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Original Citation

Frith, Lucy, Blyth, Eric and Lui, Steve (2017) Family building using embryo adoption: relationships and contact arrangements between provider and recipient families — a mixed-methods study. *Human Reproduction*, 32 (5). pp. 1092-1099. ISSN 0268-1161

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1 **Family building using embryo adoption: relationships and contact arrangements**
2 **between provider and recipient families - a mixed-methods study**

3

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5

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13

FAMILY BUILDING USING EMBRYO ADOPTION

14
15

16

17 ABSTRACT

18 **Study question:** What contact arrangements are established between providers and recipients
19 of embryos using Snowflakes® Embryo Adoption Program?

20 **Summary answer:** Contact arrangements varied considerably and were generally positively
21 described, although some challenges were acknowledged.

22 **What is known already:** Reproductive technologies create new and diverse family forms,
23 and the ways families created by embryo adoption are negotiated in practice have not been
24 extensively investigated.

25 **Study design, size, duration:** An exploratory, mixed-methods study with two phases: 1. an
26 online survey (open May-September 2013); 2. qualitative semi-structured interviews by email
27 (conducted between 2014-2015), exploring participants' experiences of contact with their
28 embryo provider or recipient.

29 **Participants/materials, setting, methods:** Phase I - seventeen providers (14 women and
30 three men) and 28 recipients (27 women and one man). Phase II - eight providers (five
31 women and three men) and twelve recipients (ten women and two men). All participants
32 except one were located in the US.

33 **Main results and the role of chance:** This study illustrates how embryo adoption in the US,
34 as a form of conditional donation, operates and how participants define and negotiate these
35 emerging relationships. All families were open with their children about how they were
36 conceived and early contact between recipients and providers (frequently before birth) was
37 valued. On the whole participants were happy with the amount and type of contact they had,
38 and where the current contact did not involve the children, it was seen as a way of keeping

39 the channels open for future contact when the children were older. Participants often
40 portrayed the opportunities for contact as in the best interests of the child.

41 **Large scale data:** N/A

42 **Limitations, reasons for caution:** The study participants are a particular group who had
43 chosen to either receive or give their embryos via an embryo adoption agency in the US and
44 had established contact. Therefore, this is not a representative sample of those who provide or
45 receive embryos for family building.

46 **Wider implications of the findings:** The embryo adoption model clearly fulfils a need; some
47 people want to use a conditional embryo donation programme such as Snowflakes®. Some
48 form of ‘ongoing support mechanism’ such as counselling could be useful for those
49 negotiating the complex sets of new kinship patterns and balancing these with their children’s
50 welfare.

51

52 **INTRODUCTION**

53 This paper examines the results from an exploratory, mixed-methods study of the experiences
54 of people who had both provided and received embryos from Snowflakes® Embryo
55 Adoption Program, part of Nightlight Christian Adoptions in the United States, focussing on
56 the contact arrangements between embryo providers and recipients. One of the defining
57 characteristics of the ‘embryo adoption’ model is information-exchange and ongoing contact
58 between provider and recipient families, which can be established at the outset.

59

60 The study builds on our previous research that explored the experiences of couples who had
61 relinquished embryos through Snowflakes® (Frith et al., 2011; Paul et al., 2010). Several
62 participants referred to contact with their recipient or provider families and the current study
63 was designed to further understand these experiences. The new varied and diverse family
64 forms produced by reproductive technologies are often discussed in the literature (Nordqvist
65 & Smart, 2014), but the specific ways these new families are negotiated in practice has not
66 been extensively investigated. This study throws light on what mechanisms of contact and
67 intra-family relationships this specific group create, contributing to our knowledge of the
68 longer-term psycho-social implications of assisted conception and specifically embryo
69 donation.

70

71 **BACKGROUND**

72 The first instance of family-building using embryo donation was reported in Australia in
73 1983 (Trounson et al., 1983). However, in comparison to sperm and oocyte donation, embryo
74 donation remains a comparatively rare form of family-building (de Lacey, 2005; Blyth et al.,
75 2011; Hill & Freeman, 2011). Globally, fewer jurisdictions permit embryo donation than
76 allow sperm or oocyte donation, and considerable legislative, policy and practice

77 permutations are evident. For example, in jurisdictions where embryo donation is permitted,
78 Belarus, Bulgaria, and Latvia require embryos for donation to be created using separately
79 donated sperm and donated oocytes (Ory et al., 2013), while New Zealand only permits
80 embryos using the donor couples' own gametes to be donated to others for family-building
81 (ACART, 2008).

