

# Adult offspring of lesbian parents: how do they relate to their sperm donors?

Audrey S. Koh, M.D.,<sup>a</sup> Gabriël van Beusekom, Ph.D.,<sup>b</sup> Nanette K. Gartrell, M.D.,<sup>c,d</sup> and Henny Bos, Ph.D.<sup>d</sup>

<sup>a</sup> Department of Obstetrics, Gynecology and Reproductive Sciences, University of California, San Francisco, School of Medicine, San Francisco, California; <sup>b</sup> Social Policy Research on LGBT Health, Netherlands Institute for Social Research, The Hague, the Netherlands; <sup>c</sup> Williams Institute, UCLA School of Law, Los Angeles, California; and <sup>d</sup> Research Institute of Child Development and Education, University of Amsterdam, Amsterdam, the Netherlands

**Objective:** To study how adult offspring in planned lesbian-parent families relate to their unknown or known donors.

**Design:** Qualitative analyses of the sixth wave of online surveys from a longitudinal study of adult offspring in planned lesbian families, enrolled at conception.

**Setting:** Community-based United States national study.

**Patient(s):** The 76 participants were 25-year-old donor insemination (DI) offspring whose lesbian parent(s) enrolled in a prospective longitudinal study when these offspring were conceived.

**Intervention(s):** None.

**Main Outcome Measure(s):** Offspring were asked about donor type, feelings about permanently unknown donor, satisfaction with and role of known donor, whether relationship with known donor was ongoing, and age of meeting open-identity donor.

**Result(s):** This cohort (n = 76) of DI offspring with lesbian parents was among the first generation to reach adulthood. Thirty participants had permanently unknown donors and most participants felt comfortable about not knowing them. Sixteen participants had open-identity donors they had not met. Thirty had currently known donors—met in childhood (n = 22) or after open-identity donor disclosure (n = 8)—of whom two thirds had ongoing relationships with donors, half considered their donors as acquaintances, and nearly half had good feelings about their relationship, although a minority expressed conflicted feelings.

**Conclusion(s):** This study of adult DI offspring from planned lesbian families shows that those who knew their donors mainly felt positively about these relationships. Qualitative analyses offered insight into offspring-donor relationships, whose numbers are increasing due to historical and demographic trends. (Fertil Steril® 2020; ■: ■–■. ©2020 by American Society for Reproductive Medicine.)

**Key Words:** Lesbian parents, donor insemination, unknown sperm donor, known sperm donor, open-identity sperm donor

**Discuss:** You can discuss this article with its authors and other readers at <https://www.fertstertdialog.com/users/16110-fertility-and-sterility/posts/29568>

According to the most recent data, 440,986 U.S. women used donor insemination (DI) in family creation in 2015–2017 (1). Although most insemination recipients are heterosexually coupled and have infertility or a genetically transmitted disease, lesbian-identified women are increasingly using DI to become pregnant (2). The first generation of DI-conceived offspring from lesbian-parent families has now

entered adulthood in substantial numbers. There is very little information on the relationships adult DI offspring have with their donors (3). The current study aims to address this gap by exploring how the adult offspring of lesbian parents relate to and feel about their sperm donors.

Although DI has been used for heterosexual women since the 1770s (4), it took more than two centuries before DI was first offered to lesbian-identified

women. In 1982, the Sperm Bank of California was the first family planning clinic in the United States to provide DI to all women, regardless of sexual orientation or marital status (5). One year later, this same sperm bank was the first facility in the world to offer the option of open-identity donation as an alternative to the standard practice of concealing the donor's identity (i.e., donor anonymity) (6). If the prospective parent(s) chose the option of open identity, after the offspring reached the age of 18, they could request the donor's contact information. These developments facilitated lesbian women becoming pregnant through DI and forming planned or intended lesbian-parent families (7).

Received December 24, 2019; revised March 25, 2020; accepted May 4, 2020.

A.S.K. has nothing to disclose. G.V.B. has nothing to disclose. N.K.G. has nothing to disclose. H.B. has nothing to disclose.

Reprint requests: Audrey S. Koh, M.D., 1199 Bush Street, Suite 500, San Francisco, CA 94109 (E-mail: [Kohresearch8@gmail.com](mailto:Kohresearch8@gmail.com)).

Fertility and Sterility® Vol. ■, No. ■, ■ 2020 0015-0282/\$36.00

Copyright ©2020 American Society for Reproductive Medicine, Published by Elsevier Inc.

<https://doi.org/10.1016/j.fertnstert.2020.05.010>

However, at that time, experts in child development, mental health, and public policy warned that the mental health of these offspring in lesbian-parent families only would become fully known when the first generation so conceived reached adulthood (8, 9).

