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ARTICLE

The long-term experiences of surrogates: relationships and contact with surrogacy families in genetic and gestational surrogacy arrangements

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Susan Imrie was awarded an MSc in Psychology at the University of Hertfordshire. She is currently working on a study examining parental psychological wellbeing and parent–child relationships in infancy in families who have used fertility treatment, and is also involved in a project looking at the experiences and long-term psychological health of surrogate mothers and their families.

Abstract This study examined the contact arrangements and relationships between surrogates and surrogacy families and whether these outcomes differed according to the type of surrogacy undertaken. Surrogates' motivations for carrying out multiple surrogacy arrangements were also examined, and surrogates' psychological health was assessed. Semi-structured interviews were administered to 34 women who had given birth to a child conceived through surrogacy approximately 7 years prior to interview. Some surrogates had carried out multiple surrogacy arrangements, and data were collected on the frequency, type of contact, and surrogate's feelings about the level of contact in each surrogacy arrangement, the surrogate's relationship with each child and parent, and her experience of, and motivation for, each surrogacy. Questionnaire measures of psychological health were administered. Surrogates had completed a total of 102 surrogacy arrangements and remained in contact with the majority of families, and reported positive relationships in most cases. Surrogates were happy with their level of contact in the majority of arrangements and most were viewed as positive experiences. Few differences were found according to surrogacy type. The primary motivation given for multiple surrogacy arrangements was to help couples have a sibling for an existing child. Most surrogates showed no psychological health problems at the time of data collection.

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KEYWORDS: contact, psychological health, relationship, surrogacy family, surrogacy, surrogate mother

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Introduction

Surrogacy, the process whereby a woman carries and gives birth to a baby for a couple who cannot conceive naturally, has become an increasingly popular means of building a family in the UK in recent years (Crawshaw et al., 2012). Surrogacy is legal in the UK on an altruistic and non-commercial basis, and surrogacy arrangements can be either gestational or genetic. In genetic surrogacy (also known as straight, traditional or partial surrogacy), the surrogate uses her own egg and becomes pregnant through artificial insemination usually using the intended father's sperm. In gestational surrogacy (also called host or full surrogacy), the surrogate gestates the couple's embryo, or an embryo created using donor gametes, and becomes pregnant using IVF. Recent figures suggest that 46% of reported IVF cycles for surrogacy in the USA involve donor eggs (Bernstein, 2013).

Although both types of surrogacy arrangements are currently practised in the UK, medical practitioners and surrogacy agencies in the USA generally recommend gestational surrogacy as the preferred method; however, genetic surrogacy arrangements do occur and are legal in four states (Bernstein, 2013). This preference for gestational surrogacy is partly due to the lower risk it presents in terms of certainty over legal parentage in some states (American Society for Reproductive Medicine, 2012a). There is also a perception that genetic surrogacy has the potential to be more complicated psychologically, genetic surrogates being thought more likely to change their minds about handing the baby over to the intended parents (Bernstein, 2013; Trowse, 2011), despite a lack of empirical evidence to support this view. Concerns have also been raised about the lack of involvement of mental health professionals in genetic surrogacy arrangements as the procedure sometimes occurs without a clinic's involvement (although a clinic's involvement does not guarantee that mental health professionals will always be involved). This lack of involvement, coupled with the surrogate being the genetic mother of the child, may increase the risks of problems occurring (Edelmann, 2004). These concerns are shared by some UK fertility clinics (Balen and Hayden, 1998) and have been reflected on the international stage by the publication of a report on surrogacy by the International Federation of Gynecology and Obstetrics (FIGO) Committee for the Ethical Aspects of Human Reproduction and Women's Health stating that only gestational surrogacy is acceptable (FIGO Committee Report, 2008). Studies of surrogates have found, however, that the type of surrogacy does not seem to influence satisfaction with the surrogacy experience (Ciccarelli, 1997; Jadva et al., 2003), with most surrogates reporting positive experiences and few regretting their decision to become a surrogate (Blyth, 1994; Ciccarelli, 1997; Jadva et al., 2003; van den Akker, 2003).

To date, psychological research into surrogacy has focused on the motivations, experiences and psychological wellbeing of UK and US-based surrogates taking part in domestic surrogacy arrangements, with a minority of studies considering whether these variables differ according to surrogacy type. Studies looking at the psychological wellbeing of UK surrogates have found that surrogates do not experience psychological health problems as a result of the surrogacy arrangement 6 months after birth (van den Akker, 2005) or 1 year after birth (Jadva et al., 2003). Clinical evaluations of American women applying to become gestational surrogates showed no psychopathology (Braverman and Corson, 1992) and found lower levels of anxiety and tension and higher resilience to stress in surrogate candidates compared with a normative female sample (Pizitz et al., 2013). Little is known, however, about surrogates' psychological health over the longer term.

Surrogates in the UK have been reported as being motivated by altruistic reasons, primarily the desire to help childless couples (Blyth, 1994; Jadva et al., 2003; van den Akker, 2003). Similar motivations have been reported by American surrogates, with the desire to help others have children often influenced by surrogates' own positive experiences as parents (Hohman and Hagan, 2001; Ragoné, 1994). The only study to consider surrogates' motivations for undertaking additional surrogacy arrangements suggested that surrogates may explain the decision as wanting to help their couple have a sibling for their first child (Ragoné, 1994), although little is known about the motivations of surrogates carrying out multiple surrogacy arrangements or how many surrogacy arrangements surrogates undertake.

The relationship between surrogates and couples has been found to play a crucial role in the surrogacy experience (Braverman and Corson, 1992; Fisher, 2013; Roberts, 1998), with the surrogate's satisfaction with her experience largely determined by the quality of the relationship (Baslington, 2002; Ciccarelli, 1997; Hohman and Hagan, 2001). Some studies have suggested that it is the relationship between the surrogate and the intended mother that is central to the surrogacy process (MacCallum et al., 2003; Ragoné, 1994; Teman, 2010). It has been argued that relationships between surrogates and couples are shaped by cultural ideals around the importance of family, the preciousness of children, and intent as central to parenthood (Berend, 2010, 2012), but little is known about how surrogates view these relationships over time.

