

Female-partnered and single women's contact motivations and experiences with donor-linked families

A.E. Goldberg^{1,*} and J.E. Scheib^{2,3,*}

¹Department of Psychology, Clark University, Worcester, MA 01610, USA ²Department of Psychology, University of California, Davis, CA 95616, USA ³The Sperm Bank of California, Berkeley, CA 94704, USA

*Correspondence address. Department of Psychology, Clark University, 950 Main Street, Worcester, MA 01610, USA (A.E.G.)/Department of Psychology, University of California, One Shields Ave., Davis, CA 95616, USA (J.E.S.). E-mail: agoldberg@clarku.edu (A.E.G.)/jescheib@ucdavis.edu (J.E.S.)

Submitted on October 6, 2014; resubmitted on March 3, 2015; accepted on March 18, 2015

STUDY QUESTION: What are female-partnered and single mothers' motivations and experiences at one donor insemination (DI) program with regard to contacting other families who share the same sperm donor?

SUMMARY ANSWER: By and large, women reported seeking contact to obtain (i) support for their children and/or themselves, and (ii) information about shared traits and medical problems, ultimately describing a range of contact experiences, both positive (e.g. special bond created) and negative (e.g. uncomfortable encounters).

WHAT IS KNOWN ALREADY: There is a growing phenomenon of donor insemination families—parents and/or offspring—seeking others who share their donor (i.e. are 'donor-linked'). There is limited understanding about parental motivations and experiences—especially in the presence of a second parent—due to the methodological constraints of previous quantitative studies.

STUDY DESIGN, SIZE, DURATION: Semi-structured telephone interviews were conducted with 50 donor insemination mothers (14 single, 36 female-partnered). Participants were recruited by email invitation to parent members of a family-matching service at one donor insemination program in the USA. The criterion for inclusion was having matched to at least one donor-linked family.

PARTICIPANTS/MATERIALS, SETTING, METHODS: Among the 50 mothers interviewed, all had at least one child conceived via donor insemination, who was between ages 0 and 15 years at first contact. Families matched with a median of three donor-linked families (range 1–10). Interview data were analyzed through qualitative (i.e. thematic) analysis.

MAIN RESULTS AND THE ROLE OF CHANCE: Overarching themes emerged of seeking contact to obtain (i) support and (ii) information about children's shared physical and psychological traits. Some wanted to increase their child's family network, through adding a sibling, but more often as extended family. Data, from partnered parents especially, revealed the challenges of balancing the boundaries of family formed without the genetic link with the perceived benefits of exploring the child's donor origins.

LIMITATIONS, REASONS FOR CAUTION: Interviews focused on openness and information-sharing were conducted with parents from one American donor insemination program. Findings are limited to individuals who were open enough to share their experiences and able to take the time to do so.

WIDER IMPLICATIONS OF THE FINDINGS: As donor-linking services become established independently (e.g. donor insemination program registries) or by the government (e.g. Victoria, Australia's Voluntary Register), these findings provide evidence that linking services are valued by individuals affected by donor conception. Caution is warranted, however, in that some participants reported mismatched expectations, both across donor-linked families and within families (e.g. between partners), suggesting the need for information and guidance both during and after matching. Overall, the range and balance of reported positives and negatives indicate that donor-linking can provide individuals with support and donor origins information—which are particularly important when these are not available elsewhere.

STUDY FUNDING/COMPETING INTEREST(S): Clark University provided support. No competing interests.

Key words: gamete donation / donor-linking registry / information sharing / lesbian mothers / single mothers

Introduction

Donor insemination (DI) is an increasingly normalized and therefore talked-about topic, both in society and within individual families. Its growing normalization is in part related to (i) increases in the number of families using reproductive technologies (CDC, 2013; Kupka *et al.*, 2014), and (ii) growing awareness that openness regarding children's origins (whether by adoption or sperm and/or egg donation) may benefit children's psychological and identity development (Benward, 2012; Blyth *et al.*, 2012) and that secrecy regarding children's origins may be harmful (Paul and Berger, 2007; Daniels *et al.*, 2011; American Society for Reproductive Medicine, 2013). Reflecting this trend toward greater openness, donor insemination recipients in the USA are increasingly choosing to use sperm donors who are identifiable ('open-identity') to donor-conceived adults, as opposed to donors who remain anonymous (Scheib *et al.*, 2000; Scheib and Cushing, 2007). Internationally, a number of jurisdictions now also require sperm and egg donors to be open-identity (e.g. the UK, the Netherlands, the Australian state of Victoria; Blyth and Frith, 2009). In addition to registries that store donor identifying information for release to donor-conceived adults (e.g. Human Fertilisation and Embryology Authority (HFEA) Register, UK), some jurisdictions also provide voluntary, mutual-consent registries that enable contact among donor-conceived adults who share a donor (e.g. HFEA Donor Sibling Link) and among parents whose children share a donor (e.g. Voluntary Register in Victoria, Australia). Other contact registries exist as well, including those set up by parents (e.g. Donor Sibling Registry) and donor insemination programs (Cahn, 2013).

Few studies have examined parental motivations for and experiences of seeking contact with other families formed with the same sperm donor (i.e. who are 'donor-linked') and who have dependent (minor) children (e.g. Scheib and Ruby, 2008; Freeman *et al.*, 2009; Hertz and Mattes, 2011; Sawyer *et al.*, 2013; little research has examined egg-donor linked families). Further, as Millbank (2014) notes, studies of parental experiences of seeking contact tend to be survey-based, with few qualitative dimensions. Furthermore, although female couples and single women constitute substantive subpopulations of those who use donor insemination to build their families (e.g. Brewaeys, 2010; DeWert *et al.*, 2014), there has been little consideration of how their unique circumstances shape motivations for seeking contact, feelings, and experiences with donor-linked families. Indeed, female couples and single women pursue donor insemination—and consider potential contact with donor-linked families—in a very different relational context than that of heterosexual couples (Haines and Weiner, 2000; Hargreaves, 2006; Goldberg *et al.*, 2009), one in which resultant children almost always know about the family's donor origins and potentially experience stigma associated with their non-heteronormative families (i.e. families differently structured than those with two different-sex parents and genetically related children; Strathern, 1992; Bos, 2013). Thus, in-depth exploration of why women in same-sex couples and single women seek contact with donor-linked families, as well as their experiences doing so, is needed.

Reasons for seeking contact

Research suggests that many donor insemination families, especially those parented by single mothers, are interested in contacting others with the same donor (Scheib and Ruby, 2008; Freeman *et al.*, 2009). Motivations for contact include curiosity and a desire for extended

family (Scheib and Ruby, 2008; Freeman *et al.*, 2009; Hertz and Mattes, 2011; Millbank, 2014). Yet studies have only begun to address the reasons underlying parents' efforts to make contact; understanding of parents' meaning-making processes related to contact is limited. Further, reasons for and against—and potential tensions surrounding—contacting donor-linked individuals are less clear among female same-sex couples. Although existing studies acknowledged that a fair proportion of their samples were members of couples, none addressed whether parents perceived differences between themselves and their partners regarding desire and/or reasons for seeking contact.