The ongoing U.S. National Longitudinal Lesbian Family Study (NLLFS) began in 1986 with a goal of addressing these long-term outcome questions by providing prospective data on the first generation of intended lesbian families (7). The families have been interviewed or surveyed in six waves since 1992. Studies showed that the mental health and psychological well-being of these offspring have been the same or better than that of offspring in matched national samples (10–12). At Wave 4 (when the offspring were 10 years old) and Wave 5 (when they were 17 years old), there were no differences in psychological adjustment between those with known, as-yet-unknown, or permanently unknown donors (10, 11, 13). The Wave 6 interviews (when the offspring were 25 years old) were the first to be conducted after they became legal adults and eligible to contact their open-identity donors. These offspring were among the vanguard from planned lesbian families to have reached adulthood. Thus, they provided an important opportunity to explore their adult relationships with their donors.

Data on the DI adult offspring of sexual minority parents (SMPs) are sparse for several reasons. First, the first generation of these offspring reached the age of permitted contact with their open-identity donors relatively recently. Second, although the advent of DI to lesbian-identified women occurred in the 1980s, it only was available in limited settings. There continue to be access challenges for SMPs in many U.S. fertility clinics (14), with discrimination against prospective SMPs legally permitted in many states (15, 16). Third, lesbian parents faced many complexities when choosing among donor options. Legal and child custody concerns steered some lesbians toward permanently unknown (anonymous) donors over known donors (7, 16). Alternatively, providing a possibility of donor contact when the offspring reached adulthood, and were thus less vulnerable to custody conflicts, made open-identity DI an attractive option (17). All of these factors limited the number of possible participants in research on the relationships between donors and the adult DI offspring of lesbian parents.

Relatively few studies on adult DI offspring and their donors have included offspring of SMPs. A study of adults with open-identity donors from all family types looked at demographic descriptors of offspring who requested donor identities and assessed their motives (18). Offspring of single mothers sought their open-identity donors at a higher rate than offspring of lesbian-couple or heterosexual-couple families. A study from The Donor Sibling Registry (19) showed that offspring of lesbian parents and single mothers learned of their DI origins at an earlier age and had a more positive reaction than the offspring of heterosexual parents. These two studies mainly addressed differences between adult DI offspring of heterosexual and lesbian parents regarding their donor contact. However, they did not explore DI offspring views toward their donor or the offspring-donor relationship.

Research on how DI offspring from planned lesbian families feel about their donors is essential, because the findings may help future SMPs, sperm donors, and their offspring, as well as professionals or agencies working on their behalf (e.g., gynecologists and fertility clinics, sperm banks, mental health professionals, and social service agents), understand the ramifications of choosing between permanently unknown and known sperm donation. Having more data also may inform or allay some concerns of open-identity donors as they contemplate requests from their offspring for contact. Additionally, this information may be relevant to a newer subgroup of donors, that is, those who were previously “anonymous” (and assumed they would be permanently unknown) as they are discovered by their genetic families (20, 21). Growing recognition of children’s right to know their genetic origins as a fundamental human right (20, 22, 23) and increasing ease of finding genetic relatives through direct-to-consumer DNA kits and online registries designed to facilitate contact between DI offspring and “anonymous” donors (24) have raised the rate of unknown donors becoming known donors (3). Newly discovered donors may find these data instructive as they try to reconcile contact with their genetic offspring (21).

## PRESENT STUDY

Given the importance of understanding more about DI offspring views toward their donors and the relative lack of information about this topic, the current study addressed this gap by exploring the relationships between adult DI offspring of lesbian parents and their donors. Based on the sixth wave of the NLLFS, the following research questions were addressed. How did offspring feel about having a permanently unknown donor? How many offspring with open-identity donors contacted them, and at what age? What percentage of offspring with currently known donors (i.e., donor known since childhood or open-identity donor met in adulthood) had an ongoing relationship with that person? How did the offspring consider or relate to their donor? What views did the offspring have toward their currently known donors?

## MATERIALS AND METHODS

### Study Design

The U.S. NLLFS started in 1986 with a goal of prospectively following a cohort of lesbian-parent families from the time of the offspring’s conception, through their childhood, and into adulthood (7). Between 1986 and 1992, prospective lesbian parents were enrolled in a longitudinal, community-based study while they were being inseminated or were pregnant with these index offspring. Prospective lesbian mothers were solicited for Wave 1 of the study through advertisements in lesbian/gay newspapers and flyers distributed at lesbian events and in women’s bookstores. Because of an extended recruitment phase, there was a 5.5-year difference between the birth of the youngest and oldest index offspring. Data were then gathered when the offspring were 2 (second wave), 5 (third wave), 10 (fourth wave), 17 (fifth wave), and 25 (sixth wave) years old. The parents have been surveyed

at each wave and the offspring since they were 10 years of age (10–12). The NLLFS initially consisted of 84 planned lesbian families. By the sixth wave, when the offspring were legal adults, 77 families remained (78 index offspring, including one set of twins). The study has a 92% retention rate to date.

