ARP conception, although studies were included if they also included discussion of the pregnancy *and* the post-natal period following an ARP conception (although it is what such papers detail about experiences post-natally that is summarised within the review).

Only published peer reviewed articles published in the English language were included, with previous dissertations that had not also been published as a journal article, or articles not accessible in English excluded.

1.8.2.2. Selection process

Figure 1

Flow diagram representing the paper selection strategy



As is represented in Figure 1, the search resulted in 961 papers, which reduced to 898 once any duplicates had been removed. The titles of all papers were read and a further 732 papers were excluded at this stage if it was clear from the titles that the papers were not relevant to the area of interest i.e., it was clear that they were about something other than parenthood after infertility, were not in English, or were not a qualitative study. The abstracts of the remaining 166 papers were reviewed, and full texts were accessed and read through as well if necessary. A total of 162 papers were excluded at this stage due to not employing a qualitative methodology or not being relevant to the particular area of interest e.g., being only focused on the experience of pregnancy after ARPs, or the full texts not being accessible. Papers were included if they were about early parenthood, or motherhood specifically, after infertility and an ARP conception, i.e., included discussion about experiences of the first year after the child was born, even if this was not the only focus of the paper. Extensive citation and referencing searches were conducted on the four selected papers, finding one additional paper that met the inclusion criteria. Citation and referencing searches were done on this new paper and no additional papers were found. Due to this extensive citation and reference searching, there was a high level of confidence that no relevant papers could have been missed through the search process.

1.8.3. Overview of selected articles

Table 1

Overview of the five studies included in the scoping review

Authors, date and location of study	**Title**	**Participants**	**Period of motherhood studied**	**Approach to analysis**	**Key themes**
Ladores and Aroian (2015) US	The early postpartum experience of previously	12 first time mothers who conceived following fertility	First 3 months	Colaizzi (1978)'s Descriptive Phenomenological Method	1) 'Lingering identity as infertile' 2) 'Gratitude for the gift of motherhood'

	infertile mothers	treatment (type not specified)			
Boz, Teskereci and Akgun (2021) Turkey	The experience of becoming a mother following successful in vitro fertilization: A grounded theory	18 first time mothers who conceived via IVF	Pregnancy and motherhood (women interviewed had their infants between 3 and 36 months prior to the interviews)	Constructionist Grounded Theory Approach	Main overarching theme category: ‘Non-spontaneous path to motherhood’ with four main theme categories under this: 1) ‘The treatment process is exhausting’, 2) ‘Leaving the infertility world’, 3) ‘Pregnancy under the shadow of fear’ 4) ‘Getting stuck between fertile and infertile worlds’
Allan et al. (2021) UK	Transition to parenthood after successful non-donor in vitro fertilisation: The effects of infertility and in vitro fertilisation on previously infertile couples’ experiences of early parenthood	16 heterosexual couples with one infant conceived through non-donor IVF (interviewed together)	Focused on transition to parenthood (couples were interviewed when their infants were between 3 and 18 months old)	Not explicitly specified although referred to the data as being “analysed thematically”.	Three main themes: 1) ‘Preparing for parenthood’, 2) ‘Becoming a parent’, 3) ‘Considering a sibling’
Mohammadi et al. (2015) Iran	‘Super-mothers’: the meaning of mothering after assisted reproductive technology	9 first time mothers who conceived through ARP (of different types). Excluded those who	Motherhood (children ranged from 9 months to 7 years at the time of interview)	An interpretive Phenomenology Approach	Main theme described was ‘Super-mothering’, with four sub-themes: 1) ‘Over-care’, 2) ‘Over-protection’, 3) ‘Over-emotional investment’,

		used sperm donors.			4) ‘Over-expectation of themselves and others.’
Olshansky (2003) US	A Theoretical Explanation for Previously Infertile Mothers' Vulnerability to Depression	Specific details unknown	Not specified	Theory presented based on previous body of Grounded Theory studies.	n/a

The first four papers outlined in Table 1 used interviews as their method of data collection (Allan et al., 2021; Boz et al., 2021; Ladores & Aroian, 2015; Mohammadi et al., 2015) whereas the fifth paper included, by Olshansky (2003), presents an argument based on a theory grounded in previous interview data gained by the author. Four of the studies solely discuss women’s experiences of motherhood after infertility (Boz et al., 2021; Ladores & Aroian, 2015; Mohammadi et al., 2015; Olshansky, 2003) and one of the studies represented the experiences of both parents (Allan et al., 2021).

1.8.4. Summary of the results of qualitative studies about experiences of early motherhood/ parenthood after an ARP conception

Many of the papers reviewed shared commonalities in what was identified about the experience of motherhood/ parenthood after previous infertility and an ARPs conception. These common patterns will be presented below under headings created by the current author, but based on language used within the five reviewed papers.

1.8.4.1. Persistence of an infertile identity

One common pattern discussed in the studies found in the scoping review was how for some individuals, an infertile identity persisted even after having a child and this impacted on their early experiences of parenthood. As is represented in Table 1, one of the key themes from Ladores and Aroian (2015)’s study was ‘lingering identity as infertile'. Specifically, Ladores and Aroian (2015) reported that 9 out of the 12 women interviewed in their study described their previous infertility, and the journey of conceiving through ARPs, as being a firm part of their identity, even after entering parenthood. It is detailed how this persisting infertile identity led to several consequences for the women, which were encapsulated in the subthemes 'anxiety over the pregnancy', 'perceiving motherhood as surreal' and 'feeling unprepared for the role of mother'. Specifically, the mothers shared experiences of fear and anxiety that something would go wrong during pregnancy, and disbelief when they gave birth to a child and were finally a mother. Ladores and Aroian (2015) state that all the women interviewed reported not feeling prepared for the realities of motherhood, and although this is a common experience for all new parents, many of their participants detailed how their previous infertility played a part in how unprepared they felt. Participants reported that due to their focus being on getting pregnant for such an extended period, and anxiety that something may go wrong during pregnancy, they had not emotionally or practically prepared themselves for parenthood. Ladores and Aroian (2015) note that not all women perceived a lingering infertile identity as a negative thing, with one woman describing that she was proud of that part of her identity, and others describing how it gave them more gratitude for the experience of motherhood, a further commonality across studies that will be discussed in the following section.

The study by Boz, Teskereci and Akgun (2021) used a Grounded Theory approach, drawing on the 'Becoming a Mother Theory' (Mercer, 2006), to explain how previous infertility may impact on the formation of a maternal identity. Similarly to Ladores and Aroain (2015), they share that many women continue to have an infertile identity, even after giving birth to a child after ARPs, and suggest that this interacts with their forming an identity as a mother. However, Boz and colleagues do not explore how this continued infertile identity impacts on women's experiences of motherhood after an ARP conception.

1.8.4.2. Gratitude and joy

The majority of the studies found shared that many parents experience joy and gratitude when becoming parents after infertility. For instance, within their discussion of their ‘becoming a parent’ theme, Allan et al. (2021), note that many of the couples they interviewed expressed positive emotions such as joy and excitement when first becoming parents after long infertility journeys. For some parents, the gratitude and joy associated with being parents after infertility was described as helping them to get through the normal challenges of parenthood. However, linking to the previous section, they note that for some parents, this joy was tempered by the difficult feelings associated with their infertility journey, and difficulties in forming an identity as a parent after infertility.

What is more, as introduced above, the second key theme in the study by Ladores and Aroian (2015) was ‘gratitude for the gift of motherhood’, with many of the women describing how grateful and joyful they felt after finally giving birth to a child after many years of infertility, and going through infertility treatment.

1.8.4.3. Perfectionism around mothering

However, the gratitude many parents experienced after an ARP conception was described by Ladores and Aroian (2015) as impacting on the standards that the women set on themselves, and the expectations they held about motherhood. The two subthemes ‘needing to be the perfect mother’ and ‘feeling censored’ were used to summarise the experiences of mothers holding themselves to high standards as mothers, and not feeling able to complain about normal difficulties of motherhood, due to the gratitude associated with having a child after infertility. Mothers reported feelings of failure when their lived experience of motherhood did not match their expectations e.g., when facing difficulties breastfeeding, as this was perceived as an affront to their idealised imagine of what sort of mother they should be to their ‘miracle’ child. For some of the women, difficulties breastfeeding were seen as further evidence that they could not provide naturally what they should be able to as a mother. Such feelings of failure and mis-match between women's expectations of what they should be as a mother was described as leading to feelings of sadness, depression, guilt and shame. Women felt like they couldn't complain about the difficulties of motherhood due to what they had been through to have their child, and so censored what they shared with others. Ladores and Aroian also discuss how four women who experienced low mood and difficulties bonding with their child, described feeling guilt for feeling such a way after wanting a child for so long, exacerbating their psychological distress. Perceptions of the need to censor their feelings was reported as being reinforced by people around the women, as well as health care professionals, who were described as making comments in reference to how happy the women should be, making the women feel unable to seek support for the difficulties that they faced.

Similarly, in the study by Boz and colleagues (2021), women were described as referring to their babies as 'precious', and that due to this they sought to be 'perfect' in caring for their child. They relate the fear of losing their baby, that may be heightened in people who conceived with ARPs after infertility during pregnancy, as transferring over to an increased fear of preventing any harm that may come to the baby once they have been born.

Additionally, in the study by Mohammadi et al. (2015), the main theme from their analysis was 'super-mothering', reflecting descriptions by the women of feeling the need to meet all their child's needs effortlessly and without exhaustion. The four sub-themes related to 'super-mothering' were described as 'over-care', 'over-protection', 'over-emotional investment' and 'over-expectation of themselves and others'. As in the studies by Ladores and Aroian (2015) and Boz et al. (2021), participants described having higher expectations and standards of themselves as mothers after going through infertility and APRs to conceive, although in this study, women also described having expectations of others to treat their child as special ('over-expectation of themselves and others'). Additionally, Mohammadi et al. (2015) note how women described worrying more about risks to their children than they perceived parents who had not gone through infertility would; and that due to this became preoccupied with ensuring that they did everything they could to minimise any risks to the health of their infants.

This was described as including seeking reassurance form medical professionals that their child was healthy, which was labelled by the authors as ‘over-care’. They also note that mothers recognised that they monitored or supervised their child more than mothers who had not been through infertility, which they categorised into the ‘over-protection’ sub-theme. What is more, they explain how for some of the women interviewed, their children became the centre of their focus, coined ‘over-emotional investment’ by the authors.

1.8.4.4. Impact on relationships and proposed mediating role with depression

The fifth and final study found in the scoping review, but not yet discussed in detail, is the paper by Olshansky (2003). Olshanksy is a prominent and influential researcher in the infertility literature who has conducted numerous qualitative studies, interviewing women, and used a Grounded Theory methodology to develop their ‘Identity as Infertile’ theory about women’s lived experience of infertility. Within this paper, Olshansky (2003) argues that depression in the post-natal period may be under-reported in women who become mothers after successful reproductive procedures, due to people’s expectations that such mothers should experience mainly happiness for having a child after infertility, and to women themselves censoring such experiences they may feel they are not supposed to, or allowed to feel. Olshansky (2003) proposes, based on their own Identity as Infertile theory (Olshansky, 1996), and Relational Culture Theory, that women who become mothers after infertility may be more likely to experience emotional difficulties due to the sustained impact on their relationships that going through infertility and infertility treatment is likely to have had. Specifically, as detailed earlier on in this chapter, Olshanksy (1996) proposed that when experiencing infertility, women may put less energy into important roles and relationships in their lives, leading to feelings of disconnection. Olshanksy (2003) builds on this and suggests that the damage done during the period of infertility and fertility treatment, to such relationships, could have a negative impact on the well-being of women post-natally through a lack of connection and support.

The importance of relationships on parental wellbeing is also reflected in other papers in the scoping review. For instance, both Allan et al. (2021) and Boz et al. (2021) describe how supportive partners can help parents in moving on from the pain of infertility and focus on their present parenting roles, and also highlight how important supportive relationships with family and friends are for parental well-being. Allan et al. (2021) also detail how some of their participants found it particularly helpful to connect with other people who had experienced infertility and conceived through ARPs.

1.8.4.5. <u>The renewed pain of infertility when considering siblings</u>

In the study by Allan et al. (2021), they state that all their participants discussed the challenge of considering a sibling for their child and the renewed pain associated with infertility that this brought up for them. They describe how for some parents interviewed, this acted as a reminder of all the difficulties that they went through to have their child, and was experienced as a fresh threat to their identity as parents.

1.9. Critical evaluation of existing qualitative studies

Although few in number, these five papers arguably add a tremendous amount to our understanding of the complex and nuanced experiences of early motherhood after infertility and an ARPs conception. Specifically, Ladores and Aroian (2015) outline how women described feeling high levels of disbelief at becoming a parent after infertility, and that many struggled to form an identity as a parent. Women in their study also described not feeling emotionally prepared for becoming a parent due to spending so long focusing on getting, or staying pregnant (Ladores & Aroian, 2015). Many of the studies highlighted that parents experience a lot of joy and gratitude associated with becoming parents after infertility (Allan et al., 2021; Boz et al., 2021; Ladores & Aroian, 2015). However, Ladores and Aroian (2015) indicated that some of the women in their study tried to be perfect in the care of their infants, which they interpreted as being linked to this sense of gratitude. They also described how women did not feel able to share any difficulties they experienced in early parenthood due to all that they had been through to be able to have their child (Ladores & Aroian, 2015). Perfectionism around parenting was also noted in the studies by Boz et al. (2021) and Mohammadi et al. (2015). Mohammadi et al. (2015) suggested that women in their study expected themselves to be ‘super mothers’ and be able to effortlessly meet all of their infant’s needs. Additionally, Boz and colleagues (2021) suggested that high levels of anxiety experienced by women who conceived via ARPs during pregnancy about miscarriage transferred post-natally, to anxiety about harm coming to their infants and this was linked to women trying to perfect in the care of their infants. Furthermore, some studies highlighted the importance of relationships in supporting parental wellbeing during the post- natal period (Allan et al., 2021; Boz et al., 2021; Olshansky, 2003), especially the importance of supportive partner relationships and connections with others who also conceived via ARPs. Finally, the study by Allan et al. (2021) detailed how when considering having a sibling for their child, this brought up a renewed sense of pain associated with ongoing infertility. Such insights would arguably not be gained without using a qualitative methodology. What is more, the findings that women tend to censor their feelings adds weight to the argument that standardised self-report questionnaires may not be a reliable way to measure rates of distress, or other aspects of the post-natal experience in such women.

However, despite their valuable contributions, the papers are not without their limitations. For instance, the paper by Olshansky (2003), although offers a valuable theoretical suggestion, that relational changes during the experience of infertility and pregnancy following an ARP conception, may result in women being more likely to experience and conceal post-natal distress, is ultimately a theoretically proposal rather than a qualitative summary of individuals’ direct experiences. Olshansky does state that they based their theoretical suggestions on direct interviews with women who have become parents after infertility, but the two references cited for this are conference presentations not publicly available, rather than published journal articles, so little is known about the sample that their argument is based on.

Additionally, the studies by Ladores and Aroian (2015) and Boz et al. (2021) detail women’s experiences of the first few months of motherhood after infertility, and so only give us a snapshot of experiences in a small time frame and lack description of how people are impacted over a longer post-natal period (i.e., the first year). The studies by Mohammadi et al. (2015) and Allan et al. (2021) do extend their focus by interviewing parents when their child is between 9 months - 7 years and 3-18 months respectively, however both are limited in how they explicitly detail how participants experiences changed over time or how psychosocial or contextual factors impact on their experiences. Mohammadi et al. (2015) used a phenomenological approach and state that the main question asked to participants was ‘please tell me about living with your baby’. This question is arguably only about one aspect of parenthood and may have restricted participants responses about other aspects of their experiences. This narrow focus is indeed perhaps reflected in the themes which are predominately centred around the mothers’ interactions with their infants. Although a helpful aspect of experience to understand more about, particularly as attachment between caregiver and infant is known to be important for long term wellbeing (e.g., Gerhardt, 2015), the findings of the study do not give us a holistic picture of the emotional and social aspects of the mothers’ experiences postnatally after conceiving through ARPs.

What is more, the study by Allan et al. (2021) interviewed both parents together and acknowledge the methodological debate around this. Although valuable in hearing the experiences of both aspects of a couple, it is likely that such a method may have restricted how open some members of the couple were about their experiences within the confines of their partner being present.

Lastly, all four of these qualitative studies excluded individuals who already had children (secondary infertility), which is a significant amount of parents who conceived through ARP, and so do not tell us about what it may be like to have an infant after successful ARPs in this context. Only one study (Allan et al., 2021) was conducted in a UK context and as already described, it is important to understand the experiences of individuals within a particularly cultural context, as the specific social discourses, legal frameworks, ARP provision and other healthcare practices are likely to impact on people’s experiences of parenthood after infertility.

It is also important to acknowledge that this scoping review has simply aimed to summarise the results of existing qualitative papers on early motherhood/ parenthood after an ARP conception and has not aimed to thematically combine the results of studies (i.e., it is not a meta-synthesis), or evaluate the quality of the included studies before inclusion, in the way that a systematic review or a meta-synthesis would do (Arksey & O'Malley, 2005). This was decided as being appropriate for the aims of the review to 'scope out' the extent of current qualitative research on the topic and to summarise what such studies have already indicated about the experience of early motherhood/ parenthood after an ARP conception, as part of this wider thesis project (Munn et al., 2018). However, I have aimed to note some methodological considerations concerning the included papers, as well as limitations in what they tell us about early motherhood after infertility in the above discussion. Specifically, the studies are limited in what they tell us about women's experiences of motherhood after an ARP conception overtime, therefore not allowing for any understanding of how women may overcome any difficulties faced or how experiences may change over time. They are also limited in what they tell us about experiences of motherhood after an ARP conception in a UK context specifically, with the only UK based study (Allan et al., 2021) interviewing both parents together and therefore not allowing for a gendered understanding of experiences. The studies are also limited in what they suggest about how psychosocial and contextual factors impact on women's experiences of early motherhood after a successful ARP conception, with the only insight being around the importance of supportive relationships. The current study therefore set out to extend on previous qualitative studies and address some of these key limitations.

1.10. The current study

Due to the findings that infertility and infertility treatment has a greater psychological impact on women than men, likely linked to how the roles of women and mothers have been socially constructed, the current study is specifically interested in how women experience motherhood after conceiving through successful reproductive procedures, in a UK context. In particular, their experiences of the first year of motherhood, as this represents a crucial time of adaptation for parents, as well as, being a critical time for infant development and attachment (Gerhardt, 2015). It is hoped that through exploring the holistic experiences of women during this period, that a greater understanding can be gained around the particular challenges, or areas of strength, mothers experience related to their previous experience of infertility, as well as, what psycho-social and contextual factors may have contributed to or helped them overcome any difficulties during this period.

1.10.1. Research questions

In light of the research aims outlined above, the following research questions were explored:

1) How do women describe their experiences of the first year of motherhood after a successful ARPs conception?
2) What difficulties or strengths do they describe experiencing in the first year of motherhood which specifically relate to their previous experience of infertility and conceiving via ARPs?
3) What psychosocial or contextual factors do they describe contributing to or helping them to overcome any difficulties faced?

2. METHODS

2.1. Epistemological and ontological position

For this research study, a critical realist epistemological position was taken. Critical Realists adopt a realist ontology and assume that there is an ‘objective’ reality, with material properties that exists outside of how individuals perceive and experience it, but assume that experiences of that reality, and any knowledge we may hold about it, are influenced by historical, psychological and social processes (Bhaskar, 1989; Vincent & O’Mahoney, 2018).

With respect to the current research project, infertility, conception via ARPs, and parenthood, are assumed as being objective realities, in so much as they all involve the physical absence or presence of a foetus or child. However, the experience of motherhood i.e., the experience of parenthood for women specifically, after conceiving via ARPs, is assumed as being influenced by many cultural, historical, social and psychological processes. These assumptions have influenced the research questions for this research project, with the focus being on understanding more about how women themselves describe their *experiences* of early motherhood after conceiving via ARPs, and the psycho-social, and contextual factors that impact on these experiences.

2.2. Design

2.2.1. Methodological approach

A researcher’s methodological approach should always be guided by their epistemological position and research questions (Braun & Clarke, 2022; Willig, 2013). A qualitative design was chosen as being the methodological approach that best fit with my research questions and the epistemological assumptions outlined above.

2.2.2. Method of data analysis

Reflexive Thematic Analysis as detailed by Braun and Clark (2006, 2021a, 2021b, 2022) was chosen as the method of data analysis. Thematic Analysis (TA) is described by Braun and Clark (2022, p. 4) as “a method for developing, analysing and interpreting patterns across a qualitative dataset, which involves systematic processes of data coding to develop themes”. The term *Reflexive* TA has been recently coined by Braun and Clark (2021a, 2022) to emphasise the importance placed, within their version of TA, on the researcher being aware and questioning of their own situated positions with relation to the research topic, and how this will influence the analysis that is conducted. Specifically, within Reflexive TA, it is assumed that all “all knowledge generation is inherently subjective and situated” and that instead of subjectivity being a problem that needs to be eliminated, it is “a resource” for conducting an analysis (Braun & Clarke, 2022, p. 8). In this way, Reflexive TA involves, at its core, a researcher engaging in a process of reflection throughout, to understand and “own” their perspectives, and use this understanding to develop an analysis that is fully situated within the values, knowledge, experience and contexts that they bring to the research (Braun & Clarke, 2022, p. 8).

Reflective TA has been described as being a theoretically flexible approach, as unlike many other approaches to qualitative data analysis, it is not imbedded within a particular epistemological position (Braun & Clarke, 2006, 2021a, 2022; Willig, 2013). Reflexive TA is also flexible in the way that it is conducted. Specifically, it can be conducted in an inductive (data driven) or deductive (theory driven) way, or in a way that is a combination of the two; it can focus on the surface level meanings described by participants, or offer interpretations about what is implicit in what is shared; and finally it can focus on describing the experiences of individuals, or focus on a critical appraisal of language or meanings made around a particular topic of interest (Braun & Clarke, 2022). This flexibility appealed to me when choosing a method of analysis, as did the emphasis on reflexivity, as it fitted with my own assumptions and values around the importance of context to how we all (including researchers) understand and interact with the world.

With respect to conducting my analysis, my research questions led me to take an experiential focus, as the overall aim of the project was to *describe* the *experiences* of early motherhood, for women who conceived after ARPs. In light of this aim, I used mostly an inductive approach to coding the data, meaning that the codes produced were driven by the data, as opposed to being predominately driven by theory. On reflection however, my background as a Trainee Psychologist, and knowledge of psychological theory and language, undoubtable impacted on how the codes were labelled. Specifically some code names included emotion terms, such as ‘shame’, or included psychological constructs such as ‘self-compassion’ in their labelling. In this way, the coding also included a deductive element to it as it was influenced by psychological theory. Similarly, throughout my analysis I aimed to both summarise patterns in how the women described their experience (the more surface level meanings), as well as, offer interpretations around more implicit aspects of their experiences, such as how particular parts may link together, or link with contextual factors. Again, the interpretations will be influenced by my training in Clinical Psychology, as well as, my own social context, and life experiences. Some of these interpretations were made during the analysis stage of the research project, but most interpretations were initially named, or explored, within the interviews with participants, in a way similar to how interpretations are often made within psychological practice, so that they could be co-constructed, as opposed to solely based on my interpretations as the researcher.