Most surrogates and surrogacy families have been found to remain in contact in the short-term in studies of UK and US-based surrogates (Blyth, 1994; Braverman and Corson, 2002; Jadva et al., 2003). One study of 34 UK surrogates found that surrogates maintained contact with 79% of couples and 76% of children 1 year after the birth of the child, although the level of contact varied greatly (Jadva et al., 2003). Surrogates saw just under one-third of surrogacy families at least once a month, with contact varying in the remainder of arrangements between once a month and once a year. Finding a level of contact with which they feel comfortable has been found to be an important factor for surrogates (Baslington, 2002). A study of US surrogates found that, although only one surrogacy resulted in a social friendship, most surrogates and couples remained in contact by phone, and only two reported feeling any regret about their lack of contact (Hohman and Hagan, 2001). Similarly, most UK surrogates (94%) reported being happy with their level of contact with the child in the year after the birth (Jadva et al., 2003).

In terms of the surrogate's relationship with the child conceived through surrogacy, surrogates report that they do not view the child as their own child (Jadva et al., 2003; Ragoné, 1996; Roberts, 1998), although 41% report feeling a 'special bond' towards the child, a finding that does not differ according to surrogacy type (Jadva et al., 2003). It is not known, however, how surrogates feel about the child as the child grows older, or how surrogates feel about the relationship (i.e.

whether the relationship is enjoyed, or whether it creates difficulties).

Whether it is feasible for relationships in surrogacy arrangements to be sustained over the longer term is an important question, and the period 5–10 years after birth has been identified as crucial in surrogate–couple relationships (Ciccarelli, 1997). Ciccarelli (1997) found that a minority of surrogates became increasingly dissatisfied with the surrogacy arrangement over this period, as contact with the couple tapered off. Some claim that surrogacy creates uncertainties in relationships (Appleton, 2001), and concerns have also been raised about the abilities of those involved to create and maintain clear boundaries, with the possibility that remaining in contact may undermine the relationship between the parents and the child, and that surrogates may find it difficult to be reminded about the child (Brazier et al., 1998). Conversely, in New Zealand, where all applications for surrogacy must be considered by the Ethics Committee on Assisted Reproductive Technology, the relationship between the couple and surrogate is one of the areas explored by the committee because it is believed that an ongoing relationship may contribute to the child's wellbeing (Anderson et al., 2012).

Little empirical evidence is available about long-term contact and relationships between surrogates and surrogacy families, and the studies that exist often have small sample sizes. One early study of 10 surrogates in the USA who gave birth before 1988 found that 60% had no contact with the surrogacy family 10–15 years after the birth, an arrangement determined by the couple rather than the surrogate, who felt some degree of disappointment about the loss of the relationship (Reame et al., 1998). Similarly, a study of 14 surrogates who were interviewed 3–10 years after the surrogacy found that dissatisfaction with the arrangement increased for a minority of surrogates as contact with the surrogacy family started to diminish (Ciccarelli, 1997). More recently, a study of 33 families created through surrogacy found that 61% remained in contact with their surrogate 10 years after the surrogacy and 75% were happy with the amount of contact they had (Jadva et al., 2012). Of those who were in contact, most reported a harmonious relationship, the quality of which had not changed significantly over the 10-year period, and did not differ according to surrogacy type (Jadva et al., 2012). How this contact is viewed from the surrogate's perspective, or whether this pattern remains when larger numbers of surrogacy arrangements are considered, is not known.

The present study aimed to establish whether surrogates maintained contact with surrogacy families over the long term, (mean = 7 years after the birth of the child), how surrogates viewed these relationships and whether these outcomes varied according to surrogacy type (genetic versus gestational). In addition, the study assessed surrogates' psychological health. Finally, this study for the first time examined surrogates' motivations for undergoing multiple surrogacy arrangements. Most of the surrogates had taken part in the study by Jadva et al. (2003), and, in order to increase the sample size, additional surrogates were recruited who had carried a surrogacy pregnancy around the same time as the original sample. As many surrogates in the sample had carried out multiple surrogacy arrangements, and some had also carried out surrogacy arrangements before the time period specified in the recruitment materials, all completed surrogacy arrangements were included in the analysis in order to obtain a clearer impression of relationships and contact arrangements across multiple surrogacy arrangements.

Materials and methods

The study reports data from an investigation of surrogates, their partners and their children. Data from the children and partners are presented elsewhere (Jadva and Imrie, 2013, in press). This paper reports data from all 34 of the surrogates seen in this study. Twenty had taken part in an earlier study (Jadva et al., 2003) and 14 were recruited during the current phase of the study. Of the original 34 surrogates in the study by Jadva et al. (2003), two declined to take part in the current study for personal reasons, and the remaining 18 had moved home and could not be traced.

The 14 additional participants were recruited through two UK surrogacy organisations (Surrogacy UK and COTS) and two UK fertility clinics (Bourn Hall Clinic and CARE Fertility, Manchester). The additional participants had to have carried a surrogacy pregnancy 5–12 years before the interview in order to match the surrogates from the original sample who had completed their surrogacy arrangement 10 years previously. This resulted in the recruitment of 12 participants. The criteria were then extended to include 2–12 years in order to increase the sample size; this resulted in the recruitment of two additional participants. Participants were aged between 23 and 62 years, and all lived in the UK. Surrogates' characteristics are presented in **Table 1**. Surrogacy was defined as having occurred when the surrogate carried and gave birth to a child for intended parent(s), and legal parentage was transferred, though not necessarily through a Parental Order application. Data were collected between April 2011 and December 2012.

Ten surrogates had completed a single surrogacy arrangement and 24 had completed more than one surrogacy arrangement. Surrogates had completed between one and eight surrogacy arrangements each (mean = 3.06, SD = 2.03). The number of surrogacy arrangements each surrogate had completed is shown in **Table 1**. Five surrogates were pregnant with further surrogacy arrangements at the time of data collection.

In total, the 34 surrogates had completed 102 surrogacy arrangements, of which seven were twin births. Of the surrogacy births that had taken place, 61 were genetic surrogacy arrangements and 41 were gestational surrogacy arrangements. Six surrogacy arrangements were for couples who were previously known to the surrogate (i.e. a friend or family member), 75 were for couples who were previously unknown to the surrogate (i.e. met through a surrogacy organisation or third party) and 21 were for couples for whom the surrogate had previously completed a surrogacy arrangement. A detailed breakdown of how surrogates met the intended parents is shown in **Table 2**.

