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Are donor-conceived people willing to use donors themselves? Insights from individuals conceived via donor-assisted reproduction

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STUDY QUESTION: Are donor-conceived people (DCP) willing to utilize donor gametes themselves if unable to conceive spontaneously?

SUMMARY ANSWER: The majority of DCP would consider or are undecided about utilizing donor gametes and those who would consider the utilization are more likely to have been told about their donor-conceived origins at a young age by a family member and have overall positive experiences as a DCP.

WHAT IS KNOWN ALREADY: DCP view their donor conception as an important part of their self-identity and many desire contact with genetically related individuals. Additionally, many believe that sperm donation should only be practiced if identifying information on the donor is provided.

STUDY DESIGN, SIZE, DURATION: This was a cross-sectional study using a Web-based survey that was disseminated from 6 March to 15 August 2021. A total of 528 participants completed the questionnaire.

PARTICIPANTS/MATERIALS, SETTING, METHODS: The researcher-created survey was sent to registered users of the Donor Sibling Registry (DSR) who were conceived via donor-assisted reproduction and were 18 years of age or older. The survey was optional and anonymous, and the main outcome measure was the willingness to use donated gametes if unable to spontaneously conceive.

MAIN RESULTS AND THE ROLE OF CHANCE: Of the 528 participants who completed the survey, 40.2% (212/528) have or would consider using donor gametes themselves if unable to conceive spontaneously and 24.6% (130/528) were undecided. Those who had used or were undecided about the utilization were significantly younger (26 years vs. 31 years, $P < 0.001$) and less likely to be married (32.7% vs. 47.3%, $P < 0.001$) than those who would not consider using donor gametes. They were also less likely to self-identify as female (78.9% vs. 86.6%, $P = 0.03$) but had no difference in sexual orientation ($P = 0.13$). Additionally, they were more likely to have known about their donor-conceived origins for more years (18 (0–50) vs. 11 (0–61), $P = 0.004$), be informed by a family member (75.5% vs. 65.6%, $P = 0.001$) and have overall positive feelings about being conceived using a donor (93.0% vs. 52.5%, $P < 0.001$).

LIMITATIONS, REASONS FOR CAUTION: A major limitation is that DSR participants may not be representative of all DCP. Additionally, analyzing the DCP who stated that they were undecided about using donor gametes into the 'would consider' group may be overestimating the openness to utilization in this group.

WIDER IMPLICATIONS OF THE FINDINGS: The findings from this study give new insight for health care workers to further counsel patients who are considering using third-party reproduction by providing reassurance that the majority of their future children would consider similar means, if needed, to achieve their family-building goals.

STUDY FUNDING/COMPETING INTEREST(S): Funding for this study was received from the Department of Obstetrics and Gynecology Division of Reproductive Endocrinology and Infertility, University of Colorado. All authors declare that there are no conflicts of interest to disclose.

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Key words: donor conception / assisted reproductive technology / gamete donation / infertility / donor offspring

Introduction

According to the Society for Assisted Reproductive Technology (SART, 2018), the number of individuals utilizing donor-assisted reproduction to achieve their goal of parenthood continues to increase and may be even higher than reported. As a result, an international consensus committee published that researching the emotional and psychological impact in children following gamete donation should be a top priority for future infertility research (Duffy *et al.*, 2021). Although the first pregnancy resulting from a frozen embryo donation was reported in 1984 and the practice of donor sperm has been performed for hundreds of years, disclosure to the child by the recipient parent(s) regarding his or her donor conception was not endorsed by the American Society for Reproductive Medicine (ASRM) until 2005 (Ombelet and Van Robays, 2015; ASRM, 2018) and it has not been until recently that early disclosure to the child has been widely practiced.

