

INTENDED PARENTS' EXPERIENCES OF SURROGACY

**Intended Parents' Experiences of Surrogacy: A Systematic Review and Meta-Synthesis**

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### **Abstract**

Surrogacy is a process in which a woman agrees to carry a pregnancy for another individual or couple, known as the intended parent(s), to raise. The use of surrogacy is increasing across the globe, though accessing this treatment can be challenging for some intended parents.

Surrogacy raises legal and ethical questions that are not easily answered. Much of the surrogacy literature is comprised of small retrospective studies, often focusing on surrogates' motivations and experiences or the relationship between surrogates and intended parents.

There is a growing body of research into intended parents' experiences, particularly for same-sex fathers and those using transnational surrogacy. However to date, no review of qualitative literature focusing solely on intended parents' experiences exists. To address this gap six databases were searched with one study found through manual searching resulting in 1006 studies after removal of duplicates; after screening for eligibility and appraising study quality, 25 studies remained. Using a meta-aggregative approach, this meta-synthesis, explores the lived experiences of intended parents who have or were undergoing surrogacy. Specifically, this study focuses on the (i) reasons intended parents pursue surrogacy, (ii) barriers and facilitators intended parents encounter, (iii) how intended parents manage ambiguity and a loss of control during the surrogacy process and (iv) intended parents' perceptions of support. Developing a deeper understanding of intended parents' experiences, may help shape policies for more ethical and equitable access to surrogacy and support during family formation. Implications of the findings are discussed, along with suggestions for future research.

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### **Declaration**

This thesis contains no material which has been accepted for the award of any other degree of diploma in any University, and, to the best of my knowledge, this thesis contains no material previously published except where due reference is made.

I give permission for the digital version of this thesis to be made available on the web, via the University of Adelaide's digital thesis repository, the Library Search and through web search engines, unless permission has been granted by the School to restrict access for a period of time.

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### **Contribution Statement**

My supervisor and I conceived and refined the idea of a study on intended parents' experiences of surrogacy. After reviewing the literature, I developed the specific research aims.

Together we created logic grids for the data bases searches and I then met with a research librarian, Vikki Langton, to refine the search terms. I ran all searches under my supervisor's guidance and we co-screened a selection of titles and abstracts before I completed the remainder of the screening texts. Furthermore, we co-evaluated a small sample of eligible studies for methodological reporting quality before I completed this assessment.

I completed the data extraction and with support from my supervisor undertook the analysis and developed the synthesised findings. The final findings were refined through discussion with my supervisor. I wrote up all aspects of the thesis.



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To my kids, I love you more than I can ever express. Thank you for the chats, cuddles, and for never letting me forget what is really important in life.

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## INTRODUCTION

### Overview

Parenthood is highly desired around the world; across cultural and ethnic boundaries becoming a parent is an expectation for many (Johnson et al., 2014; Zandi, Vanaki, Shiva et al., 2014). This desire is often considered a natural biological instinct (Edelmann, 2004; Hammond, 2018; Riggs & Bartholomaeus, 2016), and there is often an assumption that becoming pregnant is a simple, straightforward process. Unfortunately, this is not the case for many individuals and couples, leading them to turn to the medical community for assistance (Edelmann, 2004; Johnson et al., 2014). This may include seeking fertility treatments culminating in surrogacy. The literature has explored in detail the experiences of surrogates and the legal and ethical implications of surrogacy (Berk, 2015; Hovav, 2019; Johnson et al., 2012). This thesis seeks to expand the growing body of research on the experiences of intended parents (IPs).

### Defining Surrogacy

The use of assisted reproductive technologies (ART), including surrogacy is increasing worldwide, although exact figures are unknown (Edelmann, 2004; Gunnarsson Payne et al., 2020; Johnson et al., 2014). Surrogacy is when a woman (the surrogate) agrees to gestate a fetus for an individual or couple (Montrone & Sherman, 2020) through ART methods such as artificial insemination or in vitro fertilisation (IVF). Surrogacy allows women (either single or partnered) with infertility or men (either single or with a same-sex partner) the opportunity to become parents often, but not always, with a genetic link to the potential child.

Two forms of surrogacy exist; traditional surrogacy occurs when the surrogate becomes pregnant using her ovum and the gametes of the intended father or donor.

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Conception may occur through at home insemination or intrauterine insemination (IUI) in a clinical setting (Norton et al., 2015). In this type of surrogacy, the surrogate is genetically related to the child. Gestational surrogacy occurs when the surrogate becomes pregnant through the use of IVF with third-party gametes, usually from the intended mother and/or the intended father, but donor gametes may also be used (Norton et al., 2015).

From a contractual point of view, two types of surrogacy exist, altruistic and commercial. In many parts of the world, including Australia, only altruistic surrogacy is legally permitted (Everingham et al., 2014; Johnson et al., 2014). Altruistic surrogacy is an arrangement where the surrogate agrees to carry the fetus without financial compensation, although some jurisdictions allow IPs to pay for reasonable pregnancy-related expenses (Everingham et al., 2014). Commercial surrogacy occurs when the surrogate receives financial payment, above pregnancy-related costs incurred, in exchange for carrying the fetus (Everingham et al., 2014; Montrone & Sherman, 2020).

### **Motivations for Surrogacy**

Having children is an important milestone in many cultures, and in some it is central to the identity of womanhood (Hammond, 2018; Golboni, 2020; Zandi, Vanaki, Shiva et al., 2014; Zandi et al., 2018). When fertility problems arise, the effects on an individual or couple can be devastating. IPs may feel they are disappointing their partner or are a failure; this can be especially true for women who see motherhood as an essential part of their identity as a woman (Hammond, 2018; Zandi et al., 2018). Individuals with infertility need to come to terms with and grieve this loss of identity. Some women have likened the diagnosis of infertility to a death in the family (Hammond, 2018; Papaligoura et al., 2015). Notably, men

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have been under-represented in research concerning experiences of infertility and pregnancy loss, making generalisations difficult.

Before the advent of ART, people with infertility had limited options, accepting childlessness or pursuing adoption. Now more than ever, there is hope for those experiencing infertility, with many clinics worldwide offering ART treatments with promising results (Gezinski et al., 2017). Despite the innovations in this field, overcoming infertility is not a guaranteed outcome (Berk, 2015; Kleinpeter, 2002). Fertility treatment can be a lengthy process, with interventions becoming increasingly medicalised (Edelmann, 2004; Gezinski et al., 2018). Each failed treatment can contribute to feelings of stress and anxiety in addition to grief (Kleinpeter, 2002; Kleinpeter et al., 2006; Papligoura et al., 2015; Riggs et al., 2015). IPs may have undertaken years of fertility treatment before finally deciding to embark on surrogacy (Edelmann, 2004; Everingham et al., 2014; MacCallum et al., 2003). For others, medical conditions such as cancer or the absence of a uterus, mean surrogacy is their only option for a genetically related child (Deomampo, 2015; Kleinpeter, 2002; Montrone & Shermann, 2020). As with other ART treatments, surrogacy does not guarantee parenthood (Mitra & Schicktanz, 2016).

Women who have complex gynaecological histories may be more cognizant of possible complications related to surrogacy (Papligoura et al., 2015). Studies have shown that surrogates are more confident of a successful outcome (i.e., gestating and delivering a healthy baby) than intended mothers who have previously experienced fertility problems (Montrone et al., 2020; Papligoura et al., 2015; van den Akker, 2005). Montrone et al. (2020) argues that intended mothers, having been the patient during previous ART attempts, may struggle to let go of this role in favour of the surrogate, who is the patient for the duration of the pregnancy.

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It is important to understand how this transition is experienced and what strategies individuals or couples employ to manage it. This knowledge will allow health professionals to prepare IPs better and support them through surrogacy.

It is important to recognise that single or gay men may also utilise surrogacy for family formation (Blake et al., 2017; Carone et al., 2017b; Nebeling Petersen, 2018). In many cases, adoption is unfeasible for same-sex couples due to discriminatory practices or prohibition by law (Nebeling Petersen, 2018; Riggs, 2016; Ziv & Freund-Eschar, 2015). In some jurisdictions, access to surrogacy can be just as prohibitive for single or gay men (Carone et al., 2017b; Johnson et al., 2014; Ziv & Freund-Eschar, 2015). This leads some men to pursue transnational surrogacy, which can be emotionally and legally challenging (Johnson et al., 2014; Ziv & Freund-Eschar, 2015).

### **Ethical Dilemma**

Using surrogacy in family formation raises complex emotional and ethical issues for stakeholders, including IPs, surrogates and healthcare providers (Joseph et al., 2018). It has been argued that surrogacy, particularly commercial surrogacy, exploits vulnerable women (Saravanan, 2013; Tremellen & Everingham, 2016). Exploitation narratives have often been linked to transnational commercial surrogacy, where the "consumers" of medical care are the IPs rather than the surrogate (Hovav, 2020). Researchers have shown that surrogates in places like India or Mexico have very little power and are subjected to exploitative practices (Hovav, 2019, 2020; Saravanan, 2013). This is the justification for Australian laws criminalising transnational commercial surrogacy (Johnson, 2014; Tremellen & Everingham, 2016). In making a case for legalising commercial surrogacy within Australia, Tremellen and Everingham (2016) suggest "the risk of such exploitation can be prevented via strict

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guidelines governing surrogate selection criteria" (p. 561) coupled with the counselling requirements already in place for IPs and surrogates.

There is also concern for surrogate's physical and psychological wellbeing (Joseph et al., 2018). This concern is due to the increased medical risks associated with surrogacy (Birenbaum-Carmeli & Montebruno, 2019; Joseph et al., 2018; Phillips et al., 2019). Birenbaum-Carmeli and Montebruno (2019) found the incidence of multiple births to be higher in gestational surrogacy even when compared to women receiving other fertility treatments. Multiple births are known to increase pregnancy-related risks; despite this, some IPs search for surrogates willing to assume the risk (May & Tenzek, 2016). The subsequent relinquishment of the baby is also problematic, with concerns that the surrogate will suffer psychological harm (Joseph et al., 2018; Tremellen & Everingham, 2016). However, Jadva et al. (2015) found that ten years post delivery, surrogates reported high levels of self esteem and better than average relationships with partners. This suggests that such fears may be unfounded but further research is needed.

### **Identifying the research gap**

The research to date has primarily focused on surrogate psychological characteristics, motivations and experiences (Jadva et al., 2015; Teman & Berend, 2018). This focus has been important given the risks and burden for the surrogate (Joseph et al., 2018; Phillips et al., 2019). However, research including IPs has been limited, often focusing on their relationship to surrogates or their motivations for pursuing surrogacy (Gunnarsson Payne et al., 2020; Hammarberg et al., 2015; Jadva, 2020; van den Akker, 2007). While these are important factors to consider, it is necessary investigate IPs' experiences more fully. This is a growing

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field of research with many researchers investigating single and gay men's experiences of surrogacy (Blake et al., 2017; Carone et al., 2017b; Murphy, 2013; Riggs et al., 2015).

### **Summary and Research Aims**

Several studies have highlighted many difficulties in pursuing surrogacy such as legal processes, fear of stigma and a lack of support (Golboni et al., 2020; Gezinski et al., 2018; Zandi, Vanaki, Mohammadi et al., 2014; Zandi et al., 2018). Many IPs are unaware of some of these barriers when they begin surrogacy, leading to even more challenges after the baby arrives, particularly in transnational surrogacy (Gezinski et al., 2018; Zandi, Vanaki, Mohammadi et al., 2014). When IPs are supported, studies have shown they face fewer barriers to surrogacy, or are more easily able to overcome them. Examples of support are education from clinics, online support groups and close family or friends (Arvidsson et al., 2018; Hammarberg et al., 2015; Gezinski et al., 2018). The perception of support appears related to how surrogacy and motherhood are viewed within the IPs' culture. Zandi et al. (2018) noted that intended mothers felt insecure about their role in the family due to beliefs that family creation is the woman's role and fear being stigmatised if it became known that a surrogate was used. In countries with bans on or severe restrictions to surrogacy, IPs report feeling unsupported and questioned as parents (Arvidsson et al., 2019; Deomampo; 2015).

While not specifically investigated in studies to date, financial resources or life experiences may help mitigate the barriers faced by IPs. Everingham et al. (2014) suggest that IPs' ability to overcome these obstacles to access surrogacy is linked to their financial capabilities. The literature indicates many IPs who use surrogacy are from upper middle class backgrounds (Everingham et al., 2014; Hammarberg et al., 2015, Montrone et al., 2020; Navarro, 2020; Nebeling Petersen, 2018). Studies have consistently shown that IPs are

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generally older, more educated and more likely to work in professional fields than surrogates (Fantus, 2020; Fantus & Newman, 2019; Fantus, 2021; Montrone et al., 2020). It would be interesting to know how many potential IPs are excluded from surrogacy due to a lack of financial security, but this is beyond the scope of this meta-synthesis.