Surrogates had completed a total of 96 surrogacy arrangements for 76 heterosexual couples, four surrogacy arrangements for four same-sex male couples, and two surrogacy arrangements for one single gay man. A total of 87 surrogacy arrangements were carried out within the framework of a voluntary surrogacy organisation. Four surrogacy arrangements were carried out for couples who lived outside the UK.

Table 1 Sample characteristics.

Parameter	*Surrogates (n = 34)*
Age of surrogate (years)[a]	41 ± 6.63
Own children	
Yes	33 (97%)
No	1 (3%)
Marital status	
Married/co-habiting	22 (65%)
Non-co-habiting partner	3 (9%)
Divorced/separated	7 (21%)
Single	2 (6%)
Working status	
No	9 (26%)
Part-time	15 (44%)
Full-time	8 (24%)
Retired	1 (3%)
Full-time higher education	1 (3%)
Occupation	
Professional/managerial	12 (35%)
Skilled non-manual	12 (35%)
Skilled manual	6 (18%)
Partly skilled	4 (12%)
Type of surrogacy	
Genetic	12 (35%)
Gestational	14 (41%)
Genetic and gestational	8 (24%)
Number of surrogacy arrangements	
1	10
2–3	14
4–5	6
6+	4

[a]Value is mean ± SD.

Table 2 How surrogates met intended parents.

How surrogate met intended parents	*Number of surrogacy arrangements*
COTS	52
Couple known from previous surrogacy	21
Surrogacy UK	14
Internet (e.g. Surromomsonline)	4
Couple were family members	3
Couple were friends	3
Introduced by family member	1
Introduced by colleague	1
Fertility show	1
Surrogacy Parenting Centre	1
Facebook	1

COTS and Surrogacy UK are UK-based voluntary organisations. The Surrogacy Parenting Centre was founded in 1993 as a voluntary organisation, and is no longer in existence.

Table 3 Age of child conceived through surrogacy at time of data collection.

Age (years)	*Number of children*
0–2	17
3–5	22
6–8	25
9–11	24
12–14	7
15–18	7

The age of the children born through surrogacy at the time of data collection is presented in **Table 3**. Children were aged between 0 and 18 years (mean = 7.11; SD = 4.36; median = 7.00).

Participants were visited at home and interviewed using a semi-structured interview that was digitally recorded. Written consent was obtained from participants, and ethical approval for the study was obtained from the University of Cambridge's Psychology Research Ethics Committee (approval date 15 March 2011, reference number 2011.20).

Participants were asked about their motivations for each surrogacy and their experiences of each surrogacy. Information about their contact arrangements and relationship with the parents and child for each surrogacy arrangement were also obtained. The participants' psychological wellbeing was also assessed. Data were coded using a strict coding manual used by a previous study (Jadva et al., 2003). One-third of the interviews were rated by a second interviewer. Mean Kappa was 0.80 (ranging from 0.402 to 1.0).

Contact with the surrogacy family

Data were collected on the following: (1) the current frequency of contact with the child and the child's parents, measured on a four-point scale ranging from 'once or twice a year', rated 1, to 'more than once a week', rated 4; (2) the type of contact with the child born through surrogacy and the child's parents; and (3) how the surrogate felt about her level of contact with the child and the child's parents. This was categorised as 'not enough', coded when the surrogate wanted more contact, 'about right' coded when they were happy with the level of contact they had, and 'too much', when they reported that they had more contact than they would like.

Relationship with the surrogacy family

Data were collected on the surrogate's overall relationship with the child and the child's parents, coded as 'positive' (when the surrogate described a warm or friendly relationship), 'neutral/ambivalent' (when the surrogate described a relationship which was unproblematic but with a sense of emotional distance), or 'negative' (when evidence of arguments or a breakdown in communication were present). Quotations have been included in the paper to illustrate examples of the types of relationships, but the code for each relationship was assigned using the entire interview transcript.

Overall experience of the surrogacy arrangement

Data were collected on surrogates' experiences of each completed surrogacy coded as 'positive experience' (coded when the experience was described as a positive source of enjoyment with no major problems), 'neutral/ambivalent experience' (coded when the experience was described as unproblematic but with no overt signs of enjoyment or pleasure), or 'negative experience' (coded when the experience was described as a source of disappointment, distress, or both).

Motivations for surrogacy

Data were collected on participants' motivations for surrogacy. Responses were coded as 'wanting to help a childless couple', 'wanting to help a friend', 'wanting to help a family member', 'enjoyment of pregnancy', 'payment' and 'other'. Participants were also asked, where applicable, about their motivations for each subsequent surrogacy, and the following codes were added to the existing codes: 'sibling for an existing surrogacy child', coded where the surrogate expressed wanting to have a surrogacy child for a family for whom she had already completed a surrogacy arrangement, 'previous positive experience of surrogacy', and 'other'. Where more than one reason had been given, this was also rated.

Psychological wellbeing

Participants were asked to complete The Rosenberg's Self-Esteem Scale (RSES, Rosenberg, 1965) to assess global self-esteem and the Beck Depression Inventory – ii (BDI-ii, (Beck, 1996) to assess depression. Both measures are widely used and have good reliability and validity. The interview also obtained information from participants about their psychological health history before and after becoming a surrogate.

Results

Results are reported as cases and percentages. Data are presented for all the surrogacy arrangements undertaken ($n = 102$). For the purposes of analysis, each set of twins will be reported as one child. Where analyses are carried out comparing variables for couples by type of surrogacy, one heterosexual couple who had had one child through genetic surrogacy and one child through gestational surrogacy with the same surrogate were excluded from the analysis.

For the variables relating to type of contact, relationships with the surrogacy families and the overall assessment of the surrogacy experience, differences between gestational and genetic surrogacy arrangements were assessed using chi-squared analyses or Fisher's exact tests. Variables relating to frequency of contact were analysed using non-parametric Kruskal–Wallis and Mann–Whitney tests.