Due to this increasing transparency, the Donor Sibling Registry (DSR), a worldwide internet registry that was founded in the early 2000s, has helped connect those who were conceived by donor-assisted reproduction and enable contact with the donor and/or donor siblings if desired. Because of networks and platforms like the DSR, over the past decade it has been possible to gain more first-hand accounts from individuals conceived via donor-assisted reproduction to better understand their perspective and subjective experiences. However, studies dating back to 1991 revealed that both gamete donation recipients and donors as well as the general population have overall been in favor of donor-assisted reproduction (Bolton *et al.*, 1991). While clearly each situation is unique, several overarching themes have emerged from published and ongoing research including that donor-conceived people (DCP) view their donor conception as an important part of their self-identity (Hertz *et al.*, 2013; Slutsky *et al.*, 2016; Scheib *et al.*, 2017; Lozano *et al.*, 2019). Importantly, offspring who are told about their donor-conceived origins from a young age have been found to explore this identity more openly and positively than those who become aware during adulthood (Scheib *et al.*, 2005; Zadeh *et al.*, 2018;). Similarly, many DCP believe that sperm donation should only be practiced if identifying information on the donor is provided to the offspring (Mahlstedt *et al.*, 2010). Importantly, the prospective National Longitudinal Lesbian Family Study (NLLFS) found that young adults (25 years old) conceived through donor insemination to lesbian mothers had no significant difference in measures of mental health compared to a matched sample (Koh *et al.*, 2019) across age groups or donor type (Carone *et al.*, 2021). However, not all studies have reported similar reassuring findings (Marquardt *et al.*, 2010).

Despite the overall encouraging research regarding the psychological adjustments among DCP, few studies have investigated their views surrounding parenthood and desires for family building. While Mahlstedt *et al.* did explore attitudes toward the practice of sperm donation in general among DCP and found that 52.9% would not use sperm donation as a means of conception, they did not investigate reasons or factors behind these sentiments nor inquired about oocyte and/or embryo third-party reproduction (Mahlstedt *et al.*, 2010). Reviews looking at the general population's perceptions of gamete donation reveal that most believe donor-assisted reproduction to be an acceptable option to achieve one's family-building goals though this population continues to recognize the intimate intricacies and subsequent ambivalence regarding the utilization (Hudson *et al.*, 2009). The aim of this study was to seek to understand the opinions of DCP regarding the utilization of donor gametes themselves if they were unable to conceive implying empathy and understanding of their parents' decisions and explore what factors might contribute to these sentiments. The authors hypothesize that those with overall positive experiences as a DCP would be more willing to use donor gametes if needed. This information will allow practitioners to provide additional support for this community as the number of people utilizing third-party-assisted reproduction continues to rise.

Materials and methods

Participants

The study data was collected and managed using REDCap (Research Electronic Data Capture) electronic data capture tool hosted at the University of Colorado (Harris *et al.*, 2009). REDCap is a secure, web-based application designed to support data capture for research studies, providing: (i) an intuitive interface for validated data entry; (ii) audit trails for tracking data manipulation and export procedures; (iii) automated export procedures for seamless data downloads to common statistical packages; and (iv) procedures for importing data from external sources. A researcher-created questionnaire was uploaded to this secure web-based application and disseminated to registered users of the DSR from 6 March to 15 August 2021. Registration on the DSR requires completion of a personal demographic and biographic form as well as membership payment in order to contact their genetic relatives on the DSR website. An invitation to participate in the study was sent to all DSR members via electronic mail using Vertical Response® and was also posted to various DSR social media platforms including Facebook (Menlo Park, CA), Twitter (San Francisco, CA) and LinkedIn (Sunnyvale, CA). In order to proceed with the study instrument, the participant verified that they were age $\geq$ 18 years old and were conceived via donor-assisted reproduction. The participant was able to terminate their participation in the study at any point and not all questions were marked as required. The participants created a unique and anonymous identifier prior to starting the survey though after completion of all required components, the participant was given the opportunity to enter a drawing for one of five $20 Amazon gift cards.

Study instrument

The data collection tool used in this study is a researcher-created questionnaire, 'The Donor Offspring Family Building Survey' a 31-question

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survey that can be found in Supplementary File S1. This utilized several questions from previously published donor offspring studies (Beeson *et al.*, 2011; Hertz *et al.*, 2013; Provoost *et al.*, 2018; Koh *et al.*, 2020) as well as inclusion of *de novo* questions created by the investigators. The survey was reviewed by an expert panel of reproductive endocrinologists and reproductive psychologists for appropriate depth and sensitivity. The survey was then administered to 10 donor offspring for face validation. After revisions and suggestions were incorporated, the instrument was then disseminated as described previously.