To date, surrogacy studies have reported on specific areas of the surrogacy process, such as IPs' motivations in pursuing surrogacy and the relationship between IPs and surrogates over time. Many of the studies have small sample sizes and are retrospective in nature. Systematic literature reviews on surrogacy are limited and to the author's knowledge none have reported solely on IPs' experiences. Given the complexity of surrogacy arrangements, it is important to understand these perspectives. Therefore, this thesis aims to synthesise the qualitative data regarding IPs' first-hand experiences of surrogacy to provide a holistic view of surrogacy centred on the IPs' experiences. This meta-synthesis will address this aim with the following research questions (1) What are IPs' reasons for pursuing surrogacy? (2) What barriers and facilitators have IPs faced? (3) How have IPs coped with ambiguity or a lack of control throughout the process? (4) What are IPs' perceptions of support? Further, this meta-synthesis also aims to provide practical guidelines for healthcare professionals to better educate and support IPs.

### **Method**

#### **Design**

There are different approaches and terms used to describe the synthesis of qualitative research (Barnett-Page & Thomas, 2009). This thesis is a systematic review and meta-synthesis of qualitative research using a meta-aggregative approach. The meta-aggregative approach mirrors quantitative approaches like randomised controlled trials and in particular



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meta-analysis (Kent & Fineout-Overholt, 2008; Munn et al., 2014). A protocol to guide the research is set out a priori to ensure the meta-synthesis is rigorous, systematic and transparent (Hannes & Lockwood, 2011; Kent & Fineout-Overholt, 2008; Lockwood et al., 2015). This approach means end users can be confident in the reliability of the findings presented in the review.

Meta-aggregation is a pragmatic approach to meta-synthesis, which aims to support evidence based practice (Hannes & Lockwood, 2011; Lockwood et al., 2015). This is done by synthesising findings to produce recommendations or guidelines, often known as "lines of action"(Hannes & Lockwood, 2011). A strength of meta-aggregation is that these "lines of action" are informed by multiple studies making the findings more robust than those from a single study (Kent & Fineout-Overholt, 2008; Korhonen et al., 2012). In addition, this approach does not reinterpret the results of the primary studies but rather consolidates the findings of the original researchers in one place (Lockwood et al., 2015; Hannes & Lockwood, 2011). Another strength is that it is sensitive to the nature of qualitative research in developing an in-depth understanding of an individual's lived experience (Lockwood et al., 2015; Tong et al., 2012).

### **Search Strategy**

The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines were followed throughout the process (Page et al., 2021). Six databases (PubMed, PsycINFO, Embase, CINAHL, Sociological Abstracts and Scopus) were searched from inception until late April 2021 to identify and retrieve studies reporting IPs' lived experiences of surrogacy. Alerts were set to identify studies published after the search date to be reviewed for possible inclusion. The search strategy used key words such as "surrogacy", "intended

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parent", "lived experience", "qualitative" and relevant variants were combined via Boolean logic (Table 1; See Appendix A for full logic grids). A research librarian was also consulted to improve the accuracy of the search. Further, the reference lists of included studies were manually searched to ensure no eligible study was missed.

**Table 1**

*Search Terms and Boolean (Logical) Operators used in the Database Searches*

	<i>Surrogacy</i>	<i>Intended Parent</i>	<i>Qualitative</i>
	traditional surrogacy gestational surrogacy altruistic surrogacy commercial surrogacy	parent intend* parent* commission* parent* intend* mother* intend* father* commission* mother* commission* father* intend* famil*	qualitative* focus group* interview* thematic analys* lived experience* personal experience* interpretative phenomenology* analys* ethnograph* case stud* narrative*

Notes. Search terms included stated terms in both singular and plural forms.

### Eligibility Criteria and Study Selection

Studies were included for review if they (1) reported the experiences of IPs who are contemplating, undergoing or have undergone surrogacy, (studies including the perspectives of surrogates or healthcare providers and IPs were eligible if IPs' experiences were reported separately and in sufficient detail for analysis); (2) reported original data; (3) reported qualitative data, (mixed-methods studies were eligible if IPs' experiences were reported separately and in sufficient detail for analysis); and (4) were published in English in a peer-reviewed journal. Studies were considered as qualitative if data collection involved qualitative methods including, but not limited to, focus groups and interviews, or analysed data using

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qualitative methods including, but not limited, to thematic analysis, interpretive phenomenological analysis and content analysis.

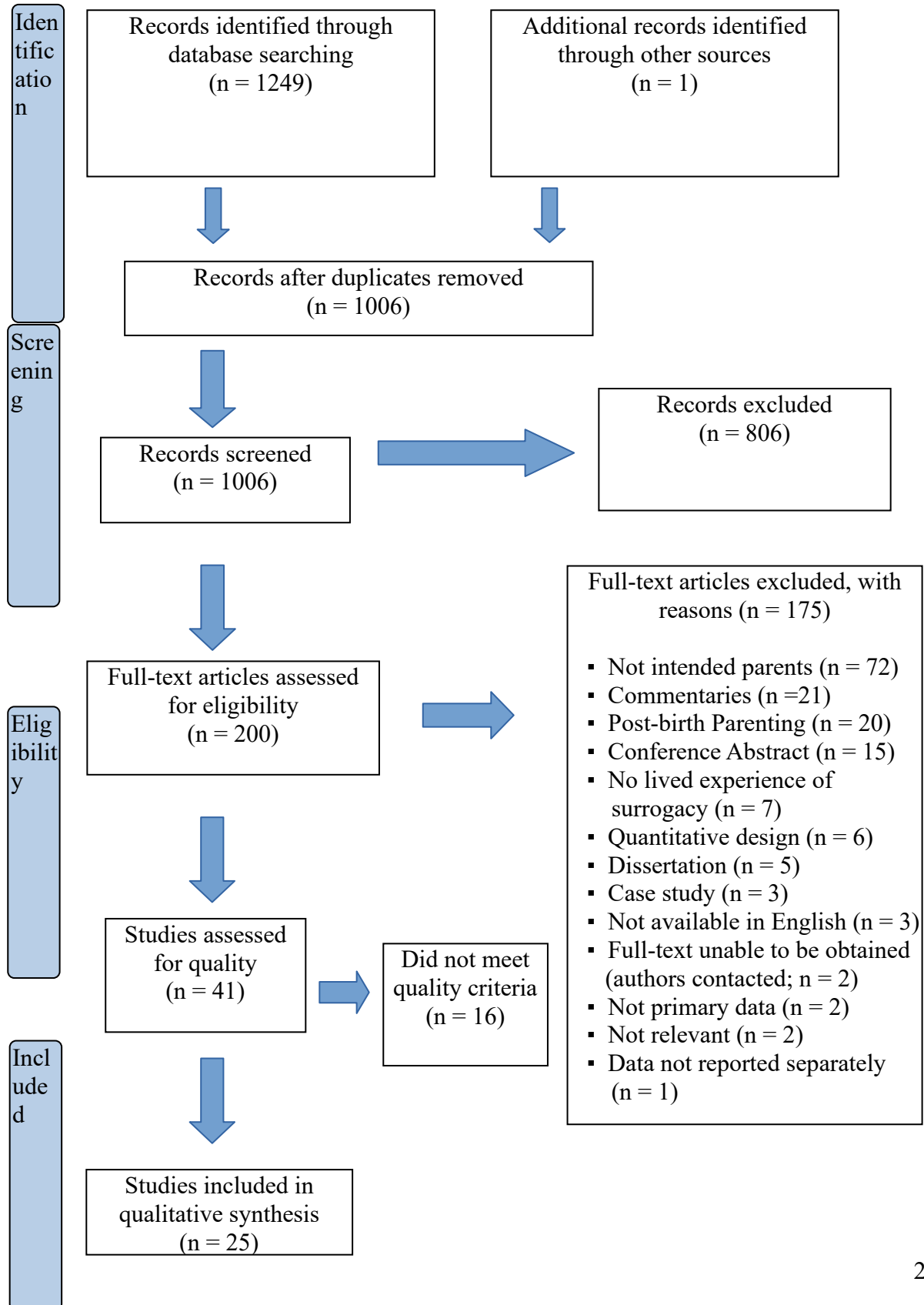
Studies were excluded if they used quantitative methods only, reported only quantitative data, were published in a language other than English, did not report primary data (i.e., opinion pieces, book reviews and editorials), were not full articles (i.e. conference abstracts) or were not published in a peer reviewed journal.

The initial search identified 1249 studies (Figure 1) that were imported to EndNoteX9 for screening. A total of 244 duplicates were removed, and one study was found through other sources, resulting in 1006 studies to be screened by title and abstract. After assessing the studies against the inclusion criteria, 806 were excluded. To minimise data selection bias, the author and the research supervisor co-screened a randomly selected sample of 125 studies for eligibility (approximately 10% of citations for title and abstract screening). Inter-rater agreement was high (97%,  $K = .91$ ,  $p < .05$ ) with any disagreement resolved through discussion. The full-text of 200 potentially eligible studies were assessed against the inclusion criteria. A further 172 did not meet the criteria; two studies were unable to be retrieved (emails were sent to the original authors but no response was received), and one study did not report IP and surrogate data separately (the author was contacted but could not isolate the IP data for analysis). Following this process, 41 studies were deemed eligible for inclusion and were assessed for methodological reporting quality appraisal, 16 studies were excluded, leaving 25 studies included in the meta-synthesis.

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**Figure 1**

*PRISMA Flowchart of Study Selection Process (Page et al., 2021)*



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### Quality Appraisal

Assessing the quality of studies in a qualitative review is an area of ongoing controversy (Kmet et al., 2004; Korhonen et al., 2012; Lockwood et al., 2015; Tong et al., 2012). Some reviewers, believe that quality assessments should not be included due to the subjective nature of qualitative research (Lockwood et al., 2015). Others believe that assessing the quality of the studies under review improves engagement with the work (Pearson et al., 2011) while also demonstrating the credibility and transferability of the review findings (Hannes & Lockwood, 2011; Lockwood et al., 2015; Pearson et al., 2011).

Quality assessment is an important part of meta-aggregation as studies with methodological flaws could adversely impact the synthesised findings (Hannes & Lockwood, 2011). The QualSyst Quality Assessment Checklist is a reliable tool for assessing the quality of studies with high inter-rater reliability (Kmet et al., 2004). For these reasons, it was used for this research. This instrument is a checklist that assesses the methodological rigour of qualitative studies across ten areas for internal validity. The author and research supervisor independently screened a sample of randomly selected studies; each study was assessed against the checklist criteria ("yes" = 2, "partial" = 1, and "no" = 0). A summary score was calculated for each study by summing the total score and dividing by twenty (the total possible), with possible scores in the range of 0-1, where a higher score indicates higher quality. Kmet et al. (2004) suggest two minimum thresholds for inclusion, a conservative cut-off at .75 and a liberal cut-off at .55. After assessing 41 eligible studies for quality, more than half scored .75 or above, with the remaining 16 scoring between .25 - .65. Only the 25 studies with a quality score of .75 or above were included in this meta-synthesis.

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### **Data Extraction and Synthesis**

As stated above PRISMA guidelines were followed throughout; data was extracted from the eligible articles using a study-specific data extraction sheet (See Appendix B). The extracted data included information relating to: (i) sample demographics (i.e., age, gender, culture/ethnicity), (ii) study characteristics (location, study context), (iii) surrogacy characteristics (i.e., reasons, altruistic/commercial, relationship to surrogate), and (iv) verbatim accounts of surrogacy experiences. In the case of incomplete or missing data, the original authors of eligible studies were contacted for clarification. This thesis also applied the Enhancing Transparency in Reporting the Synthesis of Qualitative Research (ENTREQ; Tong et al., 2012) framework, a 21-item checklist, in reporting the synthesis (Appendix C).

A meta-aggregative approach to data synthesis was used. The extracted findings were grouped into categories based on their similarity in meaning (Hannes & Lockwood; 2011; Korhonen et al., 2012; Lockwood et al., 2015). These categories were refined into synthesised findings related to their similarity (Hannes & Lockwood; 2011; Korhonen et al., 2012; Lockwood et al., 2015). Where possible, findings were extracted verbatim as themes identified by authors of the primary studies and extracts to illustrate the findings were collected. If the included studies did not include definitive statements regarding identifiable themes, findings were extracted from the study narrative through discussion by the author and the research supervisor.

## **RESULTS**

### **Study characteristics**

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Twenty-five studies were included in this meta-synthesis (Table 2). The studies were published between 2006 and 2021 and conducted by a range of countries around the world. 'Western' nations such as the United States ( $N_{studies} = 6$ ) and Sweden ( $N_{studies} = 3$ ) comprise more than half the sample ( $N_{studies} = 18$ ). A smaller number of studies came from two countries in the Middle East, Iran ( $N_{studies} = 3$ ) and Israel ( $N_{studies} = 2$ ). In more than half of the studies, surrogacy occurred in India ( $N_{studies} = 13$ ), while slightly less than half occurred in the United States ( $N_{studies} = 11$ ). The sample sizes ranged from 4 to 74 with most studies having between 10 and 20 ( $N_{studies} = 14$ ) participants.

