

Single fathers by choice using surrogacy: why men decide to have a child as a single parent

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STUDY QUESTION: Why do men decide to have a child by surrogacy as a single parent?

SUMMARY ANSWER: Reasons included feeling that it was the right time (i.e. having ‘worked through’ concerns about single parenthood; career and financial stability; a fear of getting older; no longer wanting to wait for the ‘right’ relationship), external encouragement, a desire to reproduce and a fear of separation/divorce.

WHAT IS KNOWN ALREADY: Because no research has been conducted on single fathers who used surrogacy, their characteristics, motivations and experiences are unknown.

STUDY DESIGN, SIZE, DURATION: This study used a cross-sectional design as part of a larger, multi-method, multi-informant investigation of single father families created by surrogacy. Multiple strategies were used to recruit participants (i.e. from an association of gay parents, Facebook groups of single parents and snowballing) between November 2016 and April 2017. Data were obtained from 33 Italian single fathers ($Mean_{age} = 47.33$ years, $SD = 4.63$), most of whom self-identified as gay ($n = 24$, 72.7%).

PARTICIPANTS/MATERIALS, SETTING, METHODS: In-depth semi-structured interviews were conducted in family homes ($n = 20$, 60.6%) or over Skype ($n = 13$, 39.4%). Each interview lasted approximately 40 min and was audio recorded, transcribed verbatim and analyzed using thematic and qualitative content analysis, with the aid of the software package MAXQDA. Where appropriate, a two-sided Fisher’s exact test was used to compare the gay and heterosexual fathers, and illustrative quotations were reported.

MAIN RESULTS AND THE ROLE OF CHANCE: Although all of the single men had experienced mature relationships, about one-third of the fathers ($n = 10$, 30.3%) had never thought of having a child and the majority of the heterosexual men ($n = 7$, 77.8%, $P = 0.05$) had tried to conceive in previous relationships. The gay and heterosexual men differed in their preferred path to parenthood ($P = 0.01$), with the former ($n = 17$, 70.8%) having always preferred surrogacy and the latter ($n = 6$, 66.7%) having considered or attempted conception via casual sex with women. Irrespective of their sexual orientation, most of the fathers chose surrogacy because they wanted a genetic relation to their child ($n = 28$, 84.8%) and because they felt that surrogacy would be more secure compared to adoption, upon their return to Italy due to Italian laws ($n = 26$, 78.7%). The majority ($n = 20$, 60.6%) were satisfied with their decision to ‘go it alone’, although nearly all ($n = 16$, 80%) would have preferred to have a child within the context of a relationship. After their child’s birth, the majority received support from both their parents/siblings ($n = 21$, 63.7%) and friends ($n = 24$, 72.7%).

LIMITATIONS, REASONS FOR CAUTION: The risk of socially desirable responding should be taken into account when interpreting the findings, given the ethical concerns surrounding single fatherhood and surrogacy. Furthermore, fathers with a negative surrogacy experience were less likely to participate in this research. The small sample and participant characteristics of older age, an Italian nationality, a mainly gay sexual orientation and high income may limit the generalizability of the findings.

WIDER IMPLICATIONS OF THE FINDINGS: This study is the first to provide insight into the reproductive experience of single men seeking surrogacy. The findings warn practitioners and policy-makers against making assumptions about people with access to fertility treatments on the basis of marital status, gender or sexual orientation.

STUDY FUNDING/COMPETING INTEREST(S): None.

Key words: single father by choice / surrogacy / sexual orientation / parenting / motivations

Introduction

'Single fathers by choice' are heterosexual or gay men who actively choose to parent alone through adoption or, increasingly, surrogacy and egg donation (Golombok, 2015). Policies on and access to assisted reproductive technology for single men vary between countries, with some countries prohibiting access (e.g. Italy, Norway and France) and others leaving access decisions largely up to clinicians (e.g. the United States). Single men, be they heterosexual or gay, have only recently been accepted by fertility clinics as candidates for surrogacy, in spite of the ethical call for open access to fertility services regardless of marital status or sexual orientation (Ethics Committee of the American Society for Reproductive Medicine, 2013; De Wert et al., 2014).

In their review of existing studies, Biblarz and Stacey (2010) showed that single fathers generally enjoy higher incomes, more stable employment, better education and more social support, and that they are more likely to be white and older than single mothers. However, these characteristics may not be representative of men and women who choose to become single parents from the start. A number of studies have shown that single mothers who use donor insemination are highly educated, financially secure and in full-time employment (Leiblum et al., 1995; Klock et al., 1996; Murray and Golombok, 2005; Hertz, 2006; Graham, 2014), and that the majority have previously been in a long-term relationship (Jadva et al., 2009).