82

83 Embryo “adoption” is a form of conditional donation, where the donor(s) can choose the
84 recipient of their embryo and contact can be facilitated between provider and recipient
85 families (Frith & Blyth, 2013). This offers an alternative to fertility clinic-based anonymous
86 embryo donation programmes, and has been pioneered by private agencies primarily in the
87 US over the past two decades (see Supplementary Material for a more detailed overview of
88 the literature). To date, two research studies of embryo adoption in the US have been reported
89 – both of which involved those using the Snowflakes® programme. Collard & Kashmeri
90 (2011) interviewed 44 provider and recipient parents. The second study (Paul et al., 2010;
91 Frith, et al., 2011) explored the motivations and experiences of 18 couples and seven women
92 who had provided embryos.

93

94 **MATERIALS AND METHODS**

95 **Phase I**

96 An online survey was conducted, open from 21 May - 30 September 2013. Snowflakes® sent
97 an email advertising the study to all eligible individuals: (i) those who had either provided or
98 received embryos via Snowflakes® Embryo Adoption Program; (ii) where at least one child
99 had been born as a result. Snowflakes® had worked with about 800 provider couples and
100 about 500 prospective recipient couples, although not all of the latter would have had a baby,
101 and of these, not all would have established contact with their provider family. At the outset

102 of the study, it was estimated by Snowflakes® that about 50 pairs of provider and recipient
103 couples might be in some form of contact with each other, although the actual number of
104 such arrangements is unknown. Therefore, we cannot give a precise response rate. It was
105 expected that the majority of participant families would largely contain young children and so
106 the study was restricted to investigating the experiences of adults.

107

108 Participants completed an anonymous online survey hosted on Bristol Online Surveys that
109 sought information about: family composition, how many embryos they had either provided
110 or received, the amount and type of contract with their provider/recipient and free responses
111 to comment on how they felt about their experiences. The questionnaire was designed by LF
112 and EB on the basis of their previous research and is available from the authors on request.

113

114 **Phase II**

115 At the end of the questionnaire, participants were invited to indicate their interest in
116 participating in a follow-up study. In addition to Phase I participants, some new participants
117 were recruited via Snowflakes® and one couple (who had used Snowflakes®) via existing
118 participants. The semi-structured interviews were conducted by EB and LF using
119 asynchronous email. This method was used because participants were based in the US and
120 the researchers in the UK. Interviews took place during 2014 and 2015. Previous experience
121 endorsed the feasibility of this approach to data gathering (Berger, and Paul, 2011; Frith et
122 al., 2011). Analysis of Phase I data formed the basis for the construction of the Phase II topic
123 guide: this covered basic information about the type and frequency of the contact and probes
124 to explore in more depth the participants' experiences of forming these new relationships.

125

126 Eligibility for participation in the study included proficiency in English and access to the
127 internet and email. Although these criteria risk disenfranchising potential participants, our
128 previous experience indicated that, in practice, these requirements are met by all couples
129 participating in the Snowflakes® program. Previous researchers investigating fertility issues
130 have experienced difficulty in engaging men; this project was no exception and the majority
131 of participants are women. Both Phases of the study were approved by the University of
132 Huddersfield and the University of Liverpool ethics committees.

133

134 **Data Analysis**

135 This paper reports data from both phases of the study. Phase I data are analysed using
136 descriptive statistics. Phase I free text responses and Phase II data were analysed thematically
137 to elicit codes in order to identify concepts and the constant comparative method was used to
138 explore the relationship between concepts (Braun and Clarke, 2006). The emergent themes
139 were discussed between team members to explore different interpretations (for more detail on
140 the analytic strategies see Supplementary Material). The source of specific quotations is
141 identified using the following formula: PH1 = phase I; PH2 = phase II; P = provider; R =
142 recipient; F = female; M = male, and their unique number e.g. PH1-PF1, couples have the
143 same number i.e. PH2-PF1 and PM1. Original quotations are reproduced verbatim, except for
144 correction of spelling errors.