Donor history and family composition

The questions addressed topics including the participants' type of donor used, the family composition during their childhood, age and mode of awareness of being donor-conceived, feelings surrounding being conceived using a donor, their current relationship with the donor and/or half-sibling(s) and any medical or psychological adverse effects as a result of being donor-conceived. In order to quantify the general views of being conceived using a donor, the participant was asked to rate their overall experience as 'very negative', 'negative', 'neutral', 'positive' or 'very positive'. The responses rated neutral to very positive were categorized as the 'positive' experience and the remaining options were classified as 'negative'. Additionally, open-ended questions allowed for further insight into each DCP's unique narratives (i.e. 'How did you feel when you first learned about how you were conceived?' 'How do you feel currently about being conceived using a donor?').

Family building

Furthermore, the questionnaire addressed certain family-building topics including the willingness to use donor-assisted reproduction if unable to conceive spontaneously for whatever reason and subsequent preference of a potential donor including closed or open identity and means of obtaining a donor. The survey inquired, 'If for whatever reason you or your partner were unable to conceive spontaneously, would you consider using donated gametes?' and the response options included 'yes', 'no' or 'I don't know'. Responses 'yes' and 'I don't know' were grouped as 'would consider using donor gametes' in the analysis. A DCP's willingness to adopt was also explored. Again, open-ended questions provided an opportunity for additional discussion.

Statistical analysis

Data were analyzed using IBM SPSS® version 28. Descriptive statistics including tests of normality were computed. Appropriate bivariate statistics were used to compare participants who would not consider using donor gametes to those who would or were not sure if they would. Student's *t*-tests or medians tests were used to compare continuous variables and chi-squared or Fisher's exact tests were used to compare categorical variables. We also conducted logistic regression analyses to identify independent variables associated with 'would or would consider using donor gametes', and to adjust for confounding variables. Variables significant in bivariate analyses ($P < 0.1$) were included in the model. Sub-group analyses were performed to compare participants who would not consider using donor gametes, those who would consider using donor gametes and those who were not sure if they would. For the three group comparisons, we used ANOVA for normally distributed continuous variables, Kruskal–Wallis for non-normally distributed continuous variables and chi-squared for dichotomous and categorical variables.

Ethical approval

The study was approved by the Colorado Multiple Institutional Review Board.

Results

There were 9266 donor-conceived offspring registered on the DSR website during the study period. Of the emails sent to registered DCP, 1679 returned as 'undeliverable' leaving a total of 7587 emails sent. Additionally, during the time that the questionnaire was posted to the DSR Facebook group, there were 5500 Facebook group members; however, the exact number of these members who were donor-conceived offspring could not be discerned as many members are parents or siblings of donor-conceived offspring. Of those who were 18 years of age or older during the time of the study, 528 participants submitted the survey and were included in the final analysis. The median age of participants was 31 years (range 18–77 years). All included variables had <1% missing responses. Participants were predominantly living in the USA (n = 453, 85.8%) but additional countries of residence included Canada (n = 32), the UK (n = 21), Australia (n = 7) and Germany (n = 3) as well as 10 other countries. The DCP were predominantly conceived by donor sperm (499, 94.5%) and had a childhood family composition consisting of heterosexual and married parents (247, 46.8%) (Table I).

Willingness to use donor gametes

Many (64.8%) DCP would consider or were not opposed to using donor gametes if unable to conceive spontaneously. Of these, 1.7% had used donor gametes in the past, 10.4% were actively considering using donor gametes, 28.0% were willing to use if unable to conceive spontaneously for whatever reason and 24.6% weren't sure if they would use or not. Over a third of DCP reported that they would not consider use of donor gametes (35.2%). Those who had used donor gametes in the past, were actively pursuing using donor gametes, would be willing to use donor gametes or who were undecided about using were compared to those who would absolutely not be willing to use donor gametes. The decision to analyze the groups as such was due to the possibility that those who were undecided were thought to be unique from those who were adamantly opposed to using donor gametes as a willingness to consider implies an openness to the utilization. Sub-group analysis was performed to compare the groups who have used or are actively considering using donor gametes are undecided about using donor gametes and would never consider using donor gametes (Supplementary Table SI). Of the DCP who have previously used or have considered using donor gametes, the most common principal reason was due to belonging in the lesbian, gay, bisexual, transgender, queer or questioning (LGBTQ) community (n = 33, 50.0%). Additional reasons included single parent by choice (n = 17, 25.7%), infertility (n = 14, 21.2%) and/or genetic complication (n = 2, 3.1%). The majority of those who have or would consider using donated gametes felt most comfortable with utilizing donor sperm (95.9%) but would also be willing to use donated oocytes (68.3%)