As 14 surrogates from the original study (Jadva et al., 2003) did not take part in the current phase of the study, we examined whether those who did not take part differed from those who did. The variables compared were the type of surrogacy undertaken, the relationship with either the mother or the father, and their feelings about the child at phase 1. Chi-squared analyses found no statistically significant differences between the phase 1 surrogates who took part in the current study and those who did not with regard to the type of surrogacy undertaken (nine genetic surrogates and 11 gestational surrogates took part in the current study compared with 10 genetic and four gestational surrogates who did not ($\chi^2[1] = 2.33$, $P = 0.13$). Similarly, no statistically significant differences were found in the relationship with the mother (95% [19/20] of surrogates who took part in the current study reported a harmonious relationship at phase 1 compared with 100% [14/14] of surrogates who did not take part (Fisher's exact test, $P = 1.00$)), or with the father (95% [19/20] of surrogates who took part in the current study reported a harmonious relationship at phase 1 compared with (93% [13/14] of surrogates who did not take part (Fisher's exact test, $P = 1.00$)). No statistically significant difference was found in whether or not the surrogates reported a special bond with the child (60% [12/20] of surrogates who took part in the current study reported 'no special bond' at phase 1 compared with (57% [8/14] of surrogates who did not take part ($\chi^2[1] = 0.03$, $P = 0.87$)).

Contact with the surrogacy family

Surrogates had remained in contact with 77% (79) of the children (33 gestational, 46 genetic). In two further cases, children had been born within the last year and both surrogates intended to have contact when the children were older. Surrogates had remained in contact with 85% (62) of the mothers (28 gestational, 34 genetic) and 76% (65) of the fathers (31 gestational, 34 genetic). No significant differences were found between the type of surrogacy undertaken and whether or not surrogates remained in contact with children ($\chi^2[1] = 0.49$, $P = 0.48$), mothers (Fisher's exact test, $P = 1.00$) and fathers ($\chi^2[1] = 3.23$, $P = 0.07$).

For those who remained in contact, the frequency of contact between the surrogates and the child and parents are shown in Table 4. A Kruskal–Wallis test was carried out to examine whether the frequency of contact varied with each family member. A statistically significant difference was observed in frequency of contact between the surrogate and different family members ($H[2] = 28.998$, $P < 0.001$). Post-hoc analyses with Mann–Whitney tests showed that surrogates maintained significantly more frequent contact with mothers than with children ($U = 1276.50$, $P < 0.001$, $r = -0.43$) or fathers ($U = 1242$, $P < 0.001$, $r = -0.35$). No significant difference was found in frequency of contact between surrogates' contact with children and fathers ($U = 2317.50$, $r = -0.09$).

Frequency of contact according to the type of surrogacy was analysed using Mann–Whitney tests. Surrogates' frequency of contact with mothers whose child had been born through genetic surrogacy (median = 1.50) was significantly less frequent than with mothers whose child had been born through gestational surrogacy (median = 3.00, $U = 200.50$, $P < 0.001$). Similarly, surrogates remained in significantly more frequent contact with gestational surrogacy fathers (median = 2) than with genetic surrogacy fathers (median = 1), ($U = 356.00$, $P < 0.05$). No significant

Table 4 Surrogates' frequency of contact with the surrogacy family.

Frequency	*Child (n = 79)*		*Mother (n = 62)*		*Father (n = 65)*	
	n	%	n	%	n	%
Once or twice a year	42	53	13	21	30	46
Once a month to once every 3 months	29	37	19	31	24	37
Once a week to once a month	7	9	20	32	8	12
At least once a week	1	1	10	16	3	5

Table 5 Surrogates' feelings about level of contact with the surrogacy family.

Feelings about level of contact	*Contact with child*		*Contact with mother*		*Contact with father*	
	Yes	*No*	*Yes*	*No*	*Yes*	*No*
Not enough	7	8	3	5	3	5
About right	71	15	59	6	60	15
Too much	1	0	0	0	2	0

difference was found between surrogates' frequency of contact with children born through gestational surrogacy (median = 1) and with children born through genetic surrogacy (median = 1), ($U = 671.50$, $P = 0.33$).

Of the 21 surrogates who had completed more than one surrogacy arrangement for more than one family, most maintained different levels of contact with each family. That is, most surrogates (81% [17]) maintained different frequencies of contact for different children, different mothers (81% [17]) and different fathers (90% [19]). Three surrogates had completed two surrogacy arrangements for one family each, and all three surrogates had the same frequency of contact for both children born through surrogacy within each family.

Type of contact with the surrogacy family

Of the surrogates who maintained contact with the child, most maintained face-to-face contact (97% [77/79]). In the remaining two cases, the surrogate sent presents or communicated via Facebook. Of those who had remained in contact with mothers, most had face-to-face contact (89% [55/62]). Where surrogates remained in contact but did not have face-to-face contact, other types of contact with mothers included letters or email (5% [3]), phone (5% [3]) and receiving photos (with no letter) (1). Most contact with fathers was face-to-face (89% [58/65]) and in cases where surrogates and fathers had remained in contact but did not have face-to-face contact, types of contact included letters or email (6% [4]), phone (3% [2]) and receiving photos (1).

Surrogates' feelings about their level of contact with the surrogacy family

Surrogates' feelings about their level of contact with the surrogacy family are shown in **Table 5**. Surrogates were happy with their level of contact with the child in 84% (86) of surrogacy arrangements. Surrogates who had contact with the child, and who were happy with their level of contact, reported that their level of contact felt natural, was comfortable for the surrogate, the child and his or her parents, and fitted into what were, in most cases, busy family lives. One surrogate described her feelings about her current level of contact: 'it's perfect, I mean we've all got children and we all pretty much live for the school holidays cos nobody gets any time so it's really nice that we all make the effort to get together in the school holidays.'

In seven of the 15 surrogacy arrangements where the surrogate had no contact with the child and was happy with her level of contact, the surrogate had remained in contact with the child's parents and received photos of the child, updates on the child's development, or both. In four surrogacy arrangements, the surrogate had chosen not to have any contact with the family, believing it was better for her or better for the child. In two cases, the surrogate planned to have contact when the child was older. In one case, the surrogate had agreed to no contact as this was the couple's preference, and, in another case, both the surrogate and the couple believed that no contact was the best option.