Experiences with contact

Research has documented variability in parents' feelings about and experiences with contact, such that some parents report 'clicking' with other parents, whereas others report a lack of connection (Scheib and Ruby, 2008; Hertz and Mattes, 2011). Positive connections are sometimes attributed by parents to similar parenting values or family structure (e.g. single mothers may be more likely to click with other single mothers; Hertz and Mattes, 2011). Lack of connection, or disappointment after initial contact, can be understood as a function of the reality that (i) families sometimes share little in common other than the genetic connection, and (ii) families may have differing desires or expectations about contact (Hertz and Mattes, 2011; Blyth, 2012).

The current study

Given the relative newness of contact among donor-linked families and the potential complexity of the phenomenon, we conducted qualitative telephone interviews with 14 single and 36 female-partnered mothers from one donor insemination program's 'family-matching' service to offer a more in-depth look into their motivations for and outcomes of making contact, including possible discrepancies within couples. Female couples who choose to pursue parenthood are in a unique position in that almost all begin with the knowledge that, at most, only one parent will have a genetic link to the child (intrafamilial donation is relatively uncommon). This often leads couples—as well as the gay community more generally—to minimize the significance of biology, seen in comments like 'love makes a family,' so that parent-child relationships are seen as socially and intentionally constructed (Weston, 1991; Nordqvist, 2012a; see also Grace and Daniels, 2007). Yet at the same time, female couples usually carefully consider the characteristics of the donor (matching characteristics such as ethnicity to those of the genetically unrelated mother), and, additionally, often choose the same donor for subsequent siblings—decisions that can be seen as reflecting or reifying the relevance of genetic inheritance through both creating relatedness between siblings and increasing resemblance (and thus perceived relatedness) among family members (Scheib *et al.*, 2000; Becker *et al.* 2005; Nordqvist, 2012b). It follows that genetically unrelated mothers might respond differently than genetically related mothers to the possibility of making contact with donor-linked families, potentially perceiving it as a threat to their validity as a parent through emphasis on the donor's and not their genetic link to others (Wyverkens *et al.*, 2014). Interviewing parents about these issues can clarify the perceived benefits and challenges to contact among individuals who share a donor. Resultant knowledge may be useful to service providers, policymakers, and people affected by donor conception, in terms of providing insight

into these issues, and possibly informing (re)consideration of registry procedures and support needs in families.

Materials and Methods

Recruitment and procedure

The study was conducted through The Sperm Bank of California (TSBC). TSBC set up a formal 'family-matching' service in 1997, with a handful of matches occurring prior to this. This US donor insemination program is unique historically in that it has always served a large number of female couples and single women, who tend to be open with their children regarding their donor origins (Scheib *et al.*, 2000). When a child is born through this donor insemination program, parents are notified that they can register in a voluntary, mutual-consent family-matching service if they want contact with other families who share their donor. When there is a match—that is, two or more families register who used the same donor—TSBC informs the parents and releases each family's contact information to the others. No formal counseling is provided, although an extensive FAQ summary is available at the program's website (see www.thespermbankofca.org/content/family-contact-list-information) and is discussed briefly when members join. In 2003, a few years after the service had started, 17.5% of the donor insemination program's 515 families had joined (Scheib and Ruby, 2008). By 2013, when the current study was initiated, one-quarter of all known families (i.e. 569 of 2262) had joined (almost all registrants are parents).

Parent members of the matching service, regardless of family type, were invited to participate in the current study if they had matched to at least one linked family and had email addresses, resulting in 436 of the 569 families; 406 of the 436 email invitations did not bounce back. Prospective participants were invited to contact the PI (*first author*) if they were interested in being interviewed over the phone about their thoughts and experiences regarding contact with donor-linked families. The PI explained the study to participants over the phone. Participants were mailed a consent form that they returned prior to scheduling a phone interview with the PI or a graduate research assistant. Participants were offered \$30 for their time, although not all participants accepted it.

Creation of the semi-structured interview schedule was informed by the literature, our key research questions, and feedback from several scholars with expertise in donor insemination and family relationships. Interviews were conducted by the PI (a clinical psychologist) and two doctoral students in clinical psychology. Telephone as opposed to in-person interviews were used due to the geographically diverse sample. All interviewers were knowledgeable about assisted reproduction, donor-linking, and same-sex parenthood; had extensive training and experience in interviewing techniques; and also did several practice interviews with the current protocol prior to interviewing participants. The interview schedule was modified based upon feedback and emergent themes in the first few participant interviews.

Interviews lasted about an hour on average and covered a range of topics, including how the participant chose their sperm donor and their experiences with and views of the donor-linked families. Interviews were transcribed and pseudonyms assigned to protect confidentiality. Potentially identifying information was removed from the transcripts. The data from this study are derived from the following open-ended questions: (i) When, if at all, in your child(ren)'s life did you begin to think about the possibility of others s/he was linked to through the donor? How old were they/how long ago was that? (ii) What were your initial thoughts or feelings when you realized this was a possibility? (iii) What are your feelings now? (iv) What have your experiences been with TSBC's Family Contact List [i.e. matching service]? (v) Have you made contact with any families via TSBC's Family Contact List? Via other mechanisms? (vi) How did you decide to reach out/contact

other families? What motivated you to reach out? (vii) What type of contact have you had with these families? (viii) How satisfying has this contact been? (ix) How has the contact progressed over time? How do you explain or understand this? (x) Have any unexpected issues come up with regard to contact? (xi) Was the experience of making contact what you expected? Different? How? (xii) In what ways has contact been meaningful, important, or helpful for you? Your partner? Child? (xiii) Have there been ways in which contact has been challenging for you? Your partner? Child? (xiv) Have there been any unexpected outcomes of this contact?

Description of respondents

Due to funding constraints (i.e. limited compensation for participants), the study was advertised as open to the first 40 participants who responded to the email. Unexpectedly, more responded. Due to the fact that some participants declined compensation, we were able to include 55 women in total (13.5% of parent members who were sent an email successfully). Namely, completed consent forms were received from 55 women and no men within 1 month of emailing the study invitation, of whom 14 (25.5%) were not partnered at the time they became parents, 38 (69.1%) had a same-sex partner, and 3 (5.5%) had a different-sex partner. This distribution of family types did not differ from that of the matching service as a whole ($\chi^2 = 1.90$; $P > 0.10$).

Sample

Whereas recruitment focused on obtaining parents regardless of their family type, few heterosexual-couple parents belong to the matching service; in turn, too few interviews were available from these parents ($n = 3$ heterosexually partnered women) to be included in the analysis. The final sample included only single women and women with same-sex partners. We also excluded two female-partnered women because they were the genetically unrelated mother; thus, too few interviews were available from this group to justify their inclusion. This resulted in a sample of 50 donor insemination recipient mothers (the first author interviewed 6; clinical students interviewed 22 each). Of the 14 single women, 10 identified as heterosexual, and 4 as bisexual. Of the 36 women partnered with women, 25 identified as lesbian, 5 as bisexual, 4 as queer and 2 as gay.

Some of the participants had experienced relationship changes since they became parents. Of the 36 participants who were originally partnered, 9 had separated; 6 of these 9 were now in relationships with new female partners. Of the 14 women who had been single when they became parents, two were now in relationships with men.

Most participants (88%) were of European descent; the remainder identified as Asian ($n = 1$) or multi-ethnicity ($n = 5$). The participants' mean age was 44.80 years old ($SD = 8.33$). They worked a mean of 32.60 h per week ($SD = 17.18$) and reported a mean family income of \$99 815 ($SD = \$65 700$). Forty-two percent lived on the American West Coast, 33% in the Northeast, 21% in the Midwest, and 4% in the South.