### **Participant characteristics**

The total sample comprised 475 intended parents ( $N_{studies} = 25$ ). Participants were aged 20 - 55 years based on 159 participants ( $N_{studies} = 9$ ), with a mean of 41.03 years based on 224 participants ( $N_{studies} = 11$ ) and a standard deviation of 5.74 based on 159 participants ( $N_{studies} = 7$ ). Men made up more than half the sample with 275 participants ( $N_{studies} = 13$ ), including nine studies investigating single or gay fatherhood through surrogacy. Further demographic details can be found in Table 3.

Gestational surrogacy was the most used surrogacy arrangement (118 participants;  $N_{studies} = 6$ ). Transnational surrogacy was also common being used by 118 participants ( $N_{studies} = 8$ ), with 72 participants travelling to the United States ( $N_{studies} = 6$ ) or India ( $N_{studies} = 6$ ) for surrogacy. Table 4 provides information regarding participants' surrogacy arrangements.

**Table 2***Characteristics of Included Studies (n = 25)*

Lead Author (Year)	Country of Lead Author	Location of Surrogacy	Sample Size (n = 475)	Recruitment Strategy	Methodology		Summary Quality Score
					Data Collection	Data Analysis	
Arvidsson (2019)	Sweden	India, USA, Northern Europe	20 <sup>a</sup>	An advertisement was sent to the administrators of two infertility websites, snowball sampling and word of mouth.	Semi-structured interviews	Thematic Analysis	.75
Arvidsson (2015)	Sweden	India, USA, Northern Europe	20 <sup>a</sup>	Infertility Non-government organisations, snowball sampling	Semi-structured interviews	Thematic Analysis	.90
Blake (2017)	UK	USA	74	Recruited through surrogacy agencies specializing in working with gay men, social events and snowball sampling	Semi-structured interviews	Content Analysis	.90
Carone (2017a)	Italy	USA, Canada, India, Thailand	33	From an association of gay parents, Facebook groups of single parents and snowballing	Semi-structured interviews	Thematic Analysis, Content Analysis, Fisher's Exact Test	.90
Carone (2017b)	Italy	USA, Canada	30	Snowball sampling within the Rainbow Families association	Semi-structured interviews	Interpretative Phenomenological Analysis	.95



Deomampo (2013)	USA	India	39 <sup>a</sup>	Clinics staff contacted eligible patients and snowball sampling	Fieldwork, participant observation, semi-structured and unstructured interviews	Ethnography	.90
Deomampo (2015)	USA	India	39 <sup>a</sup>	Online sources (i.e. public surrogacy blogs), doctor's clinics and word of mouth	Participant observation, semi-structured interviews	Ethnography	.75
Fantus (2020)	Canada	Canada	15 <sup>a</sup>	Advertisements distributed across same-sex parenting groups, surrogacy group listservs and social media	Semi-structured interviews	Interpretative Phenomenological Analysis	.90
Fantus (2019)	Canada	Canada	15 <sup>a</sup>	Advertisements distributed across lesbian, gay, bisexual and transgender (LGBT) organisations, online surrogacy consulting services and social media.	Semi-structured interviews	Interpretative Phenomenological Analysis	.90
Fantus (2021)	Canada	Canada	15 <sup>a</sup>	Advertisements distributed across same-sex parenting groups, online surrogacy consulting services and social media and snowball sampling	Semi-structured interviews	Interpretative Phenomenological Analysis	.90
Gezinski (2018)	USA	India, Mexico, Thailand, USA	10	Four international surrogacy networking not for profits and support groups circulated study information on Facebook groups	Semi-structured interviews	Interpretative Phenomenological Approach	.90
Kleinpeter (2006)	USA	USA	26	The clinic sent out letters with the study details to clients.	Semi-structured interviews, Client Satisfaction Questionnaire	Content Analysis	.75

Malmquist (2020)	Sweden	USA, Eastern Europe	22	A Facebook group for gay fathers and the Swedish National Association for Homosexual, Bisexual, Transsexual and Queer Rights (RFSL) circulated an advertisement through social media channels and email. The researchers also posted the ad to their private Facebook pages. Snowball sampling	Semi-structured interviews	Discursive Analysis	.85
Maya (2019)	Israel	USA, Canada, Southeast Asia, Mexico	39	Leaders from the LGBT community facilitated contact with potential participants in addition to surrogacy agencies and gay parents' websites	Semi-structured interviews	Phenomenology	.95
Pande (2015)	South Africa	India	12 <sup>b</sup>	Referrals through clinic staff and snowball sampling <sup>c</sup>	Open-format interview, fieldwork, participant observation	Ethnography	.85
Pande (2011)	South Africa	India	8 <sup>b</sup>	Not specified	Interviews, fieldwork, participant observation	Ethnography	.75
Papaligouras (2015)	Greece	Greece	7	Two fertility clinics in the cities of Athens and Thessaloniki.	Semi-structured interviews	Conventional Content Analysis	.90
Riggs (2016)	Australia	India	15	A flyer circulated to Surrogacy Australia	Interviews	Rhetorical Analysis	.75
Rudrappa (2015)	USA	India	20 <sup>a</sup>	Purposive sampling through public surrogacy blogs and snowball sampling	Semi-structured interviews, blog posts, media stories	Ethnography <sup>c</sup>	.80

Saravanan (2013)	Germany	Western India	4	Clinic Referral and snowball sampling <sup>c</sup>	Semi-structured interviews, discussions, participant observation,	Ethnography	.80
Smietana (2021)	USA, India, Russia	USA, India, Russia	37 20 <sup>a</sup> 8	USA sample recruited through surrogacy and ART clinics as well as surrogate, intended parent and surrogacy family associations <sup>d</sup>	In-depth interviews	Ethnography	.80
Zandi (2014)	Iran	Iran	11 <sup>b</sup>	Purposive sampling method	In-depth unstructured interviews	Grounded Theory, Conventional Content Analysis	.90
Zandi (2014)	Iran	Iran	12 <sup>b</sup>	Infertility centres	Unstructured interviews	Conventional Content Analysis	.90
Zandi (2018)	Iran	Iran	17 <sup>b</sup>	Fertility centres, hospitals and physicians' offices (if surrogacy services were offered)	In-depth unstructured interviews, field notes	Grounded Theory	.90
Ziv	Israel	India, USA	16	Information was circulated through 2 surrogacy agencies	In-depth structured interviews	Thematic Analysis	.75

Note: <sup>a</sup> The author has used the same sample population, in these instances the sample population has only been counted once. <sup>b</sup> Some of the sample population may be the same across the studies, the extent of any overlap cannot be accurately determined so all populations are counted. <sup>c</sup> Recruitment method only specified for surrogate participants. <sup>d</sup> No specific recruitment strategy mentioned for the Indian or Russian samples. <sup>e</sup> Determination of data analysis method made through cross referencing Smietana (2021).

**Table 3***Characteristics of Participants*

Variable	N studies	N participants	Mean	SD	Range
Intended Parent Participants	25	475			
Age	11	224	41.03		
	7	180		5.74	
	9	159			20 – 55
Age at time of child's birth	1	26	39	5.06	29 – 50
Gender					
<i>Male</i> <sup>a</sup>	13	275			
<i>Female</i> <sup>b</sup>	6	74			
Sexual Orientation					
<i>Heterosexual</i>	6	59			
<i>Homosexual</i> <sup>a</sup>	14	292			
Relationship Status					
<i>Partnered/Married</i> <sup>a</sup>	14	236			
<i>Single</i>	2	40			
<i>Separated</i> <sup>a</sup>	3	1			
Infertility <sup>b</sup>					
<i>Cancer</i>	1	2			
<i>Hepatitis C</i>	1	1			
<i>Hysterectomy</i>	3	9			
<i>Inability to conceive</i>	1	5			
<i>Infantile uterine</i>	1	1			
<i>Lupus</i>	2	3			
<i>Mayer-Rokitansky Syndrome</i>	2	12			

<i>Repeated abortion/multiple miscarriage</i>	3	17
<i>Serious health problems</i>	1	2
<i>Unknown</i>	4	8
Ethnicity <sup>a</sup>		
<i>European/Caucasian</i>	7	137
<i>Asian</i>	6	6
<i>African American</i>	2	1
<i>Latino</i>	3	9
<i>Mixed</i>	2	1
<i>Other</i>	2	8
Education <sup>a</sup>		
<i>Below highschool</i>	2	7
<i>High school</i>	6	8
<i>Post secondary</i>	1	6
<i>Tertiary</i>	9	108

Note: N<sub>studies</sub> = number of studies; N<sub>participants</sub> = number of participants; \*Not all studies provided this data for their participants. <sup>a</sup> The author has used the same sample population, in these instances the sample population has only been counted once. <sup>b</sup> Some of the sample population may be the same across the studies, the extent of any overlap cannot be accurately determined so all populations are counted.

**Table 4**

*Surrogacy Characteristics*

Variable	N studies	N surrogate pregnancies	N embryos
Type of Surrogacy			
<i>Traditional</i>	4	10	
<i>with known surrogate</i>			

<i>with unknown surrogate</i>	1	1	
<i>Gestational</i>	6	118	
<i>with known surrogate</i>	2	4	
<i>with unknown surrogate</i>	3	55	
<i>egg donor used</i>	4		66
<i>Altruistic<sup>a</sup></i>	3	18	
<i>Commercial</i>	2	22	
Place of Surrogacy			
<i>Domestic<sup>a</sup></i>	3	53	
<i>Canada<sup>a</sup></i>	2	15	
<i>USA</i>	1	38	
<i>Transnational</i>	8	118	
<i>Canada</i>	2	10	
<i>India</i>	6	27	
<i>Eastern Europe</i>	2	3	
<i>Mexico</i>	1	3	
<i>Thailand</i>	2	4	
<i>USA</i>	6	45	
<i>USA/Canada</i>	1	11	
<i>USA/Eastern Europe</i>	1	5	
<i>Southeast Asia/Mexico</i>	1	28	
Children conceived/born <sup>a</sup>			
<i>Single</i>	8	84	
<i>Twins</i>	10	34	
<i>Triplets</i>	3	4	

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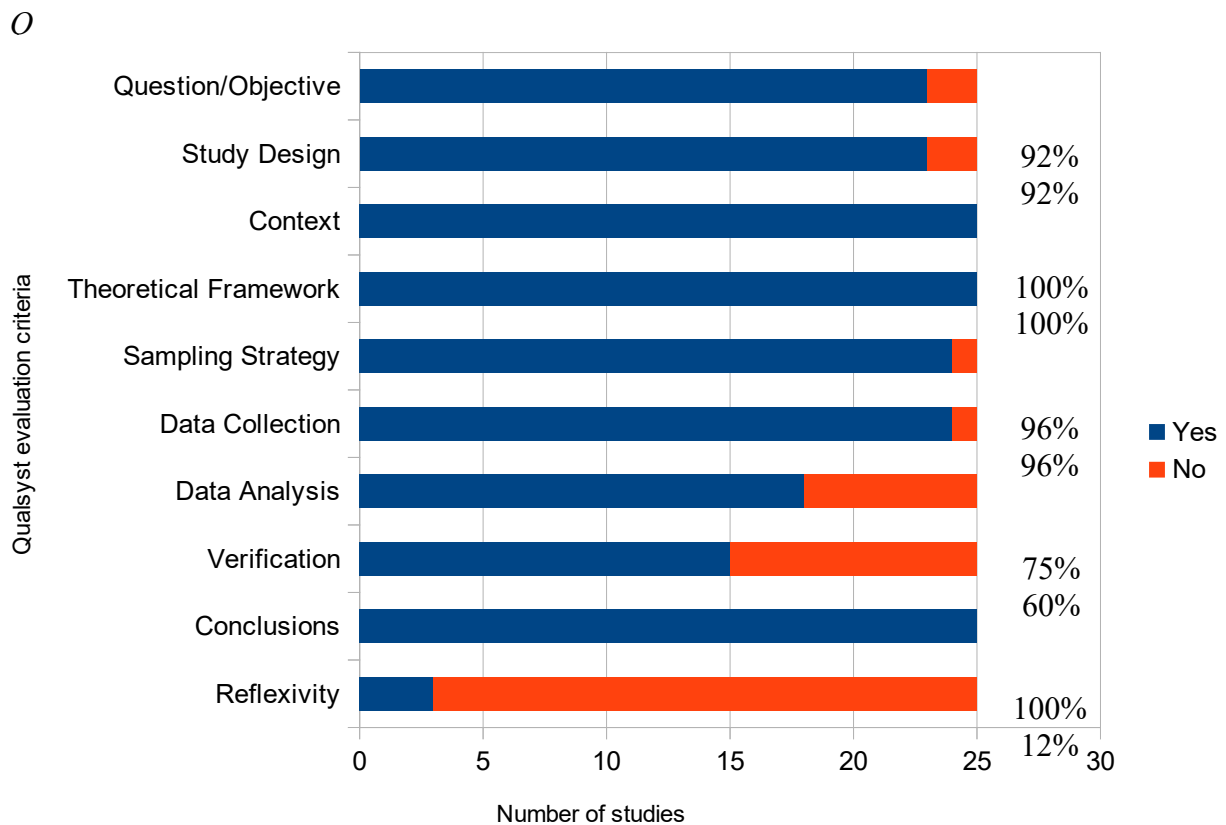
Note: N<sub>studies</sub> = number of studies; N<sub>participants</sub> = number of participants; \*Not all studies provided this data for their participants. <sup>a</sup> The author has used the same sample population, in these instances the sample population has only been counted once. <sup>b</sup> Some of the sample population may be the same across the studies, the extent of any overlap cannot be accurately determined so all populations are counted.