After approval from the Sutter Health Institutional Review Board (the authors have no conflicts of interest to report), each offspring was contacted by email upon reaching the age of 25. The study's purpose and procedure were explained, including that participation was voluntary and that confidentiality was assured. Informed consent was obtained, and the survey was administered through a protected online program. Each participant received a \$60 gift card. Data gathering began in 2012 when the oldest offspring turned 25 and concluded when the youngest turned 25 in October 2017. All responded at age 25, except for one who responded at age 26. Also, one participant had an incomplete survey. Thus, of 78 index offspring, the total analytic sample for the current study was 76 participants.

## Demographics

Demographic information for the total analytic sample of 76 NLLFS offspring are presented in Table 1. As shown, there were approximately equal numbers of female and male participants, and the vast majority were white, college graduates, and self-identified heterosexuals. Thirty offspring had permanently unknown donors and 16 had open-identity donors whom they have not met. Thus, a total of 30 offspring had currently known donors, of whom 22 had always known their donors, and eight had open-identity donors whom they had met (at an average age of 20.4 years old; standard deviation [SD] = 2.45).

## Measures

**Type of donor.** Offspring were asked about the type of donor: permanently unknown; always-known (i.e., known since childhood); open-identity and have met (since turning 18); and open-identity and have not met. Thus, offspring with currently known donors included offspring who had always known their donors and offspring who had met their open-identity donors.

**Relationship with the donor.** Participants with permanently unknown donors were asked, "How do you feel about not knowing your donor?" (1 = very uncomfortable to 5 = very comfortable). Offspring of open-identity donors who had met them were asked to specify their age at meeting. Offspring with currently known donors were asked if they had an ongoing relationship with their donor. They also were asked "Do you consider your donor" (multiple answers were possible: acquaintance; friend; relative; uncle; father; other) and "How satisfied are you with this relationship? (0% = extremely dissatisfied to 100% = extremely satisfied)".

**Views on relationship with the donor.** Participants with currently known donors were asked to describe this relationship in an open-ended question.

TABLE 1

### Demographics of offspring.

Variable	n	%
Gender		
Female	37	48.7
Male	39	51.3
Race/ethnicity		
People of color <sup>a</sup>	7	09.2
White	69	90.8
Education		
No associate's degree <sup>b</sup>	9	11.8
Associate's degree or higher <sup>c</sup>	67	88.2
Sexual orientation		
Gay/lesbian/bisexual	15	19.7
Heterosexual	61	80.3
Living with parents <sup>d</sup>		
No	62	81.6
Yes	13	17.1
Donor type		
Permanently unknown	30	39.5
Open-identity, have not met	16	21.1
Always known	22	28.9
Open-identity, have met	8	10.5

<sup>a</sup> African American/Black: 3; Latina/o or Hispanic: 1; other/mixed: 3.

<sup>b</sup> Some college but no college degree: 9.

<sup>c</sup> Associate's degree: 2; some graduate school but no graduate degree: 7; Bachelor's or RN degree: 52; Master's degree: 6.

<sup>d</sup> One missing (1.3%).

Koh. Adult offspring and their sperm donors. *Fertil Steril* 2020.

## Data Analysis

Descriptive analyses (percentages, mean scores, and SDs) were used for the quantitative data (feeling about not being able to know the donor, ongoing relationship with a currently known donor, what the donor was considered, and satisfaction with the donor relationship) collected for the present study.

The participants' responses to the open-ended question about their view on the relationship with the currently known donor were interpreted through a combination of thematic and content analyses (25, 26, 27). For the thematic analysis, the following sequence was used (25). First, two members of the research team (A.K. and N.G.) read each response multiple times and noted initial ideas. Then A.K. collated interesting features of the data into initial codes. Each segment (phrase, sentence, or group of phrases) that represented a single idea or point was assigned an initial code. On review, N.G. concurred with the initially assigned codes. Subsequently, the two researchers reviewed the entire dataset in relation to the initial codes, looking for themes or patterns, and collated initial codes under potential themes. A.K. and N.G. then discussed the potential themes and refined their specifics. Subsequently, A.K. reread the responses seven times to create descriptions that encompassed the range of experiences reported under each theme. These descriptions were discussed and refined by the two researchers to create a definition, name, and numerical code for each theme. A.K. and N.G. then conducted a practice session in which they jointly applied theme codes to the last 10 segments to ensure that they agreed on the process.