All women had at least one child; 20 had two children, and 3 had three children. The mean ages for the first, second and third child, respectively, were 10.30 ($SD = 6.74$), 8.50 ($SD = 6.13$) and 7.00 ($SD = 3.46$). Considering only the oldest child (the child for whom participants were most likely to have established contact), 53% were boys, and 47% were girls. Parents of multiple children had used the same donor in all but three cases. All but three participants (all female partnered) had open-identity donors.

All but one family had contacted at least one matched family, with a median number of three families (mean = 3.31, range: 1–10); all had knowledge of more families (median = 10) who had used the same donor (mean = 8.43, range: 2–17). Participants reported having been in contact with their first matched family for a median of 4 years (mean = 5.60, range 0.5–15), having first made contact when their oldest child was a median age of 2 years (mean = 4.70, range 0.5–15).

Data analysis

Interviews were analyzed using thematic analysis, which involves carefully examining participants' narratives in an effort to identify recurrent themes and patterns in their experiences (Bogdan and Biklen, 2007). The first author initiated the coding process using comparative methods (Charmaz, 2006) to establish analytic distinctions by comparing data across participants to identify similarities and differences. For example, data were compared and contrasted across family type, sexual orientation and child age. Interviews were coded manually, line-by-line, with close attention to participants' interpretations and constructions. At the start of the coding process, focus was given to participants' descriptions of their reasons for establishing contact as well as their experiences of contact. This focus framed the selective analysis and coding of the data. After developing an extensive list of specific codes, focused coding was applied to the data, such that the most substantiated coding categories were created to sort the data. This led to further integrating some codes and discovering new connections among the data. Four rounds of focused coding allowed for refinement of all of the descriptive data.

Once this coding process was complete, a second coder—a doctoral student in psychology—read selected segments of participant transcripts (i.e. one-quarter of the transcripts) and evaluated the scheme against the data. Inter-coder reliability was 0.80, above Miles and Huberman's (1994) suggested initial reliability of 0.70. Based on the discrepancies that emerged, the first author and the second coder reviewed the coding scheme once more. They produced a further refined analysis of the codes and sub-codes, and this revised scheme was reapplied to all of the data. The findings are organized around this final scheme. In quoting participants, we provide information about their relationship status at the time that they conceived (along with any changes), and child age at the time of the interview (i.e. young children are 5 and under; school-aged children are 6–17; young adults are 18+ years).

Ethical approval

The study was approved by Clark University's committee on the rights of human participants in research (IRB).

Results

We begin by discussing participants' motivations for contact. Then, we discuss the range of their experiences with contact, including challenges they encountered with matched families and with their partners related to boundaries and expectations.

Thematic analyses of interviews

Motivations for contact

Participants described a range of, and sometimes multiple, reasons for seeking contact (Table 1). In many cases, women described reasons that centered upon their child. In a minority of cases, they described seeking contact for themselves. Many also described curiosity related to the children's shared behavioral or physical characteristics as a primary motivation.

A (future) support system for my child. Twenty-four women (15 female-partnered, and nine singles, one of whom was now male-partnered) reported that a primary motivation for seeking contact was that their child might wish to connect with another person who shared a similar experience (i.e. being conceived via donor insemination; not having a father; having two mothers). These women wished to mitigate their child's sense of aloneness by establishing, even if preemptively, 'a support system of similar others, should they need it,' which would aid in their

child's psychosocial development. Nora, a single mother of a school-aged girl, stated: 'There was concern in the back of my mind that she might feel different or weird or ostracized . . . I felt like, in case that should happen, she should have someone else to talk to.' Notably, all three of the female-partnered women who had not chosen open-identity donors were among those to emphasize the desire for future support for their child as a motive for contact. These women, then, were attuned to the reality that their child might feel uniquely alone and/or experience unique identity concerns, which contact with a genetically related peer might alleviate.

Many of these women first sought contact when their children were very young so that the 'relationship would be in place' should their child wish to access it later. Ginny, a female-partnered mother of two school-aged sons, stated: 'I felt like if we kept contact going throughout their childhood, then later when they're young adults, they can choose whether to see each other or talk to each other or not. But I wanted that possibility open for them in the same way I wanted the possibility of them eventually meeting the donor if . . . they wanted.' Women like Ginny acknowledged that although they could not predict their child's future interest in such contact, they were taking the steps now so that it was an option in the future. Thus, they conceptualized their efforts as proactive and serving their child's best interests.

Four women noted waiting until their child was older to seek contact. At that point, they sought contact *because* their child was feeling alone and they felt that it would be useful to connect with another child in a similar situation. Cassie, a single mother of a school-aged boy, said, 'He was feeling very different and alone . . . It changed his whole countenance to know that there are these other kids who are related to him. It's great.'

Expand our family. In explaining their motivation for seeking contact, nine participants described a desire to expand their families for the benefit of their children. This theme is distinct from the previous theme is that these women (i) were motivated to create *family* for their child, not just a support system; and (ii) wanted these relationships to exist *now* as opposed to in the future. In five of these cases—four of whom were women who had separated from their children's other mother (three had repartnered), and one of whom was a single woman (now male-partnered)—women described losses or gaps in their own families (e.g. the death of or distant relationships with family members; a small nuclear or extended family) as prompting their interest in contact. Jessica, the mother of three school-aged children, who had split from their other mother and was repartnered, said, 'I don't have a really close family, and I've always wanted one. It's something I wanted my kids to have . . . My motivation was to let them have relatives.' In one case, the separation from one's partner was explicitly named as prompting contact-seeking in the interest of kinship expansion. Rochelle, mother of a young adult son, said, 'When I started my family, I assumed our kid would have two parents . . . that we'd have a second baby . . . that my three straight siblings would have children. None of them did. I felt like we were the world's tiniest family . . . I wanted more abundance for my son.'

Four of these nine women—all of whom were initially single, one of whom was now male-partnered—espoused not simply a desire to expand their child's kin network, but a wish to provide them with a *sibling*, specifically. Nora, a single mother, noted that her school-aged daughter 'was an only child, and would remain that way,' which led her

Table 1 Motivations for and experiences with contact among families who share the same sperm donor.

	Parental relationship status at conception of oldest child			
	Single (n = 14)		Female partnered (n = 36)	
	n (%)	Change in relationship status (n, type now)	n (%)	Change in relationship status (n, type now)
Motivation for contact				
Support system for my child	9 (64)	1, partnered	15 (42)	0
Expand family	5 (36)	2, partnered	4 (11)	All, separated and 3 repartnered
Support system for parent	6 (43)	1, partnered	3 (8)	0
Curiosity re: physical traits	3 (21)	1, partnered	15 (42)	1, separated and repartnered
Curiosity re: personality, interests	0	0	7 (19)	2, separated and repartnered
Child problems	3 (21)	0	6 (17)	0
Consanguinity concerns	1 (7)	0	2 (6)	0
Experience of contact				
Strong and special bond	1 (7)		10 (28)	1, separated and repartnered
More positive than expected	6 (43)	1, partnered	0	0
Awkward encounters	3 (21)	0	4 (11)	0
Children did not 'click'	1 (7)		3 (8)	1, separated
Unmet expectations: 'We wanted more'	4 (29)		13 (36)	3 separated and repartnered
Unmet expectations 'They wanted more'	0	0	4 (11)	0

to want to reach out to linked families in order to give her 'a sibling connection'. It is notable that three of these four women remained single mothers, and all had older children (three school-aged, one young adult). With the reality of a small family setting in, and as the likelihood of siblings decreased, mothers seemed to perceive contact with linked families as an opportunity to enlarge their child's family network. As such, linked families became another avenue to creating family.