In seven of the eight arrangements where the surrogate had no contact with the child and wanted more contact, the surrogate and couple had agreed before the child was born that they would remain in contact, but contact had been stopped by the couple. The length of time since surrogates had last had contact with the child or received an update about the child ranged from 1 to 14 years. Surrogates in this situation expressed a desire to know how the child was doing.

No significant differences were found according to surrogacy type with regard to surrogates' feelings about their level of contact with the child (in 80% (33/41) of gestational surrogacy arrangements and 88% (53/61) of genetic surrogacy arrangements surrogates reported that their level of contact with the child was 'about right' ($\chi^2(1) = 1.19$, $P = 0.28$), with the mother (level of contact with the mother was reported as 'about right' with 85% (28/33) of mothers in gestational surrogacy arrangements and with 92% (37/40) of mothers in genetic surrogacy arrangements (Fisher's exact test, $P = 0.46$)), or with the father (level of contact with the father was reported as 'about right' with 86% (31/36) of fathers in

gestational surrogacy arrangements and with 90% (44/49) of fathers in genetic surrogacy arrangements (Fisher's exact test, $P = 1.00$)).

Relationship with the surrogacy family

Relationship with the child

In surrogacy arrangements in which the surrogate and child had remained in contact, the surrogate reported a positive relationship with the child in 76% (60) of arrangements. In 11% (9) of arrangements the surrogate reported a neutral relationship, and in 10% (8) of arrangements the surrogate stated that she did not view herself as having a relationship with the child. In 3% (2) of arrangements surrogates were unable to describe their relationship with the child because they believed the child was too young. None of the surrogates reported a negative relationship with the child. No significant difference was found between whether surrogates reported a positive relationship or a neutral/no relationship with the child and the type of surrogacy undertaken (surrogates reported a positive relationship with 85% (28/33) of gestational surrogacy children and with 70% (32/46) of genetic surrogacy children ($\chi^2[1] = 2.92$, $P = 0.09$).

The transcripts of the interviews revealed that surrogates frequently describe close, happy relationships with the child. The child was often described as 'lovely' and much warmth was evident in the surrogate's description of the child, for example: 'she's absolutely wonderful, she's a gorgeous child', and the relationship is 'nice, it's really close, she gets really excited when we come down to see her'. Many surrogates also mentioned enjoying watching the child grow up and receiving updates on the child's life: 'it's really good to get a letter to say their first day at school, get a picture of them in their school uniform, all those sorts of things'. A further theme that emerged was surrogates' enjoyment of the time they spent with the child, with many laughing and telling unprompted humorous stories to illustrate their pleasure in the relationship.

Surrogates who reported neutral relationships with the child described relationships that were more emotionally distant: for example, 'I think it's like any of my friends' children, I don't get personally involved with them even when they come to visit me'.

In terms of how the surrogate felt towards the child, surrogates reported feeling a 'special bond' towards the child in 39% (40) of surrogacy arrangements, and one surrogate reported that one child was 'like her own child'. No 'special bond' was reported in 60% (61) of surrogacy arrangements. Of the surrogates who had carried out multiple surrogacy arrangements, 75% (18) reported consistent feelings towards all the children, and 25% (6) reported different feelings for different children. Comparing genetic and gestational surrogacy arrangements, surrogates were significantly more likely to report feeling no 'special bond' towards children born through genetic surrogacy ($\chi^2[1] = 12.31$, $P < 0.001$), compared with children born through gestational surrogacy.

An example of a report of a special bond was 'I think the world of her, there's nothing maternal there but I love her to bits, so I mean she's, she'll always be a special little girl to me'.

An example of a report of no special bond was, 'I've got no real feelings for him, I mean like I say he was my first so I always remember that but apart from that, it, you know, nothing really'.

Relationship with the couple

Surrogates reported a similar pattern in their relationships with the couples. Of those surrogates and parents who had remained in contact, surrogates reported a positive relationship with 89% (55) of mothers and 85% (55) of fathers. Surrogates reported a neutral or ambivalent relationship with 8% (8) of mothers and 9% (6) of fathers, and stated they had no relationship with 3% (2) of mothers and 6% (4) of fathers. No surrogates who had remained in contact with the couples reported a negative relationship.

The primary theme that emerged from the analysis of relationships categorised as positive was that surrogates viewed the relationship as a genuine, close friendship, which felt 'natural' and 'easy': 'we can just all be ourselves and we know nobody's perfect, but having been through so much with the surrogacies you just get to see it all [laughs], and it's nice to have people around that you don't feel you need to put up any barriers, you can just be'. Many expressed warmth when speaking about the relationships, describing the couples as people they enjoyed spending time with and talking to, with many mentioning 'clicking' with a couple and describing them as people they would have been friends with irrespective of the surrogacy: 'we really clicked straight away, and that's really why I decided to choose [couple] because [mother] was just lovely, just really lovely and the more we, the more we chatted the more we got on, you know, and I think we would have been friends anyway regardless of the surrogacy, I think we would have just got on anyway'. The relationships were also characterised by openness, honesty and trust, with many providing mutual support, 'they'd be there for me anytime I need them and I'm there for them and yeah I can confide in them and talk to them, yeah they're good, they're good friends'.

Neutral relationships tended to be more emotionally distant, with surrogates expressing less warmth towards the mother or father, but not experiencing any problems with the relationship either: for example, '[father]'s fine, I don't tend to have a long conversation with him because he just doesn't, but that's not to say there's anything wrong with him, it's just he's not one for chatting, but he's perfectly ok'.

Overall experience of surrogacy

Surrogates reported that 87% (89) of surrogacy arrangements had been positive experiences. Eight percent (8) of surrogacy arrangements were categorised as neutral or ambivalent experiences, and 5% (5) were categorised as negative experiences. Of the five surrogates who reported one negative surrogacy arrangement each, three had completed one or more further surrogacy arrangements which had been positive experiences, and one was pregnant with a further surrogacy at the time of data collection. No significant

difference was found between whether a surrogate's overall experience of a surrogacy arrangement had been positive or not, and the type of surrogacy carried out 93% (38/41) of gestational surrogacies, and 84% (51/61) of genetic surrogacies were rated as positive experiences ($\chi^2[1] = 1.82$, $P = 0.18$)).