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### Reporting Quality Assessment

Study reporting quality was assessed using the Qualsyst checklist (Kmet et al., 2004; see Figure 2 and Appendix D for a detailed evaluation). The reporting quality of the 25 included studies was high, with scores between .75 and .95. Most studies at least partially met 9 of the 10 criteria. All studies reported the context of the study, referred to a theoretical framework/background literature and drew appropriate conclusions (Items 3, 4, 9; 100% fulfilled). Most studies met criteria for sampling strategy and data collection (Items 5 and 6; 96% fulfilled) and question/objective and study design (Items 1 and 2; 92% fulfilled). More than half of the studies met criteria for data analysis (Item 7; 75% fulfilled) and verification (Item 8; 60% fulfilled). Only three studies reported fully on reflexivity (Item 10; 12% fulfilled).

**Figure 2**



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### **Overview of Synthesised Findings**

This meta-synthesis investigated IPs' experiences of surrogacy, using an inductive approach twenty-five studies contributed to eleven categories and sixteen subcategories resulting in three synthesised findings (Table 5). Eleven studies contributed to the first finding, related to IPs' reasons for surrogacy and thirteen studies contributed to the second finding regarding ambiguity and loss of control. The last finding, related to how support mitigates barriers and facilitators to surrogacy, is an amalgamation of the second and fourth research questions set out in this thesis; sixteen studies contributed to this finding.



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**Table 5**

*Synthesised Findings and Categories of Intended Parents' Experiences of Surrogacy*

**Reason for surrogacy: Intended parents turn to surrogacy as a last option or in some cases as the only option for family formation, in addition, a genetic connection with any children is highly valued, while other methods of family formation such as adoption are regarded as uncertain and problematic**

- Surrogacy is the last option available to become parents
- Surrogacy is the only option to parenthood available
- Intended parents highly value a genetic connection with their children
  - A desire to pass on lineage exists
  - A genetic connection provides intended parents with a greater sense of security
- Adoption offer the potential of creating a family but is uncertain and problematic

**Coping with ambiguity and loss of control: Intended parents experience surrogate pregnancy as an anxious period marked by feelings of losing of control, and concerns about how best to disclose (or keep private) the surrogacy, while simultaneously trying to overcome feelings of disconnection to prepare for parenthood.**

- Surrogate pregnancy is experienced as an anxious and stressful time for intended parents
  - A limited capacity to experience the pregnancy leads to a perceived loss of control
  - Intended parents are concerned for the health of the fetus and surrogate
- Managing the disclosure of surrogacy, to the child and others, is carefully considered
  - Disclosure of surrogacy is important and appropriate
  - Social stigma lead to fears others will not accept the surrogate child
  - Fear that the child will not understand 'surrogacy' resulting in psychological harm
- Preparing for parenthood presents unique challenges for intended parents
  - Intended parents experience difficulty forming an emotional connection with their baby
  - Achieving a parental identity is a multifaceted process

**Support mitigates barriers and facilitators to surrogacy: Interpersonal relationships and inclusive practice policies facilitate positive surrogacy experiences, however prohibitive regulation or the lack of clear policy (clinic or government) are barriers to surrogacy, forcing parents to seek other sources of support and information.**

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- Surrogacy laws and regulations are complex and can be a barrier for intended parents
  - Navigating the legal system is a confronting experience
  - Organising post-birth documentation alienates intended parents
- Intended parents expect practice policies to suit their needs
  - Receiving support from service providers facilitated positive experiences
  - Inadequate support from service providers lead to feelings of abandonment
- Intended parents actively seek support and information throughout the surrogacy process
  - Intended parents face mixed reactions of family and friends
  - Community programs are a valuable source of support
  - Visible representations of gay fatherhood facilitate surrogacy for gay men
- Interpersonal relationships are important during surrogacy

### Reasons for Surrogacy

#### Surrogacy as the last option

The decision to pursue surrogacy is not easy for IPs and is often only considered once other options have been exhausted (Arvidsson et al., 2015; Deomampo, 2015; Gezinski et al., 2018; Papaligoura et al., 2015; Riggs, 2016). For heterosexual couples, this can mean coming to terms with an infertility diagnosis after failing to conceive naturally or with ART. Marla explained her distress after unsuccessful attempts at IVF,

*I was so sad after failing again. Well, not failing, but, you know, not working. First you are told that you can't carry a pregnancy. Then, your eggs are not working. And all the things that you are supposed to as a woman in life...you're failing on all of them.* (Deomampo, 2015, p. 221).

Couples often make several attempts with ART over several years before turning to surrogacy as a last resort (Arvidsson et al., 2015; Deomampo, 2015). In the words of one mother, *"Yes, I have done everything I can. I reached the point where my body said 'enough, no more now'. Knowing that I've done all that I can, made me feel reassured about taking that decision [regarding surrogacy]"* (Arvidsson et al., 2015, p. 5). IPs eliminate adoption as an option perceiving it as difficult and heartbreaking. In Tamara's words,

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*I was familiar with the odds being against us with adoption, just the numbers being very much reduced. And you know, I'd seen the numbers plummet to almost single digits for international adoption. And I'd been involved in the foster care system and I kind of knew that they were never yours and that there were lots of difficulties with that.* (Riggs, 2016, p. 319).

In their narratives, IPs make clear that surrogacy is their last chance to become parents.

### **Surrogacy as the only option**

Gay men face unique challenges to family formation, often in the form of reduced access to parenthood pathways (Fantus & Newman, 2019; Gezinski et al., 2018; Riggs, 2016; Ziv & Freund-Escher, 2015). Discriminatory practices by agencies effectively prevent gay IPs from adopting; one man related, *"I think [the adoption agency was] just giving me the run-around because I was a gay male"* (Gezinski et al., 2018, p. 178). In some countries specific regulations ban same-sex couples from adopting, as expressed by Bob, *"Well adoption was a pretty quick decision, because it was illegal"* (Riggs, 2016, p.318). Other adoption regulations apply more generally to IPs with the same result as one father reflected, *"There was no real option of adoption; so we were left with surrogacy"* (Fantus & Newman, 2019, p. 349). These obstacles mean the only path to parenthood is through surrogacy.

### **Desire for a genetic connection**

Gestational surrogacy allows one or both IPs to have a highly-valued genetic connection to their child, *"Anyone's dream would be to have your own biological child"* (Fantus & Newman, 2019, p. 348). IPs view this genetic link as a way to establish their position as the child's parents (Blake et al., 2017; Carone et al., 2017b; Fantus & Newman, 2019; Pande, 2015) as stated by one father, *"Before starting this journey. I felt that a genetic*

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*child would really be my child...it is DNA, there is nothing we can say or do about it"* (Carone et al., 2017b, p.1876). There was also a belief that having a genetic connection leads to a closer emotional relationship with the child. When deciding to pursue surrogacy one father stated, *"I guess we felt that we wanted to have our own biological children as much as possible so we could possibly understand them more"* (Blake et al., 2017, p. 864). This genetic connection was valued by IPs, who viewed it as an indisputable fact.

IPs described having a genetic link to their child as giving them more security (Blake et al., 2017; Fantus & Newman, 2019; Riggs, 2016). Some parents expressed fears of losing non-genetically-related children, as illustrated by one man,

*Having come from the United States, where I felt persecuted in many ways for being gay...I had a paranoia that the government, if we adopted, would take our kids away. I rationalized that having a biological connection gave me one level of security more than adoption.* (Fantus & Newman, 2019, p. 350).

IPs also believed that having a separate gestational and genetic link created transparent boundaries. A father explained,

*We thought just legally and emotionally it would be the best so that if you know we thought that it would be healthier for our relationship with the surrogate and healthier for the kids relationship with her because you know we were always very careful to say this is your surrogate you know, this is not your mother; we explained to friends, because it's not her genetic egg it really isn't their mother and so we wanted that sense of separation"* (Blake et al., 2017, p. 864).

Having a genetic connection to the child helped IPs feel more secure, particularly with gestational surrogacy.

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Male participants expressed a strong desire to have a genetic link to their child so their lineage could continue (Carone et al., 2017b; Fantus & Newman, 2019; Riggs, 2016; Maya & Adital, 2019). This desire took the form of having a legacy in the world for some men, *"knowing that I am leaving a part of me one day behind; leaving my genetic name"* (Fantus & Newman, 2019, p. 348). For other fathers, it was a way of fulfilling cultural expectations, as was the case for Ronen,

*In a certain way, in a certain aspect...My choice is a direct product of the Biblical imperative to procreate. This is the first commandant. I have fulfilled it by choosing to become a biological parent...I regard it as part of a whole...one of the same Jewish values of continuity through the generations.* (Maya & Adital, 2019, p. 1297)

### **Adoption uncertain and problematic**

IPs considered adoption uncertain, with surrogacy being a more direct path to parenthood. Many parents were deterred by the arduous bureaucratic process of adoption, which comes with no guarantee of parenthood (Arvidsson et al., 2015; Blake et al., 2017; Carone et al., 2017b; Deomampo, 2015; Fantus & Newman, 2019; Gezinski et al., 2018). This view was confirmed for one woman when she spoke directly to an agency, *"It's quite difficult to adopt now."* she explains, *"The administrator told us, 'There are no guarantees and you'll be lucky if you get a child of any age at all'"* (Arvidsson et al., 2015, p. 5). Adoption agencies being unable to guarantee infants to prospective parents was problematic for some IPs; in the words of one man, *"We wanted something more personal and I didn't want to miss any opportunity. If I had gotten a 3-year-old...I probably would have regretted not having the infant experience"* (Fantus & Newman, 2019, p. 349).

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In addition to the uncertainties regarding the age of children and their availability for adoption, IPs worried about possible medical or mental health problems (Blake et al., 2017; Carone et al., 2017b; Fantus & Newman, 2019; Papaligoura et al., 2015). Unlike surrogacy, where IPs may use their gametes or select from medically screened donors, little may be known about a child's genetic makeup in adoption. This uncertainty presents a challenge for IPs; one woman explained her husband's reluctance, *"He would say to me, 'I'm afraid of the child's genes'"* (Papaligoura, 2015, p. e113). For one single father, surrogacy, with fewer uncertainties, was the clear path to parenthood,

*It just seemed like adoption was too much a random process...mental health issues could arise, the child could be born with genetic defects and stuff like that. There is a great deal of unknown with adoption and I didn't want that. With surrogacy it is much more of a guarantee, and it seemed like the most promising way to have my family* (Carone et al., 2017b, p. 1876).

IPs felt that positive outcomes were more likely through surrogacy.

### **Coping with ambiguity and loss of control:**

#### **Pregnancy as an anxious period**

During pregnancy IPs reported feeling a lack of control while worrying about the health of their baby and surrogate (Arvidsson et al., 2015; Carone et al., 2017a; Fantus, 2021; Papaligoura et al., 2015; Zandi, Vanaki, Shiva et al., 2014; Ziv & Freund-Eschar, 2015). Many IPs described feeling limited or no control over the pregnancy (Carone et al., 2017a; Fantus, 2021; Papaligoura et al., 2015; Ziv & Freund-Eschar, 2015). This feeling was often related to IPs not being as involved with the pregnancy as they would have liked. One woman lamented her inability to carry a pregnancy, *"Why couldn't I have this, why couldn't I have the joy to feel*

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*the 'goup-goup' in my body when the babies were moving?"* (Papaligoura et al., 2015, p. e114). While a father regretted, *"not [being] allowed in that [pregnancy] part of it...it was disappointing because I wanted to be there and be part of it"* (Fantus, 2021, p. 256). The distance of transnational surrogacy also created a sense of little to no control over the pregnancy, as Roy explained,

*Pregnancy for me is Google, pregnancy is this folder...my pregnancy is fed on emails, reports and Excel tables. This binder is full of formal documents but has no emotionality...You do not see anything or know anything. You travel to India and come back with a child in your hands.* (Ziv & Freund-Eschar, 2015, p. 161).