A support system for me. Nine mothers (three female-partnered; six initially single, one of whom was now male-partnered) highlighted their desire to connect with others in a similar situation to explain why they had sought contact. These women often commented on the 'uniqueness' of their situation, and sought 'camaraderie' with others who 'shared the same experiences', with whom they could talk about 'why they went this route, why they picked this donor', and who might serve as a sounding board about 'how to talk to my child about the donor'. Marlene, a female-partnered mother with three school-aged children, said, 'Honestly, it was partly for me. I wasn't sure how [having a child via DI] was going to work and I wanted to meet other people in case I needed to talk about it . . . Our circumstance is unusual . . . it's outside of the norm.'

Four of these nine women specifically noted that they lived in rural or remote places where few people could understand, much less share, the experience of conceiving and raising a donor insemination child. As Sharla, a single mother with two school-aged daughters, noted, '[I sought contact] because I'm kind of a weird person to everybody here; in [the South], not many people do this. How many people did I know [who used DI]? None.'

Curiosity about physical similarities. Not surprisingly, curiosity was often described as a motivator for seeking contact. Namely, 18 participants

(15 female-partnered, one separated and repartnered; three singles, one of whom was now male-partnered) explained that they had sought contact to see what physical characteristics of their child came from the donor. Sue, a female-partnered mother of a young adult son and daughter, said, 'I wanted to see what they looked like, to see . . . what the similarities were . . . I wondered what genetics played out for each one of them.' In a few cases, women also voiced their desire to get a 'sneak peek' into their child's physical presentation later in life, by connecting with families with older children: 'Their child was older than ours and we wanted to see how she might look.' Of note is that two of the three women whose children did not have open-identity donors were among those who mentioned curiosity about physical characteristics as a motivator for contact—perhaps in part because of their inability to access such information from the donor himself.

Curiosity about personality and interests. Curiosity about personality and behavioral attributes, as well as talents and hobbies, were described by seven female-partnered mothers, two of whom had separated and repartnered. Again, their curiosity was rooted in the desire to determine the relative heritability of their children's behaviors or talents, as well as to 'know [their] children better'. Andie, who had split from her children's other mother and was now repartnered, articulated a curiosity about whether her children's donor-linked siblings were 'feisty and active,' like her own two school-aged children. She explained: 'Our kids have pretty strong, intense personalities . . . and some qualities we can connect back to us and some feel like they come from someone else. So, it was like, how much of that comes from the donor and are there other kids out there that share these intense characteristics?'

Child's problems. Nine participants mentioned child difficulties as motivation for joining the service. Five participants—four female-partnered,

and one single, all with older children (two young adults, two school-aged)—described seeking contact because of existing psychological or developmental difficulties in their children. They wished to establish whether other families had encountered similar challenges with their children. Cindy, a female-partnered mother, explained, her young adult son ‘was struggling, had dyslexia, some developmental delays . . . I was curious if any of [the] siblings had those problems.’ Four additional participants—all mothers of school-aged children (two female-partnered, two single)—wished to establish contact in case of future problems.

Concerns about consanguinity. Three mothers (two female-partnered, one single) noted being partially motivated by concerns that their children could end up romantically involved with someone to whom they were related. Jen, a female-partnered mother of a young adult son, explained: ‘I wanted to make sure that he wasn’t inadvertently going to end up dating someone who he is related to. His girlfriend right now, she is from [city], her last name is the same as the donor’s. So he had to ask her . . . he had to ask that question.’

Desire for contact: differences within same-sex couples

Ten women—partnered when they conceived, but three now separated—noted differences in their own and their partner’s desire for contact, which was occasionally a source of conflict. These women described their partners as less interested or invested in contact, possibly because they felt, or were concerned that, their parental status was being undermined or threatened by virtue of establishing contact with genetically related ‘siblings’. In discussing her own desire for contact, Michelle, the mother of a young boy, said, ‘I wanted to see what the siblings looked like. Ellie [partner] was more hesitant . . . I think it’s always hard when you’re not the birth mother; there is a whole other ball of wax.’ Michelle and Ellie ‘discussed [it],’ and concluded that ‘we don’t necessarily want to have a relationship with them, but it might be nice to see who is part of the sibling registry. Maybe it’s going to be important to him.’ Michelle seems to have responded to Ellie’s hesitation by downplaying the purpose and importance of contact. Notably, the couple did make contact with several families and Ellie was now seen as ‘being fine with it’.

A stronger level of disagreement was described by Katie, the mother of a young boy, who noted that her partner ‘didn’t want to [make contact]. She didn’t dislike it enough to ask me to not do it but she was really uneasy about it [because] if you saw another kid, you’d be able to in theory pick out which features were common to both children, and see . . . this ghost of somebody else.’ Yet Katie felt that ‘being as comfortable as we can is going to be the most psychologically healthy thing for him.’ Ultimately, she and her partner agreed to make contact, and the conflict was further resolved by the ‘excellent’ relationship that they formed with one of the linked families.

Rarely, disagreements about contact were described as causing major tension. Jessica, who eventually split from her partner, explained how they ‘did not agree’ on whether to seek contact. She noted that her partner ‘felt it was going to take away from her position,’ whereas Jessica ‘didn’t want the kids to have to wonder later and I thought it was kind of selfish for her not to want to give them that chance. We fought about it . . . [and] she eventually gave in.’

Some women, in describing their differences of opinion about making contact, explicitly spoke to why the genetically-unrelated mother might be reluctant to establish relationships. These genetic mothers recognized that discussions of contact with their child’s donor-linked siblings served

as a reminder of society’s emphasis on genetic relatedness as a criterion for family membership, implicitly undermining their partner’s status as ‘mother’. Sue, for example, was aware that even the consideration of linked others was ‘a reminder of the donor, the other person in the equation . . . I was always a little careful or aware of how she would feel as the non-birth mom . . . they’re the other parent, and now there’s this [reminder of] the donor.’ Ginny noted that her partner ‘doesn’t like that we had to use somebody else’s sperm. It was weird to her, like, “Why do we even have to have a relationship with these people?” [Contact] obviously highlights the genetic tie when she [has] the absence of the genetic tie. It’s the difference between us.’

Thus, genetically related mothers often emphasized their desire to make contact while focusing on the perceived benefits for their children, whereas their partners were seen as more hesitant about both the need for and potential consequences of such contact. In some cases, women described compassion for their partners’ position, acknowledging how such contact could represent a threat; in others, though, they appeared irritated with their partners—or former partners—for acting as a barrier to the contact that they felt was best for their child. In most cases, the tension was largely resolved, either by (i) establishing a positive relationship with at least one family, which served to dissolve the non-genetic mother’s fears or concerns about the unknown, or (ii) establishing an implicit or explicit agreement that the genetic mother would simply be more involved in mediating contact. As Ginny, quoted earlier, stated, ‘[The possibility of contact] is different for her, since she’s not related . . . so, she gets together with [linked families] but not as frequently as I do. And we’ve made our peace with this over the years.’