2.2.3. Method of data collection

The chosen method of data collection was semi-structured interviews with women about their experiences of early motherhood after conceiving with ARPs. Within a semi-structured interview, a researcher asks questions which are guided by the overall aims of the research, whilst also allowing space for participants to share novel insights on the phenomenon under study (Willig, 2013).

2.2.3.1. Developing an interview schedule

Interview schedules are often used within semi-structured interviews to guide the interview and ensure that the research questions are answered (Willig, 2013). When creating an interview schedule, I tried to ensure that my questions were broad and open, allowing participants space to share their experiences freely. I was also cautious about the questions being worded in a way that was sensitive to the potentially distressing experiences of participants, and encompassed all the important aspects of people's experiences. To ensure the interview schedule met these aims, I consulted with a colleague who had recently become a mother after conceiving through ARPs. She gave positive feedback on both the initial wording and inclusion of questions. The interview schedule was finalised following this feedback.

Figure 2

Finalised interview schedule

Interview schedule:

Experience of infertility/ road to becoming a mother.

Could you tell me about your infertility journey and the road to becoming a mother with x (child's name)?*

Experience of new motherhood

Now I am going to ask you about your experiences of motherhood during the first year of your child's life.

Firstly, how were the first few months and weeks? What feelings were around for you at this time?

How did you adapt to being a mother? Did you feel like a mother straight away or did it take some time?

What were the main challenges you faced during this early period? Did you discuss these difficulties with your partner/ support network?

What was your experience over the reminder of the first year?

Do you think you would have experienced motherhood differently if you had not been through infertility and infertility treatment? If so, which aspects of your experience do you think were most influenced by your previous experiences of infertility and infertility treatment?

What were some of the key things that helped you overcome the difficulties you mentioned experiencing? Were there things that others around you did to help? Did you do or think about things in a certain way that you found helpful?

Is there anything important about your experience of the first year of motherhood that you feel you have missed sharing with me so far that you feel is important to mention?

* Although not directly relevant to the research questions, this has been included to set the scene and put the rest of the interview in the context of the mother's previous experience of infertility and infertility treatment.

2.2.3.2. Interview procedure

All interviews were conducted on Microsoft Teams and were 45 minutes to 2 hours in duration. Participants were sent a link to the interview when the date and time was arranged with them. The option for in-person interviews at the University of East London Stratford Campus was given to participants, but all participants opted for the interviews to be conducted virtually via Microsoft Teams.

At the beginning of the interviews, I re- introduced myself and the purpose of the interview. I also explained that we could take a break or stop the interview at any point at the participants' request. Before commencing the interviews, I asked participants whether they would be happy for the interview to be recorded using the Microsoft Teams record and auto-transcription function. All participants consented and all interviews were recorded in this way.

During the interviews, participants were asked to briefly describe their journeys to conceiving their child via ARPs, and their experiences of pregnancy and birth. This was used to elicit relevant background and demographic information about participants. A demographics form was developed and I referred to it at the beginning of each interview to ensure key demographic information was elicited by my questioning (see Appendix B for these demographics questions). Participants were then asked about their experiences during the early post-natal period, and the remaining first year of motherhood. Space was given for participants to share their experiences openly and follow-up questions were used to clarify what participants had shared, or to gain a more in depth understanding about an aspect of their experience. Specific questions were asked about how participants felt they may have experienced early motherhood differently if they had not previously experienced infertility, and conceived via ARPs at the end of the interview. This was also asked in reference to particular aspects of their experiences throughout the interviews if not initially referenced by participants.

2.3. Participants

2.3.1. Inclusion and exclusion criteria

Women were invited to take part in the study if they had given birth to an infant that had been conceived via ARPs, after experiencing infertility. Initially women were only included if they had given birth to their child within the last three years (see Appendix C for Thesis Proposal, Appendix D for initial ethics application and Appendix E for original ethical approval letter), but this was thought to be too restrictive and was later amended to be in the last 5 years (see Appendix F for the approved ethics amendment form). This time limit was included to ensure adequate recall of the early motherhood period (i.e., the first year). Women were only included if they had an infant conceived via ARPs who was at least a year old, so that their experiences would capture the whole period of the first year of motherhood after ARPs. Due to not wanting to exclude people experiencing secondary infertility, as much of the previous literature has, women were included in the study if they had a previous child conceived naturally, although this was the case for only one participant.

Due to practical challenges around translation and transcription, it was decided that women would be excluded if they did not speak fluent English. However, everyone who expressed an interest in the study spoke English so no one was excluded on these grounds.

2.3.2. Recruitment

Women were predominately recruited through nurseries and parent groups. Publicly available emails for nurseries and ‘mother and toddler groups’ were found online from across the UK. 300 nurseries and parent groups were contacted via email asking whether they would be happy to share the study advertisement (which was attached to the email) with any of their parents. A copy of the study advertisement and a sample email can be found in Appendix G and Appendix H respectively. 26 nurseries or parent groups responded to say they would be happy to share the information with their parents. A few nurseries requested printed copies of the study advertisement, which were printed and sent in the post. The study advertisement was also shared within my personal network, and some members shared it on their social media accounts. Additionally, some of the study participants shared information about the study on social media pages that they were a part of, or onto people in their personal networks that they knew were eligible for the study. In this way, the sampling method was both purposeful and snowball (Etikan, 2017).

Potential participants were invited to contact me via my University of East London email address to express an interest in taking part in the study. When women got in contact to express an interest I would share with them the Participant Information Sheet (see Appendix I) over email and offer to talk with them over the phone to answer any questions that they had about the study. If they responded to say that they were happy to go ahead and participate in the study, after reading the information sheet and having a chance to ask me any questions, I would check that they met the eligibility criteria. If they were eligible, I would send them the Participant Consent Form (see Appendix J) to complete, sign and send back to me over email and would agree a time to meet them for the research interview. A few participants were not eligible when they first contacted me due to their children not yet being a year old. In such instance, the interview was arranged for after their infant's first birthday.

2.3.3. Details of participants' ARP journeys

As previously stated, within this research project, it is assumed that women's individual contexts will impact on their experiences of early motherhood after a successful ARP conception. This will include all the contexts that influenced them throughout their life, as well as, the meaning that they made around these contextual experiences. However, it is assumed, and based on the results and suggestions of previous research (e.g., Hjelmstedt et al., 2003; McMahon et al., 1997) that their specific experience of infertility and ARPs (i.e., kind and duration) may be an important influencing contextual factor. It therefore felt important to gather and report some information about participants' journeys to successfully conceiving via ARPs. Thus, such relevant background information about participants is detailed below.

A total of 12 women participated in the study, all of whom conceived through IVF after experiencing multiple years of infertility, with many also experiencing pregnancy losses along the way. Seven of the participants only had the one successful pregnancy; six of which were single infants and one of which had twins. One participant had a previous child conceived naturally and one participant had a second child conceived naturally after having an infant conceived via IVF. The final three participants had multiple single infants born after IVF. In such cases, the interviews focused on their experiences of the first year of motherhood after the birth of their first child conceived via IVF. Interviews were conducted between one and five years following the birth of participants' IVF conceived child, with the mean time being 2.5 years since the birth. All participants were currently living in England, although from many different areas across the country. A summary of the each participant's journey to a successful IVF conception can be found in Table 2.

Table 2

Visual summary of participant's journey to conception via IVF

Participant number	**Details of IVF**
1	Conceived on the 13th transfer after two years of IVF (as part of the first cycle as initially got 17 embryos).
2	Conceived on the second round of IVF after two years of trying.
3	Conceived on the third transfer attempt of their first cycle of IVF (miscarried the first two attempts) three years after they first started trying to conceive.
4	Conceived on their first cycle of IVF after 7 months of treatment.
5	Conceived on the second transfer cycle of the first round of IVF after about 8 months of treatment.
6	Conceived on their first round of IVF.
7	Conceived on their fifth round of IVF after 5 years of treatment.
8	Conceived on their second round of IVF after 2 years of treatment.
9	Conceived on the first round of IVF after 3 years of treatment (had previously tried Clomid and IUI).
10	Conceived on the third transfer attempt of their second round of IVF after 4 years of treatment. Had experienced two previous miscarriages. Used donor sperm.
11	Conceived initially on the fourth round of IVF after about three and a half years of trying to conceive.
12	Conceived on the second round of IVF after 5 and a half years of trying to conceive.

Data collection was stopped after 12 interviews were conducted as it has been suggested that this is the number where a qualitative researcher is most likely to reach data saturation, i.e., any further interviews are unlikely to elicit novel information or perspectives on the area of interest (Guest et al., 2006).

2.4. Ethical considerations

2.4.1. Ethical approval

Ethical approval was gained from the University of East London (UEL) School of Psychology Research Ethics Committee (SREC) in May 2022 (see Appendix D for application, Appendix E for approval letter, Appendix F for subsequent minor amendment approval and Appendix K for subsequent change of title approval).

2.4.2. Informed consent and right to withdraw

All participants gave their formal consent to participate in the research project through completing and signing a consent form (see Appendix J) prior to the interview. Verbal consent was also gained before commencing each interview and the participants were reminded that they had a right to stop the interview at any time. At the end of each interview, participants were reminded that they could withdraw their data from the study at any time up until the point that their data had been analysed, which was three week after the interview. None of the participants stopped their interview early or withdrew their data from the study.

2.4.3. Distress to participants

Many of the participants in the study did express distress during the interviews e.g., by crying. This was understandable and expected in the context of the topics under discussion, but measures were taken to ensure participants felt safe and contained during and after the interviews. Specifically, at the beginning of each interview I acknowledged that the topic may bring up strong emotions, or make them feel distressed, and I invited them to only share what they felt comfortable to. When participants expressed distress during the interviews, I utilised my natural empathy as well as my listening, normalising and validating skills to try and minimise any harm that may have been caused by discussing their difficult experiences. I also checked in at numerous times how participants felt talking about their experiences and reminded them that could take a break at any time. At the end of each interview, I asked each participant about how they felt. Most participants shared that it had been helpful talking about their experiences with me as part of the interview, with one participant describing it as “cathartic”. If it felt necessary or appropriate, I discussed services participants may be able to access for further support. I offered to signpost one participant onto her local services, but she declined as she felt that the time when she needed support the most had passed. All other participants who expressed high levels of distress were already linked in with their local psychological services. Following each interview, participants were sent a debrief sheet which included information about online resources that they could access (see Appendix L).

2.4.4. Confidentiality and anonymity

At the beginning of each interview, participants were told that everything they shared during the interview would be confidential, i.e., I would not discuss it with anyone outside of my supervisor for the project, unless I felt from what they shared with me that they or anyone else was at risk of harm. I also informed them that although quotes from their interviews would be included in this report, and any further dissemination of the project, any identifying information (i.e., names, addresses, dates etc) would be removed.

2.4.5. Data management and storage

The main data collected within this study was the video recording and transcription of the interviews with participants. All interviews were conducted on Microsoft Teams and were recorded and an automatic transcription was created by Microsoft Teams. This was automatically saved on my University of East London (UEL) Microsoft 365 OneDrive, which is only accessible by a two factor password authorisation system and was always accessed on a private, password protected laptop. After each interview, the automatic transcription produced by Microsoft Teams was copied and pasted into a word document, saved under each participant’s participant number, also within my secure UEL OneDrive. The transcription was checked and edited against the original recording for accuracy and personal information was removed. The original recording was then deleted. All other documents relating to the research project were also stored on the UEL OneDrive, with any information i.e., consent forms that included personal information about participants, stored separately to anonymised information. A full data management plan was completed and received university level approval before I applied for ethical approval, and before any data collection commenced (see Appendix M).

2.5. The data analysis process

The process of Reflexive TA as detailed by Braun and Clark (2006, 2021a, 2022) was followed when analysing the data collected from the interviews. Specifically, the following six phases were moved through as part of the data analysis process:

1) ‘Familiarising yourself with the dataset’. This phase involved reading and re-reading the interview transcripts to become familiar with the context and some of the emerging patterns. As I conducted the interviews myself, this phase begun whilst conducting the interviews and finalising the interview transcripts.
2) ‘Coding’. Coding involves systemically reviewing all of the interviews and applying ‘code labels’ to segments of the data that appear to be of interest to the research questions. In practice for me this was an integrative process, in which code labels evolved as more of the interviews were coded and my thinking of what was represented in segments of data changed over time. My thesis supervisor also offered support during the initial coding to ensure that the coding represented an appropriate level of interpretation.
3) ‘Generating initial themes’. Once initial code labels had been generated, these were examined for common patterns, and codes that were deemed as fitting together were consumed under ‘initial themes’. This was not necessarily a linear process, with my thinking about common patterns and themes occurring throughout the interview and coding processes but became systematically

organised once all interviews had been coded. A photo of a hand written thematic mapping created early on in the process, can be found in Appendix N and a more concise initial thematic map can be seen in Appendix O.

4) ‘Developing and reviewing themes’. During this phase, the initial themes were reviewed against the original data (the interview transcripts) and from this were developed further. This involved some themes being combined together and other separated, all guided by ensuring that they best summarised the direct accounts of participants.
5) ‘Refining, defining and naming themes’. This phase involves the key concept around each key theme being conceptualised and the themes being given names. In practice, this phase occurred alongside the ‘writing up phase’.
6) ‘Writing up’. This final phase involves writing the analysis up in the form of a formal report of the results. I started the writing up process once some initial candidate themes had been developed and initially reviewed against the data. For me the writing process started with finding all the quotes that came under each theme and sub-theme. This further helped me in defining and redefining each theme in a way that was fully grounded within the participants’ data and also influenced the naming of the themes, all of which have direct quotes from participants within their finalised names. A narrative summary of each theme was then written, and quotes were embedded within it in a way that tried to capture the words and experiences of as many participants as possible.

Throughout the process of conducting the Reflective TA, Braun and Clark’s (2006, 2022) 15 point quality checklist was used as a guide to ensure overall good quality, procedural rigor and sufficient depth of analysis was achieved.

2.6. Approach to Reflexivity

Reflexivity is defined by Braun and Clark (2022) as “routinely reflecting on your assumptions, expectations, choices and actions throughout your research process”. Throughout the research project, I kept a reflective journal (an extract of which can be seen in appendix P). I used this to reflect on how my own assumptions, values and life experiences impacted on the research project, starting from exploring my choice to conduct the research, and throughout the process of interviewing, analysis and writing the report. For instance, I reflected on how my motivation and passion for the research came from, in part, my own fears of possible future infertility, as well as, identifying as a feminist and experiencing anger when realising how under-researched the topic was, with some referring to women who conceive via ARPs after infertility as the “forgotten women” (e.g., French et al., 2015, p1). Understanding from narratives I had heard throughout my life about how painful infertility can be, especially for women, I was sceptical about the myth which seemed to prevail in the literature that as soon as women conceived after successful reproductive procedures, the pain of infertility ceased to have an impact on them. I was aware of how these feelings however may influence my analysis of the results, to highlight more of the negative aspects of women’s experiences, and tried to ensure a balanced and nuanced representation of all participants experiences as much as possible.

3. RESULTS

Four main themes were generated from the data analysis process, with one of the themes being divided into three sub-themes, as can be seen in Table 3. This chapter outlines each theme and subtheme with the aim of presenting a narrative which represents how the women interviewed described their experiences of the first year of motherhood, after conceiving via ARPs, including key strengths and difficulties they described relating to their prior experiences of infertility and undergoing ARPs, and what psychosocial or contextual factors were described as impacting on their experiences.

Table 3

Summary of themes and any corresponding sub-themes

Themes	**Subthemes**
"It is a big adjustment": Feeling unprepared for the realities of motherhood	
"We've got what we wanted": Navigating early motherhood with a highly sought after and longed for child	Experiencing gratitude and appreciation
	Navigating high expectations of self and motherhood
	Precious children, anxiety and protectiveness
"You've gone through this physically and mentally draining thing": Experiencing exhaustion and painful emotions associated with the difficult journey to motherhood	
"That sense of support and sense of community, was *really* helpful": The importance of community, connections, normalisation and support	

3.1. Theme 1: "It is a big adjustment": Feeling unprepared for the realities of motherhood

The transition to parenthood and caring for a new-born can be a significant adjustment for any parent, but for people who have experienced infertility and conceived through

ARPs after years of trying, disappointment, and for many, losses along the way, this transition is arguably more significant. This theme outlines a pattern across the women's accounts, that adjusting to motherhood after conceiving through ARPs, felt more overwhelming than they perceived it may have been had they conceived naturally. Specifically, many of the women detailed how due to experiencing anxiety and disbelief about whether they would in fact give birth to a live child during their pregnancy, they had not been able to mentally prepare themselves for motherhood, making it feel like "a big adjustment" (participant 4).

Seven of the 12 participants (participants 3, 4, 6, 7, 8, 10 and 12) explained how because they had been focused on getting pregnant for so long and experienced a lot of previous disappointment, they felt high levels of anxiety and disbelief about whether their child would reach full term during their pregnancies. This was described as being exacerbated by experiencing previous pregnancy losses (participants 3 and 10), high levels of bleeding during pregnancy (participants 6 and 7), comments from healthcare professionals about their pregnancy being high risk (participants 8, 10 and 12), and for one participant (participant 12), by a perception that this was their final chance to have a child due to a lack of financial resources for further IVF. Participants described how during pregnancy, due to the anxiety or disbelief that they experienced, they had not let themselves imagine a reality where they do give birth to a live and healthy child, and such participants described how this resulted in them not feeling mentally prepared for parenthood. For instance, when being asked how she may have experienced early motherhood differently, if she had not experienced infertility and conceived through IVF, participant 3 responded:

> *"I think it would have been more about the baby and less about the pregnancy [...] Like, you know, it would have been OK, well, this is a shock [referring to becoming pregnant] but yeah, I'm prepared for the fact that we're pregnant so that we can have a child rather than it just being so focused on getting, and staying pregnant that almost I didn't have the mental space to prepare for what that actually meant at the other side."* (Participant 3)

All of these seven women described ‘shock’ when confronted with the reality of early motherhood and caring for a new-born infant after they had not let themselves mentally imagine what it would be like.

> *“... it was a really, a real shock [...] and it's not what you, not what I like imagined it to be, but then I didn't imagine it to be anything because people say it's hard and you're like, yeah, fine. Whatever. Like, it's hard, I get it. But you don't spend the time imagining what it's going to be like and how it's going to change your life when you've got a baby, you just spend so much time and energy getting to the point where you can have one.”* (Participant 4)

This was perceived by the women as making the adjustment to new motherhood harder, and resulted in them needing to mentally process the transition, as well as, adapting to their role as parents, leading to them feeling overwhelmed.

> *“I didn't feel prepared for it because I never prepared for it. In any sort of way. So of course it was like something that happened. And then obviously I felt completely that I didn't know how to manage it, basically.”* (Participant 7)

Participants 6 and 12 described how feelings of overwhelm were magnified by being physically unwell after the birth of their children, meaning that they had to adapt to caring for a new-born infant at the same time as trying to recover physically. Additionally, participant 8, who had an emergency C-section 4 weeks before her due date, shared that this experience exacerbated her not feeling prepared for motherhood, and that she found it hard to mentally acknowledge that she had a child.

> *“So, like I, and I literally, like I wasn't ready, like I didn't, I hadn't given any thought to the fact that actually this pregnancy might go full term, and I might actually end up with a baby [...] it took me a long time to really actually like accept that I had had a baby because also I hadn't experienced labour pains. I hadn't*

> *experienced any of that, hadn't even experienced the countdown to the planned C-section."* (Participant 8)

Participants 4, 8 and 10 described how, the lack of letting themselves think about the baby during their pregnancies impacted on them feeling disconnected from their infants during early motherhood.

> *[when referring to her struggling to connect to her child] "I do think it is just because you have spent so much time focusing on getting pregnant and you don't actually think about what it will be like when you are pregnant or when you've had the baby."* (Participant 4)

What is more, despite participant 2 not sharing specific difficulties adapting to early motherhood, she shared a belief that possible higher instances of women experiencing post-natal distress, and difficulties bonding often labelled 'Post-natal Depression' was linked to women who have experienced infertility feeling unprepared for the realities of parenthood:

> *"I was aware that a lot of women who have fertility issues then have post-natal depression when they, that it's more common [...] and I think it does come from that expectation of saying, you're so focused on getting pregnant, you don't think about the afterwards, and then you're hit with this baby. You don't know what you're doing..."* (Participant 2)

In contrast, participant 1 described perceiving that going through the process of IVF helped her and her partner adjust to parenthood:

> *"...we were used to going through, you know, we were so used to building our life around the IVF, so actually building life around a new-born, I suppose wasn't as much of a jump, as it is going from a life where, you know, you just get pregnant and then it's smooth sailing and then suddenly you've got this new-born. It*

> *perhaps is a bigger adjustment. Whereas we've done that adjustment over a much longer period."* (Participant 1)

3.2. Theme 2: "We've got what we wanted": Navigating early motherhood with a highly sought after and longed for child

An overall pattern in the experiences described by the women is that getting a child they had wanted for so long brought with it gratitude and appreciation, but also, higher expectations of what motherhood should be, and feel like. Further, many described their children as "precious", and expressed experiencing high levels of anxiety associated with any possible harm coming to their child/ children, or when separated from them, leading many women to describe themselves as "over-protective" of their infants. Due to how much is captured by this theme, it is divided into three subthemes.

3.2.1. Subtheme 1: Experiencing gratitude and appreciation

Many of the women expressed how the journeys that they had been through to have their children made them feel more grateful than they imagined they would have felt if they had conceived naturally. For some of the women, this came from the realisation that conceiving is not necessarily something that happens easily for many people, and that there are many others in the infertility and IVF communities that are still trying to conceive, or have come to accept that they cannot have a child. For such women, this lead them to feel like they are one of the *"lucky"* ones.

> "*I do feel like this journey, like, has made me feel more grateful in a sense of, and also it's made me like realize, like that, you know, it isn't easy to be, like, become a parent, like a lot of people do fall pregnant straight away but there is a vast majority of people that it doesn't work out for."* (Participant 6)

A few participants also related the gratitude they felt to the fact that their child was a result of a huge amount of sacrifice, and to the notion that you appreciate something more when it is *“hard earned”* (participant 11). Participant 1 related the commitment and sacrifice that she and her partner had made to have their child, as well, as the gratitude associated with finally getting the child that they had longed for, as buffering against the stress associated with parenting an infant during the new-born period.

> *“I think in a way we almost had it easier at times [than other parents] in that we almost, you know, we'd for so long made such a deliberate commitment that we wanted this that actually, you know, when things got tough and, you know, they do get tough with newborns, actually it was almost, you know, but we wanted this type of thing so.”* (Participant 1)

What is more, participants 1, 2, and 5 talked about how the gratitude that they felt resulted in them trying to appreciate and make the most of motherhood as much as they could. Participant 2 described how she and her partner tried to *“cherish everything and just sort of make fun out of everything”.* Whilst participants 1 and 5 both described making more effort than they thought they would have done if they had conceived naturally to *“make the most of every opportunity”* (Participant 1) and to try and give their child the best experience of early life possible. All three parents described how they perceived that making the most of motherhood in this way led them to enjoy it more.