The health of the baby and the surrogate was IPs' the foremost concern (Arvidsson et al., 2015; Carone et al., 2017a; Papaligoura et al., 2015; Zandi, Vanaki, Shiva et al., 2014; Zandi et al., 2018; Ziv & Freund-Eschar, 2015). This concern took two forms; the first was fear of serious complications with the pregnancy or birth, often combined with feelings of powerlessness (Papaligoura et al., 2015; Zandi, Vanaki, Shiva et al., 2014; Ziv & Freund-Eschar, 2015). This fear is articulated by one woman,

*I have heard many times about premature babies' birth in the 7th or 8th months, or miscarriage, or the baby born with deformities. Even before birth in the 9th month, he may be strangulated by umbilical cord. All these things scare me.* (Zandi, Vanaki, Shiva et al., 2014, p. 16).

This fear sometimes extended post-birth in circumstances when women had previous personal experience of complications, as was the case for this mother,

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*When my baby was born I didn't feel joy, I was so scared, that something might be wrong with him, because I had this traumatic experience with my first child. I only began to enjoy him after the fifth month" (Papaligoura et al., 2015, p. e116).*

Health concerns also manifested in a second more generalised way, focusing on the overall health and wellbeing of the surrogate (Arvidsson et al., 2015; Carone et al., 2017a; Papaligoura et al., 2015; Rudrappa & Collins, 2015; Zandi, Vanaki, Shiva et al., 2014; Zandi et al., 2018; Ziv & Freund-Eschar, 2015). IPs were aware of the risks to the surrogate, as one heterosexual father reflected, *"My biggest concern in this has been that something would happen to the surrogate mother...as it is of course not a risk-free thing" (Arvidsson et al., 2015, p. 6).* This anxiety was heightened when IPs did not have a close relationship with the surrogate (Carone et al., 2017a; Fantus, 2021; Papaligoura et al., 2015; Zandi, Vanaki, Shiva et al., 2014). IPs struggled to trust an unfamiliar surrogate during the pregnancy, as illustrated by one IP, *"I don't know her well enough to know if she's going to do it properly. Is she going to do it right? Is she completely reliable?" (Fantus, 2021, p. 252).* Attempts to monitor and make demands on the surrogate manifested as a way to overcome these feelings of anxiety and powerlessness (Kleinpeter et al., 2006; Papaligoura et al., 2015; Saravanan, 2013). One mother recalled,

*I used to tell her: 'You must stay in bed, you must be very careful'. At some point she told me: 'Stop pressuring me psychologically, don't judge from your own traumatic experiences. If you want the pregnancy to go well, don't push me, I cannot bear it anymore.' From then on, I kept all my fears and problems to myself and didn't share them with her ever again" (Papaligoura et al., 2015, p. e114).*

In some instances this discourse was sufficient to set boundaries for a healthier relationship.



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### Managing Disclosure

Disclosing surrogacy to loved ones can be a daunting experience for IPs even when they plan to be open about such disclosures from the start (Carone et al., 2017b; Deomampo, 2013; Fantus, 2021; Gezinski et al., 2018; Papaligoura et al., 2015; Zandi, Vanaki, Shiva et al., 2014; Zandi et al., 2018). In many instances reactions were at first mixed before turning to positive endorsement, one participant stated, *"My husband's father had a little bit of hesitation at first...He didn't even know that these medical things could be done...But that only took him a couple of days to be educated, and then he came around"* (Gezinski et al., 2018, p.178). IPs sought to control the timing of disclosure to family and friends, one mother disclosed, *"when the surrogate was five months pregnant because I was afraid they would be miserable if something went wrong"* (Papaligoura et al., 2015, p. e116). Waiting until the pregnancy was well established was common among IPs.

Some IPs experienced anxiety over how others would react and questioned whether to disclose the surrogacy at all. These anxieties related directly to how the disclosure will affect the child, and whether the disclosure is to the child, family or the wider community (Papaligoura et al., 2015; Zandi, Vanaki, Shiva et al., 2014; Zandi et al., 2018). One fear was that the child would be rejected once the surrogacy is known, *"What if someone doesn't respect my child, treat him like a foster kid, what should I do? These are the facts, these are my worries."* (Zandi, Vanaki, Shiva et al., 2014, p. 228). In some cases, IPs choose to hide the surrogacy altogether, one IP explained, *"I didn't want my family to find out. Because we live alone here. Our families (both mine and my husband's) live in another city"* (Zandi et al., 2018, p. 10). Unfortunately, this strategy usually led to more rather than less stress, as the same mother indicated,

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*I hadn't told my family, I was stressed out about them finding out, and I still am. I can't believe they haven't found out. You may not believe it, but my child went into his 16th month today and I'm still worried about that! Like, what happens if something happens and they find out that I haven't told them the truth? (Zandi et al., 2018, p. 12)*

Most IPs believed that children had a right to know how they were conceived and brought into the world (Carone et al., 2017a; Deomampo, 2013; Gezinski et al., 2018; Papaligoura et al., 2015; Zandi, Vanaki, Shiva et al., 2014). Parents often had a plan to disclose the surrogacy and reported positive experiences when having done so, as shown by this mother,

*We told her when she was 3 years old: 'We put a small seed in the tummy of a friend of mine because I was sick and could not give birth...and there you grew and were born.' And then she asked: 'What is the name of your friend and where is she now?' I replied: 'The name of my friend is X and now she has left and lives in another country and won't come back.' After this, she told the story at the nursery and later at school. People found the story interesting and she enjoyed sharing it." (Papaligoura et al., 2015, e115).*

Other IPs worried disclosure could cause emotional distress or damage the parent-child relationship (Papaligoura et al., 2015, Zandi, Vanaki, Shiva et al., 2014). Controlling the timing and content of the disclosure was a protective strategy used by some IPs, for example,

*I feel that telling this subject to the child has to be done at a certain age. I mean, we should reveal the truth when she is mature enough to be able to understand what you are telling her. Earlier than that, what will happen to my child? She will be destroyed, because she cannot really get it. If she is told all of a sudden, she would think of me as*

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*a liar because I didn't tell her the truth, she would not believe me and I might struggle with her a lot.* (Zandi, Vanaki, Shiva et al., 2014, p. 229)

Some IPs felt ill equipped to manage when and how to disclose surrogacy.

### **Preparing for parenthood**

During the surrogacy, many IPs made practical preparations for the arrival of their baby. However, it was difficult for IPs to prepare themselves emotionally (Carone et al., 2017a; Papaligoura et al., 2015; Saravanan, 2013; Zandi, Vanaki, Shiva et al., 2014; Zandi et al., 2018; Ziv & Freund-Eschar, 2015). IPs struggled to form a connection with their baby, sometimes even after the birth. For example, one IP initially described feeling detached from her children, *"The children don't respond to my voice; however, when she (the SM) speaks, they immediately respond to her voice and tone"* (Saravanan, 2013, p. 10). This outcome was often the case in transnational surrogacy where IPs were only present at the beginning and for the birth. Ophir lamented, *"I lack a relationship with the baby. Receiving an ultrasound report via e-mail is different from experiencing the ultrasound test where the fetal movement is truly there. It's part of a bonding process we don't have"* (Ziv & Freund-Eschar, 2015, p. 162).

Technology helped one intended mother, Lara, create a unique bond with her child,

*I know it sounds silly to some but I want him to hear my voice. I have recorded all the lullabies that my mother used to sing for me. All she has to do is just wear it around her waist and sit. I have recorded stories, our stories, how much we love and want him as well. Once he comes out, he will know who his real mom is!"* (Pande, 2015, p. 58)

It was important for IPs to develop a parental identity, which involved overcoming insecurities about parental ability, legitimising their parental role and coming to terms with altered identities (Carone et al., 2017a; Malmquist & Höjerstrom, 2020; Maya & Adital, 2019;

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Zandi, Vanaki, Shiva et al., 2014; Zandi et al., 2018; Ziv & Freund-Eschar, 2015). Some parents worried that they would be unable to care for or bond with their baby, as noted by one mother,

*During these 9 months, you wish to have what you have always wanted in one thing, the baby. Now, when you got what you wanted for so long, you found out you are not ready. I kept telling myself. 'My God when this child is born, I am not even able to touch him. How can I make a relationship with him?' I think those 9 months of pregnancy makes you prepared for that. (Zandi, Vanaki, Shiva et al., 2014, p. 7)*

IPs legitimised their parental identity by eliminating differentiation with other parents and seeking ways to bond with their child (Zandi, Vanaki, Shiva et al., 2014; Zandi et al., 2018).

One woman asserted, *"The word 'mother' is far beyond a 9 month pregnancy, far greater than 9 months of pregnancy to even think of crediting the surrogate with the child!...I never like to be differentiated from a normal mother"* (Zandi et al., 2018, p. 10). This same mother also sought ways to bond with her child,

*My doctor argued with me and told me I bother myself too much to breast-feed the child, that her own daughter didn't breast-feed her child. But, sometimes when you feel weak in some way, then you want to fill the gap with something else. (Zandi et al., 2018, p. 10)*

Interestingly, this mother asserted that parenting is what makes a parent, yet she still sought to normalise her place as the mother by breastfeeding her child.

IPs also established their parental identity by clearly defining family roles. For some this meant defining the roles of the donor and surrogate, this was common for fathers in same-sex relationships like Ivan,

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*It came up in some discussions that someone used the word, er, 'mom' about her [the surrogate] several times and in the end I had to correct that, because I felt that...it would be totally wrong, because she has, she has a host mom, she has an egg mom, you could say, but otherwise she has two dads and, in reality, no mom. (Malmquist & Höjerstrom, 2020, p. 521)*

However not all IPs were comfortable with the identity of "father" or "mother". Some parents, such as Ronen, felt they lost an essential part of themselves, *"I feel that fatherhood has put me back in the closet again...because it became the most important element of my identity and it excludes all other parts, including my sexual orientation"* (Maya & Adital, 2019, p. 1299).

### **Support mitigates barriers and facilitators to surrogacy:**

#### **Laws, regulation and surrogacy**

IPs, particularly those engaged in transnational surrogacy, struggled with the legal aspects of surrogacy. Common difficulties included understanding the system, obtaining citizenship for their child and obtaining parental rights (Arvidsson et al., 2019; Deomampo, 2013, 2015; Gezinski et al., 2018; Zandi, Vanaki, Mohammadi et al., 2014). Having support meant some IPs could better deal with these processes (Arvidsson et al., 2019).

Trying to navigate the system was a barrier for most IPs, with many unaware of the potential legal pitfalls. The absence of laws or clear guidelines caused confusion and stress, often leading to contradictions (Arvidsson et al., 2019; Deomampo, 2013, 2015; Zandi, Vanaki, Mohammadi et al., 2014). The guidelines embassies followed could change without warning; Patricia was caught out by stricter protocols,

*When we started this whole process the clear implication was that my name would be on the birth certificate. And I think at some point, as more people started to use this*

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*process [surrogacy], the US embassy became stricter about how that process worked. When we called the embassy to make the appointment I realized that I have absolutely no proof for that. And I don't want to get caught in a lie with the US government, so we ended up going back and just my husband's name is on the birth certificate. And so the implication of that is that now I have to go through an adoption process with my son. (Deomampo, 2015, p. 217)*

To avoid legal these legal hurdles, some IPs chose not to disclose the surrogacy, such as this German participant, *"We didn't mention the word 'surrogate mother', just someone is pregnant with my husband's baby. Yeah, legally that's fine, because she's the mother so we are talking about the mother of the child"* (Gezinski et al., 2018, p. 180).

However, IPs who sought knowledgeable support had the greatest ease navigating the legal process, as express by one father in a same-sex relationship,

*In Sweden, despite everything, it has not been so difficult. Much thanks to a solicitor friend. Otherwise it would have felt very arduous. Now we are in control of what we can and cannot do. Have the situation under control...which we would not have otherwise. (Arvidsson et al., 2019, p. 27)*

Organising post-birth documents, such as citizenship and birth certificates, frustrated many IPs (Arvidsson et al., 2019; Deomampo, 2015; Fantus, 2020; Zandi, Vanaki, Shiva et al., 2014). In Canada, where it is legal for gay men to access surrogacy, gay fathers were frustrated by their interactions with government agencies. Frank reported,

*when you register the birth, you have a form that says 'mother' and 'father/other parents.' So, if you are two mothers, you're good. But if you're two fathers, you actually need to strike it out. And if you do it online, you can't strike it out. So, you*

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*need to provide one of the fathers' names under the mothers' names.* (Fantus, 2020, p. 8)

In cases of transnational surrogacy the question of citizenship was problematic. Some jurisdictions recognised the parental rights of the IPs, some required genetic testing, while others only recognised the surrogate (Arvidsson et al., 2019; Deomampo, 2015). Parents then needed to validate their parental claims, one father recalled,

*You need to establish fatherhood. That is not a procedure relying on DNA because that is not how the Swedish law functions. Then it is instead our Indian surrogate mother's husband who must renounce being the father because he is married to our children's mother - although she is not really the mother, but that does not matter according to the Swedish law.* (Arvidsson et al., 2019, p. 26)

Norwegian mothers felt even more judged as parents as citizenship, and parental rights are conferred through the genetic father; Marla recalled how she felt,

*Horrible, horrible. If something happens to her in Norway, she is considered a child with only the father. If he's working, and say, she needs to go to the hospital, if they really want to be assholes at the hospital, they can say, 'But you are not the mother. So, we are not allowed to give you any information about her health.* (Deomampo, 2015, p. 221)

In some countries it could take up to six months for genetic fathers to be recognised and up to twelve months for their spouses to be granted parental rights (Arvidsson et al., 2019).