Experiences with contact

Participants described a range of experiences with their donor-linked families, ranging from very positive to negative and disappointing (see Table I).

A strong and special bond. ‘We clicked’. Eleven women (10 female-partnered, one separated and repartnered; one single) described very positive experiences with contact, noting that they had ‘clicked’ with at least one family, feeling a ‘special bond’ or ‘connection’ to them. Tess, a separated and repartnered mother of a young adult son, said, ‘I feel like we definitely have a bond. Not only did we conceive our children the same way, but our children are half siblings. I felt a definite connection.’ Ginny, a female-partnered mother of two school-aged sons, who had contacted six families, noted, ‘The amazing thing is how much we’ve liked all the women we have [met] in person. They are super bright, fun people. We’ve always hit it off.’

Some women speculated on why they had ‘hit it off’. A few wondered if shared values and beliefs may have contributed to both their choice of a donor and their strong interpersonal bond. Katie, a female-partnered mother with a young son, mused: ‘I wonder if the things that we valued in a donor made us similar people . . . I wonder if we greatly increased the likelihood [of connecting] by simply both feeling comfortable with this donor. What we valued must have lined up.’ In a few cases, women speculated that it may also have been their shared identification as LGB that facilitated their connection. Cara, a female-partnered mother of two young adult girls, noted, ‘All the families we know so far are lesbian families . . . We all have this connection, being women about the same age, [having] went through[DI], we’re partnered.’

Many of these participants did not simply note their own 'clicking' but also highlighted that the children had a special 'connection' and 'from the beginning, [interacted] differently than with peers . . . there's not language for it . . . they had some kind of inner signaling.' In turn, participants delighted in watching these relationships unfold; as Gabby, a female-partnered mother of two young adult sons, exclaimed, 'It's been fun for us as adults. It's been wonderful to watch these kids connect and find the pieces that they needed, and the support.'

More positive than expected: 'I had worried for nothing!' Six single mothers, one of whom was now partnered, described the experience of establishing contact as more positive than anticipated. They described feeling initially hesitant about making contact, as they worried about boundaries and the possibility of differing desires for contact among families. In particular, many worried about having their own boundaries intruded upon. Reaching out to people whom they did not know, with whom they might have nothing in common, was 'scary,' as the matched families were a set of 'unknown quantities'.

Yet in all six cases, these women had made contact and reported positive results with at least one matched family. Sherrie, a single mother with a young daughter, described her surprise at finding that she 'liked them more than I expected to. I was really wary about possibly introducing weird crazy people into my life but they're all cool. I didn't want to just suddenly be like, "Oh my God, now I'm stuck with this person because our children are genetically related.'" Nora, a single mother with a school-aged son, described her initial concerns about making contact, and her relief and delight at the outcome: 'I remember . . . a cautiousness . . . I didn't want to get overwhelmed with someone else's desire to connect or insistence and I wanted to respect that boundary. But it was fine . . . It's fantastic. We'll spend the whole day [together]. The kids talk constantly and joyfully . . . and the parents get along great.'

Awkward or uncomfortable encounters: we didn't 'click'. Seven women—four female-partnered, three single—described awkward or uncomfortable interactions with matched families, whereby they had not 'clicked' (although of note is that in two cases, women also identified at least one other family with whom they had had a neutral or positive encounter).

In describing the lack of ease or closeness of these relationships, participants often observed that they didn't 'have a lot in common . . . outside of our children', and probably would not have spent time with the family or families in the absence of the very unusual 'donor connection'.

In several cases, women noted that the awkwardness of their initial meeting was likely exacerbated by the timing or setting of the encounter. Erika, a single mother of a school-aged son, noted that they had visited one of her son's donor-linked families in their home, which added to the 'weirdness' of meeting 'strangers' for the first time. She suggested that meeting on neutral 'turf' (e.g. a park) might have been wiser. Cindy, a female-partnered mother of a young adult son, felt that they had visited with the other family prematurely: 'Right after we [made contact], we visited. It was uncomfortable . . . it didn't make sense. Here is [linked-sibling] in his own world and all of a sudden . . . he's expected to drop everything and have this connection with somebody he doesn't know.' The sudden nature of their meeting, coupled with the intense set of expectations that it carried, created a situation that was uncomfortable for all involved.

Children didn't 'click' or are not close. In a minority of cases, participants emphasized the uncomfortable nature of their children's connection (or lack thereof) with their donor-linked siblings. Namely, four participants (three female-partnered, one of whom was now separated; one single), all of whom had school-aged or young adult children, noted that their children and the linked-siblings did not connect immediately or over time, which led them to wonder whether their expectations were too high regarding the significance, immediacy, or longevity of the connection. In Cindy's case, this lack of connection was particularly disappointing, as she 'really liked' the mother of her son's matched family, yet she perceived her son and his donor-linked sibling as being 'very different' which kept her and linked sibling's mother from 'forcing it'.

Tess, a formerly female-partnered mother, described disappointment that her son and his donor-linked sibling lacked a brotherly connection: 'In my heart, there was a part of me that would have loved nothing more than all of us [being] together.' Yet the reality was that her son was 'turned off' by his donor-linked sibling, who 'was so needy, he was so wanting an older brother.' Still, Tess trusted that perhaps eventually her son would reinitiate contact on his own, 'when they are late teens, early 20s . . . they could meet up somewhere and how cool would that be? But that would be up to the siblings . . . it's not about me.' These participants acknowledged that while their children were currently not inclined to develop the relationships, such relationships 'might become more meaningful in the future'.

Unmet expectations: we wanted more contact than they did. Seventeen women (13 female-partnered, three of whom separated and repartnered; four singles) described challenges related to a lack of mutuality in interest in contact across families, whereby they felt that another family or families were less interested than they were. These women had all reached out to one or more families who were less responsive than they had hoped (although in several cases they reported reciprocal, satisfying contact with at least one other family). In turn, they felt disappointment and confusion related to their unmet expectations or desires for contact. Angela, a female-partnered mother with two young adult daughters, described frustration when a family whom she contacted 'never sent us pictures of her child. She was like, "I want to see pictures, where are yours?" but then, "I'm not going to send them to you." It's either a mutual relationship or it is not.' Rochelle, a separated and repartnered mother of a young adult son, described struggling with her own boundaries when her enthusiastic overtures were not reciprocated: 'I've seen the documentaries about sibling groups [that meet]. [So] the disappointment has been challenging, and my having to restrain myself [from continually reaching out] has been challenging . . . Some people are enthusiastic and some people are not . . . Figuring out those boundaries, that's challenging.'

In four of the cases, women described instances when they received no response at all to their efforts to reach out to one or more families, which left them feeling 'disappointed'. Further, two of them expressed feeling 'duped,' in that the matched families had ostensibly been interested in contact, as evidenced by their signing up for the matching service: 'She never responded, which was a shock. If she didn't want to be contacted, why put yourself on the list?'