A few of the women also shared that they felt that the gratefulness changed how they were as parents to their infants. For instance, participant 2 described feeling like she responded more calmly towards her twin infants than she may have if she had not felt so grateful to have them:

> *“... I'm a, I think, a more calmer person than I think I would have been, because I'm very, I'm lucky I've got them. So yes, you may be kicking off on the ground right now at me. [laughs]. OK, fine. It'll pass. I'm just lucky that I've got you.”* (Participant 2)

3.2.2. Subtheme 2: Navigating high expectations of self and motherhood

This sub-theme captures the pattern, evident across most of the women's interviews, that a consequence of finally getting the child/ children they wanted for so long was having higher expectations about how motherhood should be, and how they should feel as mothers. Specifically, most women expressed an expectation that they should feel nothing but gratitude and happiness after getting the child that they had longed for.

> "...*the expectation is higher and I think when you can't have something you want it more. Um so, like it's all I ever wanted for however many years, and then I've got it and it's not - Um yeah, I think there is the like I should be the most grateful. I should be the happiest...".* (Participant 4)

However, inevitably for many of the women, their actual experiences of how they felt during early motherhood did not match these expectations, and this led them to experience difficult feelings such as guilt associated with not enjoying, or appreciating early motherhood all the time, or as much as they felt like they should.

> "...*because a lot of people go through IVF and they don't like succeed um and then you feel guilty because you have that moment of 'will you just sleep, or will you just stop crying, or I just need 5 minutes to myself', because we are extremely lucky because a lot of people don't get their end goal."* (Participant 10)

As Participant 10 described above, the guilt experienced for some, was compounded by the knowledge that they were lucky for having a child after so long, and when others who desperately want a child have not been able to have one.

For others, difficult feelings such as sadness, guilt and shame were created by a sense that they *should* feel grateful and happy and that they were not feeling so *at all*, rather than a sense of not *always* feeling that way. This was particularly the case for women who experienced difficulties bonding with their child, or experienced high levels of emotional distress during the post-natal period, as was the case for 5 out of the 12 participants. These experiences are relatively common and reported by about 10% of UK mothers during the post-natal period (NHS, 2021), however the women in the study described having not expected to feel this way after conceiving through ARPs. Many expressed experiencing self-criticism based on their expectations of how they perceived they *should* be feeling. This is exemplified in this extract from participant 12 where she described what often went through her mind during the first year of motherhood:

> *"I've been through this [referring to infertility and IVF], I should be so happy that you know we've got our child, you know I should be really happy, you know, you shouldn't have post- natal depression, you should definitely shouldn't have PTSD, you know, you should just be happy with what you've got..."* (Participant 12)

Such women expressed experiencing high levels of guilt and shame associated with such self-appraisals of how they were feeling and experiencing new motherhood after conceiving through ARPs.

> *"I felt really guilty because we had gone through a lot. We spent, like, I think £15,000 plus on the two rounds and that I wasn't happy sort of thing. And like, why wasn't I happy? Had we made a mistake? [...] Yeah, but like, yeah, the guilt was dreadful because I remember, I felt ashamed. I felt really ashamed that I didn't love this little person or I didn't feel, like, I didn't feel how I thought people were supposed to feel."* (Participant 8)

Similarly to how they expected to experience early motherhood, many women described having higher expectations of themselves as mothers than they might have had if they had conceived naturally. For instance some of the women described experiencing perfectionism around the parenting of their infants and many described feeling like they were failing if they did not live up to their expectations of themselves as mothers.

> *“I was trying to be like a perfect mother, which obviously I didn't want to make any mistakes because we had waited such a long time to actually become pregnant. [...] I’d say for the first year, I literally was like, I can't actually believe that this, this child is mine and I wanted to do everything perfect. [...] every part of the routine has to be set in stone or I think that I'm failing in a sense. So yeah, I think I do put a lot of pressure on myself, but I do believe that that is from the IVF process and the actual lead up to the IVF process.”* (Participant 6)

Breastfeeding was something that was described as being an important aspect of feeling like they were being the mother they wanted to be. When the women experienced difficulties breastfeeding as was the case particularly for participant 3, it was often perceived as another way their body/ they had failed as a woman, or as a mother, and led to significant distress. Participant 3 shared how high levels of anxiety and “panic”, associated with her difficulties breastfeeding, got in the way of her bonding with, and enjoying spending time with her infant.

Many of the women who shared experiencing thoughts that there something wrong with them, or that they were failing, described feeling a greater sense of wellbeing once they adjusted their expectations of themselves and of motherhood overtime. For example, participant 3 described “coming to terms” with the fact that attempting to breastfeed was not working for her, and of learning to listen less to her “internal dialogue” about what not breastfeeding meant for her as a mother. She also shared that it was only through taking the pressure off herself and changing her expectations of herself around breastfeeding that she started to bond with her infant.

> *“[interviewer] So when you stopped actually attempting to breastfeed, that was actually when, you took that kind of pressure out of it, that was when you noticed the kind of bonding between the two of you started?*
>
> *[Participant] Yeah, yeah, yeah. I expressed then for three months I think, you know what I probably didn't feel it until we got her fully onto the bottle and I'd*

> *stopped um any kind of attempt to breastfeed because I felt so, I had such guilts at not being able to feed her."* (Participant 3)

Interestingly, two women interviewed described viewing themselves as having realistic expectations of motherhood and described this as helpful in them feeling able to cope, appreciate and enjoy the post-natal period. In both cases this was described as being due to extensive past experience and knowledge of what parenthood is like, due to either having a past child conceived naturally (participant 5) or due to a lot of previous experience with looking after the children of family members (participant 2).

> *"I think we went into this with our eyes wide open. You know, a lot of parents go into this and they only see the, like the smiley faces, and little cuddles, and the sleepy babies, and they go. 'Ohh yeah, it's lovely.' We went into this knowing that it's interrupting sleep, for a start and um that it's hard. It is hard work to have them [...] that just having the baby isn't the end of it, it's actually the start of it, I think going in with that, from that mindset from the start, I think definitely helps."* (Participant 2).

3.2.3. Subtheme 3: Precious children, anxiety and protectiveness

This sub-theme captures the idea that many of the women interviewed described how *"precious"* (participants 2 and 7) they viewed their infants were after experiencing years of infertility and ARPs in order to have them. It is understandable for their infants to be viewed in this way after how longed for their child had been, as well as, it not being easy for the women to have further children. In this way, viewing their children as precious is undoubtable linked to feelings of gratitude, or to knowing that they are lucky to have their child. However, this perceived preciousness was repeatedly linked with significant anxiety about harm coming to their infants, and when separated from them. This led many of the mothers to describe themselves as feeling "very protective" (participant 6 and participant 8) over their infants and not trusting their infants to the care of others.

> *"I remember being anxious when we were going out for lunch [...] and my husband just handed him straight over to [some of the restaurant employees] for a cuddle and I was like' what are you doing, do not hand my baby to strangers' [..] he could sense me, just like there, like, really anxious on his shoulder. [laughs] But not like, I think they're going to hurt him or anything. I don't know what I was so anxious about, but he was just like my longed for baby, and I wanted to hold him all the time. I didn't want any strangers holding him".* (Participant 9)

Although worries, anxiety and protectiveness to some extent are normal as a parent, many of the women related the high levels of anxiety that they experienced postnatally to their experiences of infertility, previous failed ARP attempts, and previous pregnancy losses. For example, participant 7, who experienced 5 years of failed treatment and multiple losses before conceiving her child, shared that she felt that these previous experiences had set her up to expect that something would go wrong.

> "*[Interviewer]: It sounds like you've almost been expecting bad things to happen?*
>
> *[Participant] Yeah, absolutely. Yeah, exactly. That's what I'm saying. Like you, you, you've been conditioned to think that."* (Participant 7)

In this way, some participants shared that anxiety they experienced during pregnancy around miscarriage, or having a still- birth, detailed in the first theme, continued post-natally in the form of significant anxiety about their child dying or harm coming to them in some way.

> *"I was just so anxious that I would do something wrong and he was going to die. So I had all that through the pregnancy of like ohh, what if the pregnancy doesn't go to plan? But then as soon as he was born I was like Oh my God, what if he dies?"* (Participant 8)

Participants 4, 8 and 10 described experiencing intrusive thoughts that harm would come to their children either through a factor outside of their control, or that they would do something to harm their child. This is a type of thought often referred to as ‘harm thoughts’ and are known be common for parents in the post-natal period (Fairbrother & Woody, 2008), but were described as confusing, distressing and anxiety-provoking by the women who experienced them. A few participants talked about how experiencing such thoughts, and high levels of anxiety, drove or exacerbated perfectionism around their parenting.

Furthermore, some of the women described feeling very anxious when separated from their infants, or found it difficult entrusting their infants into the care of others, due to their anxieties of harm coming to them or them not being cared for in the right way, with a few women describing themselves as “very protective” of their infants.

> *“... I think I loved it [looking after child] that much that I didn't want anyone else to be like going there or that really [referring to others looking after her child]. Um I felt a bit like if other people did intervene, like my mother-in-law and things, I felt a bit like ohh God, they're not going to do it as good as me, and things like that. I felt very protective towards her, like straight away, which as a mum you do anyway but I think I was more overprotective of her.” (Participant 6)*

Participants 6 and 8, linked high levels of anxiety about harm coming to their children to experiencing low mood and difficulties bonding with their infants during the first year of motherhood. Participant 8 described how it was only when she got to the first year and realised that they had survived, that her anxiety started easing, she let herself identify with being a parent, bonded more with her infant, and started enjoying motherhood more. She wondered whether the worry and anxiety about something happening to her infant got in the way of her feeling able to fully love and bond with him.

> *“I think I started to, I sort of accepted that I was a mum, probably like on his first birthday, so that sounds dreadful. Up until that point it was more, I was protecting*

> *him but not love [...] and it was almost maybe that protectiveness was almost stopping me, loving him a bit. Maybe I was worried something was going to happen, so I didn't want to really love him in case something happened and went wrong."* (Participant 8)

3.3. Theme 3: "You've gone through this physically and mentally draining thing": Experiencing exhaustion and painful emotions associated with the difficult journey to motherhood

This theme captures how many of the women described having to contend with the emotional, and physical residue, left over from their previous infertility and IVF journeys, alongside adapting to and navigating early motherhood. Specifically, the women interviewed described experiencing feelings of intense anger, exhaustion and inadequacy associated with their journeys to conception, which many described feeling unable to fully process whilst trying to adapt to early motherhood and care for a new-born infant.

Participant 12 expressed how she felt like there was a cultural expectation that as soon as you become pregnant, or have a child after experiencing infertility, that you "*forget everything that happened"* beforehand, but that she thought this was unlikely to be the case for most people who have experienced the *"agony"* of infertility. She shared that she was left feeling resentful and angry for how hard it had been to get pregnant and that other people "*get to just do it really naturally".* She also shared how the emotional pain associated with feeling like she had failed as a woman, by not being able to get pregnant naturally, stayed with her even after she had her child.

> *"I think you always carry that shame as a woman and that guilt as a woman [...] that um I couldn't do it naturally as other women appear to do."* (Participant 12)

When experiencing traumatic experiences during the birth of her child and a hospital stay a few weeks after the birth, which meant her husband had to do the majority of the caring for her infant for the first six weeks of their life, participant 12 described lasting feelings that she had let her child and her husband down *again.*

Participant 7 also shared experiencing intense feelings of anger and resentment at how hard her journey to conceiving had been, which she explained was heightened by renewed anger and resentment about how hard she was finding early motherhood. She shared how these feelings, as well as, what she had gone through physically during her 5 years of undergoing IVF, had left her feeling a “backlog of tiredness”. Participants 3, 4, 8 and 10 similarly shared how exhausted they felt after years of infertility, ARPs, and for participants 3 and 10, previous pregnancy losses. They shared how the challenges of early motherhood meant that there was no time to grieve for their losses, or enable them to process and recover from what they had experienced.

> *“I think I was exhausted and then you are suddenly faced with the reality of, oh, hold on, there's no this isn't an ohh we’re finished, like this isn't, this is now never ending. And I think that really hit me. Um you know, having gone through so much to get there, but then that's not it. You can't then just sit down and recover, you know, you've then got a little one to keep alive, which brings its own, like, own challenges and things [...] there was never an opportunity to recover.”* (Participant 3)

Participants 6 and 12 both shared that they didn’t think that some of the difficult emotions associated with their previous infertility would ever leave them. For example, even after receiving therapeutic support to help her process such difficult feelings participant 12 shared:

> “*I don't think you ever lose that pain and that, the rawness from, you know, when you were trying. And I think that it kind of always stays with you.”*

In contrast, not all participants did mention still experiencing painful feelings associated with their previous infertility within their interviews. What is more, participants 1 and 9 both shared that for them, once they had their children, their previous experience of infertility and ARPs *gets "forgotten about*".

> *"You know we've got what we wanted and so I feel really happy about that. I don't really, it's almost forgotten about I guess."* (Participant 9)

It is hard to know for certain what led to different reactions between participants. However, of potential interest is that both participants 1 and 9 conceived on their first cycles of IVF, and neither described high levels of infertility distress, or high levels of anxiety during pregnancy. It may therefore be that such participants experienced less infertility related distress in the first place. Both participants also reported having high levels of psychosocial resources, including good levels of social support and self-compassion, and neither reported or hinted at difficult early life experiences. Both women also described possible post-natal protective factors such as non-traumatic births, a lack of physical ill-health in the post-natal period and relatively 'easy babies'. They described experiencing a strong felt sense of gratitude about having their children, and generally shared their experiences of the first year of their child's life as positive. On the other hand, the women who did describe ongoing high levels of distress, associated with infertility, often described having multiple negative psychosocial or contextual factors, including (but not limited to): having difficult or traumatic past, birth, or hospital experiences, high levels of infertility distress, high levels of anxiety during pregnancy, a long road to conception, physical problems with themselves or their infants post-natally, or high levels of self-criticism or self-blame. It is likely therefore that interacting psychosocial and contextual factors impact on the different reactions to early motherhood after infertility described within the current study.

3.4. Theme 4: "That sense of support and sense of community, was *really* helpful": The importance of community, connections, normalisation and support

This final theme details how important relationships, feeling understood and a sense of community were perceived in helping the women cope with the challenges of early motherhood. Partners, family members and wider social networks were all described as influencing women's experiences, as were their interactions with healthcare professionals, including therapists. Within all women's accounts, there were narratives around how helpful they found the support of people in their social network, especially people they felt could understand and relate to their experiences. However, alongside these narratives of support, some also shared narratives, of invalidation, distance and disconnection from their friends and family and the distress that this caused.

Some of the women discussed how making new connections (e.g. through NCT groups), or strengthening existing friendships with other mums of children of a similar age as their infants, helped them to understand that their experiences of finding early motherhood hard was normal.

> "*Um but you do kind of find people, I think that have similar age kids. Um. And so it's quite nice - like I kind of spoke more openly with them, not in the beginning kind of few weeks, but maybe in that middle like 4-5 month period of like how hard it was, and I actually then felt much more open to talking about that and then hearing like similar experiences or just being able to say like "ahhhh" [said in a tone of understanding and relief]..."* (Participant 4)

Participants 4, 8, 9 and 11 also described getting their experiences normalised through connecting to online communities. For example, participant 8 described sharing a post on an online forum for people who had conceived after IVF, expressing feeling like she did not know what she was doing and concerns about not being a good enough mother. She explained that this resulted in her getting hundreds of responses which she summarised as saying: *"the fact you're worried that you're not good enough means you are good enough. Because if you weren't good enough, you just wouldn't even care".* Participant 8 described how this enabled her to be more compassionate towards herself as she understood that how she was feeling was normal.

> *“And I thought, oh brilliant, I am good enough and like that did give me a little boost and then just gradually I think things got better because I got the confidence, and then you do start finding out that actually nobody has a clue what they're doing and it's all right to not have a clue and everybody learns...”* (Participant 8)

However, not everyone reported utilising or found such online or in person communities helpful. What is more, a few participants described feeling like their experiences of early motherhood were very different from other mothers that they knew in their social circles, or that they met at parent groups, in part because they had conceived through ARPs.

> *“I certainly felt like my experiences were very, very different to the rest of our NCT group and I then found that very hard to relate to them.”* (Participant 1)

This sense of difference and unrelatability was described by some as leading to feelings of isolation and loneliness.

> “*I still felt very isolated cause I didn't feel that anybody was going through things in quite the same way..”* (Participant 3)

Additionally, some participants shared that they did not feel able to share any difficulties they were experiencing with others due to guilt and shame associated with not enjoying or appreciating motherhood after an ARP conception.

> *“And then I think I can't, I can't moan because she's an IVF baby. And you know, I've waited such a long time for her. And if I ever thought or moaned about her I’d think, Oh no, I can't do that. I'm not allowed to, like, feel bad.”* (Participant 6)

A particularly important relationship mentioned by the majority of women, was that with their partners. Many participants described their partners as their main support, sharing that working as a team with their partners helped them overcome many of the challenges associated with early motherhood, and that having difficult emotional experiences (including those associated with infertility) normalised and validated by their partners was experienced as helpful. For instance, participant 7 discussed how her partner was the main person she could talk to and understood her feelings.

> "*To tell you the truth the person that I was able to talk to, and I think I will always was talking to was my husband. [...] I think he was the only one who could really get it."* (Participant 7)

She also described how she felt like they were a team and shared the responsibility for looking after their infant, something she (and many others) expressed being key to coping with early motherhood.

> "*I think if I didn't have that [referring to relationship with husband], I think I would go into a clinical major depressive episode."* (Participant 7)

On the other hand, some women described feeling alone in or not supported enough by their partners with the parenting responsibilities, meaning they held more of the weight of the responsibility on their shoulders. What is more, not all participants described feeling that their partners understood the difficult feelings that they faced in the post-natal period. For instance, participant 8, expressed that when sharing with her husband how difficult she was finding early parenthood, and due to this questioned whether they had made a mistake in having their child, he expressed anger at her for thinking this way after everything they had been through and spent to have their child.

> *"And I think I just was like, "I think we made a mistake" [referring to having child] and he went, he just had a go at me and said about how much money we'd spent [...] and all this rather than sort of saying like, "ohh. Like, no, don't worry, this is just a little blip and we'll get it sorted." So that sort of obviously didn't help. [laughs]."* (Participant 8)

This participant shared how her partners’ response stopped her from feeling able to share how she was feeling with him again or with others. Additionally, she shared how when discussing with her partner that she identified as having ‘Post Natal Depression’, he was dismissive of this, and that the perceived lack of validation and encouragement from him prevented her for seeking out therapeutic support for the distress that she was experiencing at the time. It was only after she posted on the online forum anonymously, and got the affirming response already detailed, that she started to feel more open talking to people about how she was experiencing early motherhood.

Many other participants did seek out and receive therapeutic support, and shared how valuable they found this in understanding themselves better and alleviating some of the difficult feelings they felt during early motherhood. Participant 6 shared that the therapy she received helped her understand herself more as a person, how her past experiences may have impacted her responses in the present and how her emotional experiences were a normal and understandable part of being human. Similarly, participant 12 shared that the therapy she received helped her understand herself better and process difficult emotions associated with infertility, birth and hospital trauma and around her experiences of motherhood so far.

> “*I just think it's been a really tough year and everything on top of everything but I think it was a great opportunity for me to kind of really confront a lot of emotions.”* (Participant 12)

Although, as discussed, many women found support they received post-natally as helping them understand that their experiences were normal, some women suggested that it would have been helpful to have more information and awareness about how they may experience early motherhood after ARPs, beforehand i.e., during pregnancy.

> *“I think for somebody to have said, “look just FYI, it's, you know it is quite likely that you'll find this challenging for XY and Z.” It would have given me time to put in the reserves and I wouldn't have felt as guilty for feeling the way that I did*

> *because I would have understood maybe a little bit where it was coming from and I think that was the crux of it. Like, why can't I? Why can I not cope with this when it's all I've ever wanted and nobody had told, said to me, "one this is tough for any mum but because of all the pressure you're putting on it, it might be even harder" and just, I think to have had somebody say that would have made me feel less bad about my reaction and not connecting to [child's name] as immediately as I thought I should. And you know and everything else that went on in those first three months."* (Participant 3)

Some of the women suggested that this should come from health professionals, but others discussed how this should come from more open discussions in society about hard early motherhood can be. A few of the women explicitly wondered why the difficult aspects of parenthood are not discussed more within society and how valuable it would be if there was more awareness and support for all mothers.

> *"And so I think they're just generally needs to be more of an understanding of - there shouldn't be a stigmatism on mum's mental states and whether it's IVF or natural birth or whatever, there should be more support."* (Participant 10)

4. DISCUSSION

The present research project set out to understand more about women's experiences of early motherhood after experiencing infertility and conceiving via ARPs. Of particular interest was how infertility, and conceiving via ARPs, impacted on experiences of early motherhood, as well as, the influencing effect of other psychosocial and contextual factors. This chapter will discuss the results and how they answer the research questions in more depth, and in relation to previous research and current theory. The key implications and recommendations stemming from the results with then be outlined. This will be followed by an evaluation of the quality of the study, and a discussion of the key strengths and limitations. Some of my reflections will be offered and concluding comments will be presented.

4.1. Summary of the results in relation to the research questions

This section aims to summarise how the results answer the three overlapping questions, outlined in the introductory chapter, and will be followed by a more in-depth discussion of each theme.

4.1.1. Research question 1 - How do women describe their experiences of the first year of motherhood after a successful ARPs conception?

The results indicated that there was large variation in how the women interviewed described experiencing the first year of motherhood after an ARP conception. Some women described it as an overall positive experience, sharing stories of the joy and gratitude that they felt finally becoming a parent after so long of wanting, and trying for a child. Others however described the first year of motherhood, after an ARP conception, as incredibly hard and emotionally painful, in a way that they hadn't expected or prepared themselves for.

4.1.2. Research question 2 - What difficulties or strengths do they describe experiencing in the first year of motherhood which specifically relate to their previous experience of infertility and conceiving via ARPs?

As mentioned above, some women described high levels of gratitude about having a child conceived via ARPs after experiencing infertility, which they perceived strengthened their experience of early motherhood, for example by making them appreciate and enjoy little experiences and moments with their children more than they felt they may have not if they had not felt so grateful to have their child. However, many women also described experiencing many difficulties post-natally which they perceived were directly related to, or exacerbated by, their previous experience of infertility and IVF. As is reflected in the themes, many described, feeling unprepared for the realities of motherhood, higher expectations of motherhood and of themselves as mothers and high levels of anxiety and protectiveness over their infants. Many also described lingering difficult feelings and exhaustion associated with the “trauma” of infertility, infertility treatment, and for many previous pregnancy losses. These women described not having the time to recover or process such “trauma”, whilst navigating the challenges associated with adapting to looking after a new-born infant.

4.1.3. Research question 3 - What psychosocial or contextual factors do they describe contributing to or helping them to overcome any difficulties faced?

A wide range of psychosocial and contextual factors were described as contributing to or helping the women interviewed overcome any difficulties they faced. As is represented by the final main theme, woven into all the women’s accounts were narratives about how important the responses and support from other people in their lives were in shaping their experience of early motherhood and in helping them overcome any difficulties. Many also discussed how their own psychological and coping responses, such as their self-appraisals and levels of self-criticism vs self-compassion impacted on their experiences. Factors such as traumatic birth experiences, health concerns related to them or their babies after birth were also referenced as contributing to difficulties they faced, as were contextual factors such their financial situation, difficult past experiences, a history of psychological distress, and societal narratives and discourses e.g., a lack of discussion about how hard motherhood can be, generally and specifically after infertility.