Surveying 291 single mothers who adopted or used sperm donation, Jadva and colleagues (2009) found that the mothers' main reasons for having a child were their desire to be a mother, their feeling that they were getting older, and their feeling of having achieved career and financial security. Some of the mothers were concerned that their child might miss out on having a male role model and doing male-type activities; however, other mothers felt that their child would not be affected by the lack of a father. Because no research has studied single fathers by choice, the extent to which they differ from single mothers by choice in terms of characteristics, motivations and experiences is unknown. Likewise, no study has explored how family of origin (i.e. parents and siblings) and friends react to single men's decision to become a parent, especially through the use of surrogacy, which is often controversial (Jadva, 2016; Lingiardi and Carone, 2016a,b).

The present study explored single fathers' experiences of and motivations for having a child through surrogacy and the various decisions involved in following this path. Fathers' concerns over undertaking single parenthood and their feelings about this decision were also examined. In addition, the study investigated how families of origin and friends supported the men's path toward fatherhood through surrogacy.

Materials and Methods

Participants

Twenty-eight single father families created by surrogacy were recruited for the primary aim of investigating the parent-child relationship and the child's adjustment when the child was 3–8 years old. For the present part of the study, a further five single father surrogacy families with younger children (aged 9–30 months) were included, resulting in a total of 33 single fathers. All of the fathers resided in Italy. The inclusion criteria for participation were that the fathers had decided to undertake parenting alone, the target child had been conceived through surrogacy and a potential new partner would not play a parental role for the child.

All participants were recruited through the use of multiple strategies between November 2016 and April 2017: first, the Italian Rainbow Family (an association of gay and lesbian parents) sent information about the study to its 16 single father members ($n = 12$); second, participants passed information about the study to acquaintances who fit the study criteria and/or disseminated information about the study through social media ($n = 9$); third, researchers posted advertisements on the websites of two single parent groups ($n = 8$). Although it was not possible to determine the exact number of fathers who received/opened the initial email, were informed about the study, or were members of the website groups, 39 contacted the research team and 33 agreed to take part (constituting a response rate of 84.6%). Participants' characteristics are reported in Table 1.

Table 1 Participants' characteristics.

Single fathers (N = 33)	
Mean age _{years} (SD)	47.33 (4.63)
Mean annual family income (SD)	€71 363 (31.621)
	N (%)
Sexual orientation	
Gay	24 (72.7%)
Heterosexual	9 (27.3%)
Educational attainment	
Post-doctoral degree	1 (3%)
Master's degree	25 (75.8%)
Undergraduate degree	7 (21.2%)
Employment	
Full-time work	30 (90.9%)
Part-time work	1 (3%)
Not working	2 (6.1%)
Current relationship status	
Single	29 (87.9%)
In a relationship	4 (12.1%)
Number of children (Mean age _{months} = 60.73, SD = 27.90)	
1	28 (84.8%)
2 or twins	5 (15.2%)
Type of surrogacy	
Gestational	32 (97%)
Genetic	1 (3%)
Where surrogacy arrangements have been carried out	
California	19 (57.6%)
Canada	7 (21.2%)
India	5 (15.1%)
Thailand	2 (6.1%)
Where surrogates/egg donors have been met	
Agency or clinic	25 (75.8%)
Online advertisements (e.g. surrogacy blogs, Facebook groups)	8 (24.2%)
Surrogates/egg donors previously known	
No	33 (100%)
Yes	0

Ethical approval and procedure

Approval for the study was obtained from the Institution Ethics Committee and written informed consent was obtained from all participants. The majority of the families were visited in their homes by a research psychologist trained in the study techniques ($n = 20$, 60.6%) and the remaining families were interviewed over Skype ($n = 13$, 39.4%), due to geographic distance from the researcher.

Measures

The fathers were administered a semi-structured interview adapted from previous studies with male-headed surrogacy families (Blake et al., 2016, 2017; Carone, Baiocco and Lingardi, 2017). The section of the interview focusing on men's motivations for single parenthood lasted approximately 40 min (within an average total duration of 90 min). The interviews were audio recorded, transcribed, anonymized and imported into the MAXQDA software program. Data categorization is presented as Supplementary material.

Data analysis

The analysis was guided by the principles of qualitative content analysis (Krippendorff, 2013) and was performed by the first author (N.C.). Because the interviews were semi-structured, the data of interest were dispersed throughout the transcript. Therefore, data were organized into Excel sheets (e.g. all quotes pertaining to 'reasons for single parenthood' were copied into one cell). A coding manual was created to succinctly describe the information in each cell and used to rate the interviews accordingly. One-third of the interviews were rated by a second coder (an undergraduate student trained in qualitative analysis techniques), and the percentage of agreement was equal to or greater than 90% for each variable.

To provide greater insight into the fathers' narratives about their reasons for parenting alone, each transcript was analyzed using thematic analysis (Braun and Clarke, 2006). From a preliminary list of codes ($n = 21$) that were generated after an initial review of the transcripts, four themes and four subthemes relating to the fathers' reasons for parenting alone were identified and cross-checked against each interview and against the entire dataset. Transcripts that were not uniformly categorized ($n = 7$) were discussed by the research team until total agreement was reached.