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Table I Demographics of study participants (N = 528).

Characteristic	Median (range) or n (%)
Age (years)	31.3 (18–77)
Female	431 (81.6)
Caucasian race	510 (96.6)
Hispanic ethnicity	22 (4.2)
Parents relationship during childhood	
Heterosexual, married	247 (46.8)
Heterosexual, not married[a]	93 (17.5)
Same-sex female, married	46 (8.7)
Same-sex female, not married[a]	20 (3.8)
Single parent	116 (22.0)
Donor type	
Donor sperm	499 (94.7)
Donor oocyte	16 (3.0)
Donor embryo	3 (0.6)
Other	3 (0.6)
Unknown	6 (1.1)
Marital status	
Single	161 (30.6)
In a relationship	154 (29.2)
Married	200 (37.9)
Divorced or separated	11 (2.1)
Widowed	2 (0.4)
Education	
High school or less	26 (4.9)
Some college	136 (25.8)
College degree	215 (40.7)
Master's degree or higher	149 (28.2)
Sexual orientation	
Heterosexual	370 (70.1)
Gay or lesbian	31 (5.9)
Bisexual	84 (17.8)
Prefer not to answer	10 (1.9)
Other	23 (4.4)
Country of residence: USA	453 (85.8)

[a]Includes separated, divorced, widow(ed) or not specified.

and/or donated embryos (62.0%). As one participant described, 'I have always felt that using donor sperm to have children was a great option for me in the future, just as good/possible as adoption or natural conception'. Additionally, DCP would prefer a possible donor to be open identity (63.1%) with identifying information readily available if requested. As explained by one participant, 'I have always had issues with not knowing the genetic origins and didn't want my children to have the same. However, they will be able to trace their donor at age 18 which is very different to me'.

Though many DCP would consider utilizing third-party reproduction if needed, nearly all (91.1%) might consider adoption, particularly an open adoption with some form of communication (83.6%). As described by two of the participants: 'If I was going to have a child, I have absolutely no desire whatsoever that the child be mine biologically. In fact, if I were to have a child, for a litany of social, environmental and personal reasons, I'd be much more likely to try to adopt a child than I would to have one of my own' and 'Anyone wanting to become a parent should highly consider adoption before turning to a donation. There are pros and cons for each, but adoption is a far better option in my opinion'.

Factors associated with willingness to consider a donor

Demographics

Those who had used or who were undecided about using donated gametes were significantly younger (26 years old (18–74) vs. 31 years old (18–77), $P < 0.001$) than those who would never consider using donated gametes and, in particular, were more likely to be <25 years old (39.4% vs. 26.5%, $P = 0.003$). They were also less likely to self-identify as female (78.9% vs. 86.6%; $P = 0.03$). Groups were similar with regards to hetero-sexual orientation (67.8% vs. 74.2%; $P = 0.13$) but those who had used or would consider using donated gametes were less likely to be married (32.7% vs. 47.3%; $P < 0.001$). There was no difference in nulligravidity (65.2% vs. 59.5%, $P = 0.25$) or not having any children (69.3% vs. 62.4%, $P = 0.11$) between those who had or were not opposed to using donated gametes and those who would not.