4.2. Discussion of main themes

4.2.1. Theme 1 - "It is a big adjustment": Feeling unprepared for the realities of motherhood

In line with the findings of the previous qualitative studies (Boz et al., 2021; Ladores & Aroian, 2015), many of the women interviewed shared that due to experiencing high levels of anxiety, and disbelief, about whether they would safely deliver their child, they had not let themselves mentally prepare for parenthood, resulting in it being experienced as a "shock to the system". Although the transition to parenthood can a challenging one for any parent (Cree, 2015), many of the women described how their previous experience of infertility, and ARPs, impacted on them finding the transition particularly difficult. Specifically, they spoke about how spending years focusing on getting pregnant, as well as, high levels of anxiety about losing their pregnancy or having a stillbirth meant that they had not been able to think about what their lives would be like with a baby. Many participants reported that for them, this meant that in the early weeks and months after giving birth to their child, they felt overwhelmed and unprepared for the reality of caring for a new-born child. A few participants related the anxiety and disbelief that they experienced during pregnancy to feeling disconnected from their infants once they were born. One participant hypothesised that people who experience infertility are more likely to experience depression post-natally, because of how overwhelmed they feel when faced with the unexpected, and unprepared for reality of early motherhood.

Ladores and Aroian (2015) suggested that high levels of disbelief that a pregnancy would result in a live birth, and the resultant anxiety during pregnancy, in women who had conceived via ARPs, was due to them continuing to hold onto an infertile identity. It is arguably inevitable that people, but especially women, who have experienced infertility may continue to include ‘infertile’ as a part of their identity, especially as for most, the infertility is still ongoing and will continue to impact them if they wish to have further children. However, the results from the current study suggest that anxiety during pregnancy, and the resultant lack of imagining or preparing for parenthood in women who have conceived via ARPs, is more complex than simply being related to an infertile identity. Specifically, within the current study, the women mainly described the anxiety and avoidance of imaging parenthood during pregnancy, as being the result of previous disappointment and losses they had experienced meaning that they were more attuned to the risk of further disappointment and loss; pressure associated with it not being easy (or financially possible) to conceive again if the pregnancy did not work; and to experiences and responses of others during the pregnancy itself e.g., experiencing heavy bleeding and comments from healthcare professionals about their pregnancy being ‘high risk’. In the same way that higher anxiety during pregnancy for people who have experienced miscarriages have been understood (e.g., Lamb, 2002), this suggests that anxiety and struggling to imagine or mentally prepare for having a child during pregnancy, may have been an attempt by women to protect themselves from the emotional pain that they may have experienced if they prepared for becoming parents only to experience another disappointment or loss. An infertile identity is likely to contribute to this, and in fact one participant did share how because of her previous infertility, she did not trust her body to get her infant to full term, but it is arguably not the sole influencing factor.

4.2.2. Theme 2 - We’ve got what we wanted”: Navigating early motherhood with a highly sought after and longed for child

All of the women interviewed referenced how wanted and “hard earned” their children were after being conceived through ARPs, following years of infertility. This was described as influencing the women’s experience of early motherhood in different (although interlinking) ways, as is reflected by the three subthemes: 1) ‘experiencing gratitude and appreciation', 2) 'navigating high expectations of self and motherhood', and 3) 'precious children, anxiety and protectiveness'.

Specifically, some women described how this sense of getting a longed for child made them feel gratitude, joy and appreciation, and that this led them to enjoy motherhood and cope with everyday parenting stressors more than they perceived they would have done if they had not conceived via ARPs after infertility. This aligns with the findings of Allan et al. (2021) and Ladores and Aroain (2015), who both reported that many of their participants expressed experiencing higher levels of gratitude and joy associated with becoming parents than they believed they would have done if they had conceived naturally. Similarly to the study by Allan et al. (2021), participants in the current study all described the joy and gratitude that they experienced resulting in them appreciating small moments with their children, and generally enjoying early parenthood. What is more, some of the women reported that gratitude helped them manage everyday parenting stressors. This aligns with the findings of Repokari et al. (2005), who reported that women who conceived via ARPs were less affected by child and social stressors in the post-natal period, than women who conceived naturally; and supports their suggestion that this may be due to increased feelings of gratitude around parenthood in such women. This, combined with the results of the current study suggest that experiencing a felt sense of gratitude is a protective factor, leading to women feeling less stressed, more able to cope when experiencing difficulties associated with caring for an infant, and generally enjoying motherhood more.

However, for many of the women in the study it appeared that the result of having a child conceived via ARPs after so long of wanting one, also had some negative impacts, through impacting their expectations of motherhood, themselves as mothers, as well as, on their anxiety levels. Many of the women interviewed described holding high expectations that they should be experiencing nothing but happiness and appreciation and that they should be 'perfect' in their care of their infants, because they had conceived via IVF after infertility. This was described as being particularly the case for women during the first few months of their child's life, although it did continue for some women throughout the first year. When the women who held such expectations inevitably did not feel like they were experiencing motherhood as they felt they should be, they often described high levels of self-criticism, guilt and shame. This links with the results of previous qualitative studies (Boz et al., 2021; Ladores & Aroian, 2015; Mohammadi et al., 2015), and also may explain why some quantitative studies have found that women who conceived via ARPs scored lower on measures of maternal confidence than women who conceived naturally (Gibson et al., 2000; Hammarberg et al., 2009).

Ladores and Aroain (2015) suggested that the women in their study held themselves to higher standards as mothers because of the gratitude they experienced as a result of having a child after infertility. Similarly, within the current study, women's higher expectations were described by some as being the result of knowing that they were *lucky* to have had their child, and a perception that due to this, and all that they had been through to have their child, they should *always* value, appreciate, and enjoy motherhood and be the best mother possible. It appears therefore that feeling lucky to have a longed for child and higher expectations are almost 'two sides of the same coin'. However, I would argue that this is distinct from gratitude. Specifically, when women described the *feeling* of being grateful and appreciating times with their child, this was expressed as leading to positive emotional experiences. Higher expectations of themselves and of motherhood on the other hand, led to feelings of guilt and shame and were described as being related more to *knowing that they were lucky* rather than a *felt sense of gratitude*.

Knowing that they were lucky was described by many of the women as resulting from all that they had been through to have their child, and to the knowledge that they had been able to have a child, whilst many other people were still going through infertility treatment and had not yet been able to conceive. What is more, similarly to as was described by Ladores and Aroain (2015), many women in the current study talked about how the comments of others reinforced the perception that they should feel lucky, and nothing but happiness after having a child through ARPs. Having high expectations of themselves as mothers also appeared related to a lack of understanding of how hard motherhood and caring for a new-born infant can be, with some participants with more prior experience of childcare describing how this helped them have more realistic expectations of motherhood, than other women they knew, and how this helped them cope and be more compassionate to themselves when experiencing the normal challenges of caring for an infant. It may be that as many women don't allow themselves to imagine parenthood whilst going through infertility treatment and during pregnancy, as is explored in the previous theme, they don't have the opportunity to form informed, considered expectations of motherhood and how they want to be as mothers.

Idealised expectation of how they should be experiencing motherhood held by many of the women interviewed, may also be related to how motherhood and mothers are often idealised within a UK social context. Many of the women did share there being a lack of general discussion culturally about how hard motherhood can be, and how this impacted on their expectations of themselves during early motherhood. Some also shared that this made them question whether they were normal to find it hard, or to experience difficult emotions, exacerbating the self-criticism, guilt and shame that they experienced. Women who had longed for a child for such a long period may be more likely to have internalised an idealised perception of what motherhood should be like – in the same way that humans often idealise anything that we really want but feel is out of reach. When they are then hit with a reality of motherhood that does not live up to their idealised expectations, many of the women appeared to blame themselves or perceive it as a way that they had failed as a mother. This arguably is something all mothers can experience, often referred to as 'mum guilts', but may be higher in women who conceived via ARPs due to a stronger idealisation of motherhood.

Additionally, it may be that holding high expectations of themselves to be 'perfect' as a mother is a way to protect themselves against residual feelings of inadequacy (including linked feelings of anxiety), associated with their previous infertility. Perfectionism is often thought about as a strategy to try and mitigate against feelings of not feeling good enough in some way (Brown, 2010; Shafran et al., 2018). Previous research has consistently suggested that experiencing infertility can lead to feelings of inadequacy and low self-esteem (e.g., Kissi et al., 2013; Greil, 1997), and it is likely that the perfectionism around mothering described by some participants in the current study, as well as, in previous research (Boz et al., 2021; Ladores & Aroian, 2015; Mohammadi et al., 2015), may be an attempt to protect against experiencing further feelings of failure or inadequacy during early motherhood. However, as with other instances of perfectionism (Brown, 2010), it eventually exacerbated feelings of inadequacy when the women are not able to reach the high expectations they set of themselves. As Brene Brown discusses, in her book 'The Gifts of Imperfection' (Brown, 2010), perfectionism can be overcome through the cultivation of self-compassion. This appeared to fit with the accounts of some of the women who described that developing more self-compassion around their experiences of early motherhood, often through interactions with others, meant that they adjusted their expectations of themselves and experienced less guilt and shame.

Lastly, many of the women described how getting the child that they wanted after so long, especially in the context of previous disappointment, loss and ongoing infertility, meant that they viewed their child as more "precious" than they perceived they might have done if they had conceived naturally. 'Precious' is a word that is used to refer to something of very high value, rare and not easily replaceable (e.g., Cambridge Dictionary Onine, n.d.) and has previously been used to describe children born through ARPs after infertility (e.g., Boz et al., 2021; Brian, 2011). As with anything that we highly value and is not easy to replace if lost, many women in the study described high levels of anxiety about the possibility of losing their child or when separated from them, with some mothers describing themselves as "overprotective" of their infants as a result of this anxiety. Indeed, this sense of preciousness and anxiety about loss (in the form of harm coming to their child) was described as being a consequence of participants learning to expect loss, and things going wrong during their infertility and ARP treatment journeys. This, along with the finding that many women feel overwhelmed and unprepared by the transition to parenthood after an ARP pregnancy, may explain why a previous quantitative study found that women who conceived via ARPs experienced significantly higher levels of anxiety in the post-natal period than women who conceived naturally (Agostini et al., 2018).

Within the current study, the anxiety that participants experienced took different forms and had varying impacts on their experiences of early motherhood. A few participants described experiencing harm thoughts, which they found distressing. Many described anxiety when separated from their infants or around others looking after their children, often meaning they would not leave their infant in the care of others. Some participants discussed how the anxiety fed into their perfectionism around parenting. Additionally, two participants linked the high levels of anxiety that they experienced to difficulties bonding with their children. One participant wondered whether she struggled to bond with her child as a way to protect herself in the case that something did happen to her child. Interestingly, a common explanation for why some parents may have delayed bonding with their infants, is in order to protect themselves emotionally from the chance of their infants not surviving the early new-born period (Cree, 2015).

Taking a Compassion-Focused Therapy (CFT) perspective, mothers who experience years of infertility, and ARP treatment, and anxiety over losing the pregnancy, may be considered to have increased activation of the ‘threat system’, and decreased activation of the ‘soothing system’, leading to higher rates of anxiety; and which could in itself have a detrimental impact on mother- infant bonding, as it is the soothing system which facilitates the right neuropsychological conditions for bonding to occur (Cree, 2015). This may be heightened for women who had difficult early life experiences as their threat systems may be more sensitive (Gerhardt, 2015; Van der Kolk, 2015), for women who had longer roads to infertility, or for those who experience higher levels of self-criticism (Lee & James, 2012).

4.2.3. Theme 3 – "You've gone through this physically and mentally demanding thing": Experiencing exhaustion and painful emotions associated with the difficult journey to motherhood

Whilst some women, perhaps because of particular protective factors, shared that once they had had their children, the pain of their past infertility and ARP journey gets "forgotten about", the majority of women shared experiencing a residual impact of their difficult journeys to conception. For instance, participants expressed feeling anger, resentment, grief, guilt, shame and emotional exhaustion associated with their experiences of infertility, ARP treatment and previous pregnancy losses. Some reported that it was hard to process or recover from such intense emotions, and past "trauma", whilst adapting to and navigating early motherhood. One participant spoke about feeling a cultural expectation that women who give birth after infertility 'should just let go' of their previous difficult feelings associated with infertility and loss. She expressed there being a "stigma" around mothers experiencing emotional difficulties, which is perhaps more pronounced for women who conceived via ARPs after infertility.

Five out of the 12 participants interviewed described experiencing low mood and difficulties bonding with their children in early motherhood, with many more also experiencing high levels of anxiety. It is estimated that generally only about 10% of UK mothers experience such difficulties post-natally, often labelled Post-Natal Depression (NHS, 2021), but the percentage in the current study would be substantially higher than this (roughly 42%). Due to the nature of recruitment meaning that participants self-selected to take part in the study, it is hard to draw any firm conclusions, but it is possible that the higher rate of post-natal distress in this sample, reflects women who conceived via ARPs being more likely to experience distress post-natally. As was discussed in the introductory chapter, although quantitative studies have not found any significant differences in the levels of post-natal distress experienced by women who conceived via ARPs, than those who conceived naturally (Capuzzi et al., 2020; Chen et al., 2019; Gressier et al., 2015; Ross et al., 2011), many have suggested that this may be due to women not feeling able to share the extent of their difficulties due to guilt or shame around feeling that way after experiencing infertility, and conceiving via ARPs (Ladores & Aroian, 2015; Olshansky & Sereika, 2005). The results of the current study seem to support this suggestion, with many women expressing that they didn't feel able to share any difficulties that they experienced due to not feeling they were allowed to, or due to guilt and shame around doing so when they had been through so much to have their child. What is more, many of the women talked about how not sharing their feelings with others made them feel worse, and that it was only when they did share how they were feeling or experiencing early motherhood with others, that their distress levels started to decrease.

It is also likely that ongoing unprocessed emotions impacted on the way that women appraised and experienced early motherhood. Indeed, it was mostly the same participants who described experiencing the residual difficult emotions associated with their route to conception, and those who described experiencing higher expectations of themselves and motherhood, self-criticism, guilt, shame and anxiety. Multiple models of psychological distress could be used to explain this. For instance, using a cognitive behavioural perspective (e.g., Greenberger & Padesky, 2016; Simmons & Griffiths, 2017) we may understand how women who are still 'carrying' unprocessed guilt, shame, grief etc, due to past infertility, ARP treatment and pregnancy losses, would be more likely to view experiences of early motherhood through the lens of these feelings. This may mean that they appraise their experiences of early motherhood in, for example, a more threat or shame-focused way, resulting in more self-critical and anxious thoughts, thus exacerbating feelings of guilt, shame, inadequacy and anxiety.

4.2.4. Theme 4 – "That sense of support and sense of community, was *really* helpful": The importance of community, connections, normalisation and support

Going through infertility and ARPs has been described as being an isolating experience, where many women feel apart from those they view as being in the 'fertile world' (Boz et al., 2021; Ranjbar et al., 2015; Olshansky, 1996). The results of the current study suggest that for some women, this feeling of difference and disconnection continues after having a child conceived via ARPs, but at the same time, the arrival of a child brought with it closer connections for all participants e.g., to their partners, family members, friends, as well as new connections with women with similar aged children (e.g., met through NCT antenatal classes).

Perhaps of note is that there was no evidence within the current study to support Olshansky's (2003) theory, that women may be more likely to experience post-natal distress due to a sustained impact on their relationships, inflicted over time from an increasing focus on an infertile identity. Although a few participants did reference the impact that infertility had had on their relationships, e.g., with their partner or friends, none linked experiencing distress post-natally with the after effects of these impacts. What is more, many shared that having their infant strengthened relationships in their lives, including those which had been previously impacted when they were experiencing infertility. All of the women who did reported feeling different or disconnected from other parents, talked about finding support or connection in other ways and how this helped them cope, and overcome the challenges and difficult feelings associated with early motherhood. Within the current study it seems that post-natal distress was described as being a result of feeling unprepared for the realities of parenthood, residual difficult feelings associated with infertility and previous pregnancy losses, higher expectations of themselves as mothers and of motherhood, and anxiety associated with harm or loss of their children (all of which were often described as being caused or exacerbated by psychosocial or contextual factors), rather than due to an ongoing disconnection from friends as a result of an infertile identity, as was suggested by Olshansky (2003).

That is not to say that women did not describe how negative relational interactions, impacted on their experiences of early motherhood. In fact many women did describe experiences of not feeling understood, or of having their difficulties invalidated or dismissed by others. This included partners, family members, friends who had not conceived via ARPs, and on some occasions health professionals. Women described how such experiences exacerbated any guilt or shame that they experienced and for a few participants, made them less likely to share their feelings again with others.

On the other hand, all women (even those who described harmful relational interactions), described having experiences of support, connection and normalisation, and how helpful these were in enabling them be more compassionate to themselves, feel less alone, and feel more connected. Of note, was that in line with the findings of Allan et al. (2021), many participants talked about the importance of connecting to people who had also conceived via ARPs. Many participants also shared finding therapeutic support helpful. Specifically, therapy was described as helping women understand why they were feeling the way that they were, as well as, to process their experiences, get some distance from difficult thoughts, and generally develop more self-compassion.

4.3. Implications and recommendations

4.3.1. Implications for health care professionals

Healthcare professionals should be aware of the varied ways in which women may experience early motherhood after an ARP conception. A few participants suggested that there is an expectation or assumption that they should feel nothing but happiness or joy after having a child through ARPs. It is important for healthcare professionals to know that this is often not the case and to inform and prepare women for all the possible ways that they may experience early motherhood after an ARP conception. Such awareness and normalisation would hopefully mean that women would have more realistic expectations of how motherhood may be, and feel less guilty or ashamed when experiencing difficulties. This normalisation should start during pregnancy and continue post-natally, and may include both discussions during healthcare appointments, as well as, giving parents summary leaflets which they can take home. Such leaflets may also include details of support services, or online resources (such as online forums), that parents could access.

It is also important for healthcare professionals to consider offering women support in processing difficult feelings they may have about their journeys to conceiving, during pregnancy, so that it does not have the lingering impact on them during early motherhood, as described by many of the women in this study. In the UK, couples are often entitled, and offered counselling support whilst under an IVF clinic, but are usually discharged to the standard maternity care, overseen by their GP eight weeks after a positive pregnancy result (French et al., 2015), after which time, they generally cannot access any specific psychological support around their experiences of infertility and IVF. Although many of the women in the current study described receiving therapeutic support post-natally, none shared that they received any psychological support whilst they were pregnant. One participant mentioned that she had got in contact with her IVF clinic to ask if they could offer her counselling whilst she was pregnant, but she had been declined. As this particular participant explained, many parents may have found it useful to have a space to process and reflect on their difficult journeys to conception during pregnancy, and this may have alleviated some of residual feelings associated with infertility and IVF treatment, as well as, some of their anxiety during pregnancy. The result of which may be parents feeling more prepared and better able to cope with the transition to parenthood.

When supporting women post-natally, healthcare professionals also need to be aware that women who conceived via ARPs, may be less likely to share any emotional difficulties they do experience, or to seek support. It is important for such women to have consistent and compassionate interactions with health professionals, where they can build a connecting and trusting relationship, to help them feel able to share any difficulties they experience. It is also important that healthcare professionals don’t elicit feelings of shame or blame in mothers through the language that they use e.g., for some women being labelled as having ‘Post Natal Depression’ may elicit feelings that they, or their bodies are somehow to blame for their difficulties, rather than it being an understandable response to loss and change. Although this could be the case for all parents, it may especially be so for women who conceived through ARPs after infertility, as they may already be holding onto lingering feelings of inadequacy or shame.

Lastly, healthcare professionals may consider ways that they can connect women with others who have had children after ARPs. This could be in the form of a support groups for such women, or through a buddy system e.g., where women under the same health visitor, who have conceived via ARPs, are put in contact with each other.

4.3.2. Implications for therapeutic support

As with any kind of therapeutic support, therapy for those experiencing high levels of distress, or difficulties bonding with their infant after an ARP conception, should be guided by the needs and wishes of the individual client and a shared formulation about what has led to and maintained an individual’s difficulties. However, the findings suggest that there may be commonalities in the experience of early motherhood after infertility, that a therapist or a service may wish to consider when offering therapeutic support.

Specifically, many of the women in the current study expressed experiencing a lot of self-critical thoughts, as well as, guilt and shame associated with not experiencing motherhood as they felt like they *should*. Self-compassion was also described as something that supported wellbeing. Working therapeutically using a Compassion Focused Therapy (CFT) approach may therefore be particularly helpful for such women. CFT first aims to give individuals a more compassionate way of understanding their difficulties, through creating a shared ‘formulation’ on why someone may be experiencing difficulties based on the following three assumptions:

- *“That our minds have evolved in a way that makes them quite ‘tricky’ and naturally vulnerable to getting caught up in thinking-feeling loops that can drive distress*
- *That we are shaped by experiences that we have little control over*

- *That we have three core emotion systems that evolved to serve important functions, but which easily get out of balance."* (Irons & Beaumont, 2017, p. 1).

Within CFT, anxiety, guilt and shame are understood as being due to high levels of self-criticism, as well as, prolonged activation of our 'threat system' (e.g., Gilbert, 2010). It therefore aims to support people in getting some distance from, and reducing the intensity of, self-critical thoughts through developing more self-compassion. This, along with mindfulness and soothing practices aim to regulate the threat system, leading to less anxiety, guilt and shame. Such an approach may also help mothers who experience difficulties bonding with their infants as greater activation of soothing system facilitates bonding and connection, both neurochemically and through greater attunement to their infant (Cree, 2015; Gerhardt, 2015).

4.3.3. Implications for policy

4.3.3.1. Parental leave

All the women in the current study discussed how important their relationships and the support that they received were in their experiences of early motherhood. Women's partners were considered one of the most important relationships, with women who felt like they worked as a team with their partner, and shared responsibility for caring for their child, describing how helpful this was in them being able to cope with early parenthood. However, arguably current UK policies around parental leave do not allow for it to be easily distributed between the child-bearing partner (which are predominately women) and the non-child- bearing partner (which are predominately men). Specifically, although the UK government introduced the Shared Parental Leave (SPL) policy in 2015, it has been estimated that only 60% of fathers qualify for it, and if couples do qualify, the leave given to the non-child bearing partner is often unpaid, making it not financially viable for most couples (Topping, 2021). This has been found to be one of the least generous and most inequal parental leave policies in all of Europe (UCL, 2021), and it maintains an inequal responsibility for child care being on the child-bearing parent. This has led many to call for an urgent change to the current UK policies on parental leave (e.g., Topping, 2021), and I would argue that the results of the current study support such a need for policy reform. Specifically, not only would an adoption of equal parental leave policies between men and women (i.e., where both partners could get the same amount of fully paid parental leave) lead to greater gender equality, it would arguably also benefit the well-being of both parents during early parenthood. For women who may have felt unprepared and overwhelmed by the realities of early parenthood because of previous infertility and ARP treatment, more equal sharing of parental care and responsibility, made possible through equal parental leave policies, may be especially beneficial.