145

146 **RESULTS**

147 **Demographics**

148 *Phase I*

149 Seventeen providers (14 women and three men) and 28 recipients (27 women and one man)
150 took part in Phase I. Providers reported the birth of 22 children to recipients of their embryos.

151 Eighteen of these were aged between 0-5 years and four between 6-11 years. Fifteen children
152 were born from embryos created using the gametes of both providers. Four children were
153 born from embryos created using donor eggs. Three children were born from embryos created
154 using both donor eggs and donor sperm (the issue of using donated gametes form embryos is
155 discussed in a further paper from this study, currently under review). Fourteen providers had
156 provided embryos to a single couple; two had provided embryos to two different couples; and
157 one provider had provider embryos to three families.

158

159 Phase I recipients had 43 children born as a result of embryo adoption and one recipient was
160 pregnant with her second child (a full genetic sibling of her first child). Of these, 30 were
161 aged between 0-5 years, 12 were between 6-11 years and one between 12-17. There were five
162 pairs of twins. None of the recipients indicated the use of donor gametes in creating the
163 embryos. Nineteen families included only the children resulting from embryo adoption; of
164 these, ten were only children. Three families also included the recipients' "naturally-
165 conceived" children; two families included adopted children, and four families included both
166 "naturally-conceived" and adopted children. Twenty-two recipients had received embryos
167 from one couple only, five had received embryos from two different couples and one had
168 received embryos from three different couples. One recipient family "shared" full
169 genetically-related children with another recipient family.

170

171 In Phase II, eight providers (five women and three men) and twelve recipients (ten women
172 and two men) took part (insert Table 1 demographics).

173

174

175

176 **Type and frequency of contact**

177 Snowflakes® offered to mediate contact between families and it was often initiated through

178 Snowflakes:

179 *Initially it was facilitated by Nightlight. (PH2-PM2)*

180

181 *We are in touch by email. Initially it was facilitated by Nightlight but recently, we*

182 *have provided direct email addresses so that we do not need to wait for the message*

183 *to be delivered by Nightlight. (PH2-PF2)*

184 However, although this route was often used in the initial stages, most study participants had

185 established direct contact with their respective recipient or provider family. One of the

186 distinctive aspects of the Snowflakes® programme is the ability to arrange contact between

187 each other before the transfer of embryos, and the majority of participants had established

188 some contact before the birth of the child (insert Table 2). The ability to meet before the

189 medical procedures took place was something that our participants valued.

190

191 Participants were also asked about the nature and frequency of contact, with contact generally

192 taking place every 2-6 months. Forms of contact mentioned included: exchange of gifts (one

193 provider and five recipients); exchange of videos (two providers and two recipients),

194 exchange of pictures/photo books (four providers and 12 recipients), and use of *Facebook*

195 (five providers and five recipients) (there are additional quotes, material and full data Tables

196 in the Supplementary Material).

197

198 In Phase I, eight providers had made face-to-face contact with recipients and seven actively

199 included the children. Nine recipients had made face-to-face contact with the providers of

200 their embryos and six actively included the children (Insert Table 3). Four recipients had met

201 their provider once, two had met them twice, one had met on three occasions, and two had
202 met once a year since the birth of their child. Of those who had not yet met their provider,
203 two were actively planning to meet, five hoped for future meetings and one indicated they
204 would meet if the child wanted to. Participants frequently reported extensive geographical
205 distances between themselves and their respective provider or recipient family/families and
206 in-person contact, where this had taken place, required considerable logistical preparations
207 and manoeuvres. In some cases contact had included staying in each other's home:

208

209 *... A few months ago, Family 2 came ... to visit and meet us. So the 4 girls and the*
210 *families all met for the first time. We had sooooo much fun.... We love it! We would*
211 *love it even more if Family 2 lived closer and we could see them more! (PH1-PF1,*

212

213 A recipient who was in contact both with her provider and another recipient of embryos from
214 the same provider recounted how all three families had met up:

215

216 *[Earlier] this year we flew across the country to spend one week visiting our provider*
217 *family and the other family that is the recipient family of the embryos that are all*
218 *biological siblings to our daughter..... We had a JOY filled week with our daughter's*
219 *siblings and family. (PH1-RF6)*

220

221 **Desire for contact and “open adoption”**

222 The active involvement of both parties in the selection process and Snowflakes® guidance
223 encourage an open approach – i.e. telling the child about their origins and possible contact.