Donor history

While several DCP found out about their donor-conceived origins less than a year ago, the average time (years) to knowing that they were donor-conceived was 18.5 (0–48). Importantly, the age that a DCP was informed of their donor-conceived origins played a role in their willingness to consider using donated gametes themselves as those who had used or were not opposed to using donated gametes were more likely to have 'always known' about their origins (42.5% vs. 25.8%, $P < 0.001$) and been told by a family member (75.7% vs. 65.6%, $P = 0.01$). To further support this notion, those who had or would consider using donor gametes themselves had also known about their origins for more years (age minus age of awareness) (18 years vs. 11 years, $P = 0.004$) than those who would not consider.

Donor relationship

The willingness to use donated gametes among DCP is not dependent on their current relationship with the donor or half sibling(s) from the same donor (85.3% vs. 77.1%, $P = 0.24$) (75.8% vs. 75.0%, $P = 0.85$), nor on their satisfaction with these relationships ($P = 0.208$).

Donor experience

However, those who had or were undecided about using donated gametes themselves were more likely to rate their overall experience of being donor-conceived as positive (93.0% vs. 52.5%, $P < 0.001$). Additionally, a DCP is significantly less likely to consider the utilization if they have had a medical or psychological complication as a result of not knowing their entire genetic history (27.8% vs. 55.4%, $P < 0.001$) (Table II).

Logistic regression

After adjustment for all variables that were significant in bivariate analyses, rating their overall experience of being donor-conceived as positive was predictive of using or considering using donor gametes

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Table II Factors associated with willingness to consider a donor.

	Have or would consider using donor gametes[a] n = 342; 64.8% median (range) or n (%)	Would never consider using donor gametes[b] n = 186; 35.2% median (range) or n (%)	*P*-value
Age (years)	26 (18–74)	31 (18–77)	<0.001
Age <25 years	134 (39.4%)	49 (26.5%)	0.003
Female gender	270 (78.9%)	161 (86.6%)	0.03
Nulligravid[c]	176 (65.2%)	96 (59.6%)	0.25
Has no children[d]	235 (69.3%)	116 (62.4%)	0.11
Non-Hispanic white	318 (93.0%)	166 (89.2%)	0.14
Married	112 (32.7%)	88 (47.3%)	<0.001
Heterosexual/Straight	232 (67.8%)	138 (74.2%)	0.13
College degree or higher	224 (65.9%)	140 (75.3%)	0.03
Age of awareness (years)	23 (3–67)	24 (5–65)	0.69
'Always Known'/Preverbal	145 (42.5%)	48 (25.7%)	<0.001
Years knowing donor-conceived	18 (0–50)	11 (0–61)	0.004
Told by a family member	258 (75.5%)	122 (65.6%)	0.01
Overall positive feelings[e]	318 (93.0%)	97 (52.2%)	<0.001
Ongoing relationship with the donor	64 (85.3%)	37 (77.1%)	0.24
Ongoing relationship with one or more half-sibling	204 (75.8%)	105 (75.0%)	0.85
Have sought professional support or counseling regarding origins	66 (19.3%)	87 (46.8%)	<0.001
Have had medical or psychological complications	95 (27.8%)	103 (55.4%)	<0.001

[a]Responded 'Yes' or 'I don't know' to have or would consider using donated gametes.
[b]Responded 'No' to have or would consider using donates gametes.
[c]Female respondents only in denominator.
[d]Includes female and male respondents.
[e]Feelings being a donor-conceived person (DCP) rated a 3 (neutral), 4 (positive) or 5 (very positive).

(adjusted odds ratio (aOR) (95% CI): 8.26 (4.84–14.10)). Having sought professional support or counseling about donor conception (aOR (95% CI): 0.46 (0.29–0.74)) and having had a medical or psychological complication as a result of not knowing genetic history (aOR (95% CI): 0.51 (0.33–0.80)) were negatively associated with considering using donor gametes.

Supplemental analysis

A sub-group analysis was performed to analyze groups separately into those who have considered or are actively considering using donor gametes are undecided about using donor gametes and would never consider using donor gametes. This showed overall similar findings as compared to the combined analysis, with the majority of those who have used or are undecided about using donor gametes significantly more likely to report overall positive feelings about being donor-conceived (93.9% vs. 91.5% vs. 52.2%, $P < 0.001$) (Supplementary Table SI).