4.3.3.2. IVF provision

Despite the UK National Institute for Clinical Excellence (NICE) recommending that a heterosexual couple experiencing difficulties conceiving for over 2 years (and where the woman is under 40 years old) be offered three full cycles of IVF (NICE, 2014, 2017), there are large disparities in access to free infertility treatment across the UK, with many referring to the provision of IVF as a "postcode lottery" (Haslett & Griffith, 2022). What is more, provision is generally decreasing overtime with some local areas no longer funding any ARP treatment (BBC, 2017). As discussed, many participants in this study described high levels of anxiety associated with how precious they viewed they children and for many women, this preciousness came in part from it being hard financially to do further rounds of IVF, and the possibility that this could be their only chance to have a child. This was described as putting more pressure on the pregnancy, and contributing to anxiety about harm coming to their infant once born. Considering the harmful psychological impacts of infertility seem to persist for women, even after they have a child through ARPs, it is important that the provision of IVF and other ARPs is something that is prioritised by Clinical Commissioning Groups, to be more in line with the NICE guidelines.

4.4. Critical review

4.4.1. Research quality

It is important in all research, no matter the methodology or theoretical orientation to maintain good quality. However, when accessing quality it is important to use evaluative tools that match the theoretically assumptions of the research (Braun & Clarke, 2022). The quality of this research project will be evaluated using Braun and Clarke's 15 point checklist, as well as, their general suggestions on what makes a good quality Reflexive TA (Braun & Clarke, 2006, 2021a, 2021b, 2022).

4.4.1.1. Methodological integrity

Braun and Clarke drawn on Levitt et al.'s (2017) concept of methodological integrity to emphasise the importance, for good quality research, of having coherence between the "theoretical assumptions, research questions, research design and methods" used (Braun & Clarke, 2022, p. 267). The current study arguably has high methodological integrity, with the epistemological assumptions acknowledged, and it being clearly explained within the methods chapter how such assumptions led to the research questions, and subsequently the study design and choice of Reflexive TA.

4.4.1.2. Procedural rigour

Many of Braun and Clarke's (2006, 2022) 15 point quality checklist involve ensuring a rigorous procedure is followed throughout the data analysis process (in a way that demarcates quality rather than emphasises rigidity). Within the current study, enough time was given to all aspects of the process (point 11). This started with time being spent to ensure that the transcriptions were an accurate representations of the initial recordings (point 1). During the coding process, each interview was thoroughly coded (points 2), with themes being developed from the codes, as opposed to prior to coding, or from a few memorable examples (point 3). Once the initial themes were developed, all coded extracts under that theme were collated (point 4), and it was through bringing together and reviewing these extracts that the themes were reworked and named. During this process, the interview transcripts were re-read to ensure the developing themes and interpretations fit with the original data (point 5).

4.4.1.3. Depth and quality of the analysis

Within good quality qualitative research, and Reflexive TA specifically, it is important for the analysis to be interpretive, and not simply offer a summary of how participants have answered research questions, unless this is the specific aim of the research (Braun & Clarke, 2021b, 2022). Although this research project set out to understand how women *describe* their experiences of early motherhood after ARPs, it was not interested in a simple description of their descriptions. Instead the analysis aimed to present a situated narrative, organised around key themes and based on the interpretations of the researcher (points 7 and 9).

The appropriate level of interpretation and depth of analysis was supported through discussing my analysis with my thesis supervisor. This started during the coding process, where an initial coding of one interview transcript, was reviewed by my supervisor and discussed together, and changes to the depth of codes were made iteratively following this. Once an initial thematic map was developed, this was also discussed with my supervisor, which aided my thinking in the development of the themes. Finally, the final written analysis was reviewed and discussed with my supervisor and feedback given was incorporated into the final write up of the results.

4.4.1.4. Quality of the written report

Within the presentation of the analysis, an appropriate proportion of data extracts were used to evidence the story being told (point 10), which support and align with any interpretations being made (point 8). Additionally within the written report, the specific approach to data analysis taken is detailed in the methods chapter (point 12), the reported analysis fits with the methods described (point 13), the language used throughout represents a critical realist position (point 14), and the researcher's role as an active participant in the development of themes and interpretations is acknowledged and reflected on (point 15). Finally, within the report, the study and its findings are situated with relation to the wider topic area and previous research conducted.

4.4.2. Strengths and limitations of the study

4.4.2.1. Contribution to existing research base

The current study adds significantly to the current understanding, based on previous research, about how women who have conceived via ARPs after infertility experience early motherhood. Specifically, and most likely due to my background as someone training in Clinical Psychology, it offers insights into how the psychological impact of infertility and infertility treatment impacts on women during early motherhood. The adoption of a critical realist epistemological stance, has also allowed for more exploration of the psychosocial and contextual factors which influence women's experiences, than was afforded by the theoretical and methodological approaches adopted by previous quantitative and qualitative research on the topic.

4.4.2.2. Methodology and methods

The study adopted a qualitative methodology which allowed for a rich and nuanced account of how women experienced the first year of motherhood after an IVF conception. This contrasts with the majority of previous research on the topic which has used a quantitative methodology, comparing women who conceived via ARPs on one or more single aspects of psychological distress or parental well-being with women who conceived naturally. What is more, it used a well-established and well-defined method for data analysis in a way that ensured research quality.

4.4.2.3 *Transferability and concerns around the sample*

Within reflective TA, and qualitative research more generally, the results are seen as being situated within the specific context of the researcher and participants (Braun & Clarke, 2022). However, a key task of a qualitative researcher has been described as being to facilitate ‘transferability’ i.e., the ability for the results to be ‘transferred’ to other individuals or contexts (Slevin & Sines, 1999; Trochim, n.d.). It has been suggested that one way a qualitative researcher can support this is about being clear about the context and limitations of the sample (e.g., Slevin & Sines, 1999; Trochim, n.d.). Although, I tried to be as inclusive as possible within the recruitment for the project, recruiting women from across the UK, including women of all infertility types and not excluding those who used sperm donors, one concern I did have throughout the research project was that all of the participants were white and only one of them was not born in the UK; although it is important to note that information about ethnic identity was not collected, it was assumed through what participants shared during interviews, as well as, their visual appearance and accents. As research has suggested that women who identity as being from racialised groups may have different experiences of infertility, maternity care and motherhood (Ceballo et al., 2015; Mental Health Foundation, n.d.; Thomson et al., 2022), one significant limitation of the present study is that these are not represented. I was unsure about why there were no women from racialised backgrounds who volunteered to take part in the study, but wondered if it may be related to discrimination within health services impacting on their access to ARP treatment (e.g., Ibrahim & Zore, 2020), or due to social stigma around IVF in some communities (e.g., Ceballo et al., 2015), stopping women from wanting to be involved in the research. I hope that by being clear about the contexts and limitations of the sample, it supports the thinking of those wishing to transfer the results to other individuals or contexts.

It is also important to note the risk of essentialising individuals by formulating how characteristics or contexts may impact on their experiences. For instance, in locating a trait or characteristic, such as race or religion within individuals and drawing conclusions about how they may experience a phenomena, such as parenthood after infertility based on these located characteristics. The focus of the current research was how women's previous experience of infertility and infertility treatment impacted on their experiences of early motherhood. Hence such information was included within the methods section of this report. I did this to try and introduce some context about the women, in part of aid transferability, due to clarity around the sample. However, fitting with the critical realist epistemological stance, the analysis and results sections were driven by the women's descriptions of their experiences and the meanings that they had made about how their roads to conceiving their children via IVF impacted on their experiences of early motherhood. Thus, I tried not to make assumptions about how any contexts or characteristics, including previous infertility and IVF treatment, may have impacted on the women's' experiences, although as the results indicated, all participants did discuss ways that such contexts had an impact on their experiences of early motherhood.

4.5. Recommendations for future research

Future research could explore the experiences of early motherhood after successful reproduce procedures in groups not captured within this study (such as those who identify as being from a racialised community), as well as, within different cultural contexts e.g., in countries outside of the UK. Additionally, as this study has deliberately focused on the experiences of women, future studies could examine the experiences of early parenthood after ARPs for men. Although previous research has suggested that infertility has more of a profound impact on women than men, that isn't to say that it has no impact (e.g., Greil, 1991; Greil, 1997), and there may be some interesting and important insights to be gained from better understanding men's experiences. Furthermore, future research may also want to focus on the experience of early parenthood after ARPs for same sex couples. Whilst the inability to have children for same-sex couples is not due to infertility per say, and so their experiences of early parenthood may not be impacted by the psychological impact of infertility, their road to having a child may be considerably more difficult and costly due to the current rules in many local areas around accessing free ARPs (Lalwani, 2023). They may also experience discrimination as two parents of the same sex. Hence understanding more about their lived experiences of early parenthood would be important for ensuring they get adequate support.

It would also be interesting to have a better understanding about how social practices and discourses impact on women's experiences of early motherhood after infertility. For instance, future research may consider using a discourse analysis or a further reflexive TA where the research and interview questions are specifically focused on this.

Lastly, future studies may wish to explore people's experiences of parenthood, after successful reproductive procedures, over a longer period than just the first year e.g., by interviewing parents who have children at all different ages between new-born to 18 years old, to see how experiences may change over time.

4.6. Final reflections on the project

One thing I was concerned about throughout the research and reflected continuously on was whether my focus on women specifically, may be harmful in perpetuating heteronormative gender constructions of women as the main caregivers to children, as well as, gender binaries more generally. This was not my intent, which was instead to highlight how the ways that gender roles have been constructed may impact on people's experiences, specifically in parenthood after infertility. I choose to focus on people who identity as a woman due to the consistent findings that infertility has more psychological impact on them, but reflected that much of such research was itself based on gender binaries and assumptions, and did not include those who identity as Transgender or non-binary. As someone who grew up as a white, non-disabled, middle class, straight cis-woman, I was privileged in many ways, with my only main area of oppression being that of gender. Although identifying as an ally to those who identity as Queer, Trans or non-binary, as my direct experience has been that of discrimination for being a woman, that undoubtably influenced my choice of approaching the research from the lens of women. I had hoped to be able to explore intersectional aspects of experiences, such as how culture, or being from a racialised group impacted on women’s experiences of early motherhood after infertility. However this did not come out in the analysis as none of my participants were from racialised groups, or discussed how culture or religion impacted on their experiences. The current study and analysis therefore is fully situated within my own experiences, values and assumptions, as well as, those of the specific women who participated.

4.7. Concluding comments

To conclude, it is important that we dispel the myth that as soon as women become parents after infertility, following successful reproductive procedures, that they forget the emotional pain of infertility and infertility treatment. Although this is the case for a few women, many describe still having the metaphorical (and perhaps very literal) scars from what they went through to conceive during early motherhood. Women need to be given the opportunity to process and recover from the ‘trauma’ that they have experienced through being offered therapeutic support during pregnancy.

Additionally, we, as a society and as healthcare professionals, need to normalise early motherhood being a hard experience, especially for women who have conceived via ARPs, who may put more pressure on themselves to be ‘perfect’ mothers. We also need to work towards better gender equality around child care through improving the current UK shared leave policies, enabling child care to be seen as a shared responsibility of both parents, and reducing the responsibility mainly being on women.

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APPENDICIES

APPENDIX A – Literature search strategy

Date conducted:

All searches took place in December 2022.

Databases searched and strategy:

Key term search using the following search chain: ("Reproductive Technology" OR "Infertility") AND ("Mothers" OR "Parents" OR "Postnatal Period") in Scopus and Science Direct.

The index term function was utilised in Psychinfo, with the same search chain but adapted to represent an index term search as follows: (DE "Reproductive Technology" OR DE "Infertility") AND (DE "Mothers" OR DE "Parents" OR DE "Postnatal Period").

The index term function was also utilised in Academic Search Complete but as the index terms were not exactly the same as in Psychinfo, the search chain was adapted slightly: (DE "INFERTILITY" OR DE "FEMALE infertility" OR DE "MALE infertility" OR DE "INFERTILITY -- Psychological aspects" OR DE "INFERTILITY treatment") AND (DE "MOTHERS" OR DE “PARENTS”).

The following limiters were applied:

- Published academic journals
- Since 2000
- In English language
- In Scopus, limited to psychology subject area
- For Psychinfo was limited to age (over 18)

The number of papers identified in the searches for each database were as follows:

Psychinfo – 120

Academic Search complete – 48

Scopus – 206

Science Direct – 587

Total - 961

APPENDIX B – Demographics form

Demographics to be gathered during first section of interview:

Child’s age (i.e., how far into new motherhood they are):

When were they first diagnosed with infertility? (Year or age)

Cause of infertility (male factor or female factor?)

Type/s of ARPs:

Length of time/ cycles until conception:

APPENDIX C – Thesis Proposal

How do women who conceived through Assisted Reproductive Procedures after experiencing infertility describe their experiences of the first year of motherhood?

1. ABSTRACT

The proposed study aims to fill a current gap in the literature by qualitatively exploring how women who have previously experienced infertility, and conceived through Assisted Reproductive Procedures (ARPs), experience the first year of motherhood. The transition to motherhood is known as being a difficult period for many women, with high rates of perinatal mental health difficulties (Bauer et al., 2014), and it is important that we better understand the experiences of this potentially vulnerable group of new mothers. Women will be recruited to partake in semi-structures interviews about their experiences from parenting groups on popular social media platforms. Data gained from interviews will be analysed using a Reflexive Thematic Analysis approach (Braun & Clarke, 2006, 2021) to generate themes which encapsulate the experiences of the women interviewed.

2. INTRODUCTION

In the UK it is estimated that about one in seven heterosexual couples experience infertility each year, with rates seeming to be increasing (NICE, 2017). Infertility has been described as having a "devastating" effect on individuals who experience it, but especially on women (Greil, 1997, p. 1678; Kissi et al., 2013), who report increased stress, anxiety, frustration, marital dissatisfaction, social stigma and a reduction in mood, perceived control over their lives, self-esteem and quality of life (Cousineau & Domar, 2007; Greil, 1997; Kiesswetter et al., 2020; Lakatos et al., 2017).

The development of Assisted Reproductive Procedures (ARPs) such as In Vito Fertilisation (IVF) provides some hope for couples experiencing infertility, as it enables them to conceive with medical assistance (NICE, 2017). However, the experience of receiving ARPs treatment is an incredibly stressful process for couples (Kiesswetter et al., 2020) and success rates are relatively small (NHS, 2017), meaning that many couples may undergo multiple cycles in the attempt to get pregnant (NICE, 2014), prolonging this period of stress.

When women do successfully become pregnant after ARPs, studies seem to suggest that experiences of women may be more varied (Capuzzi et al., 2020; Ladores & Aroian, 2015). Some studies have demonstrated that women (and their partners) were more anxious during pregnancy than controls who had conceived naturally (Hjelmstedt et al., 2003) where as others have found no group differences (Klock & Greenfeld, 2000). Similar comparison studies investigating the impact of infertility postnatally have also found contradictory results (Capuzzi et al., 2020; Lee et al., 2011). However, such quantitative studies have only investigated a limited amount of outcome variables; mainly rates of postnatal depression, anxiety and self-esteem.

Arguably, the nuanced experiences of new motherhood after infertility can be best understood by looking at the contribution of qualitative studies (for a qualitative synthesis see Ladores & Aroian, 2015). Qualitative studies have revealed that women’s self-perception as infertile can stay with them even after conception, and that this can be one factor leading to increased anxiety whilst pregnant (e.g. around losing the baby), and may also lead to difficulties processing their new identity as a mother and not feeling prepared for duties of motherhood (Boz et al., 2018; Ladores & Aroian, 2015). Additionally, such studies have suggested that due to gratitude around having a child after infertility, women can feel the need to be a ‘perfect mother’ and may experience guilt and shame when they do not live up to their expectations of themselves as a mother, and that due to these difficult feelings, may not wish to share any challenges that they are facing with the people around them (Boz et al., 2018; Ladores & Aroian, 2015).

However, qualitative studies so far have focused on women's experience of pregnancy and the first few months of motherhood, and there has not yet been a qualitative exploration of how women who conceived through ARPs after experiencing infertility describe their experiences of the first year of motherhood.

3. PROPOSED RESEARCH

3.1. Aims and research questions

The proposed study aims to fill this gap by investigating women's experiences of the first year of motherhood after experiencing infertility. It is hoped that a greater understanding can be gained of whether women experience particular difficulties or areas of strength during the first year of their child's life which they describe as being related to their previous experiences of infertility and infertility treatment, as well as, what may have helped them in overcoming any of specific difficulties during this period.

To explore this, I propose the following questions of interest:

4) *How do women who conceived through Assisted Reproductive Procedures after experiencing infertility describe their experiences of the first year of motherhood?*
5) *What difficulties or strengths do they describe experiencing in the first year of motherhood specifically relating to their previous experience of infertility?*
6) *What psychosocial factors do they describe contributing to or helping them to overcome any difficulties faced?*

3.2. Relevance and significance

Becoming a mother represents a significant period of transition in an women's life and many individuals experience a lot of difficulties during this transition (Nelson, 2003), with UK statistics showing that 10-20% of women develop new mental health difficulties during pregnancy and/or the first year of their child's life (Bauer et al., 2014). Some have suggested that women who have been through the emotional turmoil of infertility and infertility treatment may be more vulnerable to experiencing emotional difficulties postnatally (e.g. Ladores & Aroian, 2015). It is therefore important that we better understand the experiences of these individuals as well as factors that support them in overcoming any difficulties faced.

4. EPISTEMOLOGY, METHODOLOGY AND METHOD

4.1. Epistemological considerations

Within the proposed research questions, infertility and new motherhood are assumed to be real phenomenon, where individuals can be categorised as belonging to one of each groups based on material characteristics that exist in the world (i.e., the presence of a child), thus suggesting a realist epistemological position. On the other hand, the research questions are interested in how women describe their subjective experiences of the phenomena of motherhood after infertility, and specifically which aspects of their experiences may be related to their previous experiences of infertility. This assumes that people do not naively experience the world as it exists (i.e., naively experiencing new motherhood) but that their experiences and meaning making are dependent on psychosocial factors (which in this case include previous experiences of infertility). Thus, it could be argued that adopting a critical realist epistemological position best fits the proposed research questions. Critical realists assume a realist ontology i.e., assume the existence of an ‘objective’ reality with material properties existing outside of the human experience, but recognise that knowledge is based on ‘subjective’ accounts influenced by psychological and social constructions of that reality (Vincent & O’Mahoney, 2018).

4.2. Methodology

A qualitative methodology, suitable for investigating how a group of individuals describe a particular experience is most appropriate for answering the proposed research questions. Specifically, a Reflexive Thematic Analysis (TA) approach, as detailed by Braun and Clarke (2006, 2021), is proposed as the method for data analysis.

4.3. Participants and method of data collection

The proposed method of data collection will be semi-structured interviews with women who have become mothers after experiencing infertility. I will aim to conduct a total of 12 interviews, as this has been suggested as being the point in which data may reach ‘saturation’ in qualitative research, meaning further interviews after this point are unlikely to result in much new information on the questions of interest (Guest et al., 2006).

Women will be eligible to take part in the study if they, and/or their partner, have previously been diagnosed as infertile by a medical professional, and if they have a child who was conceived with the assistance of ARPs and born between one and three years ago (at time of recruitment). This specific time period was chosen in line with similar qualitative research (Ladores & Aroian, 2015) to ensure that mothers had adequate recall of their experiences of the first year of their child’s life. Due to practical issues around translation and transcription, women will be excluded if they are not fluent speakers of English.

4.4. Procedure

Women will be invited to take part in the study via an advert posted in UK based social media groups such as the ‘[redacted] and ‘[redacted] Facebook groups. New social media accounts will be created specifically for this purpose and women will be encouraged to either message on these accounts or email my UEL email address to express an interest in taking part in the study.

I will respond to women who express an interest by sending them the detailed study information sheet and offer an initial telephone call to check that they are eligible to take part, explain exactly what the study will involve, and give them an opportunity to ask any question they have about the study. If during the telephone call, women express verbal consent to continue with the research, I will invite them to complete and return to me via email an electronic consent form, giving their written consent to participate. Interviews will be arranged either virtually (using Microsoft Teams) or in person at the UEL campus (virtual interviews will be encouraged unless participants are unable to access the appropriate technology or have a strong preference for a face to face interview).

Interviews will be semi-structured meaning that an interview schedule (see appendix A) will be used as prompts to encourage participants to talk about their experiences (Willig, 2013), and are expected to last between 40 and 90 minutes in length.

5. ETHICAL CONSIDERATIONS

5.1. Informed consent and right to withdraw

As previously mentioned, participants will be given the opportunity to fully understand what the study involves before giving their written and verbal consent to partake in the research. Consent is seen as a dynamic rather than a static process and the researcher will check in at various points during the interview that participants are happy to continue. It will be made clear to participants that they have a right to withdraw from the study at any time up until the point that their data has been analysed.

5.2. Confidentiality and anonymity

It will be explained to all participants that personal information about them will remain confidential, with only the lead researcher being able to access it. All identifying characteristics will be removed from the transcripts and stored in a password protected document securely on the UEL OneDrive.

5.3. Distress to participants and researcher

As the proposed research involves participants potentially sharing difficult or exposing experiences, it is possible that it may lead to distress for participants as well as to the researcher who may bear witness to participants' distress. Participants' distress will be managed sensitively within the interviews and participants will be signposted to relevant support services.

5.4. Ensuring the research is done in the best interest of those that it is representing

It is hoped that new mothers who have previously experienced infertility can be consulted during the development of the study to ensure that it best meets the interests of those that it is hoping to represent. Initial contact has been made over email with two women who run a podcast about infertility, and who have both recently become mothers after experiencing infertility, to invite them to give their views on the proposed study.

5.5. Ethical approval

Ethics approval will be sought from the University of East London (UEL) School of Psychology Research Ethics Committee (SREC).

6. BACKUP OPTION

I do not expect any problems with recruiting for this study due to the hope to use large social media groups for the recruitment. However, if they are encountered, I plan to use women's stories publicly available on websites or podcasts as my data. In this eventuality, consent would be requested from the authors before using the data.

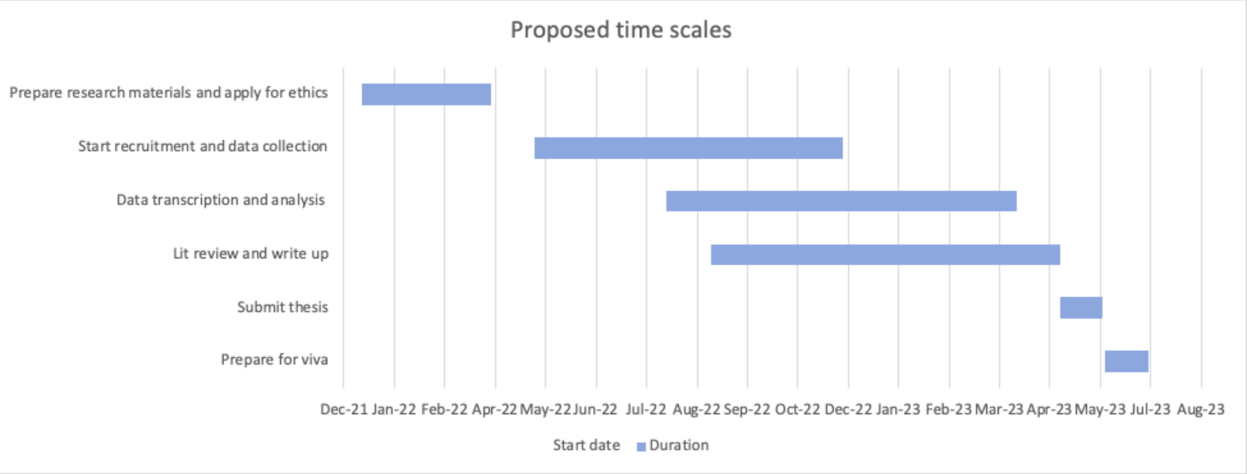
7. RESOURCES, PLANNING AND EXECUTION

7.1. Planned execution of study

Figure 1 below shows the expected steps to completion of the research project as well as predicted time scales for each step. Dissemination activities will commence after the project has passed the viva in the summer of 2023.