224 The ability to establish some form of contact motivated a significant proportion of study
225 participants to use Snowflakes®.

226 *The attraction to Snowflakes was the opportunity for the open adoption that was not*
227 *an option through our doctor's office.... We advised Snowflakes that we only wanted*
228 *to be matched with couples willing to have contact. (PH2-PF1)*

229
230 *The original agreement was to have a semi-open adoption, meaning we would contact*
231 *as long as it was feasible and we would agree to visits if we were in the same country.*
232 *(PH2-RF5)*

233
234 The reasons given for such arrangements included a belief that openness and honesty were in
235 the best interests of the children:

236 *Ultimately, we feel that whatever is in the best interest of our children should come first –*
237 *regardless is if it's awkward or uncomfortable for us. (PH2-RF4)*

238 Part of this rationale was the desire to facilitate contact between genetic siblings in the
239 different families:

240 *It is extremely important to us that some kind of contact is maintained with the*
241 *adopting family. We would like our own children to know of their distant siblings,*
242 *and, if possible, develop a relationship with them. (PH2-PM3)*

243
244 *It is very important that child A and B know their other siblings and have some*
245 *contact with them. (PH2-RF8)*

246
247 Further reasons included recipients' desire to be transparent about the process and for their
248 children to have a sense of where they came from:

249 *We want [child] to have a positive sense of identity. We want her to know her story*
250 *and history (as complete as possible). Understanding her history and where she*
251 *comes from will help her to understand who she is. (PH2-RF9)*

252

253 Despite Snowflakes'® endorsement of 'open embryo adoption', this was not mandated for
254 acceptance into its program:

255

256 *Snowflakes sent us a total of three adoptive family profiles. The first was a couple*
257 *who was devoutly Catholic and made it clear that they would keep the adoption a*
258 *secret from their family and even the child. Something just didn't feel right about that.*
259 *(PH2-PF5)*

260

261 *The genetic family said they wanted a closed adoption.... We decided that it wasn't*
262 *our first choice, but we went with it. (PH2-RF2)*

263 Views on contact may change over time, and not all participants set out with the intention of
264 having contact, as this recipient shows:

265 *Our original feeling is that we probably wanted as little contact as possible. However,*
266 *we did put in our profile that we would accept any level of interaction. We were*
267 *coached that by doing this you would increase the possibility of being selected by a*
268 *donor family. (PH2-RM3)*

269

270 However, after initial email contact with the provider family they developed an ongoing
271 relationship:

272

273 *We are all family now. No other questions or decisions are needed. They are great*
274 *folks and the girls are sisters which is what is most important to me. (PH2-RM3)*

275

276 Providers' views also could change; PH2-RF2 reported that her providers initially requested a
277 "closed adoption":

278 *When the twins were born, the agency informed the genetic family About a week*
279 *later, the genetic mother approached the agency and asked if she could contact us....*
280 *The agency asked if we were okay with that (we totally were thrilled!) (PH2-RF2)*

281

282 **Positive aspects of contact**

283 Both providers and recipients thought that contact had to be mutually agreed, with recipients
284 taking the lead in determining how this should develop. For providers, curiosity as to how the
285 child was being brought up, being assured that the child was well cared for and being able to
286 have a relationship with them was an important benefit of contact:

287 *The positives are that we feel satisfied that the twins are being raised in a loving*
288 *family that adores them. (PH2-PF5)*

289

290 *We were of the mindset that watching the child grow up and being a part of her life*
291 *was the biggest plus. Being able to LOVE HER!!!! Seeing birthdays, first steps,*
292 *sports, vacations, etc. We plan to be apart of her life forever. Not knowing leaves too*
293 *much for the mind to ponder. (PH2-PM1)*

294

295 The creation of relationships and family bonds was a key positive aspect of contact for both
296 providers and recipients. A recipient mother, who was not initially keen on contact,

297 developed a very strong relationship with the provider family, who had also given embryos to
298 another family, and all three families had met:

299 *We flew with our daughter to meet her sisters and their families. To say the least, it*
300 *was a truly remarkable visit. This experience and the relationships has be a huge*
301 *blessing for us in our lives. Not only were we given our daughter, but a whole family*
302 *too, 2 families actually, or one big family! (PH2-RF3)*

303

304 PH2- PF1 also reported developing a close relationship with her recipient family, which
305 started before the birth of the child:

306 *Then when she [recipient mother] was around six months pregnant we flew up...to*
307 *visit them for the weekend. We had dinner and met all of their family then had time*
308 *just the four of us and I sat next to [recipient mother] with my hand on her belly*
309 *waiting to feel our bio baby kick. It was an amazing experience.We consider*
310 *ourselves family and share pictures, video's and talk weekly. (PH2-PF1)*

311

312 Some participants reported contact with their providers'/recipients' extended family.

313

314 *I am in periodic (quarterly) email communication with the paternal genetic*
315 *grandfather. We are Facebook (FB) friends and he follows us on FB by liking*
316 *pictures, status updates, etc. (PH2-RF8)*

317

318 *[M]any family members have befriended our adoptive family on Facebook and*
319 *follow/comment on their posts, stories, and pictures as well. (PH2-PF3)*

320

321 One positive aspect of contact mentioned by both providers and recipients was that it enabled
322 providers to resolve any feelings of wanting the baby back or recipients' fears that their
323 providers might want 'their' baby returned:

324

325 *The only negative thing I can think of at this point was the emotions when she was*
326 *first born. When I first seen a picture of her and she looked so much like our children*
327 *I had that feeling of 'that's my baby and I want her'. That feeling only lasted about a*
328 *week and I think the amount of contact we had helped me get past those feelings.*

329 (PH2-PF1)

330

331 *We were afraid in the beginning of this journey about the family wanting the baby*
332 *back. And we thought that because they were in [a distant state], we would not be*
333 *able to see them much and then they would not want the baby. These were all part of*
334 *our FEARS as we entered into this chapter of our lives. (PH2-RF3 - who initially did*
335 *not want contact, has met the providers, and now wishes that the families lived closer*
336 *to each other)*

337

338 **Negative aspects of contact**

339 Although participants reported overwhelmingly positive experiences regarding contact, some
340 negative experiences were mentioned, particularly regarding concerns about differing
341 parenting styles (see also Supplementary Material):

342 *The only negative I can think of is imaginary, at this point at least, and that is a worry*
343 *over being scrutinized or criticized by the genetic parent. (PH2-RM5)*

344 One provider gave the following advice:

345 *I think the only thing I would add is that both families have to be aware that this is a*
346 *very unique situation and they have to be careful not to over-step the boundaries.*

347 PH2-PF4

348

349 Participants also reported logistical barriers to contact, primarily relating to time and distance.

350 These relationships were characterised by similar problems and issues common to many

351 personal relationships: differing expectations, lack of time to devote to them and

352 geographical distance. As one participant said:

353 *They are too far away for the ability to develop a close relationship with the children*

354 *at this stage; maintaining the distant relationship takes consistent effort on both*

355 *families (but I don't think that's any different than any typical family relationship*

356 *where members are across the country from each other). (PH2-PM3)*

357

358 **Future contact and relationships**

359 One of the main issues facing families when thinking about contact was whether it should

360 include the children or just the adults. Not all the contact between providers and recipients

361 involved the children, the relatively young age of most children in participant families is

362 likely to be a key factor in determining their involvement in contact between families. PH2-

363 RF10 summarised the issues:

364 *We considered these issues separately and therefore we have contact with the genetic*

365 *parents, but we've chosen to not have our daughter have direct contact with them at*

366 *this point (other than the visit when she turned two, which she doesn't remember).*

367 *Some families we know don't have that distinction, so the adopted children have the*

368 *same or similar levels of contact as the adoptive parents do. It's just interesting to*

369 *note different families' opinions and perspectives on contact, and how they view it as*
370 *impacting the children's emotional health (or not).*

371

372 For her, contact was restricted to the adults and:

373

374 *we don't expect any changes in contact, except for when our daughter gets into her*
375 *teen years and if she requests to have contact herself - we will have to pray and*
376 *discuss when is the right time and way for that to happen.*

377

378 For a number of participants contact was established to enable their children, when older, to
379 be able to make contact themselves:

380

381 *We have never met either family face to face. We don't know if we will ever meet them*
382 *face to face. We will meet them if the kids decide that they are at a place that they*
383 *want to meet their genetic family. At what point they will decide to do this, we have no*
384 *idea.... Right now our main goal is to have the same level and type of contact with*
385 *each family until each of our children come to that cross road. (PH2-RF7)*

386

387 *[Daughter] will probably opt to have some contact with them [providers] or meet*
388 *them, which is fine, after she is 18. She can make her own decisions then on*
389 *developing a relationship with them and set the boundaries herself. It takes the*
390 *pressure off of us as parents to do that now. (PH2-RF1)*

391

392

393

394 **DISCUSSION**

395 To our knowledge this is the first study to explore how embryo adoption in the US, as a form
396 of conditional donation, operates and how participant families define and negotiate the
397 relationships created. The contact arrangements varied considerably – but all created the
398 opportunity for future contact to be initiated by the child(ren) when they were older (if they
399 wanted to). Generally the contact was positively described, although some challenges were
400 acknowledged.

401

402 Conditional embryo donation programmes are rare, New Zealand is one of the few
403 jurisdictions outside the US that operates such a programme and thus studies conducted in
404 New Zealand most closely mirror our study population (for an overview of studies on embryo
405 donation see supplementary material). Goedeke et al. investigated the views and experiences
406 of participants (thirteen potential recipients of donor embryos (Goedeke & Payne, 2009) and
407 22 embryo donors and 15 recipients (Goedeke et al., 2015). These studies highlighted the
408 significance of genetic connections and relationships, “both donors and recipients regarded
409 genealogy and genetic knowledge as critical for well-being and identity, and as bestowing
410 immutable kinship ties between donors and offspring.” (p. 2345) They argue that this resulted
411 in providers being concerned about who received their embryo and feeling some ‘moral
412 responsibility’ for the child’s future well-being. As has been noted both by our participants
413 and in other literature (Taylor, 2005), embryo adoption/donation is a unique way of forming a
414 family and Goedeke et al. (2015) found that the metaphor of embryo donation as adoption
415 was used by their respondents to make sense of this ‘unique’ process. Their respondents, like
416 ours, conceptualised the process of embryo donation as creating an extended family and
417 talked about the creation of new, complex kinship relationships that managed, “the interplay

418 between genetic, gestational and social aspects of reproduction and family building.” (p.
419 2340).

420

421 The temporal nature of decisions was a key theme in our data. We found that some couples
422 did not start out in favour of openness or contact, and their attitudes changed over time.
423 Often, once the child was born, they found that they wanted to be open and form a
424 relationship with the provider/recipient family. Relationships could also change, with some
425 developing into deep friendships and others withering. Therefore, intentions as to how much
426 contact and what type might be desirable were not always realized in practice. A key element
427 of the importance of openness and contact for some participants, was to give the child the
428 option when they were ‘old enough’ to make their own decision regarding contact with their
429 provider family. As Kirkman (2004) has noted, family dynamics change and the temporal
430 nature of intentions and experiences of forming a family through embryo adoption are often
431 not captured. While our study presents only a view from a ‘slice’ of time in these families’
432 lives, our results point to the importance of considering the life-course implications of
433 forming families in this way. Families live with these decisions and resulting relationships for
434 the rest of their lives and there is a need for further studies that consider these experiences in
435 the longer term.

436

437 Both embryo recipients and providers were clear that the welfare of any children produced
438 from embryo adoption and of any other children in the respective families should be a central
439 consideration. There was also a recognition by both groups that the recipients were ‘the’
440 parents and ‘had the right’ to make the parental decisions, without interference or judgement
441 from the providers. Both providers and recipients mentioned aspects of the inherent tensions
442 in this position, but the repertoire of traditional infant adoption was employed to give

443 legitimacy to locating the recipients as the parents. Overall, our participants were generally
444 happy with the relationships they were developing with their opposite number. The
445 difficulties were seen as not dissimilar to other forms of relationships, when it was hard to
446 maintain regular contact and thus the relationship suffered. The most common negative issues
447 arising were lack of contact either due to time pressures, geographical distance or a miss-
448 match in expectations.