These participants often attempted to imagine various reasons for the nonresponse to their emails or phone calls: 'Maybe they were ambivalent, they were overwhelmed. . . 'Maybe they made assumptions about our background [based on] the photos we sent them.' Others

tried to resolve their disappointment by telling themselves that it was 'meant to be' or downplaying the significance of contact. Dena, a lesbian woman who had divorced and re-partnered, contrasted how she felt before initiating contact ('it felt more exciting or like [it had] more potential') with how she felt now, after 'not a lot came of that . . . so it's like, "Okay, it's not actually all that significant . . . [they are] not all that interested in forming relationships" and so . . . it is what it is.'

Unmet expectations: they wanted more contact (or a more intense relationship) than we did. In the case of four female-partnered mothers of young children, participants voiced irritation over the fact that other families seemed to want more a more intense relationship, or more contact, than they desired. They felt that one or more of the families whom they had contacted were 'more needy' than they expected and wanted 'more intimacy' than they were willing to foster. Allie explained, 'In the beginning, she was talking to her children about "brothers and sisters in other places". She wanted to get the kids together for large group family photos and things. We were getting uncomfortable vibes. So we sort of stopped contact with her.' Lindsay recounted, '[One family] we got together with . . . wanted to hang out more often than we did [and were] like, "This is your sister." I was like, "Whoa, wait a minute, back off!" But it had nothing to do with this woman's personality . . . And with more time with setting our boundaries and communicating what we could and couldn't do, she backed off . . . and things were much better.' Thus, in both cases, women felt that boundaries surrounding their relationships were being pushed in a way that made them uneasy. In Allie's case, the difference in expectation was managed, and resolved by one party withdrawing and the other party taking the hint. In Lindsey's case, it appears that reciprocal communication enabled the families to establish a set of mutually acceptable boundaries.

Discussion

In exploring parental motivations for contact, an overarching theme emerged of women seeking contact with donor-linked families as a way to obtain information and establish sources of support for themselves and/or their children—consistent with prior work showing that parents valued relationships with donor-linked families as a source of emotional security for their children (Freeman et al., 2009). Much like open-identity donor programs, donor-linking services offer parents and donor-conceived individuals the possibility of obtaining more genetic origins information and perhaps a better understanding of the donor-conceived person, as well as the potential for connections and relationships. Parents, in turn, described interest in contact not only for the purpose of exchanging information and sharing experiences, but also to alleviate isolation related to their unique situation as a family formed via donor insemination; this was particularly the case for single mothers rather than female-partnered mothers, who likely know other donor-assisted families in their LGBT communities. This raises the possibility that some support-related needs may be met through contact with other donor insemination families via support groups—in person or online, for those living in more remote regions—which can be offered by donor insemination programs, mental health professionals or community organizations. Some needs (e.g. accessing origins information), however, may only be available via contacting linked families.

Some participants, particularly single mothers, were not motivated simply by an interest in support and connection, but rather a desire to

create extended family (see also Hertz and Mattes, 2011), even to the extent of wanting to give their child a sibling. This attempt to expand one's network to include non-family members represents a strategy of securing mutual support that has also been seen among aging adults and LGBT communities (Allen et al., 2011). Such expansion could theoretically provide the children with 'siblings' or 'cousins' with whom they might share similar experiences and on whom they might rely in the face of challenges (e.g. obtaining their donor's identity or coping without it). Although few women overall identified the desire to expand their families as a motive for contact, interest in providing their child with a sibling was disproportionately cited by single women—consistent with prior research showing that these families are overrepresented in TSBC's matching service (Scheib and Ruby 2008). As members of smaller families, these single women may have been predisposed to seek out contact for the purpose of creating a more expansive family network, especially for their children.

Women reported interest in contact with linked families as a way to access information about their children's shared traits (see also Freeman et al., 2009). Shared genetics and phenotypes can provide parents—especially of only children—with predictive information about future developmental milestones. Obtaining information from linked families might also help parents be vigilant for or identify a child's physical or behavioral problems, or to learn skills from the linked parents to better manage shared problems. Access to such information, in light of incomplete information about a donor's health, speaks to the utility of knowing linked families when a child is young. Knowing others with the same donor is also a source of origins information—often the only available source with anonymous donors—which can contribute to a child's identity development. Indeed, the three mothers who used anonymous donors seemed to view linked families as possible sources of origins information, in the absence of future donor identifying information.

Other mothers framed their motivation for contact in terms of curiosity, rather than the value of knowing about the child's genetic origins. This may simply reflect their having an open-identity donor as a future information source. Or, for female-partnered mothers especially, curiosity may seem to represent a 'safer' reason than emphasizing the desire for donor/genetic information, inasmuch as the latter could be experienced as threatening the significance of the genetically unrelated mother's parental role (Goldberg et al., 2009). Indeed, unlike single mothers who have only their children to consider when joining a registry, partnered parents must balance the potential benefits of forming relationships with others based on shared genetics with the lived experience that one parent's relationship to the child is based on affective ties alone. If one parent's legitimacy is being challenged through social and legal non-recognition (Gartrell et al., 2011; Nordqvist, 2012a), or because linked families, by default, increase the donor's significance in the family's life, and raise questions about who the 'real' parent and family are (Goldberg and Allen, 2013), then relationships with linked families may be perceived as a risk not worth taking. In the current study, women sometimes pressed ahead with contact despite their partner's resistance, with some noting later resolution for both partners (e.g. due to establishing good relationships with linked families). It may be that, like Indekeu et al.'s (2014) donor insemination heterosexual couples, affective bonds and increased confidence in one's parental role over time diminish the threat posed by the donor and, here, associated linked others. Yet not all couples reached resolution, highlighting the risks associated

with contacting linked families and the potential benefits of counseling and materials that address the complex social, legal, and interpersonal dynamics that are unique to female same-sex couples.

For a small number of women, simply knowing the child's donor-linked families was viewed as desirable in that it would help them to avoid consanguineous relationships among the families. Although the risk of accidental incest among people conceived via donor insemination is unknown (Sawyer and McDonald 2008; Cahn, 2009), it represents a not-infrequent fear among families and people (Mroz, 2011), and is more likely to be realized in small (e.g. LGBT) communities. By simply identifying other families who share the same sperm donor, families can alleviate fears regarding accidental sexual relationships among linked children.

Experiences with contact

Participants named a range of experiences with contact, with over one-third describing very positive relationships with their linked families. In some cases, women, particularly those in same-sex relationships, described a fairly strong, often immediate bond, which they sometimes attributed to similar characteristics (e.g. shared sexual orientation) and values. Thus, connecting with other families that not only are lesbian-headed and used the same family-building route, but also used the same donor, may be particularly powerful in offsetting the isolating effects of living in a heterosexist society that rarely acknowledges sexual minority women's personal or family lives (Goldberg and Gartrell, 2014).

In other cases, women explicitly noted that these connections were more positive than anticipated. That all of these women were single may be a reflection of having invested greater hope in these linked families than their partnered counterparts. If motivated by the desire to obtain support, but not new family, then these single women would presumably feel great relief upon learning that shared genetics does not automatically make one family. Or, their initial anxieties might simply reflect uncertainty meeting strangers who might be very different than themselves—for example, lesbian couples. While the nature of these qualitative findings precludes identifying associations between family type and differences in contact experiences, these possibilities can be pursued in future research.