Figure 1

Gantt chat showing proposed time scales for each planned aspect of the research project



7.2. Resources

The study will require the use of the Microsoft 365 suite for conducting and recording virtual interviews and to securely store the data electronically. It may also require access to interview rooms on the UEL campus for any in person interviews, this will be appropriately risk assessed.

8. REFERENCES

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APPENDIX D – Ethics application

UNIVERSITY OF EAST LONDON
School of Psychology

APPLICATION FOR RESEARCH ETHICS APPROVAL FOR RESEARCH INVOLVING HUMAN PARTICIPANTS
(Updated October 2021)

FOR BSc RESEARCH;
MSc/MA RESEARCH;
PROFESSIONAL DOCTORATE RESEARCH IN CLINICAL, COUNSELLING & EDUCATIONAL PSYCHOLOGY

Section 1 – Guidance on Completing the Application Form
(please read carefully)

1.1	Before completing this application, please familiarise yourself with: ▪ British Psychological Society's Code of Ethics and Conduct ▪ UEL's Code of Practice for Research Ethics ▪ UEL's Research Data Management Policy ▪ UEL's Data Backup Policy
1.2	Email your supervisor the completed application and all attachments as ONE WORD DOCUMENT. Your supervisor will look over your application and provide feedback.
1.3	When your application demonstrates a sound ethical protocol, your supervisor will submit it for review.
1.4	Your supervisor will let you know the outcome of your application. Recruitment and data collection must **NOT** commence until your ethics application has been approved, along with other approvals that may be necessary (see section 7).
1.5	Research in the NHS: ▪ If your research involves patients or service users of the NHS, their relatives or carers, as well as those in receipt of services provided under contract to the NHS, you will need to apply for HRA approval/NHS permission (through IRAS). You DO NOT need to apply to the School of Psychology for ethical clearance.

	▪ Useful websites: ▪ If recruitment involves NHS staff via the NHS, an application will need to be submitted to the HRA in order to obtain R&D approval. This is in addition to separate approval via the R&D department of the NHS Trust involved in the research. UEL ethical approval will also be required. ▪ HRA/R&D approval is not required for research when NHS employees are not recruited directly through NHS lines of communication (UEL ethical approval is required). This means that NHS staff can participate in research without HRA approval when a student recruits via their own social/professional networks or through a professional body such as the BPS, for example. ▪ The School strongly discourages BSc and MSc/MA students from designing research that requires HRA approval for research involving the NHS, as this can be a very demanding and lengthy process.
1.6	If you require Disclosure Barring Service (DBS) clearance (see section 6), please request a DBS clearance form from the Hub, complete it fully, and return it to applicantchecks@uel.ac.uk. Once the form has been approved, you will be registered with GBG Online Disclosures and a registration email will be sent to you. Guidance for completing the online form is provided on the GBG website: https://fadv.onlinedisclosures.co.uk/Authentication/Login You may also find the following website to be a useful resource: https://www.gov.uk/government/organisations/disclosure-and-barring-service
1.7	Checklist, the following attachments should be included if appropriate: ▪ Study advertisement ▪ Participant Information Sheet (PIS) ▪ Participant Consent Form ▪ Participant Debrief Sheet ▪ Risk Assessment Form/Country-Specific Risk Assessment Form (see section 5) ▪ Permission from an external organisation (see section 7) ▪ Original and/or pre-existing questionnaire(s) and test(s) you intend to use ▪ Interview guide for qualitative studies ▪ Visual material(s) you intend showing participants

Section 2 – Your Details

2.1	**Your name:**	**Emma Hull**
2.2	**Your supervisor's name:**	**Dr Kenneth Gannon**

2.3	**Name(s) of additional UEL supervisors:**	**Dr Maria Qureshi** 3rd supervisor (if applicable)
2.4	**Title of your programme:**	**Doctorate in Clinical Psychology**
2.5	**UEL assignment submission date:**	**22/05/2023** Re-sit date (if applicable)

Section 3 – Project Details

Please give as much detail as necessary for a reviewer to be able to fully understand the nature and purpose of your research.

3.1	**Study title:** Please note - If your study requires registration, the title inserted here must be the same as that on PhD Manager	Motherhood after infertility – how do women who conceived through Assisted Reproductive Procedures after experiencing infertility describe their experiences of the first year of motherhood?
/3.2	**Summary of study background and aims (using lay language):**	In the UK it is estimated that about one in seven heterosexual couples experience infertility each year, with rates seeming to be increasing (NICE, 2017). Infertility has been described as having a "devastating" effect on individuals who experience it, but especially on women (Greil, 1997, p. 1678; Kissi et al., 2013), who report increased stress, anxiety, frustration, marital dissatisfaction, social stigma and a reduction in mood, perceived control over their lives, self-esteem and quality of life (Cousineau & Domar, 2007; Greil, 1997; Kiesswetter et al., 2020; Lakatos et al., 2017). The development of Assisted Reproductive Procedures (ARPs) such as In Vito Fertilisation (IVF) provides some hope for couples experiencing infertility, as it enables them to conceive with medical assistance (NICE, 2017). However, the experience of receiving ARPs treatment is an incredibly stressful process for couples (Kiesswetter et al., 2020) and success rates are relatively low (NHS, 2017), meaning that many couples may

		undergo multiple cycles in the attempt to get pregnant (NICE, 2014), prolonging this period of stress. When women do successfully become pregnant after ARPs, studies seem to suggest that experiences of women may be more varied (Capuzzi et al., 2020; Ladores & Aroian, 2015). Some studies have demonstrated that women (and their partners) were more anxious during pregnancy than controls who had conceived naturally (Hjelmstedt et al., 2003) whereas others have found no group differences (Klock & Greenfeld, 2000). Similar comparison studies investigating the impact of infertility postnatally have also found contradictory results (Capuzzi et al., 2020; Lee et al., 2011). However, such quantitative studies have only investigated a limited amount of outcome variables; mainly rates of postnatal depression, anxiety and self-esteem. Arguably, the nuanced experiences of new motherhood after infertility can be best understood by looking at the contribution of qualitative studies (for a qualitative synthesis see Ladores & Aroian, 2015). Qualitative studies have revealed that women's self-perception as infertile can stay with them even after conception, and that this can be one factor leading to increased anxiety whilst pregnant (e.g. around losing the baby), and may also lead to difficulties processing their new identity as a mother and not feeling prepared for duties of motherhood (Boz et al., 2018; Ladores & Aroian, 2015). Additionally, such studies have suggested that due to gratitude around having a child after infertility, women can feel the need to be a 'perfect mother' and may experience guilt and shame when they do not live up to their expectations of themselves as a mother, and that due to these difficult feelings, may not wish to share any

		challenges that they are facing with the people around them (Boz et al., 2018; Ladores & Aroian, 2015). However, qualitative studies so far have focused on women's experience of pregnancy and the first few months of motherhood, and there has not yet been a qualitative exploration of how women who conceived through ARPs after experiencing infertility describe their experiences of the first year of motherhood. PROPOSED RESEARCH Aims and research questions The proposed study aims to fill this gap by investigating women's experiences of the first year of motherhood after experiencing infertility. It is hoped that a greater understanding can be gained of whether women experience particular difficulties or areas of strength during the first year of their child's life which they describe as being related to their previous experiences of infertility and infertility treatment, as well as, what may have helped them in overcoming any specific difficulties during this period.
3.3	**Research question(s):**	*1) How do women who conceived through Assisted Reproductive Procedures after experiencing infertility describe their experiences of the first year of motherhood? 2) What difficulties or strengths do they describe experiencing in the first year of motherhood specifically relating to their previous experience of infertility? 3) What psychosocial factors do they describe contributing to or helping them to overcome any difficulties faced?*
3.4	**Research design:**	A qualitative methodology, suitable for investigating how a group of individuals describe a particular experience is most appropriate for answering the proposed research questions. Specifically, a Reflexive Thematic Analysis (TA) approach, as

		detailed by Braun and Clarke (2006, 2021), is proposed as the method for data analysis.
3.5	**Participants:** Include all relevant information including inclusion and exclusion criteria	The proposed method of data collection will be semi-structured interviews with women who have become mothers after experiencing infertility. I will aim to conduct a total of 12 interviews, as this has been suggested as being the point in which data may reach 'saturation' in qualitative research, meaning further interviews after this point are unlikely to result in much new information on the questions of interest (Guest et al., 2006). Women will be eligible to take part in the study if they, and/or their partner, have previously been diagnosed as infertile by a medical professional, and if they have a child who was conceived with the assistance of ARPs and born between one and three years ago (at time of recruitment). This specific time period was chosen in line with similar qualitative research (Ladores & Aroian, 2015) to ensure that mothers had adequate recall of their experiences of the first year of their child's life. Due to practical issues around translation and transcription, women will be excluded if they are not fluent speakers of English.
3.6	**Recruitment strategy:** Provide as much detail as possible and include a backup plan if relevant	UK based mother and toddler groups will be emailed asking whether they are happy to share a recruitment email with their attendees or (for groups in within an hour travel from the lead researcher only) for the lead research to join a group to talk to attendees about the study. One mother and toddler group local to the lead researcher has already confirmed they would be happy to support with recruitment for the study (see appendix H). An advert will also be posted on popular public social media platforms (such as Facebook) encouraging people to share with others who may be interested in partaking in the research. New social media accounts will be created

		specifically for this purpose and women will be encouraged to either message on these accounts or email my UEL email address to express an interest in taking part in the study. Additionally, Peanut app (an app designed for connecting new mothers with each other) has been contacted regarding advertising the current study through their platform. BACKUP OPTION I do not expect any problems with recruiting for this study due, however, if they are encountered, I plan to use women's stories publicly available on websites or podcasts as my data. In this eventuality, consent would be requested from the authors before using the data.
3.7	**Measures, materials or equipment:** Provide detailed information, e.g., for measures, include scoring instructions, psychometric properties, if freely available, permissions required, etc.	An interview schedule and accompanying demographic sheet (to be completed by the researcher during the first section of the interview) have been developed for use in this study (see appendices D and E).
3.8	**Data collection:** Provide information on how data will be collected from the point of consent to debrief	I will respond to women who express an interest by sending them the detailed study information sheet (see appendix B) and offer an initial telephone call to check that they are eligible to take part, explain exactly what the study will involve, and give them an opportunity to ask any question they have about the study. If during the telephone call, women express verbal consent to continue with the research, I will invite them to complete and return to me via email an electronic consent form, giving their written consent to participate. Interviews will be arranged either virtually (using Microsoft Teams) or in person at the UEL campus (virtual interviews will be encouraged unless participants are unable to access the appropriate technology or have a strong preference for a face to face interview). Interviews will be semi-structured meaning that an interview schedule (see appendix D) will be used as prompts to encourage participants to talk about their

		experiences (Willig, 2013), and are expected to last between 40 and 90 minutes in length.	
3.9	**Will you be engaging in deception?**	**YES** ☐	**NO** ☒
	If yes, what will participants be told about the nature of the research, and how/when will you inform them about its real nature?	If you selected yes, please provide more information here	
3.10	**Will participants be reimbursed?**	**YES** ☒	**NO** ☐
	If yes, please detail why it is necessary.	If participants travel to the UEL campus for the interview (only expected to be a minority of interviews and will only be offered to those who live in London), they will be offered to be reimbursed for their travel expenses. Participants will also be offered a £15 voucher as a recognition of the time and possible emotional cost it may take to take part in the study.	
	How much will you offer? Please note - This must be in the form of vouchers, not cash.	The value of their travel costs if travelled to the UEL campus and £15 voucher will be offered.	
3.11	**Data analysis:**	The qualitative data gained through the interviews will be analysed using a Reflexive Thematic Analysis (TA) approach, as detailed by Braun and Clarke (2006, 2021).	

Section 4 – Confidentiality, Security and Data Retention

It is vital that data are handled carefully, particularly the details about participants. For information in this area, please see the UEL guidance on data protection, and also the UK government guide to data protection regulations.

If a Research Data Management Plan (RDMP) has been completed and reviewed, information from this document can be inserted here.

4.1	**Will the participants be anonymised at source?**	**YES** ☐	**NO** ☒
	If yes, please provide details of how the data will be anonymised.	The main data for the research will be collected through semi-structured interviews. The majority of interviews are expected to be conducted and	

		recorded over Microsoft Teams, which are then automatically saved onto the lead researchers Microsoft Stream account. A transcription of the interview will be created through Microsoft Teams, checked for accuracy and saved under participant's dedicated participant numbers on the lead researcher's password protected UEL OneDrive for business cloud. At this point, all identifiable information (including names, dates and places) will be removed, and once checked for accuracy the original interview recordings will be permanently erased. A database will be kept detailing participant personal contact information and their corresponding participant numbers up until the point of data analysis. Thus until this point, data will be considered pseudonymised as it is possible for participants to be re-identified using this database. To maximise security of personal information, the spreadsheet which can identify participants will be stored in a separate folder on the lead researcher's UEL OneDrive for business cloud. A minority of interviews may be conducted in person and recorded on a Dictaphone. If this is the case, the researcher will manually transcribe the interview and then delete the original recording – as with interviews conducted on teams, at this point, all identifying information will be removed and transcriptions will be saved under participant number.	
4.2	**Are participants' responses anonymised or are an anonymised sample?**	**YES** ☒	**NO** ☐
	If yes, please provide details of how data will be anonymised (e.g., all identifying information will be removed during transcription, pseudonyms used, etc.).	As detailed above, all identifiable information will be removed (e.g., names, dates and places) from the interview transcripts and participants will be given a participant number. The data will be pseudonymised until data analysis commences as a database will be held linking participant numbers to their contact	

		information for the purpose of enabling participant's to withdraw their data from the study. When the process of data analysis starts, this database will be deleted and participant's responses will be fully anonymised. Demographic data will be used solely to describe and contextualise the sample and will not be linked to individual participants. The 'Motivated Intruder' test (ICO, 2012) will be conducted on a few random transcripts to ensure that the risk of re-identification from the anonymised/ pseudonymised data is minimal.
4.3	**How will you ensure participant details will be kept confidential?**	Only the lead researcher will have access to participant details and these will not be discussed with anyone apart from the Research Supervisor unless a risk to others or to the participant was disclosed within the interview. In such cases, external agencies may be informed, but all participants will be informed of this before commencing the interview and again at the point of disclosure.
4.4	**How will data be securely stored and backed up during the research?** Please include details of how you will manage access, sharing and security	In line with GDPR and the Data Protection Act, all personal data (as well as anonymised/ pseudonymised data) will be kept safe and secured by being saved on the lead researchers UEL OneDrive for business account, accessible to the main researcher only through a password protected user account using Multi-Factor authentication and accessed via the researcher's password protected laptop. Anonymised/ pseudonymised data such as interview transcripts will be shared with the research supervisor by sharing the file securely through the UEL OneDrive for business. Personal data will only be kept for the necessary time period i.e., until data analysis commences or for the duration of the study (for participants who consent to being informed of outcome of study). The amount of personal information collected and

		stored will be kept to a minimum and the majority of the data (e.g., the interview transcripts) will be anonymised/ pseudonymised – all identifiable information (such as names, places, precise dates etc) will be removed. All identifiable information will be stored in a separate folder on the Lead Researcher's UEL Ondedrive for Business cloud. Physical data e.g., physical consent forms will be transferred to digital data, saved on the UEL OneDrive immediately after the interviews are conducted (via scan) and the originals will be shredded/ disposed of in secure confidential waste bins. When a dictaphone has to be used, it will be stored on the person of the lead researcher and the data will be transferred onto the lead researchers secure UEL OneDrive for business before they leave the interview room using the researcher's password protected laptop. The audio file on the dictaphone and in the downloads file of the laptop will then be deleted immediately.
4.5	**Who will have access to the data and in what form?** (e.g., raw data, anonymised data)	The lead researcher will have access to all the data and only data specifically shared by the lead researcher will be accessible to others.
4.6	**Which data are of long-term value and will be retained?** (e.g., anonymised interview transcripts, anonymised databases)	It is expected that some of the research data will hold value after the project has been examined and passed for wider dissemination purposes. It is expected that this will predominately the anonymised transcripts, documents relating to the analysis of the data and information on the sample demographics (not linked to individual participants). All data not considered of long-term value will be deleted off the UEL OneDrive once the project has been completed and passed.
4.7	**What is the long-term retention plan for this data?**	Data of long term value (such as that mentioned above) will be shared with the Thesis Supervisor, Dr Kenneth Gannon, for storage in their UEL OneDrive. All data (apart from the write ups from the project) will be deleted three years after project completion.

		The write up for the project will be uploaded to the UEL Research Depository.	
4.8	**Will anonymised data be made available for use in future research by other researchers?**	**YES** ☐	**NO** ☒
	If yes, have participants been informed of this?	**YES** ☐	**NO** ☐
4.9	**Will personal contact details be retained to contact participants in the future for other research studies?**	**YES** ☐	**NO** ☒
	If yes, have participants been informed of this?	**YES** ☐	**NO** ☐

Section 5 – Risk Assessment

If you have serious concerns about the safety of a participant, or others, during the course of your research please speak with your supervisor as soon as possible. If there is any unexpected occurrence while you are collecting your data (e.g., a participant or the researcher injures themselves), please report this to your supervisor as soon as possible.

5.1	**Are there any potential physical or psychological risks to participants related to taking part?** (e.g., potential adverse effects, pain, discomfort, emotional distress, intrusion, etc.)	**YES** ☒	**NO** ☐
	If yes, what are these, and how will they be minimised?	As the proposed research involves participants potentially sharing difficult or exposing experiences, it is possible that it may lead to distress for participants as well as to the researcher who may bear witness to participants' distress. Participants' distress will be managed sensitively and empathetically within the interviews and participants will be reminded that they can stop and take a break if they need to at any point during the interview if it does feel too distressing. Participants will be	

		signposted to relevant support services if deemed appropriate.		
5.2	**Are there any potential physical or psychological risks to you as a researcher?**	**YES** ☒	**NO** ☐	
	If yes, what are these, and how will they be minimised?	As detailed above, there is a possibility that the researcher may bear witness to participants in distress or hearing difficult experiences through the course of the interviews. The researcher, being a Trainee Clinical Psychologist is well equipped at managing their own difficult feelings whilst having emotionally difficult conversations and will utilise self-care, peer and supervisory relationships when needed and appropriate to manage any distress caused by conducting the interviews.		
5.3	**If you answered yes to either 5.1 and/or 5.2, you will need to complete and include a General Risk Assessment (GRA) form (signed by your supervisor). Please confirm that you have attached a GRA form as an appendix:**	**YES** ☒		
5.4	**If necessary, have appropriate support services been identified in material provided to participants?**	**YES** ☒	**NO** ☐	**N/A** ☐
5.5	**Does the research take place outside the UEL campus?**	**YES** ☒	**NO** ☐	
	If yes, where?	It is expected that the majority of research interviews will take place virtually, on Microsoft Teams but a minority may be conducted at the UEL Stratford Campus.		
5.6	**Does the research take place outside the UK?**	**YES** ☐	**NO** ☒	
	If yes, where?	Please state the country and other relevant details		
	If yes, in addition to the General Risk Assessment form, a Country-	**YES** ☐		

	Specific Risk Assessment form must also be completed and included (available in the Ethics folder in the Psychology Noticeboard). Please confirm a Country-Specific Risk Assessment form has been attached as an appendix. Please note - A Country-Specific Risk Assessment form is not needed if the research is online only (e.g., Qualtrics survey), regardless of the location of the researcher or the participants.	

5.7 **Additional guidance:**

- For assistance in completing the risk assessment, please use the AIG Travel Guard website to ascertain risk levels. Click on ‘sign in’ and then ‘register here’ using policy # 0015865161. Please also consult the Foreign Office travel advice website for further guidance.
- For on campus students, once the ethics application has been approved by a reviewer, all risk assessments for research abroad must then be signed by the Director of Impact and Innovation, Professor Ian Tucker (who may escalate it up to the Vice Chancellor).
- For distance learning students conducting research abroad in the country where they currently reside, a risk assessment must also be carried out. To minimise risk, it is recommended that such students only conduct data collection online. If the project is deemed low risk, then it is not necessary for the risk assessment to be signed by the Director of Impact and Innovation. However, if not deemed low risk, it must be signed by the Director of Impact and Innovation (or potentially the Vice Chancellor).
- Undergraduate and M-level students are not explicitly prohibited from conducting research abroad. However, it is discouraged because of the inexperience of the students and the time constraints they have to complete their degree.

Section 6 – Disclosure and Barring Service (DBS) Clearance

6.1	**Does your research involve working with children (aged 16 or under) or vulnerable adults (*see below for definition)?**	**YES** ☐	**NO** ☒

	If yes, you will require Disclosure Barring Service (DBS) or equivalent (for those residing in countries outside of the UK) clearance to conduct the research project		
	* You are required to have DBS or equivalent clearance if your participant group involves: (1) Children and young people who are 16 years of age or under, or (2) 'Vulnerable' people aged 16 and over with particular psychiatric diagnoses, cognitive difficulties, receiving domestic care, in nursing homes, in palliative care, living in institutions or sheltered accommodation, or involved in the criminal justice system, for example. Vulnerable people are understood to be persons who are not necessarily able to freely consent to participating in your research, or who may find it difficult to withhold consent. If in doubt about the extent of the vulnerability of your intended participant group, speak with your supervisor. Methods that maximise the understanding and ability of vulnerable people to give consent should be used whenever possible.		
6.2	**Do you have DBS or equivalent (for those residing in countries outside of the UK) clearance to conduct the research project?**	**YES** ☐	**NO** ☐
6.3	**Is your DBS or equivalent (for those residing in countries outside of the UK) clearance valid for the duration of the research project?**	**YES** ☐	**NO** ☐
6.4	**If you have current DBS clearance, please provide your DBS certificate number:**	Please enter your DBS certificate number	
	If residing outside of the UK, please detail the type of clearance and/or provide certificate number.	Please provide details of the type of clearance, including any identification information such as a certificate number	
6.5	**Additional guidance:** ▪ If participants are aged 16 or under, you will need two separate information sheets, consent forms, and debrief forms (one for the participant, and one for their parent/guardian). ▪ For younger participants, their information sheets, consent form, and debrief form need to be written in age-appropriate language.		