Discussion

This study focused on family-building views of donor-conceived individuals and the overall willingness to use donor gametes themselves if unable to spontaneously conceive. Using a researcher-created validated questionnaire with input from previously published studies, the results from this cross-sectional study highlight that many donor-conceived offspring would consider or are undecided about utilizing donor gametes themselves if needed, especially if they had an overall positive experience as a DCP, were told about their origins at a young age by a family member and have had readily available medical history about the donor. The findings from this study will help in counseling those considering utilizing donor-assisted reproduction to achieve their goals of parenthood by providing reassurance that their potential children would also undergo similar measures if needed.

Over one-third of DCP (35.2%) would not consider using donor sperm, donor oocytes and/or donor embryos. The remainder of DCP was either presently considering (10.4%), would openly consider using donor gametes (28.0%) were undecided about the utilization (24.6%) or had already utilized in the past (1.9%). It is conceivable the DCP who stated that they were undecided about using donor gametes might ultimately be willing to use them if a particular circumstance arose; thus, the authors concluded that this was a clinically meaningful difference to those who stated that they would absolutely not be willing to use donor gametes and were therefore analyzed separately to those who responded that they 'would never consider using donor gametes'. It is reassuring that the majority of respondents were not firmly resistant to the idea of donor gametes, given its continued and prevalent use. These findings are similar to the general population with research suggesting that many believe donor-assisted reproduction is a

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viable option to help achieve one's family-building goals (Hudson et al., 2009), though the general population is likely to be overall more hesitant than those who have used or are considering using donor gametes (Bolton, et al., 1991). SART reported over 22 000 donor egg or embryo cycle starts in 2018, with live birth rates of 39–47%. The use of donor sperm is likely much more prevalent though the number of live births from donor sperm is unknown as this is not centrally reported (SART, 2018).

Many factors play a role in experience as a DCP and this study supports that experience shapes their ideas about family building. Importantly, those who had used or were not opposed to using donated gametes were significantly more likely to rate their overall experience as a DCP as neutral to positive compared to those who would not consider the utilization. Studies have also shown that offspring who are informed of their donor-conceived origins at a young age tend to report more positive feelings as opposed to those that are informed later in life, who reported detrimental effects on their self-esteem and overall self-worth (Turner and Coyle, 2000 ; Scheib et al., 2005; Jadva et al., 2009; Hertz et al., 2013). The findings from this study further support these conclusions by highlighting that DCP who have or would consider using donor gametes were more likely to 'have always known'. While those who have or would consider using donor gametes were, on average, several years younger than those who would not consider the utilization, we also found that those who would be open to donor-assisted reproduction have also known for more total years about their origins than those who would not consider the utilization. Likewise, DCP have reported feelings of 'anger' or 'shock' when learning about their origins at a later age, especially if informed by someone or something other than their parent(s), as four participants explained that they found out 'from their high school biology class' (Jadva et al., 2009). The present study also highlights that the preferred mode of knowledge is from a family member as those who have or would consider using donor-assisted reproduction themselves were significantly more likely to have been informed by a mother(s) and/or father(s). Additionally, many DCP report strong sentiments regarding early disclosure of a donor's identifying information from a family member as one participant stated that, 'anonymous donation should be illegal' and another encouraged 'open identification from a very early age by a parent(s). Even age 18 years old might be too late'. Regardless, findings from the logistic regression analysis highlight that after adjusting for these significant variables (i.e. age $<$ 25 years, not being married, more years knowing donor-conceived, told by a family member) having overall positive feelings regarding their donor-conceived origins is independently predictive of one's willingness to consider donor-assisted reproduction.

Additionally, our study highlights that it is imperative that DCP have readily accessible medical information about the donor as DCP are significantly more likely to oppose using donated gametes themselves if they have had medical or psychological complications as a result of not knowing their complete health history. Although the Ethics Committee of ASRM strongly encourages and supports fertility clinics to make medical information that may impact genetically related individuals readily available, there is still no enforceable or formal process for doing so in most states (2018).