### **Practice Policies**

IPs expected that institutions providing surrogacy care would offer professional and personalised services. This expectation extended to inclusive policies that would facilitate the

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process and could be tailored to the IPs' needs (Carone et al., 2017a; Fantus, 2020; Kleinpeter et al., 2006; Saravanan, 2013). When these expectations were met, IPs reported satisfaction with their experiences. One participant described an agency director,

*C had a great reputation - organised, professional, very personal. C would hunt down information and call us back. If we wanted something, C would find a way to get it for us. Very responsive* (Kleinpeter et al., 2006, p. 13)

IPs sometimes looked to specific policies that suited their needs when choosing a surrogacy agency, one parent elaborated on choosing a clinic,

*One of the things that made me come to this clinic was the way the payment scheme works. Only a nominal payment is made to the surrogate mother, but you don't actually pay until the very end...it's a good incentive for her [the SM] to keep the baby and not do much work so she doesn't miscarry. She [the SM] doesn't really get compensated until she hands over the baby.* (Saravanan, 2013, p. 5)

This clinic also provided personalised after birth services such as breastfeeding or infant care if IPs requested it.

When care providers violated IPs' expectations, they experienced barriers to surrogacy and feelings of frustration and abandonment (Deomampo, 2015; Fantus, 2020; Gezinski et al., 2018; Kleinpeter et al., 2006; Rudrappa & Collins, 2015; Zandi, Vanaki, Mohammadi et al., 2014; Zandi et al., 2018). Ian, a gay father, recalled when, "*an ultrasound technician wouldn't let us in the room*" (Fantus, 2020, p.8). This was a barrier to actively participating in surrogacy. Other barriers resulted in significant stress and difficulty in finding appropriate services. One mother recalled her experience in trying to organise a hospital for delivery,



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*We were totally lost, we didn't know what to do or where to go. When we went to the clinic, we were told to talk to Ms. so and so and then she would tell us that she didn't want to get the hospital into trouble, and would then guide us to the office of so and so. But we had started the whole process here, now our work is almost done, approaching its end. Where do we go if we want to get done with everything? Who do we go to see? They passed us back and forth to each other. (Zandi, Vanaki, Mohammadi et al., 2014, p.17)*

### **Seeking support**

Support was important to IPs with many actively seeking it (Fantus, 2020; Kleinpeter et al., 2006; Pande, 2011). Perceptions of support varied among IPs; most reported mixed reactions from family and friends (Blake et al., 2017; Carone et al., 2017b; Fantus, 2020; Gezinski et al., 2018; Kleinpeter et al., 2006). One father recalled,

*They just had a lot, my family, my parents, had a lot of questions. They didn't understand at all. And it was, it was a little annoying actually I remember because I thought they were just going to be you know unbelievably excited, and instead of unbelievable excitement it was...I would probably characterise the reaction as confused, and a bit tentative, like we were doing some sort of crazy science experiment, and did we really understand what we were doing and was this a good idea...Yeah they were concerned and confused at first, and the unbelievable excitement eventually set in for them. (Blake et al., 2017, p. 866)*

Community groups were also sources of support both in the planning stage and after the birth. Adrian spoke of the ease of joining online communities, *"Lots of growing Facebook pages...private groups that you can join in. And you often get into the group based on being*

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*part of the more public group about dads, queer and things like that"* (Fantus, 2020, p. 7).

Gay men highlighted that the visibility of such groups helped them realise that surrogacy was a viable path to parenthood (Fantus, 2020; Fantus & Newman, 2019). As noted by one father, *"It wasn't until I started seeing representation of gay guys having kids. I think that visibility is critical and crucial to our community"* (Fantus & Newman, 2019, p. 349).

### **Interpersonal relationships**

Managing interpersonal relationships is an important part of navigating the surrogacy process (Kleinpeter et al., 2006; Pande, 2011; Saravanan, 2013; Smietana et al., 2021; Zandi et al., 2018). It was common for IPs to describe the process of choosing a surrogate as 'dating', *"It's like dating. When you really want to be in a relationship every sort of date is frustrating if it doesn't work out"* (Fantus, 2021, p. 253). IPs sought someone who shared their outlook on surrogacy, not necessarily someone with whom to form a close relationship. Some IPs preferred to maintain more separation, one participant explained,

*It may sound very cold but I really wanted it to be a business deal: 'thank you for your time' - I send her Christmas cards and Mother's Day cards and Birthday cards but no contact whatsoever. And that goes back to my original meeting with her; that we wanted the exact same thing.* (Kleinpeter et al., 2006, p. 15)

Sharing similar outlooks and values meant that problems were less likely to occur in the relationship and were more easily resolved if they arose.

As previously stated, forming a connection with their baby is important in forming parental identity. This connection could be achieved by IPs being involved in the pregnancy; one father recalled this desire, *"And I think we both felt like number one, we really wanted to be part of the whole birth process"* (Blake, 2017, p. 864). The surrogate was instrumental in

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facilitating IPs' inclusion in the pregnancy (Blake et al., 2017; Carone et al., 2017a; Fantus, 2021). This inclusion was often achieved through the surrogate's language, *"She always kept saying this is your baby. Even from the very beginning. This is your child. And she held that separation. She would never say I might feel bad about giving the baby back at the end"* (Fantus, 2021, p. 254). This example shows the surrogate reinforcing the IPs' roles as fathers while distancing herself from the pregnancy.

Surrogates also facilitate inclusion for distant IPs as in the case of this father using transnational surrogacy, *"She was amazing in involving us, she wrote down every aspect of the pregnancy in a diary and she sent it to us weekly by mail. She made us feel completely part of the story"* (Carone et al., 2017a). In rare cases, inclusion did not occur, leaving some IPs to worry that the surrogate would not continue or relinquish the baby (Fantus, 2021; Papaligoura et al., 2015; Zandi, Vanaki, Mohammadi et al., 2014). One mother worried, *"And if suddenly she decides to leave and go abroad? What shall I do? Terrible anxiety"* (Papaligoura, 2015, p. e114).

## DISCUSSION

### Overview:

This study aimed to investigate the lived experiences of IPs who used surrogacy in their family formation. To the author's knowledge, this is the first meta-synthesis investigating IPs' experiences independently of other stakeholders. The findings from 25 studies were aggregated into eleven categories, sixteen subcategories and three synthesised findings relating to reasons for surrogacy, coping with ambiguity and loss of control, and how support mitigates barriers and facilitators to surrogacy. This study highlights the unique challenges and needs of IPs using surrogacy from preconception to post-birth. It is important for

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healthcare providers to be aware of these challenges to better support IPs. Implications for practice (Table 6) are discussed below.

**Table 6:**

### *Implications for practice*

<b>Healthcare Professionals</b>
1) Compassionate patient centred care should address the specific needs of the individual or couple seeking care
2) Inclusive practice policies should be in place to support minority groups such as single or same-sex fathers.
3) Where practical targeted resources should be available to all intended parents (i.e. surrogacy parent groups or antenatal classes for same-sex fathers)
4) Facilitating positive interpersonal relationships is important including mediation when difficulties arise
<b>Higher level (government policy)</b>
1) Have transparent processes available for transnational surrogacy
2) Make information about the legal requirements readily available to intended parents

### **Reasons for Surrogacy:**

Consistent with the literature, this study found that heterosexual couples or individuals had previously attempted to conceive naturally or with ART methods (Carone et al., 2017b; Everingham et al., 2014; MacCallum et al., 2003; Mitra & Schicktanz, 2016; Pande, 2011). This study also consolidates the growing body of research into gay fatherhood through surrogacy. The findings show that gay fathers face significant barriers in accessing parenthood through adoption in the form of discrimination and legal barriers (Fantus & Newman, 2019; Gezinski et al., 2018; Riggs, 2016; Rudrappa, 2010).

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This study found that most IPs highly valued genetic connections with children born through surrogacy (Blake et al., 2017; Carone et al., 2017b; Fantus & Newman, 2019; Kleinpeter et al., 2006; Pande, 2015; Papaligoura et al., 2015; Riggs, 2016; Maya & Adital, 2019). One reason for this finding is that IPs felt a greater level of security knowing they were genetically related to their children; that it reduced the likelihood that their parental rights would be challenged (Blake et al., 2017; Fantus & Newman, 2019; Riggs, 2016; Snowdon, 1994). This was consistent among men and women in this study. Some IPs believed that this connection would give them emotional insight into their child facilitating a closer relationship. A genetic father explained how important having this connection was when he began the surrogacy process; however, his views changed after becoming a father (Blake et al., 2017). This may indicate IPs feel greater security once their children are with them, and their legal rights have been established. Further research into whether the importance of a genetic connection remains the same or lessons post-birth would be useful.

A finding unique to this meta-synthesis is men's desire to pass their lineage through genetically related offspring. Across multiple studies, intended fathers expressed the imperative to continue their blood line or family name (Carone et al., 2017b; Fantus & Newman, 2019; Murphy, 2013; Riggs, 2016; Maya & Adital, 2019). These studies have reported this finding broadly under the umbrella of "genetic relatedness" without detailed analysis of these desires. This may indicate that only a small number of respondents in the original studies expressed this desire. What this study highlights is that this desire is expressed by men consistently in studies from multiple countries (Australia, Canada, Israel, Italy and the United States). This finding is interesting because it has been observed in participants with diverse cultural backgrounds.

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Most participants in the present study were apprehensive about pursuing adoption or fostering children. This is consistent with reports from previous studies (Kleinpeter, 2002; Rudrappa, 2010). The uncertainty of whether adoption would lead to parenthood or heartbreak was a deciding factor for many IPs. The few who considered it ultimately decided that the risk of children being removed, possibly returned to their genetic parents was too great (Blake et al., 2017; Fantus & Newman, 2019; Riggs, 2016). IPs also expressed a desire to parent from birth an outcome that is far from guaranteed in adoption. The greatest concern for parents was the unknown risks, such as physical or mental health conditions, associated with adoption or foster care (Fantus & Newman, 2019; Kleinpeter, 2002; Papaligoura et al., 2015; Riggs, 2016). These fears led IPs parents to choose surrogacy as a way of mitigating these perceived risks.

### **Coping with ambiguity and loss of control:**

Inline with much of the literature this study found the period of surrogate pregnancy to be stressful for IPs (Kleinpeter, 2002; Majumdar, 2014; Rudrappa, 2016; van den Akker, 2007). For all IPs this included fears for the well being of their baby and the surrogate (Arvidsson et al., 2015; Carone et al., 2017a; Papaligoura et al., 2015; Zandi, Vanaki, Shiva et al., 2014; Ziv & Freund-Eschar, 2015). These fears were more acute for women who experienced infertility, especially those who had experienced traumatic pregnancies (Montrone et al., 2020; Papaligoura et al., 2015). This meta-synthesis found that reassurances from treating physicians were not enough to alleviate this anxiety (Papaligoura et al., 2015). These women may need specialised care to overcome their past trauma.

Many IPs felt they had little to no control over the pregnancy (Fantus, 2021; Papaligoura et al., 2015). This was exacerbated in transnational surrogacy, where language

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and distance barriers further complicated interactions between IPs, surrogates and medical professionals (Carone et al., 2017a; Lozanski & Shankar, 2019; Majumdar, 2014; Rudrappa, 2016; Saravanan, 2013; Ziv & Freund-Eschar, 2015). Agencies operating in this space capitalise on this ambiguity, selling "peace of mind" to IPs by assuming control of the process, including of the surrogate herself (Gezinski et al., 2017; Hovav, 2020; Kleinpeter, 2002; Kleinpeter, 2006; Lozanski & Shankar, 2019; Majumdar, 2014). Lozanski and Shankar (2019) highlight the framing of the surrogate as both the site of the risks involved in surrogacy and as an object to be managed.

This study builds upon this literature with many IPs admitting a desire to constantly monitor and control the surrogate (Majumdar, 2014; Papaligoura et al., 2015; Zandi et al., 2018). In transnational cases, IPs specifically chose agencies that actively enforced restrictions on the surrogate, including the requirement to live in a surrogacy hostel (Majumdar, 2014; Lozanski & Shankar, 2019). Interestingly, this study found surrogacy occurred domestically, the surrogates or agencies were more likely to advocate for both the IPs' and surrogate's rights (Berk, 2015; Papaligoura et al., 2015; Zandi et al., 2018).