Section 7 – Other Permissions

7.1	**Does the research involve other organisations (e.g., a school, charity, workplace, local authority, care home, etc.)?**	**YES** ☒	**NO** ☐
	If yes, please provide their details.	The research involves recruiting from parent and toddler groups, public social media platforms and possibly Peanut app (with the Peanut app advertisement team's support) . Permissions and consent will be gathered from any organisation or group involved in recruitment before recruitment commences. Groups will be contacted in batches and recruitment will stop when 12 participants have been recruited. Specifically, groups in Greater London will be contacted initially and then based on response rate, other groups across the UK will be contacted. Once ethics has been approved, groups that consent will be asked to complete an amended consent form to evidence written consent to support with the recruitment for this study. One mother and toddler group of a few initially contacted to check feasibility has responsed (see appendix H). This group and other such groups that respond will be thanked and informed that their support with recruitment can commence once ethical approval has been gained.	
	If yes, written permission is needed from such organisations (i.e., if they are helping you with recruitment and/or data collection, if you are collecting data on their premises, or if you are using any material owned by the institution/organisation). Please confirm that you have attached written permission as an appendix.	**YES** ☒	
7.2	**Additional guidance:**		

	- Before the research commences, once your ethics application has been approved, please ensure that you provide the organisation with a copy of the final, approved ethics application or approval letter. Please then prepare a version of the consent form for the organisation themselves to sign. You can adapt it by replacing words such as 'my' or 'I' with 'our organisation' or with the title of the organisation. This organisational consent form must be signed before the research can commence. - If the organisation has their own ethics committee and review process, a SREC application and approval is still required. Ethics approval from SREC can be gained before approval from another research ethics committee is obtained. However, recruitment and data collection are NOT to commence until your research has been approved by the School and other ethics committee/s.

Section 8 – Declarations

8.1	**Declaration by student. I confirm that I have discussed the ethics and feasibility of this research proposal with my supervisor:**	**YES** ☒
8.2	**Student's name:** (Typed name acts as a signature)	**Emma Hull**
8.3	**Student's number:**	**U2075208**
8.4	**Date:**	**18/04/2022**

Supervisor's declaration of support is given upon their electronic submission of the application

APPENDIX E – Initial ethical approval letter

School of Psychology Ethics Committee

NOTICE OF ETHICS REVIEW DECISION LETTER

For research involving human participants
BSc/MSc/MA/Professional Doctorates in Clinical, Counselling and Educational Psychology

Reviewer: Please complete sections in blue | **Student:** Please complete/read sections in orange

Details

Reviewer:	**Caroline Edmonds**
Supervisor:	**Kenneth Gannon**
Student:	**Emma Hull**
Course:	**Prof Doc in Clinical Psychology**
Title of proposed study:	Please type title of proposed study

Checklist

(Optional)

	YES	NO	N/A
Concerns regarding study aims (e.g., ethically/morally questionable, unsuitable topic area for level of study, etc.)	☐	☐	☐
Detailed account of participants, including inclusion and exclusion criteria	☐	☐	☐
Concerns regarding participants/target sample	☐	☐	☐
Detailed account of recruitment strategy	☐	☐	☐
Concerns regarding recruitment strategy	☐	☐	☐
All relevant study materials attached (e.g., freely available questionnaires, interview schedules, tests, etc.)	☐	☐	☐
Study materials (e.g., questionnaires, tests, etc.) are appropriate for target sample	☐	☐	☐
Clear and detailed outline of data collection	☐	☐	☐
Data collection appropriate for target sample	☐	☐	☐

If deception being used, rationale provided, and appropriate steps followed to communicate study aims at a later point	☐	☐	☐
If data collection is not anonymous, appropriate steps taken at later stages to ensure participant anonymity (e.g., data analysis, dissemination, etc.) – anonymisation, pseudonymisation	☐	☐	☐
Concerns regarding data storage (e.g., location, type of data, etc.)	☐	☐	☐
Concerns regarding data sharing (e.g., who will have access and how)	☐	☐	☐
Concerns regarding data retention (e.g., unspecified length of time, unclear why data will be retained/who will have access/where stored)	☐	☐	☐
If required, General Risk Assessment form attached	☐	☐	☐
Any physical/psychological risks/burdens to participants have been sufficiently considered and appropriate attempts will be made to minimise	☐	☐	☐
Any physical/psychological risks to the researcher have been sufficiently considered and appropriate attempts will be made to minimise	☐	☐	☐
If required, Country-Specific Risk Assessment form attached	☐	☐	☐
If required, a DBS or equivalent certificate number/information provided	☐	☐	☐
If required, permissions from recruiting organisations attached (e.g., school, charity organisation, etc.)	☐	☐	☐
All relevant information included in the participant information sheet (PIS)	☐	☐	☐
Information in the PIS is study specific	☐	☐	☐
Language used in the PIS is appropriate for the target audience	☐	☐	☐
All issues specific to the study are covered in the consent form	☐	☐	☐
Language used in the consent form is appropriate for the target audience	☐	☐	☐
All necessary information included in the participant debrief sheet	☐	☐	☐
Language used in the debrief sheet is appropriate for the target audience	☐	☐	☐
Study advertisement included	☐	☐	☐
Content of study advertisement is appropriate (e.g., researcher's personal contact details are not shared, appropriate language/visual material used, etc.)	☐	☐	☐

Decision options

APPROVED	Ethics approval for the above-named research study has been granted from the date of approval (see end of this notice), to the date it is submitted for assessment.
APPROVED - BUT MINOR AMENDMENTS ARE REQUIRED <u>BEFORE</u> THE RESEARCH COMMENCES	In this circumstance, the student must confirm with their supervisor that all minor amendments have been made **<u>before</u>** the research commences. Students are to do this by filling in the confirmation box at the end of this form once all amendments have been attended to and emailing a copy of this decision notice to the supervisor. The supervisor will then forward the student's confirmation to the School for its records.

	Minor amendments guidance: typically involve clarifying/amending information presented to participants (e.g., in the PIS, instructions), further detailing of how data will be securely handled/stored, and/or ensuring consistency in information presented across materials.
NOT APPROVED - MAJOR AMENDMENTS AND RE-SUBMISSION REQUIRED	In this circumstance, a revised ethics application **must** be submitted and approved **before** any research takes place. The revised application will be reviewed by the same reviewer. If in doubt, students should ask their supervisor for support in revising their ethics application. **Major amendments guidance:** typically insufficient information has been provided, insufficient consideration given to several key aspects, there are serious concerns regarding any aspect of the project, and/or serious concerns in the candidate's ability to ethically, safely and sensitively execute the study.

Decision on the above-named proposed research study

Please indicate the decision:	**APPROVED**

Minor amendments

Please clearly detail the amendments the student is required to make

Just a note and not a condition – you can use Teams to record in person interviews too – just set the meeting to "start now" and record. That might make your transcription easier.

Major amendments

Please clearly detail the amendments the student is required to make

Assessment of risk to researcher

Has an adequate risk assessment been offered in the application form?	**YES** ☒	**NO** ☐
	If no, please request resubmission with an **adequate risk assessment.**	
If the proposed research could expose the researcher to any kind of emotional, physical or health and safety hazard, please rate the degree of risk:		
HIGH	Please **do not approve a high-risk** application. Travel to countries/provinces/areas deemed to be high risk should not be permitted and an application not be approved on this basis. If unsure, please refer to the Chair of Ethics.	☐
MEDIUM	Approve but include appropriate recommendations in the below box.	☐
LOW	Approve and if necessary, include any recommendations in the below box.	☒
Reviewer recommendations in relation to risk (if any):	Please insert any recommendations	

Reviewer's signature

Reviewer: (Typed name to act as signature)	Caroline Edmonds
Date:	**03/05/2022**

This reviewer has assessed the ethics application for the named research study on behalf of the School of Psychology Ethics Committee

RESEARCHER PLEASE NOTE

For the researcher and participants involved in the above-named study to be covered by UEL's Insurance, prior ethics approval from the School of Psychology (acting on behalf of the UEL Ethics Committee), and confirmation from students where minor amendments were required, must be obtained before any research takes place.

For a copy of UEL's Personal Accident & Travel Insurance Policy, please see the Ethics Folder in the Psychology Noticeboard.

Confirmation of minor amendments

(Student to complete)

I have noted and made all the required minor amendments, as stated above, before starting my research and collecting data

Student name: (Typed name to act as signature)	Please type your full name
Student number:	Please type your student number
Date:	Click or tap to enter a date

Please submit a copy of this decision letter to your supervisor with this box completed if minor amendments to your ethics application are required

Appendix F – Approved ethics amendment form

School of Psychology Ethics Committee

REQUEST FOR AMENDMENT TO AN ETHICS APPLICATION

For BSc, MSc/MA and taught Professional Doctorate students

Please complete this form if you are requesting approval for proposed amendment(s) to an ethics application that has been approved by the School of Psychology

Note that approval must be given for significant change to research procedure that impact on ethical protocol. If you are not sure as to whether your proposed amendment warrants approval, consult your supervisor or contact Dr Trishna Patel (Chair of School Ethics Committee).

How to complete and submit the request

1	Complete the request form electronically.
2	Type your name in the 'student's signature' section (page 2).
3	When submitting this request form, ensure that all necessary documents are attached (see below).
4	Using your UEL email address, email the completed request form along with associated documents to Dr Trishna Patel: t.patel@uel.ac.uk
5	Your request form will be returned to you via your UEL email address with the reviewer's decision box completed. Keep a copy of the approval to submit with your dissertation.
6	Recruitment and data collection are **not** to commence until your proposed amendment has been approved.

Required documents

A copy of your previously approved ethics application with proposed amendment(s) added with track changes.	**YES** ☒
Copies of updated documents that may relate to your proposed amendment(s). For example, an updated recruitment notice, updated participant information sheet, updated consent form, etc.	**YES** ☒
A copy of the approval of your initial ethics application.	**YES** ☒

Details

Name of applicant:	**Emma Hull**
Programme of study:	**Doctorate in Clinical Psychology**
Title of research:	Motherhood after infertility – how do women who conceived through Assisted Reproductive Procedures after experiencing infertility describe their experiences of the first year of motherhood?
Name of supervisor:	**Dr Ken Gannon**

Proposed amendment(s)

Briefly outline the nature of your proposed amendment(s) and associated rationale(s) in the boxes below

Proposed amendment	**Rationale**
Expanding the inclusion criteria.	Currently, only mothers who have given birth after assisted reproductive procedures 1-3 years ago (i.e., their child needs to be between one and three years old at time of recruitment) are eligible to take part in the study. My initial rational for this was to ensure participants had good recall of the first year of motherhood but on reflection I feel it is too restrictive especially as I am recruiting through mother and toddler groups/ nurseries which can go up to 4/5 years old. I would therefore like to expand it to include those who have had their child 4-5 years ago as I think this would help with recruitment (I have had a few people email interested to participate who are within this age range) and it is unlikely that this additional time would impact recall ability significantly.
Proposed amendment	Rationale for proposed amendment
Proposed amendment	Rationale for proposed amendment
Proposed amendment	Rationale for proposed amendment

Confirmation

Is your supervisor aware of your proposed amendment(s) and have they agreed to these changes?	**YES** ☒	**NO** ☐

Student's signature

Student: (Typed name to act as signature)	**Emma Hull**
Date:	**20/08/2022**

Reviewer's decision

Amendment(s) approved:	**YES** ☒	**NO** ☐
Comments:	Please enter any further comments here	
Reviewer: (Typed name to act as signature)	**Trishna Patel**	
Date:	**22/08/2022**	

APPENDIX G – Finalised study Advertisement

University of East London

Early Motherhood after infertility

Are you a mother who has given birth to a child through IVF (or other methods of assisted conception) in the last five years? If so, we are interested to hear about your experiences of the first year of motherhood.

We are doing this research as currently there is a lack of knowledge about how previous experiences of infertility may impact on women's experiences of early motherhood and what, if any, further support may be needed.

For more information or to express an interest in taking part in this research please get in contact with Emma Hull, Trainee Clinical Psychologist and Lead Researcher by emailing u2075208@uel.ac.uk.

A £15 Amazon gift voucher will be offered to those who participate.

APPENDIX H – Sample recruitment email sent to nurseries

Dear [Nursery's name]

I am a Trainee Clinical Psychologist and researcher currently doing my doctorate thesis looking at the experience of early motherhood after conceiving through IVF (or other methods of assisted conception). I am trying to recruit for my study from across the UK and wondered whether you would be happy to put the attached poster up at your nursery or share it on to parents/carers?

Please let me know if you have any questions about the study.

Many thanks and best wishes,

Emma

Emma Hull
Trainee Clinical Psychologist
University of East London

APPENDIX I – Participant Information Sheet

Participant information sheet

Version: 2
Date: 26/08/2022

PARTICIPANT INFORMATION SHEET

Early motherhood after infertility

Contact person: Emma Hull
Email: u2075208@uel.ac.uk

You are being invited to participate in a research study. Before you decide whether to take part or not, please carefully read through the following information which outlines what your participation would involve. Feel free to talk with others about the study (e.g., friends, family, etc.) before making your decision. If anything is unclear or you have any questions, please do not hesitate to contact me on the above email.

Who am I?

My name is Emma and I am a Trainee Clinical Psychologist currently studying for my Doctorate in Clinical Psychology at the University of East London (UEL). As part of my Doctorate, I am conducting the research that you are being invited to participate in.

What is the purpose of the research?

As you will know, experiencing infertility and infertility treatments can be incredibly stressful, and for many can lead to high levels of distress, often prolonged by the need for multiple cycles of treatment and lengthy waits. Within the research base there is a relatively good understanding on how individuals and couples experience infertility and infertility treatment but there is much less of an understanding about how the distress associated with infertility and infertility treatment may impact on individuals once they have become parents. This study aims to explore how women describe their experiences of new motherhood after experiencing infertility and becoming pregnant through Assisted Reproductive Procedures (ARPs - the most common of which being IVF).

It is hoped that a greater understanding can be gained of whether women experience particular difficulties or areas of strength during the first year of their child's life which they describe as being related to their previous experiences of infertility and infertility treatment, as well as, what may have helped them in overcoming any of specific difficulties during this period. It is hoped that this will help inform services of the particular needs of women who become mothers through infertility treatment as well as normalising such experiences to other women who may go through similar experiences in the future.

Why women/ mothers and not all parents?

Research on the impact of infertility and infertility treatment has shown that women often experience more distress than their non-child bearing partners. The transition to motherhood is also thought to bring up specific challenges for women that may not be experienced to the same extent by the father/ non-child bearing parent. Therefore, the current study concentrates on better understanding the experience of new motherhood after infertility. We do however recognise the significant impact that infertility can have on the father/ non-child bearing parent and hope that future research will be able to explore the impact that infertility may have on new fathers/ non-childbearing parents.

Why have I been invited to take part?

I am inviting mothers of young children, conceived through ARPs to take part. You are eligible to take part if you are:

- A mother of a child between one and five years of age who was conceived by ARPs (such as IVF) after experiencing infertility (diagnosed by a medical professional, due to any reason including male factor infertility)
- A fluent English speaker

It is entirely up to you whether you take part or not, participation is voluntary.

What will I be asked to do if I agree to take part?

If you agree to take part, you will be asked to:

- Complete a consent form, giving your written consent to take part in the study,
- Attend an interview where you will be invited to share your experiences of the first year of new motherhood. This can either be online via Microsoft Teams or in person at the UEL Stratford Campus, depending on your own personal preference. Interviews are expected to last between 40 and 90 minutes, depending on how much you wish to share.

Travel costs can be reimbursed if travelling to an on-campus interview.

Can I change my mind?

Yes, you can change your mind at any time and withdraw without explanation, disadvantage or consequence. If you would like to withdraw from taking part in the interview, you can do so by contacting me via the following email: u2075208@uel.ac.uk. If you withdraw, your data will not be used as part of the research.

Separately, you can also request to withdraw your data from being used even after you have taken part in the study, provided that this request is made within three weeks of the data being collected (after which point the data analysis will begin, and withdrawal will not be possible).

Are there any disadvantages to taking part?

Depending on your experience of the road to becoming a mother and new motherhood, the interviews may be emotionally distressing. You will be supported in the interview with any distressing feelings that our discussions bring up. All participants will be given information about general ways of accessing support services as part of the process of debriefing after the interview and if appropriate I will also signpost you to a specific support service in your local area.

How will the information I provide be kept secure and confidential?

You as a participant in this study will not be identified by the data collected, or any material resulting from the data collected, including in any write up of the research.

Recordings of interviews will be saved onto the UEL secure Onedrive Cloud. They will be transcribed (meaning a written document of what was said in the interview is created), you will be given a participant number and all information that could identify you will removed and the original recording will be deleted. Consent forms will be saved on the UEL secure Onedrive Cloud and only accessible to the lead Researcher. Your contact information will be kept securely on the UEL Onedrive and will only be accessible by the lead researcher for the duration of the study. After the study has been completed, due to be in September 2023, all personally identifiable information about you will be deleted. The exception to this would be if further research is likely to be conducted by the researchers and you have given your consent to be contacted for this purpose.

Anonymised data (e.g., data without any personal identifiers) will be shared securely (e.g. via internal email) to the project supervisor and Thesis examinators as appropriate.

For the purposes of data protection, the University of East London is the Data Controller for the personal information processed as part of this research project. The University processes this information under the ‘public task’ condition contained in the General Data Protection Regulation (GDPR). Where the University processes particularly sensitive data (known as ‘special category data’ in the GDPR), it does so because the processing is necessary for archiving purposes in the public interest, or scientific and historical research purposes or statistical purposes. The University will ensure that the personal data it processes is held securely and processed in accordance with the GDPR and the Data Protection Act 2018. For more information about how the University processes personal data please see www.uel.ac.uk/about/about-uel/governance/information-assurance/data-protection

What will happen to the results of the research?
The research will be written up as a thesis and submitted for assessment. The thesis will be publicly available on UEL’s online Repository. Findings may also be disseminated to a range of audiences (e.g., academics, clinicians, public, etc.) through journal articles, conference presentations, talks, magazine articles, blogs. In all material produced, your identity will remain anonymous, in that, it personally identifying information will either be removed or replaced.

You will be given the option to receive a summary of the research findings once the study has been completed for which relevant contact details will need to be provided.

Anonymised research data will be securely stored by Dr Ken Gannon, the University Tutor supervising this research, for a maximum of 3 years, following which all data will be deleted.

Who has reviewed the research?
My research has been approved by the School of Psychology Research Ethics Committee. This means that the Committee’s evaluation of this ethics application has been guided by the standards of research ethics set by the British Psychological Society.

Who can I contact if I have any questions/concerns?
If you would like further information about my research or have any questions or concerns, please do not hesitate to contact me via email on u2075208@uel.ac.uk.

If you have any questions or concerns about how the research has been conducted, please contact my research supervisor Dr Ken Gannon. School of Psychology, University of East London,
Water Lane, London E15 4LZ,
Email: K.N.Gannon@uel.ac.uk

or

Chair of School Research Ethics Committee: Dr Trishna Patel, School of Psychology, University of East London, Water Lane, London E15 4LZ.
(Email: t.patel@uel.ac.uk)

Thank you for taking the time to read this information sheet

APPENDIX J – Participant Consent Form

Participant consent form

University of
East London

CONSENT TO PARTICIPATE IN A RESEARCH STUDY

Early motherhood after infertility

Contact person: Emma Hull
Email: u2075208@uel.ac.uk

	Please initial
I confirm that I have read the participant information sheet dated 25/01/2022 (version 1) for the above study and that I have been given a copy to keep.	
I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.	
I understand that my participation in the study is voluntary and that I may withdraw at any time, without explanation or disadvantage.	
I understand that if I withdraw during the study, my data will not be used.	
I understand that I have 3 weeks from the date of the interview to withdraw my data from the study.	
I understand that the interview will be recorded using Microsoft Teams (or a Dictaphone for in person interviews).	
I understand that my personal information and data, including audio/video recordings from the research will be securely stored and remain confidential. Only the research team will have access to this information, to which I give my permission.	
It has been explained to me what will happen to the data once the research has been completed.	

I understand that short, anonymised quotes from my interview may be used in material such as conference presentations, reports, articles in academic journals resulting from the study and that these will not personally identify me.	
I would like to receive a summary of the research findings once the study has been completed and am willing to provide contact details for this to be sent to.	
I agree to take part in the above study.	

Participant’s Name (BLOCK CAPITALS)

……

Participant’s Signature

……

Researcher’s Name (BLOCK CAPITALS)

……

Researcher’s Signature

……

Date

……………………..………

APPENDIX K – Approved ethics application title change request form

University of East London

School of Psychology Ethics Committee

REQUEST FOR TITLE CHANGE TO AN ETHICS APPLICATION

For BSc, MSc/MA and taught Professional Doctorate students

Please complete this form if you are requesting approval for a proposed title change to an ethics application that has been approved by the School of Psychology

By applying for a change of title request, you confirm that in doing so, the process by which you have collected your data/conducted your research has not changed or deviated from your original ethics approval. If either of these have changed, then you are required to complete an 'Ethics Application Amendment Form'.

How to complete and submit the request

1	Complete the request form electronically.
2	Type your name in the 'student's signature' section (page 2).
3	Using your UEL email address, email the completed request form along with associated documents to Dr Jérémy Lemoine (School Ethics Committee Member): j.lemoine@uel.ac.uk
4	Your request form will be returned to you via your UEL email address with the reviewer's decision box completed. Keep a copy of the approval to submit with your dissertation.

Required documents

A copy of the approval of your initial ethics application.	**YES** ☒

Details

Name of applicant:	**Emma Hull**

Programme of study:	**Doctorate in Clinical Psychology**
Title of research:	Motherhood after infertility – how do women who conceived through Assisted Reproductive Procedures after experiencing infertility describe their experiences of the first year of motherhood? (old title)
Name of supervisor:	**Dr Ken Gannon**

Proposed title change

Briefly outline the nature of your proposed title change in the boxes below

Old title:	Motherhood after infertility – how do women who conceived through Assisted Reproductive Procedures after experiencing infertility describe their experiences of the first year of motherhood?
New title:	Experiences of early motherhood following successful reproductive procedures
Rationale:	Original title was thought to be too wordy

Confirmation

Is your supervisor aware of your proposed change of title and in agreement with it?	**YES** ☒	**NO** ☐
Does your change of title impact the process of how you collected your data/conducted your research?	**YES** ☐	**NO** ☒

Student's signature

Student: (Typed name to act as signature)	**Emma Hull**
Date:	**16/02/2023**

Reviewer's decision

Title change approved:	**YES** ☒	**NO** ☐
Comments:	The wording of the new title is better than the original one. It will not impact the process of how the data are collected or how the research is conducted.	

Reviewer: (Typed name to act as signature)	**Dr Jérémy Lemoine**
Date:	**17/02/2023**

APPENDIX L – Participant debrief sheet

Debrief sheet

PARTICIPANT DEBRIEF SHEET

Early motherhood after infertility

Thank you for participating in my research study on the experiences of the first year of motherhood after previously experiencing infertility. This document offers information that may be relevant in light of you having now taken part.

How will my data be managed?

The University of East London is the Data Controller for the personal information processed as part of this research project. The University will ensure that the personal data it processes is held securely and processed in accordance with the GDPR and the Data Protection Act 2018. More detailed information is available in the Participant Information Sheet, which you received when you agreed to take part in the research.

What will happen to the results of the research?

The research will be written up as a thesis and submitted for assessment. The thesis will be publically available on UEL's online Research Repository. Findings will also be disseminated to a range of audiences (e.g., academics, clinicians, public, etc.) through journal articles, conference presentations, talks, magazine articles, blogs. In all material produced, your identity will remain anonymous, in that, it will not be possible to identify you personally (personally identifying information will either be removed or replaced).