Among oocyte and sperm donor recipients who are not DCP themselves, there have been encouraging findings showcasing overall positive experiences and subsequent healthy relationships with their offspring (Lycett et al., 2004; Murray et al., 2006; Bracewell-Milnes et al., 2016; Imrie et al., 2019). For example, a prospective study from Blake et al. (2014) revealed that both mothers and fathers in donor insemination and egg donation families are psychologically well-adjusted with no difference in self-reported ratings of depression, anxiety and parenting stress compared to those who undergo natural conception. Additional studies have also shown stable and comparable interpersonal relationship satisfaction among heterosexual couples that undergo donor insemination and IVF with autologous gametes (Sydsjö et al., 2014).

Though many DCP would consider utilizing third-party reproduction if needed, even more would consider adoption (91.1%). One theory for this finding is simply familiarity with the process as the practice of adoption has been prevalent for more years than donor-assisted reproduction. Because of this, there are more formal organizations and anecdotal reports surrounding this mode of family-building and there is widespread political framework regarding adoption practices. Analogously, sporadic case reports of adoption investigations have suggested that many adult adoptees are open to adopting themselves in order to 'return the kindness that was done for them to other children in need'. As the use of donor-assisted reproduction continues to increase, public awareness, oversight and openness may also increase.

While this was a novel study highlighting family-building views and desires among a group of DCP, there certainly were several limitations. To start, a major limitation of this study is that the DSR platform used to recruit participants may not be representative of all DCP. Not only does registration to the DSR require reliable access to Internet and a membership fee, but the sample may also be biased toward the inclusion of offspring who innately have an interest in contacting the donor and/or half-siblings and thus they may be more willing to consider using donor gametes themselves, which is an attitude that may not be representative of all DCP. The response rate in the current study was 7.6% and thus may not be illustrative of all DSR members. Furthermore, most respondents were conceived via donor sperm (94.7%) and therefore the findings may not generalize to DCP conceived by donor oocytes or donor embryos. In order to have completed the questionnaire respondents had to be fluent in English, and have access to a functional computer, tablet or smart phone, which limits generalizability of the findings. Not all questions on the survey had to be completed for submission, which infers availability bias as respondents may have skipped over certain questions that they did not feel comfortable answering despite the anonymity of the study. However, the anonymity of the study also made it impossible to clarify patient responses. Finally, the decision to analyze the DCP who stated that they were undecided about using donor gametes into the 'would consider' group may be overestimating the openness to utilization in this group and may therefore lead to a type I error. To account for this, we did a sub-analysis where this 'would consider' group was analyzed separately and showed overall similar findings as compared to the combined analysis. Furthermore, it is also very possible that those who stated that they would never consider using donor gametes may change their mind if the actual need arises.

Conclusion

The findings from this study reveal that many DCP would consider acting similarly to their parent(s) and utilize donor gametes if needed, in

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order to achieve their family-building goals. This implies that DCP can empathize with and support the decision of their parent(s) and provides a unique perspective to the growing body of literature surrounding the emotional and psychological impact of offspring conceived by donor-assisted reproduction. Perspectives from this analysis will aid health care providers to appropriately counsel patients who are considering using third-party reproduction by providing reassurance that many DCP would also consider similar means to achieve their goals of parenthood. Further qualitative research and in-depth interviews are needed in order to explore additional themes and individual narratives surrounding conception and family-building in donor-conceived people, including among those who are not DSR members. For example, topics necessitating additional exploration would include the specific hesitations or concerns among DCP with using donor-assisted reproduction and to inquire and ultimately implement practices that may assuage these uncertainties.

Supplementary data

Supplementary data are available at *Human Reproduction* online.

Data availability

The data underlying this article will be shared on reasonable request by the corresponding author.

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Authors' roles

D.R.S. helped to design the study, obtained institutional review board (IRB) approval, collected the data, wrote the first draft of the article, and edited and approved the final version of the article. J.S. performed statistical analyses of the data and reviewed, edited, and approved the final version of the article. W.K. provided expert professional help and opinion into the Donor Sibling Registry and Network, helped to refine the study question and design the questionnaire, reviewed, edited and approved the final version of the article. C.R. proposed the study question, helped to design the study, provided mentorship in the IRB approval, and reviewed, edited and approved the final version of the article.

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Conflict of interest

All authors declare that there are no conflicts of interest to disclose.

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