In content analysis, it is customary to calculate intercoder reliability to assess the extent to which multiple coders independently classify material in the same way, and to improve reliability of the coding (26, 27). The current study assessed intercoder reliability in the following way: A.K. and N.G. independently coded the first 10 segments, representing 33% of the participants; their two independently scored sheets were submitted to the statistical analyst (a third member of the research team, H.B.), who calculated the Krippendorff's alphas = 1.00; and their 100% level of agreement when coding the first 33% of participant responses made it possible for A.K. to code the responses of the remaining 67% of participants. Through this procedure it was possible to quantify the findings (based on elements of the content analysis approach) without losing the context of the thematic codes (based on a thematic analysis approach). For the quotations reported below, pseudonyms were used and all potentially identifying information was removed.

## RESULTS

### Relationship with the Donor

Twenty-nine of the 30 offspring with a permanently unknown donor responded to the question about how they felt about not knowing their donor. Twelve (40.04%) of the 30 indicated that they were comfortable ( $n = 3$ ; 10.0%) or very comfortable ( $n = 9$ ; 30.0%). Only 7 (23.3%) of these 30 offspring were uncomfortable. A relatively large percentage ( $n = 10$ ; 33.3%) did not have an opinion (answer category "neutral") about not knowing their donor (Table 2).

Among the 30 offspring with currently known donors, 20 (66.7%) reported that they had an ongoing relationship with their donor (Table 2). Table 2 also shows how these offspring considered their known donors. Fifteen (50%) of the 30 offspring considered him an acquaintance (of whom 8 had

always known their donors and 7 had met their open-identity donors). Ten (33.3%) of these 30 offspring with an always-known donor considered him to be a father. Eight of the 10 offspring who considered the donor a relative had an always-known donor, and two had an open-identity donor. Six (20%) of the 30 offspring considered the donor to be a friend and another six (20%) considered him to be an uncle; in both of these scenarios, five of the six had always-known donors.

On a scale from 0–100, the 30 participants with currently known donors were asked to rate their level of satisfaction with their donor relationship. The mean score on this scale was 68.9 (SD = 26.2) with no significant difference (Mann-Whitney  $U = 85.00$ ;  $z = -.14$ ;  $P = .888$ ) between those whose donors were always known (mean = 68.0; SD = 27.9) and those who met theirs in adulthood (mean = 71.6; SD = 22.5) (Table 2).

### Views on Relationship with the Donor

A high proportion of offspring with currently known donors (28 of 30; 93%) responded to the open-ended question, "Is there anything else you would like to tell us about this relationship?" Because many participants' open-ended responses included multiple themes, the number of thematically coded answer segments (38) exceeded the number of participants (30). The 23 participants with multiply-themed responses consisted of 17 offspring with always-known and 6 offspring with open-identity donors.

Many participants (14 of 30; 46.7%) reported a good relationship with and positive feelings about their donor. Some participants (6 of 30; 20.0%) wished for more donor contact. Others (6 of 30; 20.0%) reported conflicted feelings with, reservations about, or discomfort regarding the donor relationship. Still others (5 of 30; 16.7%) reported little contact or

**TABLE 2**

#### Relationship with the donor.

Relationship	n	%	Always-known donor, n	Open-identity donor, n
Permanently unknown ( $n = 30$ )				
Feelings about not knowing the donor? <sup>a,b</sup>				
Very uncomfortable	3	10.0		
Moderately uncomfortable	4	13.3		
Neutral	10	33.3		
Comfortable	3	10.0		
Very comfortable	9	30.0		
Always-known donor ( $n = 22$ ) or open-identity donor and have met ( $n = 8$ )				
Is there an ongoing relationship with the donor? (yes)				
	20	66.7	15	5
How do you consider the donor? (check all that apply) <sup>c</sup>				
Acquaintance	15	50.0	8	7
Friend	6	20.0	5	1
Relative	10	33.3	8	2
Uncle	6	20.0	5	1
Father	10	33.3	10	0
Satisfaction about relationship with the donor, mean (SD)	68.9 (26.2)		68.0 (27.9)	71.6 (22.5)

Note: SD = standard deviation.

<sup>a</sup> One missing (3.3%).

<sup>b</sup> Due to rounding, percentages do not add up to 100%.

<sup>c</sup> There are more answers (47) than respondents (30) due to the instruction to "check all that apply."

Koh. Adult offspring and their sperm donors. *Fertil Steril* 2020.