An interesting finding from the present study was related to the fear that the surrogate mother would change her mind or not relinquish the baby after the birth. Most participants in the included studies expressed confidence that the surrogate would fulfil the surrogacy arrangement. However, a minority of participants in three studies explicitly expressed the fear that the surrogate would not go through with the surrogacy or would keep the baby. The first example comes from the only paper that asked parents to reflect on their experiences at distinct points, pre-pregnancy, during pregnancy and post-pregnancy (Fantus, 2021). The couple expressed their fear of the surrogate changing her mind during the pre-pregnancy

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period. This could indicate that the focus of parental distress changes throughout the stages of surrogacy.

The second and third examples come from countries (Greece and Iran) in which surrogacy is emerging as a treatment for infertility. In both these examples, women expressed a fear that the surrogate would keep the baby after birth. This fear was closely associated with cultural stigma that prevented IPs from talking openly about surrogacy. The women felt isolated and that they would have no recourse to assert their parental rights (Papaligoura et al., 2015; Zandi, Vanaki, Mohammadi et al., 2014).

This cultural stigma was also linked to anxiety over decisions to disclose the surrogacy or not. IPs worried that family members would not accept their child if it was known the child was born through surrogacy. The studies from Iran indicated that many IPs opted to hide surrogacy altogether (Golboni et al., 2020; Zandi, Vanaki, Shiva et al., 2014; Zandi et al., 2018). Golboni et al. (2020) found that extended family members in Iran would not accept surrogacy and in some cases, rejected women with infertility. This led to feelings of isolation and a constant fear of discovery (Golboni et al., 2020; Zandi et al., 2018). More broadly, IPs reported waiting until the pregnancy was well established to mitigate negative reactions (Gezinski et al., 2018; Kleinpeter et al., 2006; Papaligoura et al., 2015).

Consistent with the literature, this study found that most participants felt that children had a right to know about their birth history (Deomampo, 2013; Papaligoura et al., 2015; Zandi, Vanaki, Shiva et al., 2014; see also Carone et al., 2017a, Gezinski et al., 2018). This desire to be open about surrogacy meant that some IPs chose surrogates who would be open to ongoing relationships. However, for some IPs, the decision to disclose surrogacy was a difficult one. These IPs struggled with the child's right to know with the potential of causing



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emotional harm (Papligoura et al., 2015; Zandi, Vanaki, Shiva et al., 2014). Parents worried that their relationship would be damaged if they were perceived as liars or that the children would struggle with identity issues (Papligoura et al., 2015; Zandi, Vanaki, Shiva et al., 2014). These fears were greater if donor gametes had been used in the conception (Papaligoura et al., 2015). The literature suggests that these fears are unfounded, as children aware of their surrogacy birth are well adjusted (Jadva, 2020).

This study found that most single or gay men did not report concerns over disclosing the surrogacy to the child or others. Although unconcerned before disclosure, some IPs were hurt when faced with negative reactions after disclosure (Carone et al. 2017b). Participants reported more negative reactions from male friends and acquaintances, causing these relationships to become strained (Blake et al., 2017; Fantus, 2020). Gay fathers consistently reported plans to be open with their children about their birth story (Carone et al., 2017a; Deomampo, 2013). This could be because same-sex families are recognisably different in hetero-normative communities, making it difficult to obscure family origins.

Overall, IPs considered the issue of disclosure carefully. Many IPs planned the disclosure, those who did, reported positive experiences. Other IPs struggled to know what the best decision was and how to deliver it. It is helpful for health professionals to be aware of these struggles to better support families coming to terms with surrogacy. These conversations should begin during the surrogacy process to allow parents time to clarify their thoughts and feelings on the subject. Earlier intervention may also be helpful for those who do not anticipate problems but may still face them.

Preparing for parenthood during surrogacy was a complex process for many parents. Many IPs focused on practical matters as far as possible. When domestic surrogacy was used

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this involved managing and participating in healthcare appointments (Papaligoura et al., 2015; Smietana et al., 2021). Where this was not possible, such as in transnational arrangements, IPs turned their attention to organising childcare, setting up the home or making work arrangements more family-friendly (Ziv & Freund-Eschar, 2015). Many parents struggled to prepare themselves emotionally for parenthood. This was more pronounced when IPs were distanced from the pregnancy (Saravanan, 2013; Ziv & Freund-Eschar, 2015). These parents often felt disconnected from the baby and worried that this would affect their ability to care for the child.

Similarly, IPs also felt disconnected from the identity of "parent" and sought ways to define themselves as "real" parents (Carone et al., 2017a; Malmquist & Höjerstrom, 2020; Maya & Adital, 2019; Teman, 2009; Zandi et al., 2018; Ziv & Freund-Eschar, 2015). Some IPs felt the pregnancy period allowed a gradual transition to parenthood but with surrogacy this transition happened overnight (Zandi, Vanaki, Shiva et al., 2014; Ziv & Freund-Eschar, 2015). Conversely, some IPs felt their identity as a "parent" subsumed all other identities and struggled with losing an essential part of themselves (Maya & Adital, 2019). Counselling services should be available to help IPs prepare mentally and emotionally for their role as parents. Healthcare providers can also reassure and support parents as they build a relationship with their child.

### **Support mitigates barriers and facilitators to surrogacy:**

This study investigated IPs' perceptions of support and the barriers and facilitators they encountered while pursuing surrogacy. The findings suggest that these points are interrelated. Access to timely and appropriate support facilitate the various steps of surrogacy. However, a lack of support leaves parents frustrated and struggling with the surrogacy process

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(Mitra & Schicktanz, 2016; Riggs et al., 2015; Zandi, Vanaki, Mohammadi et al., 2014). This study highlights the areas that could be potential barriers for IPs and how, with appropriate support these can be overcome.

The biggest barrier to surrogacy encountered by IPs is the legal system. This is especially true for transnational surrogacy where multiple legal jurisdictions intersect, and contradictions occur (Arvidsson et al., 2019; Deomampo, 2013, 2015; Johnson et al., 2014). Many IPs are unaware of the legal processes involved until late in the surrogacy or after the birth (Zandi, Vanaki, Mohammadi et al., 2014). However, a minority of IPs turned to lawyers for support and reported fewer problems with the process (Arvidsson et al., 2019; see also Berk, 2015). The matter is further complicated when IPs receive conflicting information or when the rules change without warning (Deomampo, 2015; Nebeling Petersen, 2018). Often, social workers or bureaucrats make decisions with no clear guidelines to direct their judgements (Arvidsson et al., 2015; Arvidsson et al., 2018; Arvidsson et al., 2019; Crawshaw et al., 2013; Deomampo, 2015; Purewal et al., 2012;). Policy makers should address this lack by providing clear guidance on surrogacy processes. This guidance should be readily available to IPs and anyone working in the field of surrogacy.

The surrogate agencies were often the first place IPs looked to for support. IPs valued professional and personalised services (Kleinpeter et al., 2006). In addition to medical procedures, services ranged from matching IPs and surrogates, mediating disputes and, in some cases, monitoring surrogates (Kleinpeter et al., 2006; Saravanan, 2013). However, not all agencies met the IPs' expectations which could lead to significant stress (Deomampo, 2015; Kleinpeter et al., 2006; Riggs et al., 2015; Zandi, Vanaki, Mohammadi et al., 2014). In some cases, the IPs who had been supported throughout the surrogacy suddenly found

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themselves (due to a lack of policy) with no support shortly before the birth of their child.

These IPs reported feeling abandoned and frustrated that the surrogacy agency did not prepare them earlier in the process (Zandi, Vanaki, Mohammadi et al., 2014). Surrogacy agencies should have clear policies detailing the services provided, and when possible, agencies should direct IPs to additional resources. Having realistic expectations of the process and the support available will help IPs navigate surrogacy with greater confidence (Riggs et al., 2015).

Inclusive policies for same-sex parents are equally important. Gay fathers have reported feeling excluded from significant moments due to a lack of awareness from service providers (Fantus, 2020).

This study found that IPs sought support from various sources, including the surrogacy agency, loved ones and community groups (Fantus, 2020; Gezinski et al., 2018; Kleinpeter et al., 2006). Online community groups were useful for gay men deciding to pursue surrogacy (Carone et al., 2017b; & Maya & Adital, 2019, Murphy, 2013; Nebeling Petersen, 2018; Ziv & Freund-Eschar, 2015). Many participants expressed the belief that by "coming out of the closet" they had to give up the dream to parent. Seeing and connecting with other same-sex fathers allowed participants to take steps toward family formation (Fantus, 2020; Fantus & Newman, 2019; Maya & Adital, 2019; Murphy 2013; Nebeling Petersen 2018). Some participants lamented the lack of same-sex oriented parental groups feeling out of place in mother's groups (Fantus, 2020). Resources targeted to same-sex parents should be readily available, ideally including in-person support groups or classes; however, this may not be feasible outside large urban areas.

Consistent with previous research, this study found that interpersonal relationships, particularly between the IPs and surrogates are important throughout surrogacy (Fantus, 2021;

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MacCallum et al., 2003; Teman, 2009; Teman & Berend, 2018). Teman (2009) found that a close relationship with the surrogate helped intended mothers to embody the pregnancy and create a "mother" identity. This study builds on these findings by demonstrating that the surrogate is instrumental in facilitating IPs' participation in the pregnancy (Fantus, 2021). This helps them to feel connected to the baby. Unlike Teman's (2009) study, which only investigated women's experience, the current research has found men and women can benefit from these positive relationships.

### **Methodological Considerations:**

This paper is a systematic review using a qualitative meta-aggregative approach. The rigour of this approach in terms of its consistency, reliability and generalisability is comparable to that of quantitative reviews (Hannes & Lockwood, 2011; Kent & Fineout-Overholt, 2008; Lockwood et al., 2015; Munn et al., 2014). PRISMA guidelines were followed throughout the process (Page et al., 2021). All studies met pre-specified inclusion criteria and were assessed for quality. The quality of the included studies was high, with a score of .75 or above. The main findings of the included studies were broadly consistent with each other suggesting reliability and generalisability.

It is important to consider the limitations of the present study. Although a rigorous search method was employed, it is possible that some eligible papers were missed. Furthermore, only papers written in English were considered for this meta-synthesis and most studies were retrospective in nature and only included participants who had completed at least one successful surrogacy. This may have introduced bias into the samples making positive experiences more likely to be reported. The participants themselves may have engaged in socially desirable responding, having a vested interest in portraying surrogacy in a positive

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light. Another limitation of the present study is the under-representation of heterosexual men. Previous research has focused on intended mothers, and more recent research has investigated the experiences of gay intended fathers, however heterosexual fathers remain an understudied population.

Future research should address this gap by exploring heterosexual fathers' motivations and experiences of surrogacy. Previous research has shown that surrogates are more likely to bond with intended mothers than intended fathers (MacCallum et al., 2003; Teman & Berend, 2018). The research does not address how this exclusion affects intended fathers. This group may have distinct support needs that are not reflected in the current research.

Another area that would benefit from further research is investigating IPs' experiences of unsuccessful surrogacy arrangements. This could include failure to find a surrogate. This focus is pertinent in jurisdictions with restrictions on surrogacy, such as Australia, where only altruistic surrogacy is permitted. This could be a significant barrier for IPs pursuing domestic surrogacy (Everingham et al., 2014; Johnson et al., 2014). To the author's knowledge, there has been no specific research in this area. Unsuccessful surrogacy arrangements would also include failed conceptions and pregnancy loss. As discussed earlier, many intended mothers have previously suffered trauma due to infertility and/or pregnancy loss; a failed surrogacy could compound this trauma. The impacts on heterosexual and same-sex fathers is equally important. To date, there is limited research in this area. It is important that this gap in the literature is addressed to ensure appropriate care is available to this vulnerable population.

### **Reflexive paragraph**

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This researcher has no personal experience with surrogacy but is acquainted with two individuals who have used surrogacy. In one instance the acquaintance had completed her family through surrogacy before becoming close and has spoken openly about it. In the second, a close friendship developed as this woman investigated the possibility of surrogacy. This researcher offered support and companionship while the woman suffered several disappointments over many years before having a successful surrogacy. This experience was a driving influence in pursuing this project in order to better understand and support IPs.

### **Conclusion:**

Surrogacy is complex and, by no means, a certain path to family formation. There are many points along the journey in which something may go wrong. Health professionals have a duty of care to support IPs through the process. This must start by understanding the unique needs of the individual or couple seeking care. Appropriate resources must be available so IPs can make informed decisions. IPs who use transnational surrogacy also need access to support. Governments should include easily accessible information regarding the regulations and steps involved for IPs considering transnational surrogacy.