Motivations for first surrogacy arrangement

The most common motivation for a first surrogacy was 'wanting to help a childless couple', as reported by 59% (20) of surrogates. Fifteen per cent (5) of surrogates reported both 'wanting to help a childless couple' and 'enjoyment of pregnancy' as their reasons for surrogacy, 9% (3) wanted to help a relative and 6% (2) wanted to help a friend. Eleven per cent (4) of surrogates reported other reasons.

Several themes emerged when examining the role of surrogates' own experiences in explaining their motivations for surrogacy. Many surrogates had experienced seeing a friend or a relative struggle with infertility and had looked into surrogacy as a way of helping their friend or relative or other women in similar situations. One surrogate said: 'I had a friend who wanted to get pregnant and couldn't and I saw all the stuff that she went through and I just thought it's not fair that I can get pregnant when I'm trying not to and there are people who want children that can't.'

Another common theme that emerged was how much surrogates valued their own children, with many mentioning that they had been able to have their children relatively easily and recognising the pain they imagined other women felt who were unable to, for example: 'to be a mother is probably the greatest gift that anybody can give you. . .so for somebody to tell you at the age of 18 or 21 or whatever that you're never going to be able to have a child I just think that must be absolutely devastating, I can't imagine anybody saying that to me, so to be able to help a couple have a child it's just like giving life to somebody.'

Motivations for subsequent surrogacy arrangements

Across the cases of multiple surrogacy arrangements, the most common motivation given in 31% (21) of surrogacy arrangements was wanting to help a family have a sibling for an existing child, sometimes referred to by surrogates as 'wanting to complete a family'. In surrogacy arrangements where the surrogate had already completed a surrogacy arrangement for the same couple, the importance of having an established and positive relationship with a trusted couple was often mentioned.

An example of a motivation for a multiple surrogacy arrangement coded as 'wanting to help a family have a sibling' was: 'as soon as I got pregnant for them we talked about, you know, if everything goes well, would you like another one, and they would desperately like another one cos they wanted a proper family. So it just seemed natural . . .[ ]. . .it just felt like the right thing to do for them, just to make them a family, and they were such lovely people that it was no effort spending time with them at all, they were just great.'

Other motivations cited for multiple surrogacy arrangements included 'wanting to help a childless couple' (23% [16] of arrangements) and 'having previous positive experiences of surrogacy' (15% [10] of arrangements).

An example of a motivation for a multiple surrogacy arrangement coded as 'having previous positive experiences of surrogacy' was, 'because I loved it so much last time. I feel like I've always worked, I've always, since I've had children I've always worked around the children, I've never had, um, an important career or I've never made a massive difference that way, but I honestly felt that giving birth to [child born through surrogacy] was one of my greatest achievements, and so I just wanted to experience that one more time before I was forty.'

In 7% (5) of arrangements 'enjoyment of pregnancy' was reported as the main motivation for multiple surrogacy arrangements and in 6% (4) of arrangements 'unfulfilled expectations or aims from a previous surrogacy' was reported. Three per cent (2) were motivated by 'payment', 3% (2) were motivated by a request from a surrogacy organisation, and in 3% (2) of arrangements the surrogate had not intended to undertake a further surrogacy arrangement but had met a couple and the strength of the resultant relationship had changed her mind. In 9% (6) of arrangements other motivations for multiple surrogacy arrangements were reported; for example, 'wanting to try both types of surrogacy' or 'knowing that no one else would help the couple'.

Psychological well-being

Total scores on the Rosenberg Self-Esteem Scale and the Beck Depression Inventory ii can be seen in **Table 6**. Most surrogates scored within the average range for self-esteem and depression. No difference was observed in psychological wellbeing between genetic surrogates, gestational surrogates and surrogates who had completed both types of surrogacy arrangement in either their Beck Depression Inventory ii scores ($H[2] = 2.65$, $P = 2.64$) or their Rosenberg Self-Esteem Scale scores ($H[2] = 2.24$, $P = 0.33$).

Psychological health history

Twenty-nine per cent (10) of surrogates reported having experienced psychological health problems prior to becoming a surrogate. Of these, seven reported having been diagnosed with postnatal depression after the birth of an own child, and three reported having experienced depression related to other events.

Twenty-three per cent (8) of surrogates reported having experienced psychological health problems since becoming a surrogate. Of these, two reported a 3-month period of postnatal depression (one after the birth of an own child, and one after the birth of a child born through surrogacy) from which they had recovered by the time of data collection. One participant reported a diagnosis of anxiety after one surrogacy arrangement, which was no longer causing her concern at the time of data collection. One participant reported experiencing an episode of depression related to a life event (not surrogacy-related), from which she had recovered. One

Table 6 Surrogates' scores on RSES and BDI-ii.

	n *(%)*			
	Gestational	*Genetic*	*Gestational and genetic*	*Total*
RSES				
Above average	4 (29)	1 (9)	1 (17)	6 (19)
Average	10 (71)	10 (91)	4 (66)	24 (77)
Below average			1 (17)	1 (3)
BDI-ii				
Minimal	14 (100)	9 (82)	5 (83)	28 (90)
Mild		2 (18)		2 (6)
Moderate			1 (17)	1 (3)
Severe				0 (0)
Total	14	11	6	31

BDI-ii, Beck Depression Inventory – ii; RSES, Rosenberg's Self-Esteem Scale.

participant reported experiencing two episodes of depression after surrogacy arrangements (one of which she attributed to a life event unrelated to the surrogacy), but had not experienced a major depressive episode in the 5 years prior to data collection. Four of these five surrogates had gone on to complete further surrogacy arrangements after they had recovered.

One participant reported a diagnosis of postnatal depression after her most recent surrogacy, which she attributed to not being able to do further surrogacy arrangements, and was receiving treatment at the time of data collection. Two participants reported a diagnosis of depression for which they were receiving treatment at the time of data collection (one attributed her depression to a surrogacy experience and the other did not).

Discussion

This study aimed to investigate the long-term impact of surrogacy by examining the psychological health, long-term relationships and contact arrangements of surrogates who had completed a surrogacy arrangement approximately 7 years previously. The findings show that in most surrogacy arrangements surrogates remained in contact with the surrogacy families and reported positive relationships. The findings fail to lend support to concerns about the possible negative outcomes of sustaining relationships over the longer term, and suggest instead that, in most cases, arrangements for frequency and type of contact were reached and maintained at a level with which surrogates were comfortable.