TABLE 3

## Views on donor relationships (open-ended comments).

Thematic coding category	Participants		Always-known donor, n	Open-identity donor, n
	n	%		
Good relationship, good feelings	14	46.7	11	3
Wish for more contact	6	20.0	4	2
Conflicted feelings, reservations, discomfort	6	20.0	5	1
Limited, rare, or no contact; no real relationship or connection	5	16.7	4	1
Meeting motivation is specified, including curiosity/interest about genetics, ethnicity, common interests/skills/talents	5	16.7	2	3
Miscellaneous	2	6.7	2	0

Koh. Adult offspring and their sperm donors. *Fertil Steril* 2020.

little-to-no connection with the donor. Five of 30 (16.7%) offspring specified their motivation for seeking contact with the donor (Table 3).

**Good relationship/positive feelings.** Nearly half of the participants (14 of 30; 46.7%) reported a good relationship with their donor. Sydney (all names are pseudonyms) said, "Happy that I have grown up with my donor in my life. We have a very strong and unique bond that I wouldn't give up for anything." Ashley reported that the donor "has been in my life since I was little. Originally, I did not have a relationship through him other than with my moms, but now we talk constantly." Jamie, who met her open-identity donor, said, "He is so sweet and doesn't want to intrude in my life. He lets me initiate every correspondence, but loves hearing from me. He's a great person – I have nothing bad to say about him."

**Wish for more contact.** Six of 30 participants (20%) expressed a desire for more donor contact. Sophia said of her always-known donor, "I would like to have more of a relationship with him but he lives far away." Skye said of his always-known donor, "I met him a few times when I was much younger, but would like to meet him again."

**Conflicted feelings/reservations.** Six of 30 participants (20%) expressed reservations or discomfort about their donor relationship. Andrew, who reported a good relationship during childhood, said it has "been rocky of late" as "he [the donor] became increasingly dissatisfied with my choices (i.e., career, relationship, place of residence)." Madison got an "incredibly warm" response when she asked her always-known donor a question and "he [the donor] also added he was glad I reached out and that he loved me. . . I didn't know if I loved him too in this familial way. . . He wasn't part of my upbringing the way my moms were. . . I felt guilty for not internally reciprocating his apparent feelings. I didn't know how to deal with what I felt and didn't anticipate that I would feel so confused." Kyle said that her always-known donor has "different expectations of what our relationship is – he sees himself as a father, but I would consider him more of an uncle or relative." Sienna, who had met her open-identity donor, said, "It's hard to find common ground. I would have preferred that he were someone more similar to me. . . so that part was disappointing."

**Limited or no connection with their donor.** Five of the 30 offspring (16.7%) with currently known donors had little-to-no connection with their donor. Jack said of his always-known donor, "He doesn't mean anything to me besides genealogically." Henry, also with an always-known donor, said, "We have occasional contact via Facebook, but not [a] real connection or relationship." Randy said of his open-identity donor, "I just met him this past year, but I don't envision our relationship being very close. . . We get along, but it didn't feel like an instant connection."

**Meeting motivation specified.** Five of 30 participants (16.7%) stated their motivation for meeting their donor. Shelby e-mailed the donor she had met in childhood to "find out more about his heritage. I am often asked what my ethnicity is." Mack said of his open-identity donor, "My main motivation to meet him stemmed from my curiosity for who the other half of my genetics came from. Now that I've realized that we are actually pretty similar in terms of interests, skills, where we decided to live, we've been in contact." Jacob wrote of "the mystique of unknown origins" before meeting his open-identity donor.

## DISCUSSION

To our knowledge, this was the first study to focus on the relationships between DI adult offspring from planned lesbian families and their sperm donors. These 25-year-olds were among the first generation of children conceived through DI in lesbian-parent families. They were surveyed in the sixth wave of the ongoing U.S. NLLFS. Although some offspring have always known their donors, this was the first NLLFS survey to have been conducted since offspring with open-identity donors were age-eligible to contact them. Offspring responses were analyzed by donor status, perception of donor relationship, donor satisfaction, and qualitative analysis of open-ended commentary.

Twenty-four offspring had open-identity donors, of whom eight had made contact or met their donors (33.3%), doing so at a mean age of 20.4. The age of meeting open-identity donors in this study aligns with extant information on age upon contacting open-identity donors in the general population of DI offspring. In a study from The Sperm Bank of California of adults eligible to contact their sperm donors, 36.8% of offspring of lesbian couples requested their

open-identity donor information (18). The timing of donor identity requests from all family types (heterosexual-parent, lesbian-parent, and single women) was made at a median offspring age of 18 years and 1 month (18). Although the identity requests came at offspring ages of 18–27 years, 93% of requests came from 18- to 21-year-olds (18). If these data on DI offspring from the Sperm Bank of California study are predictive of the behavior of the NLLFS offspring, only a small number of open-identity NLLFS offspring may be inclined to contact their donors at a future time.