449

450 **Study Limitations**

451 This study focussed on those who had chosen to either receive or given their embryos to
452 others via an embryo adoption agency and, of that group, those who wished for and had
453 established contact. Therefore, it does not capture those who did not want contact or their
454 reasons for this. Hence, the study's results cannot be extrapolated to other populations who
455 provide or receive embryos for family building. The location and political context of embryo
456 adoption in the US is a distinctive one and Snowflakes®, as a Christian adoption agency,
457 obviously defines the likely clientele and limits the wider applicability of our findings.
458 However, the studies carried out in New Zealand did highlight some common issues, hence
459 our findings reiterate some of the themes found in other studies. The qualitative research was
460 conducted by email, and arguably there are some limitations to this method: the researcher
461 cannot pick up on visual and voice responses, build a rapport or clarify responses. However,
462 there are also positive benefits of using this method. At the end of the interview we asked
463 participants how they had found the email interview process, and some reported that it had
464 enabled them take their time to think about their experiences and reflect on their answers –
465 something that may not be so readily facilitated in conventional face-to-face interviews.

466

467

468 **Implications for practice**

469 The embryo adoption model clearly fulfils a need; some people want to provide and receive
470 embryos under such a conditional programme. How popular such a programme would be in
471 other contexts is unknown, however as openness as an approach to gamete and embryo
472 donation grows so might such programmes (Blyth & Frith, 2015). These technologies build
473 families, going well beyond a medical intervention located in the clinic – they have long term
474 repercussions. In recognising this, given the unique challenges facing both recipients and
475 providers of embryos, Goedeke et al., (2015) recommend some form of ‘ongoing support
476 mechanism’ such as counselling might be useful for those negotiating the complex sets of
477 new kinship patterns and balancing this with their children’s welfare. There is, however, a
478 lack of ongoing support for those involved and the children produced from reproductive
479 technologies. As found in other studies (see Crawshaw et al., 2016) specialist support is
480 needed – people trained in the distinctive issues that might arise from these forms of family
481 building – and providing this is a challenge that has still not been adequately addressed.

482

483 **CONCLUSION**

484 The use of embryos provided by a third party for family building is a contested form of
485 reproductive technology. A conditional programme of embryo donation, such as that that
486 operates in New Zealand and of which Snowflakes® is an example, are even more
487 contentious and couching embryo donation as adoption has caused some controversy
488 (ASRM, 2016). However, conditional or embryo adoption programmes could provide an
489 alternative to an anonymous, clinic based model and give those who have surplus embryos
490 the opportunity to choose who they wish to donate to and if they wish to have and maintain
491 contact in the longer term.

492

493 **REFERENCES**

- 494 Advisory Committee on Assisted Reproductive Technology (ACART) (2008) Guidelines on
495 embryo donation for reproductive purposes. [www.acart.health.govt.nz/publications-and-](http://www.acart.health.govt.nz/publications-and-resources/guidelines-and-advice-issued-ecart/guidelines-embryo-donation)
496 [resources/guidelines-and-advice-issued-ecart/ guidelines-embryo-donation](http://www.acart.health.govt.nz/publications-and-resources/guidelines-and-advice-issued-ecart/guidelines-embryo-donation) (accessed 11
497 September 2014)
498
- 499 American Society for Reproductive Medicine. (2016) Defining embryo donation: An Ethics
500 Committee Opinion. *Fertility and Sterility* 106(1): 56-8.
501
- 502 Berger, R. and Paul, M. (2011) Using E-mail for family research. *Journal of Technology in*
503 *Human Services* 29(3): 197-211.
504
- 505 Blyth, E., and Frith, L. (2015) Access to genetic and biographical history in donor
506 conception: An analysis of recent trends and future possibilities. In Horsey, K. (ed) *Revisiting*
507 *the Regulation of Human Fertilisation and Embryology*. London: Routledge. pp. 136-152.
508
- 509 Blyth, E., Frith, L., Paul, M., and Berger, R. (2011) Embryo relinquishment for family
510 building: how should it be conceptualised? *International Journal of Law and Family* 25(2):
511 260–285.
512
- 513 Braun, V. and Clarke, V. (2006) Using thematic analysis in psychology. *Qualitative Research*
514 *in Psychology* 3(2): 77–101.
515
- 516 Collard, C. and Kashmeri, S. (2011) Embryo adoption: emergent forms of siblingship among
517 Snowflakes families. *American Ethnologist* 38(2): 307–322.
518
- 519 Crawshaw, M., van den Akker, O., Frith, L., and Blyth, E. (2016) Voluntary DNA-based
520 information exchange and contact services following donor conception: an analysis of service
521 users’ needs. *New Genetics and Society*, 35:4, 372-392.
522
- 523 de Lacey, S. (2005) Parent identity and ‘virtual’ children: why patients discard rather than
524 donate unused embryos. *Human Reproduction* 20(6): 1661–1669.
525
- 526 Ethics Committee on Assisted Reproductive Technology (ECART) (2012) *Annual Report*
527 *2011–2012*. www.ecart.health.govt.nz/publications-andresources/annual-reports
528
- 529 Frith, L., Blyth, E., Paul, M., and Berger, R. (2011) Conditional embryo relinquishment:
530 choosing to relinquish embryos for family-building through a Christian embryo ‘adoption’
531 programme. *Human Reproduction* 26(12): 3327–3338.
532
- 533 Frith, L. and Blyth, E. (2013) ‘They can’t have my embryo’: The ethics of conditional
534 embryo donation. *Bioethics* 27(6): 317-324.
535
- 536 Goedeke, S., Daniels, K., Thorpe, M. and DuPreez, E. (2015) Building extended families
537 through embryo donation: the experiences of donors and recipients. *Human Reproduction*
538 30(10): 2340–2350.
539
- 540 Goedeke, S. and Payne, D. (2009) Embryo donation in New Zealand: a pilot study. *Human*
541 *Reproduction* 24(8): 1939–1945.