Of those surrogates who had remained in contact, most had face-to-face contact with the surrogacy family, although the frequency of contact varied greatly. Surrogates remained in more frequent contact with mothers than with either children or fathers, adding some support to previous findings suggesting that it is the surrogate–mother relationship that is central to the surrogacy experience (MacCallum et al., 2003; Ragoné, 1994; Teman, 2010), although surrogates maintained positive relationships with most mothers, fathers and children. In some cases, however, surrogates maintained contact primarily through fathers (e.g. in cases in which the relationship with the father was stronger than the relationship with the mother, or in cases in which the mother had died since the surrogacy occurred), and some surrogates and fathers maintained contact independently of the contact surrogates had with mothers (e.g. by text or email).

Since April 2010, same-sex couples in the UK have been eligible to apply for a Parental Order, the legal device whereby legal parenthood is transferred from the surrogate to the intended parents, allowing same-sex couples to become legal parents of children born through surrogacy. Although this study reported four cases of surrogacy for same-sex couples, the numbers were too small to form any conclusions about surrogates' experiences with same-sex couples, and how this might compare with heterosexual couples. It remains to be seen how relationships will be negotiated in this relatively new surrogacy triad and this area would be an interesting topic for future research. Similarly, this study also revealed surrogates to be carrying out surrogacy arrangements for single men. As yet, Parental Orders cannot be granted to single people, and is it important for future studies to evaluate the prevalence of these arrangements and the effects on those involved.

In most surrogacy arrangements, surrogates felt content with the level of contact they had with the surrogacy family. Within these surrogacy arrangements, a wide variety of contact arrangements were found consisting of varying frequencies and types of contact. In a number of arrangements the surrogate had no ongoing contact with the child and/or the couple, thus highlighting the myriad of ways ongoing contact and relationships can be negotiated in UK surrogacy arrangements to the apparent satisfaction of the surrogates involved. This process involves a careful balancing act between the expectations and contact requirements of all the parties involved: surrogate, mother, father, child, and, in some cases, the surrogate's own children (Jadva and Imrie, 2013), and can be renegotiated as time passes and relationships develop. Surrogates spoke about the natural fluctuations in the frequency of contact that occurred depending on changing circumstances and life events, which can cause disruptions in relationships (e.g. moving house, family illness or bereavement). Surrogates and surrogacy families seemed adept at managing these changes and finding contact arrangements that suited them, a finding supported by research following these relationships from the surrogacy family's perspective (Jadva

et al., 2012). That these changes were managed well and most relationships were viewed as positive and were enjoyed is perhaps partly due to the surrogacy process itself in the UK, in which no commercial brokers exist to mediate relationships, and trusting relationships may often develop between the surrogate and the couple (Braverman et al., 2012).

Concerns have been raised about the ability of surrogates to maintain contact with the child born through surrogacy, as it has been suggested that it may prove too difficult to be reminded about the child (Brazier et al., 1998). The findings of the present study suggest that these fears are unfounded as most surrogates remained in contact with the child and enjoyed the relationships they had. Surrogates did not view the child as their own child, supporting previous findings (Jadva et al., 2003; Ragoné, 1996; Roberts, 1998). Interestingly, the type of surrogacy was not associated with whether or not the surrogate maintained contact with the child, their frequency of contact with him or her, whether they were happy with their level of contact or whether they viewed the relationship as positive. These findings thereby challenge assumptions that surrogacy is more problematic in cases where the surrogate is genetically related to the child, and suggest instead that surrogates were able to manage this relationship in a satisfactory and often rewarding manner.

The type of surrogacy was only significantly associated with the frequency of contact with the child's parents, with surrogates in genetic surrogacy arrangements maintaining less frequent contact than those in gestational surrogacy arrangements, in addition to being less likely to feel a 'special bond' with the child. These findings could be interpreted as suggesting more emotional distance in relationships involving genetic surrogacy, but the results should be interpreted with caution as genetic surrogates were also no less likely to remain in contact or to report positive relationships or positive surrogacy experiences. This suggests that both types of surrogacy can be seen as positive experiences by surrogates over the long-term, albeit possibly managed slightly differently (see Jadva and Imrie, in press), for a more detailed account of how surrogates and their families negotiated their genetic and gestational relatedness to the child conceived through surrogacy). Furthermore, the finding that nearly three-quarters of surrogates who had completed multiple surrogacy arrangements had different contact arrangements with different surrogacy families, and were happy with the majority of them, suggests that arrangements may be determined more by the relationship with each individual family than by the type of surrogacy *per se*. Identifying the factors that enable the relationship to be managed to the satisfaction of all the parties involved is an important area for future investigation.

The present study is the first to examine a large number of surrogacy arrangements and to investigate surrogates' motivations for undertaking multiple surrogacy arrangements. The findings support Ragoné's (1994) claim that surrogates undertaking multiple surrogacy arrangements are primarily motivated by the desire to help a couple have a sibling for an existing child, partly to 'complete a family' and partly due to the established relationships and trust already existing between the surrogate and couple, as well as the motivation of 'wanting to help a childless couple' which has been previously established as a frequently stated motivation for first entering into surrogacy (Jadva et al., 2003; Ragoné, 1994). A further motivation was also identified, that of having experienced a previous positive surrogacy arrangement and wanting to repeat the experience. It is perhaps unsurprising that this has been found to be a motivation for undertaking multiple surrogacy arrangements given that most arrangements in the present study were perceived by surrogates as successful and were viewed as positive experiences.

As the study was interested in the long-term experiences of surrogates the recruitment criteria for the study targeted surrogates who had completed a surrogacy arrangement approximately 7 years prior to interview. As some surrogates had completed multiple surrogacy arrangements it was decided to include data across all of the surrogacy arrangements rather than just the target surrogacy for which the surrogate was recruited, in order to give a more complete picture of the variation in contact arrangements. In doing so, this study highlights the variability with which surrogates in the UK manage their ongoing relationships with families created through surrogacy and suggests that this variance may be related to the unique surrogate–couple grouping that is formed, rather than to either the surrogate or the intended parents independently.