In the Sperm Bank of California study, requests for donor contact varied by family type (18). Offspring of heterosexual couples, lesbian couples, and single women requested their open-identity donor information at a 23.3%, 36.8%, and 58.1% rate, respectively. Lesbian and single women parents who select open-identity donation are asked by their children about the absence of a father at an early age (28), and thus disclosure is likely to occur organically, as it did in the NLLFS families. In contrast, some offspring of heterosexual-couple families do not know of their DI origins, offering a partial explanation of the lower rate of donor identity requests from these offspring (18). Even in heterosexual-couple families where DI has been disclosed, offspring are less likely to search for their donors (compared with lesbian-couple and single-women families) due to concerns for straining their parental, and, particularly, their social father relationships (3, 19).

When asked about their donors, 10 of the 22 NLLFS offspring with a donor they had always known characterized him as a “father.” In choosing a known donor, some NLLFS parents anticipated the possibility that the donor would assume a father role or be identified by the child in that way (7). In contrast, seven of the eight offspring with open-identity donors whom they had met characterized their donors as “acquaintances.”

The largest category of open answers expressed positive feelings about the offspring-donor relationship. Offspring comments demonstrating conflicts or reservations centered on mismatched perceptions, hopes, or expectations of either the offspring toward their donor (“I would have preferred that he were someone more similar to me”) or the offspring’s view of their donor’s false hopes or expectations of the offspring (“He became. . .dissatisfied with my choices”, and “He sees himself as a father but I would consider him more of an uncle or relative.”). Although six participants wished for more contact with their donor and five participants stated that there was limited or no real relationship, there was no overlap in these answers. That is, none of the offspring who commented on their limited connection were yearning for more contact.

Among DI offspring who did not know their donors (permanently unknown donors or open-identity donors whom they had not met), more comfort than discomfort was expressed. It is possible that early disclosure to offspring of their donor origins, even with a permanently unknown donor, along with conversations about the rationale for type of donor selected, may have contributed to these feelings of relative comfort (19, 22, 28). The Ethics Committee of the American Society for Reproductive Medicine supports disclo-

sure of donor conception to offspring (22). An ideal age for disclosure is not specified, but the literature shows that informing the child at a young age (i.e., before adolescence) generally results in a neutral or positive response, rather than discomfort or negativity (22, 28). The NLLFS offspring were informed of their donor conception in early childhood, in an age-appropriate manner (7), as has been associated with a child’s positive integration of this information over time (22).

The preponderance of existing literature on offspring contacting a genetic parent has concentrated on adoptive families or DI offspring of heterosexual parents. With an earlier age of disclosure, the child’s response was much more positive (19) than when the offspring learned of misattributed parentage by accident, or only as an adult (29, 30). It has been proposed that DI offspring who cannot or do not have contact with their donors may have identity formation problems (23) or even “genealogical bewilderment” as described in adopted children (31). A study of DI offspring who learned of their origins as adults reported anger and resentment and the wish that disclosure was made at an earlier age. Some offspring learned of their paternal misattribution only through their own sleuthing efforts (29). In a study of offspring using a donor registry, some offspring from heterosexual-couple families said that their father was unaware that the offspring knew of their DI origin and that they were seeking their donor relations, leading to even more secrecy and tension within the family (19).

Efforts to avoid such problems associated with donor nondisclosure have led to a growing movement toward the offsprings’ “right to know” about their genetic origins. A number of European Union countries and New Zealand have legislated open-identity donation, with access to donor identity once the DI offspring has reached maturity (31). This bio-ethical, legal, and cultural movement toward greater transparency in many areas of society, including gamete donation, has led to the greater availability of, and requests for, open-identity DI in the United States (22). Efforts by parents and DI offspring to find their genetic relatives (i.e., previously anonymous donors and/or genetic half-siblings) have led to increased use of genetic registries designed to facilitate these kinship discoveries (19, 32).

Over the multiple waves in which the NLLFS offspring were assessed, their measures of psychological health have been the same or better than offspring in matched samples (offspring who were unlikely to be the product of gamete donors). Problems associated with lack of identity formation or genetic bewilderment were not found in the NLLFS offspring (10–12), and there were no psychological adjustment differences between offspring, based on their donor type (10, 11, 13).

The findings that only one third of DI offspring sought open-identity donor contact in the current study as well as in the lesbian-couple subgroup from a Sperm Bank of California study (18) might mean that strong family bonding with open and early discussions of their origins have resulted in most offspring not feeling an urgency or desire for donor contact. Age-appropriate, early, and open disclosure of a child’s DI origins may be integral to facilitating an understanding

of this information and to creating overall positive feelings about the donor, whether always-known, open-identity and met, or unknown, and whether from a lesbian couple, heterosexual couple, or single woman.