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**Appendix A: Logic Grids for Database Searches: Intended Parents and Surrogacy**

Database	Surrogacy	Parents	Qualitative
PubMed	"reproductive techniques, assisted"[mh] OR "surrogate mothers" [mh] OR reproduction[tiab] OR surrogacy[tiab] OR traditional surrogacy[tiab] OR gestational surrogacy[tiab] OR altruistic surrogacy[tiab] OR commercial surrogacy[tiab] OR gestational carrier [tiab]	"parents"[mh] OR parent[tiab] OR intended parent* [tiab] OR intending parent* [tiab] OR commissioning parent* [tiab] OR commissioned parent* [tiab] OR intended mother* [tiab] OR intending mother* [tiab] OR intended father* [tiab] OR intending father* [tiab] OR commissioned mother* [tiab] OR commissioning mother* [tiab] OR commissioned father* [tiab] OR commissioning father* [tiab] OR intended famil* [tiab] OR intending famil* [tiab]	"qualitative research"[mh:noexp] OR qualitative*[tiab] OR "focus groups"[mh] OR focus group*[tiab] OR interview*[tiab] OR thematic analys*[tiab] OR content analys*[tiab] OR lived experience*[tiab] OR personal experience*[tiab] OR interpretative phenomenolog*[tiab] OR ethnograph*[tiab] OR case stud*[tiab] OR narrative*[tiab] OR grounded theor* [tiab]
PsycINFO	"reproductive technology".sh OR "reproduct* technolo*".ti,ab OR reproduction.ti,ab OR surrogacy.ti,ab OR gestational carrier.ti,ab	"surrogate parents (humans)".sh OR parents.sh OR parent*.ti,ab OR intend* mother.ti,ab OR intend* father*.ti,ab OR commission* mother*.ti,ab OR intend* famil*.ti,ab	qualitative methods.sh OR qualitative*.ti,ab OR focus group.sh OR focus group*.ti,ab OR interviews.sh OR interview*.ti,ab OR thematic analysis.sh OR thematic analys*.ti,ab OR content analysis.sh OR content analys*.ti,ab OR lived experience*.ti,ab OR personal experience*.ti,ab OR interpretative phenomenological analysis.sh OR interpretative phenomenolog*.ti,ab OR ethnography.sh OR ethnograph*.ti,ab OR case stud*.ti,ab OR narratives.sh OR narrative*.ti,ab OR grounded theory.sh OR "ground* theor*".ti,ab

Embase	reproduction/de OR surrogacy/de OR reproduction:ti,ab OR surrogacy:ti,ab OR "gestational carrier":ti,ab OR "surrogate carrier":ti,ab	"intend* parent*":ti,ab,kw OR "commission* parent*":ti,ab,kw OR "intend* mother*":ti,ab OR "intend* father*":ti,ab OR "commission* mother*":ti,ab OR "commission* father*":ti,ab OR "intend* famil*":ti,ab	qualitative/de OR qualitative*:ti,ab OR focus group*:ti,ab OR interview/de OR interview*:ti,ab OR "thematic analys*"/de OR "thematic analys*":ti,ab OR "content analys*"/de OR "content analys*":ti,ab OR "personal experience*"/de OR "personal experience*":ti,ab OR "lived experience*":ti,ab OR "interpretative phenomenology*":ti,ab OR ethnograph*:ti,ab OR "case stud*":ti,ab OR narrative*:ti,ab
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CINAHL	MH reproduction OR TI reproduction OR AB reproduction OR MH reproduction techniques OR TI reproduction techniques OR AB reproduction techniques OR MH surrogate mothers OR TI surrogacy OR AB surrogacy OR TI traditional surrogacy OR AB traditional surrogacy OR TI gestational surrogacy OR AB gestational surrogacy OR TI altruistic surrogacy OR AB altruistic surrogacy OR TI commercial surrogacy OR AB commercial surrogacy OR TI gestational carrier OR AB gestational carrier	TI intend* parent* OR AB intend* parent* OR TI commission* parent* OR AB commission* parent* OR TI intend* mother* OR AB intend* mother* OR TI intend* father* OR AB intend* father* OR TI commission* mother* OR AB commission* mother* OR TI commission* father* OR AB commission* father* OR TI intend* famil* OR AB intend* famil*	MH qualitative studies OR TI qualitative OR AB qualitative OR MH focus groups OR TI focus group* OR AB focus group* OR MH interviews OR TI interview* OR AB interview* OR MH thematic analys* OR TI thematic analys* OR AB thematic analys* OR MH content analysis OR TI content analys* OR AB content analys* OR MH life experiences OR TI life experience* OR AB life experience* OR TI personal experience* OR AB personal experience* OR TI interpretative phenomenology* OR AB interpretative phenomenolog* OR TI ethnograph* OR AB ethnograph* OR MH case studies OR TI case stud* OR AB case stud* OR MH narratives OR TI narrative* OR AB narrative* OR MH grounded theory OR TI ground* theor* OR AB ground* theor*
Sociological Abstracts	TIAB(reproduction OR surrogacy OR reproduct* techniq*)	TIAB(intend* parent* OR commission* parent* OR intend* mother* OR intend* father* OR commission* mother* OR intend* famil*)	TIAB(qualitative research OR qualitative* OR focus group* OR interview* OR thematic analys* OR content analys* OR discourse analys* OR lived experience* OR personal experience* OR interpretative phenomenolog* OR ethnograph* OR case stud* OR narrative* OR ground* theor*)

Scopus	TITLE-ABS("reproduction" OR "surrogacy" OR "reproduct* techniq*" OR "traditional surrogacy" OR "gestational surrogacy" OR "altruistic surrogacy" OR "commercial surrogacy" OR "gestational carrier")	TITLE-ABS("intend* parent*" OR "commission* parent*" OR "intend* mother*" OR "intend* father*" OR "commission* mother*" OR "commission* father*" OR "intend* famil*")	TITLE-ABS("qualitative research" OR "qualitative*" OR "focus group*" OR "interview*" OR "thematic analys*" OR "content analys*" OR "lived experience*" OR "personal experience*" OR "interpretative phenomenolog*" OR ethnograph* OR "case stud*" OR narrative* OR "ground* theor*")
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INTENDED PARENTS' EXPERIENCES OF SURROGACY

**Appendix B: Data Extraction Sheet**

<b>Reviewer:</b>	<b>Date of Extraction:</b>	<b>Reference:</b>
<b>Title:</b>		
<b>Author:</b>		<b>Year:</b>
<b>Journal:</b>		

**Study Details**

<b>Methodology:</b>	<b>Date of Study:</b>
	<b>Location of Study:</b>
<b>Setting Context:</b>	
<b>Geographical Context:</b>	
<b>Cultural Context:</b>	

**Demographic Data**

<b>Total Sample Size:</b>	<b>Gender (% or n) Male:</b>	<b>Female:</b>
<b>Sexual Orientation:</b>	<b>Relationship Status Partnered:</b>	<b>Single:</b>
<b>Age range:</b>	<b>Mean:</b>	<b>SD:</b>
<b>Education:</b>	<b>Income:</b>	
<b>Profession:</b>	<b>Ethnicity (% or N):</b>	
	<b>European/Caucasian:</b>	<b>Asian:</b>
<b>Religion:</b>	<b>African:</b>	<b>Hispanic:</b>
	<b>Other:</b>	
<b>Religion:</b>	<b>Children:</b>	

**Surrogacy Details**

INTENDED PARENTS' EXPERIENCES OF SURROGACY

<b>Altruistic:</b>		<b>Commercial:</b>	
<b>Within Country:</b>		<b>Transnational:</b>	
<b>Traditional:</b>		<b>Gestational:</b>	
<b>Known:</b>	<b>Unknown:</b>	<b>Known:</b>	<b>Unknown:</b>
<b>Donor Gametes Used (% or n):</b>		<b>Eggs:</b>	<b>Sperm:</b>
<b>Children Born/Conceived (n):</b>	<b>Single:</b>	<b>Twins:</b>	<b>Triplets or more:</b>

Evidence/Findings

<b>Findings:</b>
<b>Lived Experience:</b>
<b>Reasons for Surrogacy:</b>
<b>Barriers and Facilitators:</b>
<b>Ambiguity/Control:</b>
<b>Perceptions of Support:</b>
<b>Author's Conclusions:</b>
<b>Themes Identified</b>
<b>Comments:</b>

## Appendix C: ENTREQ

*Enhancing transparency in reporting the synthesis of qualitative research: the ENTREQ statement (Tong et al., 2012)*

No	Item	Guide and description	Page No
1	Aim	State the research question the synthesis addresses.	16
2	Synthesis methodology	Identify the synthesis methodology or theoretical framework which underpins the synthesis, and describe the rationale for choice of methodology (e.g. meta-ethnography, thematic synthesis, critical interpretive synthesis, grounded theory synthesis, realist synthesis, meta-aggregation, meta-study, framework synthesis)	16 - 17
3	Approach to searching	Indicate whether the search was pre-planned (comprehensive search strategies to seek all available studies) or iterative (to seek all available concepts until theoretical saturation is achieved).	17 - 18
4	Inclusion criteria	Specify the inclusion/exclusion criteria (e.g. in terms of population, language, year limits, type of publication, study type).	18 - 19
5	Data sources	Describe the information sources used (e.g. electronic databases (MEDLINE, EMBASE, CINAHL, PsycINFO, Econlit), grey literature databases (digital thesis, policy reports), relevant organisational websites, experts, information specialists, generic web searches (Google Scholar) hand searching, reference lists) and when the searches conducted; provide the rationale for using the data sources	17
6	Electronic search strategy	Describe the literature search (e.g. provide electronic search strategies with population terms, clinical or health topic terms, experiential or social phenomena related terms, filters for qualitative research, and search limits).	17 - 18
7	Study screening methods	Describe the process of study screening and sifting (e.g. title, abstract and full text review, number of independent reviewers who screened studies).	19
8	Study characteristics	Present the characteristics of the included studies (e.g. year of publication, country, population, number of participants, data collection, methodology, analysis, research questions).	22, 24 - 25



9	Study selection results	Identify the number of studies screened and provide reasons for study exclusion (e.g. for comprehensive searching, provide numbers of studies screened and reasons for exclusion indicated in a figure/flowchart; for iterative searching describe reasons for study exclusion and inclusion based on modifications to the research question and/or contribution to theory development).	19 - 20
10	Rationale for appraisal	Describe the rationale and approach used to appraise the included studies or selected findings (e.g. assessment of conduct (validity and robustness), assessment of reporting (transparency), assessment of content and utility of the findings).	21
11	Appraisal items	State the tools, frameworks and criteria used to appraise the studies or selected findings (e.g. Existing tools; CASP, QARI, COREQ, Mays and Pope; reviewer developed tools; describe the domains assessed; research team, study design, data analysis and interpretations, reporting).	21
12	Appraisal process	Indicate whether the appraisal was conducted independently by more than one reviewer and if consensus was required.	21
13	Appraisal results	Present results of the quality assessment and indicate which articles, if any, were weighted/excluded based on the assessment and give the rationale	21
14	Data Extraction	Indicate which sections of the primary studies were analysed and how were the data extracted from the primary studies? (e.g. all text under the headings "results/conclusions were extracted electronically and entered into a computer software).	22
15	Software	State the computer software used, if any.	19
16	Number of reviewers	Identify who was involved in coding and analysis.	22
17	Coding	Describe the process for coding of data (e.g. line by line coding to search for concepts).	22
18	Study comparison	Describe how were comparisons made within and across studies (e.g. subsequent studies were coded into pre-existing concepts, and new concepts were created when deemed necessary).	22
19	Derivation of themes	Explain whether the process of deriving the themes or constructs was inductive or deductive.	32

20	Quotations	Provide quotations from the primary studies to illustrate themes/constructs, and identify whether the quotations were participant quotations or the author's interpretation.	34 - 51
21	Synthesis output	Present rich, compelling and useful results that go beyond a summary of the primary studies (e.g. new interpretation, models of evidence, conceptual models, analytical framework, development of a new theory or construct).	33

## Appendix D: Quality Appraisal

*Quality Assessment of Included Studies (n = 25)*

Qualsyst Study Criteria											
Lead Author (Year)	Question/ Objective	Study Design	Context	Theoretical Framework	Sampling Strategy	Data Collection	Data Analysis	Verification	Conclusions	Reflexivity	Summary Score
Arvidsson 2018	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.75
Arvidsson 2015	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.90
Blake 2017	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.90
Carone 2017a	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.90
Carone 2016b	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.95
Deomampo 2013	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.90
Deomampo 2015	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.75
Fantus 2020	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.90
Fantus 2019	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.90
Fantus 2021	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.90

Gezinski 2018	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.90
Kleinpeter 2006	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.75
Malmquist 2020	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.85
Pande 2015	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.85
Pande 2011	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.75
Papaligoura 2015	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.90
Riggs 2015	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.75
Rudrappa 2015	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.80
Saravanan 2013	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.80
Smietana 2021	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.80
Maya 2019	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.95
Zandi 2014	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.90
Zandi 2014	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.90
Zandi 2018	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	.90

Ziv  
2014



.75

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