Differences in expectations about and desires for contact across linked families were named as a challenge by some women. Almost a third described a desire for more contact than other families wanted, with the lack of reciprocity leaving these women disappointed and sometimes resentful. In a few cases, women described other families as wanting more frequent or intense contact than they did, which could lead to intrusions on their family's boundaries. It is from these narratives, and the fact that 75% of the donor insemination program's families did not join the service, that we gain insight into the challenges of linking families, especially with dependent children. Whereas linking clearly holds benefits for many families, it is not always clear whether and at what point in the child's life it is appropriate to join. It is likely—but yet to be determined empirically—that growing up knowing linked others helps to normalize donor conception for children, much as does learning early about having a donor (e.g. Scheib *et al.*, 2005). Further, there is evidence that contact among linked donor-conceived adults is perceived as beneficial—even with the risk of DNA-test false-positives in matching—such that adults feel that such contact facilitated further identity development

(van den Akker *et al.*, 2015). Unknown is whether meeting sooner, in childhood, may also be beneficial—although our findings suggest that the parents believe this to be the case.

While we have no studies of families who choose not to contact linked others, feedback from donor insemination parents in this program suggests a reluctance to join until their identity as a family, and relationships among siblings within the family, are strong (Alice Ruby, personal communication). Donor insemination families that struggle with communication about their donor origins (Blake *et al.*, 2010; Nordqvist, 2014) may also be hesitant to join. Thus, making contact before all parties have established firm family boundaries, and are comfortable communicating about their donor origins, might lead to perceptions of boundaries being overstepped, and experiences of rejection. Young children in particular may suffer if they (mis)understand linked children to be siblings and then experience rejection by that family.

Given the variability in desired contact, and the potential for disappointment among families, professionals (e.g. trained registry and/or mental health professionals) should encourage donor insemination parents to (i) work through their hopes for and fears about connection; (ii) examine and possibly modify their expectations for contact and the resultant relationships; (iii) imagine and plan for various outcomes (e.g. other families want more or less contact, are less open about donor origins); (iv) be prepared to deal with complex feelings in the event of unmet expectations; and (v) consider seeking alternative opportunities to contact non-linked donor insemination families for support (see also Wilde *et al.*, 2014). Understanding that a genetic connection does not mean that everyone will have the same goals for contact may help parents to avoid unrealistic expectations, and, in turn, negative encounters with linked families.

Limitations and implications

The current study is limited in a number of ways. First, the sample size was small and selectively biased toward individuals who were open about using donor insemination, limiting our ability to understand more variable experiences regarding contact. Second, major themes emerged around the desire for support and more general challenges faced by participants, but our analysis did not examine how parents coped when linked families did not meet expectations, or whether support from the linking service was adequate. Exploration of these issues in future research may yield additional data that will help registries better serve participants and avoid negative outcomes.

Too few heterosexually partnered parents responded to include in our qualitative analysis. Donor insemination fathers especially need to be included in future work to better understand the challenges they experience with creating their family differently than expected and having others know about their infertility. That no donor insemination fathers and few heterosexually coupled mothers responded, and that so few even belong to the donor insemination program's matching service, suggest that something (e.g. negative perceptions about male infertility; Nachtigall *et al.*, 1997) deters these families from joining.

We also did not interview many genetically unrelated mothers, and, in turn, excluded them from our analysis. That so few of these mothers contacted us to participate may be a reflection of their more complex, possibly conflicted stance regarding contact with linked families. Their absence inevitably limited our ability to address the challenges of being the genetically unrelated mother in a context where genetic relations

are the focus. Future work should seek to include both partners (Indekeu *et al.*, 2014) to gain a deeper understanding of how parent gender, sexual orientation, relational context and (non)genetic relatedness shape motives for and experiences of contact with linked families.

Study findings hold implications for both professionals and policy, beyond a broader and more nuanced understanding of motivations for and experiences with contact. Although potentially informative to registries that offer donor-linking among parents, current findings may also provide data for the greater numbers of jurisdictions with mandated open-identity donation registries (e.g. the UK, Victoria in Australia) and voluntary registries for donor-conceived adults to contact each other, as well as the donor (e.g. van den Akker *et al.*, 2015). When donor records are not available or where donation remains primarily anonymous (e.g. in the US), linking services are often the only option for donor insemination-affected people to find others who share their genetic origins. The findings from this and other studies suggest that linking services are quickly becoming an invaluable resource for donor insemination-affected families, underscoring the need to better understand possible consequences and outcomes of making contact.

Current findings help illustrate the array of possible emotions that parents may encounter upon seeking contact with donor-linked families (e.g. strong attachments, disappointments, mismatched expectations), all in the context of families being strangers to each other, yet potentially significant people to the children. Partners within a couple may also disagree on the importance of contact. Professionals need to be sensitive to the genetically unrelated parent's position, particularly in same-sex couples who are not well recognized socially and legally as families; and yet, at the same time, professionals should recognize that contact among families, and the openness that comes from this, can lead to positive experiences and potentially increased confidence as parents (Indekeu *et al.*, 2014). As donor insemination families still represent a minority in broader society, and their experiences are therefore unfamiliar to most other parents and families, connections and support derived from contacting others who share one's donor should be welcomed and valued by the donor insemination community—including families, professionals and policymakers.

Acknowledgements

We would like to thank the parents who shared their experiences with us. This study would not be possible without their generous contributions of time and insight. We also appreciate help from Alice Ruby, TSBC Executive Director, with the study design, inviting families, and commenting on the paper. Finally, we are grateful for the help of the interviewers and April Moyer, who served as a secondary coder on this project.

Authors' roles

A.E.G. was responsible for the interviews and qualitative data analysis. A.E.G. and J.E.S. were responsible for the rest of the study and writing the paper.

Funding

Support was obtained from a grant to the first author from Clark University.

Conflict of interest

None declared.