You will be given the option to receive a summary of the research findings once the study has been completed for which relevant contact details will need to be provided.

Anonymised research data will be securely stored by Dr Kenneth Gannon for a maximum of 3 years, following which all data will be deleted.

What if I have been adversely affected by taking part?

It is not anticipated that you will have been adversely affected by taking part in the research, and all reasonable steps have been taken to minimise distress or harm of any kind. Nevertheless, it is possible that talking about your experiences may have been challenging, distressing or uncomfortable in some way.

There are a few charities and organisations offering psychological support and resources for mums – two of such are listed below:

- https://www.mums-aid.org
- https://mothersformothers.co.uk

You may also find this blog post by Julianne Boutaleb, Consultant Perinatal Psychologist helpful: https://www.fertilityhelphub.com/blog/wellbeing/parenting-after-infertility/

If talking about your experiences has brought up difficult feelings that you feel you need therapeutic support with, we would recommend talking to your GP who can signpost or refer you on to Mental Health services in your local area.

Who can I contact if I have any questions/concerns?

If you would like further information about my research or have any questions or concerns, please do not hesitate to contact me via email on u2075208@uel.ac.uk.

If you have any questions or concerns about how the research has been conducted, please contact my research supervisor Dr Kenneth Gannon. School of Psychology, University of East London,
Water Lane, London E15 4LZ,
Email: K.N.Gannon@uel.ac.uk

or

Chair of School Research Ethics Committee: Dr Trishna Patel, School of Psychology, University of East London, Water Lane, London E15 4LZ.
(Email: t.patel@uel.ac.uk)

Thank you for taking part in my study

APPENDIX M – Data Management Plan

UEL Data Management Plan

Completed plans <u>must</u> be sent to researchdata@uel.ac.uk for review

If you are bidding for funding from an external body, complete the Data Management Plan required by the funder (if specified).

Research data is defined as information or material captured or created during the course of research, and which underpins, tests, or validates the content of the final research output. The nature of it can vary greatly according to discipline. It is often empirical or statistical, but also includes material such as drafts, prototypes, and multimedia objects that underpin creative or 'non-traditional' outputs. Research data is often digital, but includes a wide range of paper-based and other physical objects.

Administrative Data	
PI/Researcher	Emma Hull
PI/Researcher ID (e.g. ORCiD)	0000-0002-2290-0064
PI/Researcher email	U2075208@uel.ac.uk
Research Title	How do women who conceived through Assisted Reproductive Procedures after experiencing infertility describe their experiences of the first year of motherhood?
Project ID	N/A
Research start date and duration	January 2022 – September 2023

Research Description	The proposed study aims to fill a current gap in the literature by qualitatively exploring how women who have previously experienced infertility, and conceived through Assisted Reproductive Procedures (ARPs), experience the first year of motherhood. The transition to motherhood is known as being a difficult period for many women, with high rates of perinatal mental health difficulties (Bauer et al., 2014), and it is important that we better understand the experiences of this potentially vulnerable group of new mothers. Women will be recruited to partake in semi-structures interviews about their experiences from parenting groups on popular social media platforms. Data gained from interviews will be analysed using a Reflexive Thematic Analysis approach (Braun & Clarke, 2006, 2021a) to generate themes which encapsulate the experiences of the women interviewed.
Funder	N/A – part of professional doctorate
Grant Reference Number (Post-award)	N/A
Date of first version (of DMP)	25/01/2022
Date of last update (of DMP)	
Related Policies	UEL Research Data Management Policy UEL Data Backup Policy UEL Statement on Research Integrity UEL Statement on Research Ethics The Data Protection Act
Does this research follow on from previous research? If so, provide details	N/A
Data Collection	

What data will you collect or create?	- Spreadsheet of contact information for participants and their assigned participant numbers in .xlsx format, contains personal information. - Spreadsheet used during recruitment process including the names and contact information (email addresses and phone numbers) of individuals who express an interest in the project/ asked a query in .xlsx format, contains personal information. - Consent forms and demographic forms either completed in .docx format or printed out and completed by hand and then saved in .pdf format. Contains personal data. - A spreadsheet of demographic information for participants (i.e., age of child, fertility treatments undertaken) recorded next to their corresponding participant number in .xlsx format, containing some personal information (but no names, address or contact information). - Verbal interview recordings in .mp4 format (12 files, approx.. 4.8GB total), contains both personal and special category data related to women's personal experiences of infertility and early motherhood. - Pseudonymised written transcripts in .docx format – hard copies may be printed during data analysis. - Documents in .dox format pertaining to the analysis and write up of the data.
How will the data be collected or created?	The first data collected during this project will be during the recruitment process. A spreadsheet will be created to record the contact information of individuals who express an interest in taking part in the study or ask a query (i.e., those who contact the researcher via their UEL email address). This is to keep track of everyone who gets in contact with the researcher about the project and ensure that no one is missed. It is also to ensure if more than twelve individuals express an interest, that the first twelve women are invited to be interviewed and then in the case a participant withdraws, the next interested person can then be contacted. This spreadsheet will be stored on the researchers private UEL OneDrive for business under the organising structure detailed later on in this section. The main data for the research will be collected through semi-structured interviews with roughly 12 women who have become mothers after experiencing infertility. The interviews will be semi-structured and an interview schedule has been developed to guide discussion. Due to the explorative nature of this research project, the interview schedule is only intended as a guide to facilitate discussion and participants will be encouraged to share their experiences freely (i.e., not rigidly bound by the interview

	schedule). Interviews will predominately be conducted and recorded remotely using Microsoft Teams installed on the interviewer's laptop although a minority of interviews may be conducted in person on the UEL Stratford Campus. If interviews are conducted virtually over Microsoft Teams, participants will complete a consent form electronically in .docx format and return it in a .pdf format. If interviews are conducted in person, the .docx consent form will be printed out and completed in person by the participant. These physical forms will be scanned using a UEL machine before the researcher leaves the research lab/ UEL campus and saved in .pdf format on the researcher's UEL OneDrive for business. The physical consent forms will then be shredded/ put in confidential waste bins before leaving the UEL campus. All downloaded copies (before being uploaded onto the UEL OneDrive will be erased). The interviews are expected to last between 40 and 90 minutes in length and will be conducted either over Microsoft Teams or in person (where they will be recorded on Microsoft Teams if logistically possible or on a Dictaphone). If I Dictaphone is used, the recordings will be uploaded onto the researchers UEL OneDrive for business immediately after the interview (on the researchers personal laptop before leaving the interview room) and will then be immediately erased from the Dictaphone device. Any copies in the Downloads folder on the researcher's personal laptop will be erased immediately after upload to their UEL OneDrive for business cloud. If interviews are conducted and recorded on Teams, an auto-transcription of the recording will be downloaded from Teams and checked through for accuracy. At the point of transcription, all identifying information will be removed and the file will be saved under the assigned participant number. The recording, saved by Teams automatically on Microsoft Stream will then be deleted. If interviews are conducted in person and recorded via Dictaphone, they will be manually transcribed by the lead researcher using a word document saved in the researchers UEL OneDrive for business (although it is expected that the majority of interviews will be conducted, recorded and transcribed through Microsoft Teams). Again, at this point all identifying information will be removed from the data and the original recording will be erased from the UEL OneDrive when the transcription is completed.

	Demographic information (e.g. how far into new motherhood they are and types of ARPs they underwent) will be asked as part of the interview and recorded into the demographics spreadsheet by the researcher during transcription. This data will be used to contextualise the sample and not linked to specific participants during the write up of the research. All data will be saved on the Lead Researcher’ UEL OneDrive for business cloud. Two overarching folders have been created. One which will house all the pseudonymised data titled “Thesis Project” and one which will hold any identifiable information, tilted “Sensitive thesis related data”, stored for the purposes of participants being able to withdraw/ be contacted about the results of this project or to be invited to take part in future research. The folder “Thesis Project” will be further sub-divided into the following sub-folders: <ins>Data analysis</ins> – which will hold documents involved the analysis of the data. The data will be analysed using Thematic Analysis so this may involve documents involved in coding the data and identifying initial themes/ sub-themes from the data. These are likely to be mainly word documents. <ins>Interview Transcripts</ins> – which will hold the twelve pseudonymised interview transcript in .doc format (saved by participant number i.e., P1- P12). <ins>Participant demographics</ins> – this folder will contain the spreadsheet of participant demographics (such as age, number of cycles of ARPs), alongside their corresponding participant number. Demographic information will be kept to a minimum with only that deemed most relevant to this study collected. <ins>Project write up</ins> – this folder will include all documentation corresponding to the write up of the project. Documents within this are expected to mainly be in word format. The folder “Sensitive thesis related data” will be further divided into the following two sub-folders: <ins>Participant contact information and consent forms</ins> – which will hold the spreadsheet of contact information for participants and their assigned participant number as well as signed consent forms saved in .pdf format. <ins>Recruitment documents and queries</ins> – this folder will hold all documents involved in the recruitment process, such as advertisements, copies of emails with social media groups and the spreadsheet of individuals who have expressed an interest in the project/ asked a query about the project used.

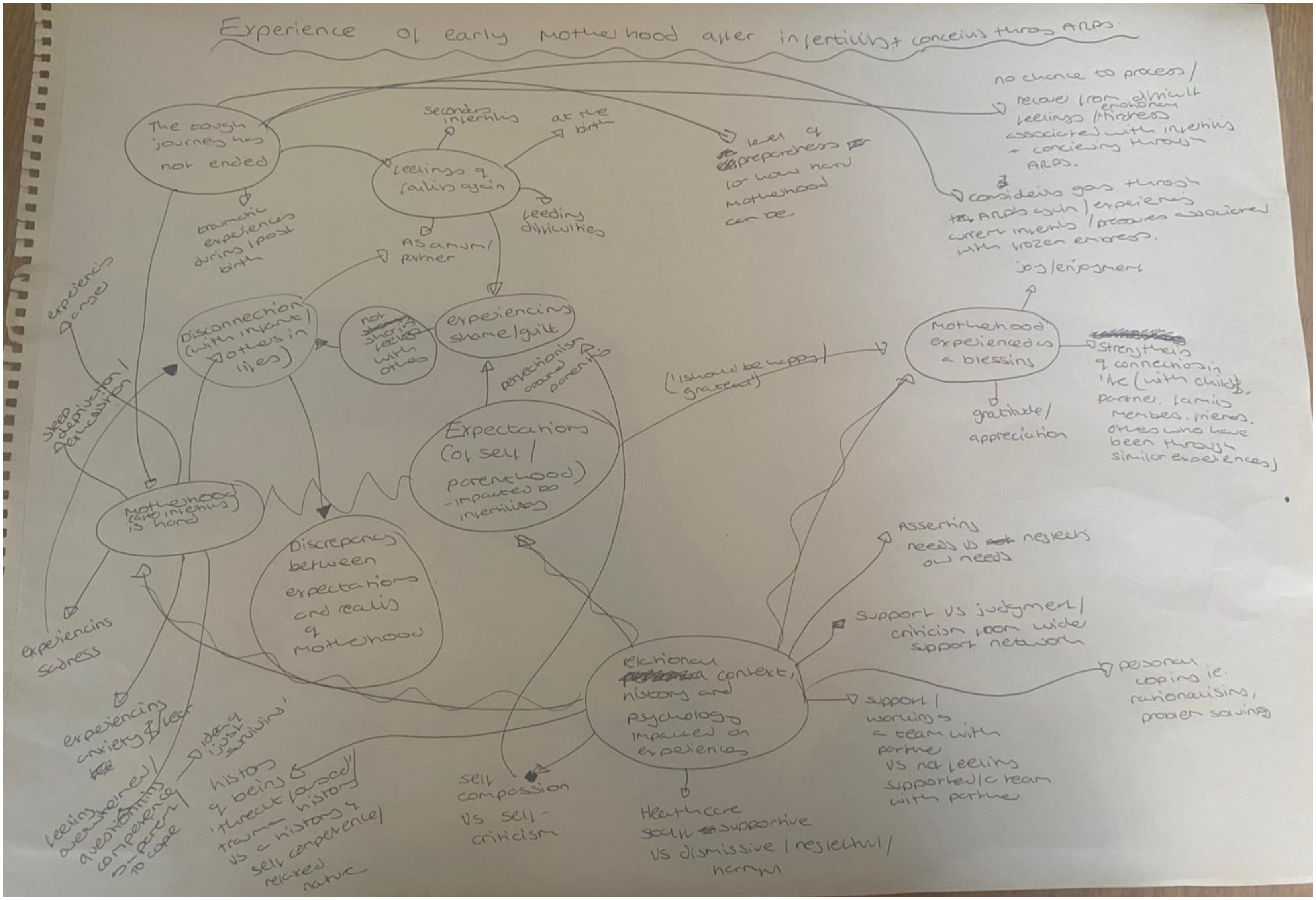
	These two folders will containe all the sensitive and identifiable information about participants/ potential participants and will thus be stored separately to the pseudonymised data.
Documentation and Metadata	
What documentation and metadata will accompany the data?	Participant information sheets, recruitment advertisement/ poster, consent forms, demographic sheets, debrief sheet, list of interview questions.
Ethics and Intellectual Property	
Identify any ethical issues and how these will be managed	Ethics approval will be sought from the University of East London (UEL) School of Psychology Research Ethics Committee (SREC). Before agreeing to take part in the research study, all participants will be given a Participant Information Sheet which details how their data will be kept secure, anonymised/ pseudonymised and confidential as well as how it may be used for the project write up and other future dissemination activities. This is to ensure that they are fully informed about how their data will be used and stored before agreeing to take part in the study. In line with GDPR and the Data Protection Act, all personal data (as well as pseudonymised data) will be kept safe and secured by being saved on the lead researchers UEL OneDrive for business account, accessible to the main researcher through a password protected user account using Multi-Factor authentication and accessed via the researcher's password protected laptop. Personal data will only be kept for the necessary time period i.e., the duration of the project or for those who consent to being contacted for future research, for up to three years after the completion of the project. The only time personal identifiable data may be shared will be when transferring it over to the project supervisor (Dr Kenneth Gannon) for secure storage after the project has been completed. This will be shared securely through the UEL OneDrive for business.

	The amount of personal information collected and stored will be kept to a minimum and the majority of the data (e.g., the interview transcripts) will be pseudonymised – all identifiable information (such as names, places, precise dates etc) will be removed but participants can still be identified if needed (e.g., to withdraw their data or to contact them about future research) using the participant contact information spreadsheet. All identifiable information will be stored in a separate folder as detailed previously. The 'Motivated Intruder' test (ICO, 2012) will be conducted on a few random transcripts to ensure that the risk of re-identification from the pseudonymised data is minimal. After data collection has been completed and data analysis commenced, the spreadsheet linking participant numbers with their contact information will be deleted, making the data anonymised. Data collected will only be used for the purpose of the current research project and future dissemination activities. Participants will be given the option to consent for their personal contact information to be used to contact them about future research projects. If participants do not consent, their personal contact information will not be used for this purpose.
Identify any copyright and Intellectual Property Rights issues and how these will be managed	N/A
Storage and Backup	
How will the data be stored and backed up during the research?	All data will be stored on the UEL Microsoft OneDrive. The exception of this is video recordings of interviews on Teams which will be stored by default on the UEL Microsoft Stream Library. Once an transcription from this recording has been downloaded and checked for accuracy, the original video recordings will be deleted from Microsoft Stream. Total data size is not expected to exceed the UEL personal OneDrive allowance.

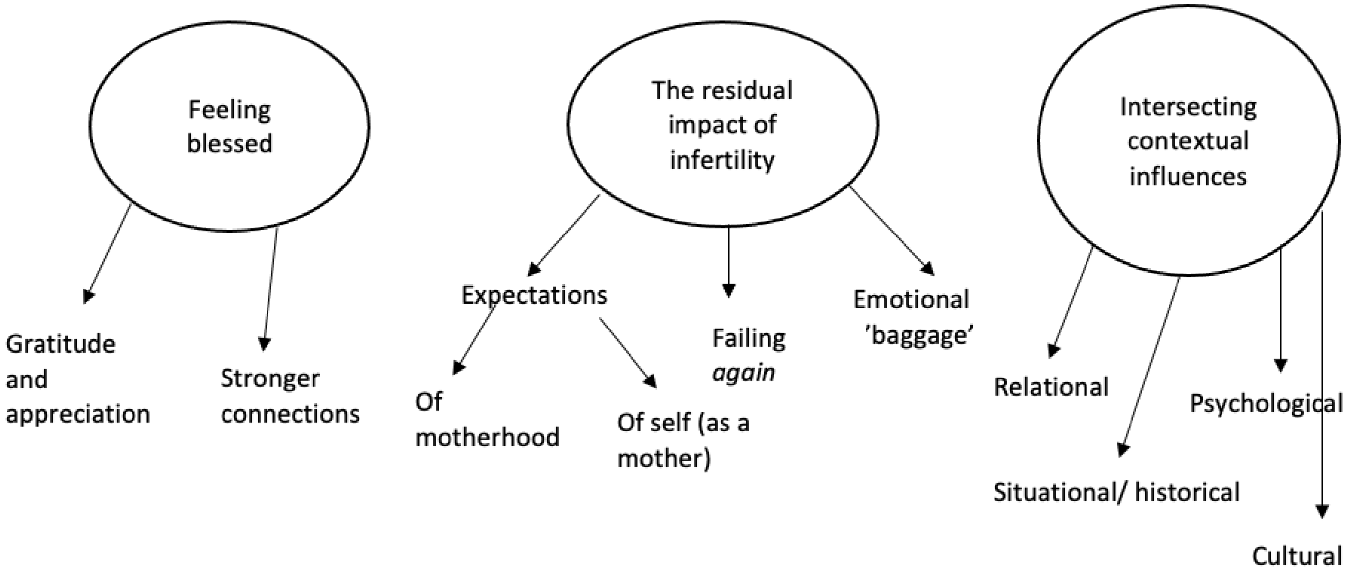
How will you manage access and security?	During the course of the study, the researcher will collect and be the only person with access to data which can identify participants (i.e., contact details for participant). All data will be saved on the secure UEL OneDrive and will only be accessible to the main researcher through a password protected user account using Multi-Factor authentication and accessed via the researcher's password protected laptop. Physical data e.g., physical consent forms will be transferred to digital data, saved on the UEL OneDrive immediately after the interviews are conducted (via scan) and the originals will be shredded/ disposed of in secure confidential waste bins. When a Dictaphone has to be used, it will be stored on the person of the lead research and the data will be transferred onto the lead researchers secure UEL OneDrive for business before they leave the interview room using the researchers password protected laptop. The audio file on the Dictaphone and in the downloads file of the laptop will then be deleted immediately. Anonymised/ pseudonymised data such as interview transcripts will be shared with the research supervisor by sharing the file securely through the UEL OneDrive for business.
Data Sharing	
How will you share the data?	Anonymised data including anyomised interview transcripts and relevant demographic data will be included in the final write- up of the research project, relevant extracts of which may be included in any subsequent dissemination of the project. The final write up of the project will be shared publicly through the UEL's Research Repository.
Are any restrictions on data sharing required?	Only anonymised/ pseudonymised data will be shared.
Selection and Preservation	

Which data are of long-term value and should be retained, shared, and/or preserved?	It is expected that some of the research data will hold value after the project has been examined and passed for wider dissemination purposes. It is expected that this will predominately the anonymised transcripts, documents relating to the analysis of the data and information of the sample demographics. All data not considered of long-term value will be deleted off the UEL OneDrive once the project has been completed and passed.
What is the long-term preservation plan for the data?	Data of long term value (such as that mentioned above) will be shared with the Thesis Supervisor, Dr Kenneth Gannon, for storage in their UEL OneDrive. All data (apart from the write ups from the project) will be deleted three years after project completion. The write up for the project will be uploaded to the UEL Research Depository.
Responsibilities and Resources	
Who will be responsible for data management?	Emma Hull (Principal researcher) Dr Ken Gannon (Thesis Supervisor)
What resources will you require to deliver your plan?	Access to UEL Microsoft 365 suite including OneDrive for Business.
Review	
	Please send your plan to researchdata@uel.ac.uk **We will review within 5 working days and request further information or amendments as required before signing**
Date: 31/03/2022	Reviewer name: Penny Jackson Assistant Librarian (Research Data Management)

Appendix N – Photo of thematic mapping



Appendix O – Visual representation of the initial thematic map



Appendix P – Extract from reflective journal

20th February 2023

One thing I have wondered throughout writing my introduction is my choice to use medicalised language e.g. *infertility* mainly throughout as opposed to other terms such as *unchosen childlessness* as well as adopting a medicalised definition of infertility. Many researchers have suggested a different conceptualisation of unchosen childlessness as being a social problem i.e., in how society holds certain expectations around the inevitability and supposed ease around conceiving. I had read arguments that using a medical conceptualisation of infertility can place fault in bodies of individuals (largely women) rather than exploring assumptions in society around conception. For some reason, although I hear the point of such arguments, I struggle myself to completely disconnect from a medical understanding of infertility. I think I have an assumption that one of the main drives for all human (as all animals) essentially is to reproduce and so difficulties reproducing are likely to represent something wrong in the biological systems of that individual. My whole life I have experienced narratives around animals lives being focused around reproducing (e.g. David Attenborough documentaries) and perceive us as humans as essentially no different from any other animal in that respect. I do buy into the idea that certain social conditions are increasing rates of infertility e.g. cost of living, capitalism and the drive to having children later in life once careers have been established, cultures becoming more independent (e.g. with neoliberalism) but I am not sure I buy into the idea around the problem being in societies expectations that everyone will be able to conceive. I feel that there are biological realities in play when it comes to infertility and the very respect that surgical and hormone treatments as well as IVF can result in conception I think solidifies this way of viewing unchosen childlessness for me. This undoubtably has impacted on my research however as I have taken a critical realist approach- seeing the presence of a child and infertility as an objective reality/ truth and exploring women's experiences of having a child after infertility. Others, taking a different approach may have instead taken a more social constructionist approach, looking at how infertility has been construction in societies.

Undoubtably however, at times it may seem as if I am aligning myself with the medical or scientific approach – I think that is the dominant conceptualisation of infertility in the UK socioeconomic context and I guess this is where as Braun and Clarke talk about, my research will be very much situated within a certain context.

<u>Liberal political identity:</u>
Initially I wondered how this has impacted on my specific research project. I guess I come from a socialist position of wanting to ensure that all receive appropriate support from a national health care system and a big motivator for my research is helping enhance understanding of such women in the UK so that it could be disseminated within NHS structures and hopefully eventually lead to a change in how women and supported or how women's experiences are normalised.

My research is arguably mainly shining a light on gender based oppressions– rather than intersectional analyses and this reflects my own areas of privilege and oppression (being generally privileged apart from with respect to my gender). This is the context my research is therefore situated in. No one took part in my research study from a racialised group which I thought was interesting in itself.

1st March 2023

I am starting on the process of my TA for my thesis and right now I am feeling daunted by the analytic process of TA, especially with the time limit I have around the upcoming thesis deadline. There is also some excitement about the creative process that TA will represent and the possibility of creating something wonderful.

Reflecting on some of the mums stories through re-familiarising myself with the data, they overcame so much looking after their new born infants and going through infertility, I in a way feel quite inspired by them and all that they have overcome and so incredibly grateful for them for sharing everything they have with me.