Most surrogates in this study showed no psychological health problems at the time of data collection as assessed by the questionnaire measures, adding some support to the finding that surrogates are psychologically resilient (Pizitz et al., 2013). In terms of surrogates' psychological health history, 10 participants reported having experienced depression in the time before they became surrogates. It is particularly interesting that seven out of the 10 women who had experienced postnatal depression had later gone on to have successful surrogacy arrangements (and six had no further signs of mental health problems), given that the screening process used by some US surrogacy agencies may consider an episode of depression as a criterion for rejection of a surrogacy candidate (American Society for Reproductive Medicine, 2012b). This finding challenges the assumption that women who have experienced postnatal depression cannot go on to have positive surrogacy experiences.

The study did raise some concerns about the psychological health problems experienced by a minority of surrogates in the time since giving birth to the child. It is important to note, however, that not all of the reported psychological health problems were attributed to surrogacy. Given the number of years that had passed since some participants first became surrogates, coupled with national prevalence rates for psychological health problems (The Office for National Statistics, 2001), it is perhaps unsurprising that psychological health problems were reported by some participants. Furthermore, several of the surrogates who reported diagnoses of psychological health problems recovered fully and went on to complete further successful surrogacy arrangements. More concerning, however, are the small number of cases in which surrogates directly attributed their psychological health problems either to some aspect of the surrogacy experience or to not being able to undertake further surrogacy arrangements. Although the number of cases in which surrogates reported psychological health problems associated with surrogacy was small, the possibility of surrogacy causing psychological problems merits further investigation to uncover the specific aspects of the surrogacy experience that may contribute to the presence of psychological health problems.

Given the scarcity of research on both surrogacy in general, and the changing international context of surrogacy, further research is urgently needed. Numbers of couples travelling abroad for surrogacy are thought to be increasing (Crawshaw et al., 2012), and little is known about the contact arrangements or relationships between surrogates and intended parents in cross-border surrogacy arrangements (Braverman et al., 2012). Given the differing procedures and legislation on surrogacy between countries in which surrogacy is legal, the current study's findings can only be interpreted in the context of UK-based surrogacy arrangements. Furthermore, most surrogacy arrangements examined in this study involved a surrogacy organisation, and although the extent of the organisation's involvement and support varied between surrogacy arrangements, it is possible that this involvement could have played a role in assisting surrogates and couples in building and maintaining relationships. It is not known what proportion of current surrogacy arrangements occur with and without the involvement of surrogacy organisations in the UK, or the effect of this for those involved, and this warrants further investigation. Furthermore, no data are currently available on the proportion of surrogates who undertake multiple surrogacy arrangements and this also merits further examination.

As some surrogates were lost to follow up, the current sample cannot necessarily be considered representative of the surrogates who carried out surrogacy arrangements in the UK within the timeframe of the study. Nor is it possible to determine how generalisable the findings are to other surrogacy arrangements completed in the period. Four surrogacy arrangements in the current sample were carried out outside of the timeframe for which published numbers of granted Parental Orders are available. A comparison of the total number of completed surrogacy arrangements in the current sample with the number of Parental Orders granted in a similar period (880 between 1995 and 2011 (Crawshaw et al., 2012)) suggests that around 11% of surrogacy arrangements during the period may be included in our sample. This estimate in fact ranges from 2–37% when each year is considered individually, although not all Parental Orders will have been granted in the same year that the child was born. Furthermore, not all of the surrogacy arrangements in our sample involved a Parental Order application. Concerns have been raised about the uncertainties of using the number of granted Parental Orders as an accurate representation of the number of surrogacy arrangements taking place in the UK (Crawshaw et al., 2012). Future studies using representative samples are much needed, although with the difficulties in monitoring the number of surrogacy arrangements taking place this may prove particularly challenging. Furthermore, this study examined the long-term impact of surrogacy. Surrogacy practice has changed dramatically in recent years, with a greater number of intended parents accessing surrogacy abroad and an increase in the number of surrogates and intended parents meeting online without the involvement of a surrogacy organisation. A more detailed examination of current surrogacy arrangements with a large representative sample is needed to evaluate the current practice of surrogacy in the UK.

As surrogacy can be portrayed as a particularly controversial method of assisted reproduction, a view that surrogates may well be aware of, it is difficult to rule out the possibility of socially desirable responding. The interviews, however, lasted for up to 2.5 h, and involved detailed questions about many aspects of the surrogacy experience, a process that is designed to minimize socially desirable responding. Furthermore, some participants recounted negative experiences of surrogacy and many spoke about the aspects of surrogacy they had found challenging, suggesting an authenticity of responses and the willingness of participants to discuss all aspects of the surrogacy process. As surrogates were interviewed about the current state of their relationships and contact arrangements with surrogacy families, the risk of recall bias in most areas, apart from recollections of motivations for surrogacy, should be minimal. Although the sample size was relatively small, it is comparable with other studies using a similar methodology to study this hard-to-reach population (Baslington, 2002; Jadva et al., 2003; Ragoné, 1994). Furthermore, the current study examines a larger number of surrogacy arrangements than any other study, and thus provides new insights into how surrogates manage contact and relationship with surrogacy families over time and with multiple families. Moreover, all of the surrogates had given birth to children conceived through surrogacy, whereas some investigations report data from surrogate candidates, rather than those who have completed a surrogacy arrangement.

Conclusion

Overall, in the majority of surrogacy arrangements surrogates remained in contact with surrogacy families, and viewed most of the relationships formed through surrogacy as positive. The variety of contact arrangements maintained, and surrogates' high levels of satisfaction with the amount of contact they had with surrogacy families, suggests that, in most cases, the parties involved in UK surrogacy arrangements managed to negotiate this potentially problematic relationship with a high degree of success and create relationships that were sustained over time and enjoyed. The lack of significant differences in variables according to surrogacy type goes some way to challenging commonly held assumptions that genetic surrogacy is inherently more problematic, and more likely to fail, than gestational surrogacy. Instead, genetic and gestational surrogates generally reported positive experiences of surrogacy, suggesting that factors other than the presence or absence of a genetic link to the child are more important in determining the success and long-term outcomes of a surrogacy arrangement.

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