- 542
543 Hill, G. and Freeman, M. (2011) Embryo disposition: choices made by patients and donor
544 oocyte recipients. *Fertility and Sterility* 95(3): 940–943.
545
546 Kirkman, M. (2004). Genetic connection and relationships in narratives of donor-assisted
547 conception. *Australian Journal of Emerging Technologies and Society* 2(1), 1–20.
548
549 Nordqvist, P. and Smart, C. (2014) *Relative Strangers: Family Life, Genes and Donor*
550 *Conception*. London: Palgrave Macmillan
551
552 Ory, S. J., Devroey, P., Banker, M., Brinsden, P., Buster, J., Fiadjoe, M., Horton, M., Nygren,
553 K., Pai, H., Le Roux, P. and Sullivan, E. (2013) *IFFS Surveillance 2013*. International
554 Federation of Fertility Societies. [http://www.iffs-](http://www.iffs-reproduction.org/?page=SurveillanceHidden)
555 [reproduction.org/?page=SurveillanceHidden](http://www.iffs-reproduction.org/?page=SurveillanceHidden).
556
557 Paul, M., Berger, R., Blyth, E., and Frith, L. (2010) Relinquishing frozen embryos for
558 conception by infertile couples. *Family Systems & Health* 28(3): 258–273.
559
560 Scheib, J. E. and Cushing, R. A. (2007) Open-identity donor insemination in the United
561 States: is it on the rise? *Fertility and Sterility* 88(1): 231–232
562
563 Taylor, B. (2005) Whose baby is it? The impact of reproductive technologies on kinship.
564 *Human Fertility* 8(3):189–195.
565
566 Trounson, A., Leeton, J., Besanko, M., Wood, C., and Conti, A. (1983) Pregnancy
567 established in an infertile patient after transfer of a donated embryo fertilised in vitro. *British*
568 *Medical Journal* (Clinical Research Edition) 286(6368): 835-838.
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570
571 **Funding:** This study received no financial support

572 **Conflict of interest:** The authors have no conflict of interest to declare. Snowflakes is a
573 commercial adoption agency and the authors have no relation to the organisation, other than
574 requesting that they participate in this research project.

575 **AUTHORS' ROLES**

576 LF and EB designed the study and collected the data. All three authors analysed and
577 interpreted the data, drafted and revised the manuscript

578

579

580 **ACKNOWLEDGEMENTS**

581 The authors wish to thank Megan Corcoran, Kelly Poffenburger and Kimberly Tyson at
582 Nightlight Christian Adoptions who facilitated the study and embryo providers and recipients
583 who gave their time to share their views and experiences with us.