References

- Allen K, Blieszner R, Roberto K. Perspectives on extended family and fictive kin in the later years: strategies and meanings of kin reinterpretation. *J Fam Issues* 2011;**32**:1156–1177.
- American Society for Reproductive Medicine- Ethics Committee. Informing offspring of their conception by gamete or embryo donation: a committee opinion. *Fertil Steril* 2013;**100**:45–49.
- Becker G, Butler A, Nachtigall RD. Resemblance talk: a challenge for parents whose children were conceived with donor gametes in the US. *Soc Sci Med* 2005;**61**:1300–1309.
- Benward J. Identity development in the donor-conceived child. In: Guichon JR, Mitchell I, Giroux M (eds). *The Right to Know One's Origins: Assisted Human Reproduction and the Best Interests of Children*. Brussels, Belgium: ASP, 2012, 166–191.
- Blake L, Casey P, Readings J, Jadva V, Golombok S. 'Daddy ran out of tadpoles': how parents tell their children that they are donor conceived, and what their 7-year-olds understand. *Hum Reprod* 2010;**25**:2527–2534.
- Blyth E. Genes r us? Making sense of genetic and non-genetic relationships following anonymous donor insemination. *Reprod Biomed Online* 2012;**24**:719–726.
- Blyth E, Frith L. Donor conceived peoples' access to genetic and biographical history. *Int J Law Policy Family* 2009;**23**:174–191.
- Blyth E, Crawshaw M, Frith L, Jones C. Donor-conceived people's views and experiences of their genetic origins: a critical analysis of the research evidence. *J Law Med* 2012;**19**:769–789.
- Bogdan RC, Biklen SK. *Qualitative Research for Education: An Introduction to Theory and Methods*, 5th edn. Boston, MA, USA: Pearson, 2007.
- Bos HMW. Lesbian-mother families formed through donor insemination. In: Goldberg AE, Allen KR (eds). *LGBT-Parent Families: Innovations in Research and Implications for Practice*. New York: Springer, 2013, 21–37.
- Brewaeyns A. Men not included: a review of single and lesbian mother DI families: mother-child relationships in child development. *Facts Views Vis Obgyn* 2010; Monograph: 74–79.
- Cahn N. Accidental incest: drawing the line—or the curtain?—for reproductive technology. *Harvard J Law Gend; GWU Legal Studies Research Paper 437; GWU Law School Public Law Research Paper 437*. 2009.
- Cahn N. *The New Kinship: Constructing Donor-Conceived Families*. New York, NY, USA: NYU Press, 2013.
- Centers for Disease Control and Prevention, American Society for Reproductive Medicine, Society for Assisted Reproductive Technology. *Assisted Reproductive Technology National Summary Report*. Atlanta, GA, USA: US Dept of Health and Human Services, 2013.
- Charmaz K. *Constructing Grounded Theory: A Practical Guide Through Qualitative Analysis*. Thousand Oaks, CA, USA: Sage, 2006.
- Daniels K, Grace V, Gillett W. Factors associated with parents' decisions to tell their adult offspring about the offspring's donor conception. *Hum Reprod* 2011;**26**:2783–2890.
- DeWert G, Dondorp W, Shenfield F, Barri P, Devroey P, Diedrich K, Tarlatzis B, Provoost V, Pennings G. ESHRE Task Force on Ethics and Law 23: medically assisted reproduction in singles, lesbian and gay couples, and transsexual people. *Hum Reprod* 2014;**29**:1859–1865.
- Freeman T, Jadva V, Kramer W, Golombok S. Gamete donation: parents' experiences of searching for their child's donor siblings and donor. *Hum Reprod* 2009;**24**:505–516.
- Gartrell N, Bos H, Peyser H, Deck A, Rodas C. Family characteristics, custody arrangements, and adolescent psychological well-being after lesbian mothers break up. *Fam Relat* 2011;**60**:572–585.

- Goldberg AE, Allen KA. Donor, dad, or...? Young adults with lesbian parents' experiences with known donors. *Fam Process* 2013;**52**:338–350.
- Goldberg AE, Gartrell NK. LGB-parent families: the current state of the research and directions for the future. *Adv Child Dev Behav* 2014;**46**:57–88.
- Goldberg AE, Downing JB, Richardson HB. The transition from infertility to adoption: perceptions of lesbian and heterosexual preadoptive couples. *J Soc Pers Relat* 2009;**26**:938–963.
- Grace V, Daniels K. The (ir)relevance of genetics: engendering parallel worlds of procreation and reproduction. *Social Health Illn* 2007;**29**:692–710.
- Haimes E, Weiner K. 'Everybody's got a dad...'. Issues for lesbian families in the management of donor insemination. *Social Health Illn* 2000;**22**:477–4989.
- Hargreaves K. Constructing families and kinship through donor insemination. *Social Health Illn* 2006;**28**:261–283.
- Hertz R, Mattes J. Donor-shared siblings or genetic strangers: new families, clans, and the Internet. *J Fam Issues* 2011;**32**:1129–1155.
- Indekeu A, D'Hooghe T, Daniels K, Dierickx K, Rober R. When 'sperm' becomes 'donor': transitions in parents' views of the sperm donor. *Hum Fertil* 2014;**17**:269–277.
- Kupka MS, Ferraretti AP, de Mouzon J, Erb K, D'Hooghe T, Castilla JA, Calhaz-Jorge C, De Geyter C, Goossens V, The European IVF-monitoring Consortium, for the European Society of Human Reproduction and Embryology. Assisted reproductive technology in Europe, 2010: results generated from European registers by ESHRE. *Hum Reprod* 2014;**29**:2099–2113.
- Miles MB, Huberman AM. *Qualitative Data Analysis: An Expanded Sourcebook*. Thousand Oaks, CA, USA: Sage, 1994.
- Millbank J. Numerical limits in donor conception regimes: genetic links and 'extended family' in the era of identity disclosure. *Med Law Rev* 2014;**22**:325–356.
- Mroz J. One sperm donor, 150 offspring. *New York Times* 2011, retrieved at www.nytimes.com/2011/09/06/health/06donor.html.
- Nachtigall RD, Tschann JM, Quiroga SS, Pitcher L, Becker G. Stigma, disclosure, and family functioning among parents of children conceived through donor insemination. *Fertil Steril* 1997;**68**:83–89.
- Nordqvist P. Origins and originators: lesbian couples negotiating parental identities and sperm donor conception. *Cult Health Sex* 2012a;**14**:297–311.
- Nordqvist P. 'I don't want us to stand out more than we already do': lesbian couples negotiating family connections in donor conception. *Sexualities* 2012b;**15**:644–661.
- Nordqvist P. The drive for openness in donor conception: disclosure and the trouble with real life. *Int J Law Policy Family* 2014;**28**:321–338.
- Paul MS, Berger R. Topic avoidance and family functioning in families conceived with donor insemination. *Hum Reprod* 2007;**22**:2566–2571.
- Sawyer NE, McDonald J. A review of mathematical models used to determine sperm donor limits for infertility treatment. *Fertil Steril* 2008;**90**:265–271.
- Sawyer N, Blyth E, Kramer W, Frith L. A survey of 1700 women who formed their families using donor spermatozoa. *Reprod Biomed Online* 2013;**27**:436–447.
- Scheib JE, Cushing RA. Open-identity donor insemination in the United States: is it on the rise? *Fertil Steril* 2007;**88**:231–232.
- Scheib JE, Ruby A. Contact among families who share the same sperm donor. *Fertil Steril* 2008;**90**:33–43.
- Scheib JE, Riordan M, Shaver PR. Choosing between anonymous and identity-release sperm donors: recipient and donor characteristics. *Reprod Tech* 2000;**10**:50–58.
- Scheib JE, Riordan M, Rubin S. Adolescents with open-identity sperm donors: reports from 12–17 year olds. *Hum Reprod* 2005;**20**:239–252.
- Strathern M. *Reproducing the Future: Essays on Anthropology, Kinship and the New Reproductive Technologies*. Manchester, UK: Manchester University Press, 1992.
- van den Akker OBA, Crawshaw MA, Blyth ED, Frith LJ. Expectations and experiences of gamete donors and donor-conceived adults searching for genetic relatives using DNA linking through a voluntary register. *Hum Reprod* 2015;**30**:1111–1211.
- Weston K. *Families We Choose: Lesbians, Gays, Kinship*. New York: Columbia University Press, 1991.
- Wilde R, McTavish A, Crawshaw M. Family building using donated gametes and embryos in the UK: recommendations for policy and practice on behalf of the British Infertility Counselling Association and the British Fertility Society in collaboration with the Association of Clinical Embryologists and the Royal College of Nurses Fertility Nurses Forum. *Hum Fertil* 2014;**17**:1–10.
- Wyverkens E, Provoost V, Ravelingien A, De Sutter P, Pennings G, Buysse A. Beyond sperm cells: a qualitative study on constructed meanings of the sperm donor in lesbian families. *Hum Reprod* 2014;**29**:1248–1254.