### Strengths and Limitations

A strength of this study is the provision of information on the feelings that first-generation adult DI offspring of lesbian parents had about their sperm donors. With the burgeoning number of known, open-identity, or discoverable sperm donors (1, 3), these findings will be useful to increasing numbers of SMP families and all types of sperm donors. Additionally, nearly all of the 30 offspring with currently known donors proffered additional comments about their donor. This commentary provided a rich picture from this cohort of DI offspring, never previously presented.

Another strength is that the data were provided by the longest-running and largest, longitudinal investigation of SMPs and their offspring. Because of the prospective nature of the NLLFS and its 92% ongoing participation rate, the findings are not biased by over-representation of offspring who already knew that their donor relations would be salutary. Because the survey was anonymized and online, answers might be expected to be more accurate than telephone or in-person interviews, particularly about sensitive topics such as donor satisfaction (33).

There are some limitations to note. First, the numbers of participants were small, due to the factors previously cited, namely, that these trail-blazing DI offspring only recently attained the age of being able to meet their open-identity donors. Additionally, the NLLFS is a nonrepresentative sample. The parents enrolled at a historical time when most lesbian, gay, and bisexual people were closeted and a population-based sample would not have been feasible. In addition, study enrollment took place when most lesbian, gay, and bisexual people could not access DI. Thus, the parent sample lacked diversity, and their resulting offspring, who are mostly white and highly educated, do not reflect the entire population of DI offspring with SMPs.

Future longitudinal studies would benefit from larger, more diverse samples of LGBTQ-identified parents. Increased sample size also would allow for more robust separate analyses of offspring with currently known donors (i.e., those whose donors were always known versus those who have met open-identity donors). Additionally, now that registries and DI networks make it possible for DI offspring in the United States and internationally to contact their donors who expected to remain permanently unknown or anonymous, these donor relations offer a new avenue for study (24). The effect of having siblings on DI offspring-donor relations, whether within one's own lesbian-headed family or from discovering half-siblings through donor registries or the open-identity donors themselves, is another area for future investigation.

### CONCLUSIONS

The results of this study have implications for medical and mental health professionals, families of all types contem-

plating donor insemination, sperm donors, sperm bank and fertility clinics, DI offspring, and donor registries. Advice and counsel for families (including adolescent and adult offspring) on navigating relationships with known donors, recently met open-identity donors, or donors located through genetic network online registries may avert or diminish some conflict. Clinicians working with DI offspring of SMPs should be aware of the different life experiences of offspring with known, identity-release donors, and unknown donors. Some adult DI offspring have lifelong relationships with their donors, others may never know or locate their donors, and still others may have recently met or be contemplating the prospect of meeting their identity-release donors. This investigation of adult DI offspring in planned lesbian families found the main donor sentiment to be positive among those who have always known or recently met their donors. Areas of donor-offspring conflict involved mismatched expectations. These might be mitigated by clear and continuous communication between lesbian parents and their offspring about role expectations concerning an always-known or recently met open-identity donor.

Because the adult DI offspring of SMPs may not initially present as such, clinicians should be sensitive to the possibility of diverse emotional responses to intake questions about parentage, family history, or genetically transmitted diseases. It also is important for practitioners to be familiar with the literature showing that the adult DI offspring of lesbian-identified parents fared as well as their peers in population-based comparisons of psychological adjustment (12). Thus, clinicians should not assume that sexual minority parentage or DI conception inevitably is associated with any psychological challenge that DI adult offspring may report because empiric studies have shown overwhelmingly that family processes have more influence on mental health outcomes than family structure or the means of conception (34).

**Acknowledgments:** The authors thank the participants and their families; and Dr. Esther D. Rothblum for a critical review of the manuscript.

### REFERENCES

1. Arocho R, Lozano EB, Halpern CT. Estimates of donated sperm use in the United States: National Survey of Family Growth 1995-2017. *Fert Steril* 2019;112:718-23.
2. Carpinello OJ, Jacob MC, Nulsen J, Benadiva C. Utilization of fertility treatment and reproductive choices by lesbian couples. *Fert Steril* 2016;106:1709-13.
3. Jadva V, Freeman T, Kramer W, Golombok S. Experiences of offspring searching for and contacting their donor siblings and donor. *Reprod Biomed Online* 2010;20:523-32.
4. Ombelet W, Van Robays J. Artificial insemination history: hurdles and milestones. *Facts Views Vis Obgyn* 2015;7:137-43.
5. The Sperm Bank of California, History. Available at: <https://www.thespermbankofca.org/content/history>. Accessed December 1, 2019.
6. The Sperm Bank of California, Identity Release Program. Available at: <https://www.thespermbankofca.org/content/identity-release-program>. Accessed December 1, 2019.
7. Gartrell N, Hamilton J, Banks A, Mosbacher D, Reid N, Sparks CH, et al. The National Lesbian Family Study. Interviews with prospective mothers. *Am J Orthop* 1996;66:272-81.

8. Kolata G. Lesbian partners find the means to be parents. *The New York Times* 1989; January 30:A13.
9. Parke RD. Development in the family. *Annual Rev Psychol* 2004;55:365–99.
10. Gartrell N, Deck A, Rodas C, Peyser H, Banks A. The national lesbian family study: 4. interviews with the 10-year-old children. *Am J Orthop* 2005;75: 518–24.
11. Gartrell N, Bos HMW. US National Longitudinal Lesbian Family Study: psychological adjustment of 17-year-old adolescents. *Pediatrics* 2010;126: 1–9.
12. Gartrell N, Bos H, Koh A. National longitudinal lesbian family study – mental health of adult offspring. *N Engl J Med* 2018;379:297–9.
13. Bos HMW, Gartrell NK. Adolescents of the US National Longitudinal Lesbian Family Study: the impact of having a known or an unknown donor on the stability of psychological adjustment. *Hum Reprod* 2011;26:630–7.
14. Johnson KM. Excluding lesbian and single women? An analysis of U.S. fertility clinic websites. *Womens Stud Int Forum* 2012;35:394–402.
15. NeJaime D. Marriage equality and the new parenthood. *Harvard Law Rev* 2015;129:1185.
16. Goldberg AE, Frost RL, Noyola N. Sexual minority parent families: research and implications for parenting interventions. In: Pachankis JE, Safren SA, editors. *Handbook of evidence-based mental health practice with sexual and gender minorities*. New York City: Oxford University Press; 2019:117.
17. Gartrell NK, Bos H, Goldberg NG, Deck A, Gelderen LVR. Satisfaction with known, open-identity, or unknown sperm donors: reports from lesbian mothers of 17-year-old adolescents. *Fert Steril* 2015;103:242–8.
18. Scheib JE, Ruby A, Benward J. Who requests their sperm donor's identity? The first ten years of information releases to adults with open-identity donors. *Fert Steril* 2017;107:483–93.
19. Beeson DR, Jennings PK, Kramer W. Offspring searching for their sperm donors: how family type shapes the process. *Hum Reprod* 2011;26:2415–24.
20. Burr JA. Anonymous or known donors? A brief discussion of the psychosocial issues raised by removing anonymity from sperm donors. *Hum Fertil* 2013;16: 44–7.
21. Van den Broeck U, Vandermeeren M, Vanderschueren D, Enzlin P, Demyttenaere K, D'Hooghe T. A systematic review of sperm donors: demographic characteristics, attitudes, motives and experiences of the process of sperm donation. *Hum Reprod Update* 2013;19:37–51.
22. American Society for Reproductive Medicine, Ethics Committee. Informing offspring of their conception by gamete or embryo donation: an Ethics Committee opinion. *Fert Steril* 2018;109:601–5.
23. Ravelingien A, Pennings G. The right to know your genetic parents: from open-identity gamete donation to routine paternity testing. *Am J Bioethics* 2013;13:33–41.
24. 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;24:505–16.
25. Braun V, Clarke V. Using thematic analysis in psychology. *Qual Res Psychol* 2006;3:77–101.
26. Vaismoradi M, Turunen H, Bondas T. Content analysis and thematic analysis: implications for conducting a qualitative descriptive study. *Nurs Health Sci* 2013;15:398–405.
27. Elo S, Kyngäs H. The qualitative content analysis process. *J Adv Nurs* 2008; 62:107–15.
28. Golombok S, Readings J, Blake L, Casey P, Mellish L, Marks A, et al. Children conceived by gamete donation: the impact of openness about donor conception on psychological adjustment and parent-child relationships at age 7. *J Fam Psychol* 2011;25:230–9.
29. McWhinnie A. Gamete donation and anonymity: should offspring from donated gametes continue to be denied knowledge of their origins and antecedents? *Hum Reprod* 2001;16:807–17.
30. Turner A, Coyle A. What does it mean to be a donor offspring? The identity experiences of adults conceived by donor insemination and the implications for counselling and therapy. *Hum Reprod* 2000;15:2041–51.
31. Ravelingien A, Provoost V, Pennings G. Open-identity sperm donation: how does offering donor-identifying information relate to donor-conceived offspring's wishes and needs? *J Bioeth Inq* 2015;12:503–9.
32. 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: 436–47.
33. Gnams T, Kaspar K. Disclosure of sensitive behaviors across self-administered survey modes: a meta-analysis. *Behav Res Methods* 2015;47: 1237–59.
34. Golombok S. *Modern families: parents and children in new family forms*. Cambridge, England: Cambridge University Press; 2015.