For each variable, frequency counts were calculated and, where appropriate, a two-sided Fisher's exact test was used to compare fathers with differing sexual orientations (homosexual vs. heterosexual). Illustrative quotations are reported in Tables II and IV. Quantitative data were analyzed using SPSS version 24 (IBM Corp., Armonk, NY) and a $P < 0.05$ was considered statistically significant.

Results

Choosing single parenthood through surrogacy

Table III illustrates the fathers' decision to have a child according to their sexual orientation. Although all of the men had previously been in a long-term relationship, about one-third of them ($n = 10$, 30.3%) had never thought they would have a child, others ($n = 8$, 24.2%) had started thinking about it at an early age, a few had started thinking about it in their late 30s ($n = 6$, 18.2%) or had always known ($n = 6$, 18.2%), and three (9.1%) did not remember when they had started thinking about having a child. The gay and heterosexual fathers did not differ in the timing of their first thoughts about becoming a parent

Table II Feelings about and reactions to single parenthood through surrogacy: Illustrative quotations.

Feelings about single parenthood	
Mostly satisfied	'I'm thrilled with my child, really, but sometimes I think of how it would have been with a partner'. (Gay father)
Neutral	'I wanted a child and at that time it seemed like it was the only decision I could make. Now it's like water under the bridge'. (Heterosexual father)
Mostly dissatisfied	'I didn't realise the meaning of raising a child alone when I first started... [Child's name] is now turning 5 and starting to ask why he doesn't have a mother... I don't know how it will evolve, but, honestly, now I regret that decision'. (Heterosexual father)
Initial reaction of family of origin	
Mostly supportive	'My parents were extremely happy and positive about having grandkids, they were so crazy about them that they didn't think of anything else'. (Heterosexual father)
Mixed	'My parents initially had questions. They did not have concerns, but some questions... it was mostly the issue of raising a child without the help of a partner, though during our conversations my mother clearly said that surrogacy was illegal and exploited women rights... I had a long conversation with them to explain how surrogacy actually works in Canada'. (Gay father)
Mostly negative	'They didn't like it, but they had no choice... They didn't want it at all because they didn't feel that it was right for a mother to give birth to a child... it was the fact that the mother was giving up the child. That was hard on them'. (Heterosexual father)
Current reaction of family of origin	
Mostly supportive	'My mother, the first time I told her, she looked at me and said in all seriousness, "You have no idea what you are doing". But once—once the surrogate got pregnant, then everything changed, she was totally on board. And everyone in my family could not be more supportive'. (Heterosexual father)
Mixed	'Shocked at the beginning. The idea of having kids was alien for them, I was gay, single, and was having a child through surrogacy... seriously? It's the first wave, and moreover totally new in Italy... I can understand that it prompted mixed reactions'. (Gay father)
Reaction of friends	
Mostly supportive	'I think a little reticent at first because I didn't have a partner, but totally warmed up and opened to it as I was in the process'. (Gay father)
Mixed	'It's weird because most of my female friends were excited, and some of my male friends who were single were like, "Are you sure you want to do this?", because I think it's very unusual for a man here to have children in this way'. (Heterosexual father)

Table III Choosing single parenthood through surrogacy: Fathers' decisions and worries.

	Gay fathers (n = 24) n (%)	Heterosexual fathers (n = 9) n (%)	Fisher's exact test	Total (N = 33) N (%)
First thought of having a child			<i>P</i> = n.s.	
Never thought it would happen	9 (37.5%)	1 (11.1%)		10 (30.3%)
At an early age	6 (25%)	2 (22.2%)		8 (24.2%)
In late 30s	3 (12.5%)	3 (33.4%)		6 (18.2%)
Always known	4 (16.7%)	2 (22.2%)		6 (18.2%)
Do not remember	2 (8.3%)	1 (11.1%)		3 (9.1%)
Tried to conceive in previous relationships			<i>P</i> = 0.05	
Yes	8 (33.3%)	7 (77.8%)		15 (45.4%)
No	16 (67.7%)	2 (22.2%)		18 (54.6%)
Discussion with others about choosing single fatherhood*			<i>P</i> = n.s.	
Family members	23 (95.8%)	8 (88.9%)		31 (93.9%)
Parents and siblings	21 (91.3%)	7 (87.5%)		28 (90.3%)
Other relatives	14 (60.9%)	3 (37.5%)		17 (54.8%)
Other single fathers (known, or found on a specialized chat forum)	22 (91.7%)	8 (88.9%)		30 (90.1%)
Extended social networks	21 (87.5%)	6 (66.7%)		27 (81.8%)
Health practitioners	19 (90.5%)	6 (100%)		25 (92.6%)
Friends	13 (61.9%)	6 (100%)		19 (70.4%)
Work colleagues	12 (57.1%)	4 (66.7%)		16 (59.2%)
None	1 (3%)	1 (11.1%)		2 (6.1%)
Reasons for single parenthood*			<i>P</i> = n.s.	
Timing felt right	24 (100%)	9 (100%)		33 (100%)
Feeling of having 'worked through' concerns about single parenthood	21 (87.5%)	9 (100%)		30 (90.1%)
Career and financial stability	20 (83.3%)	8 (88.9%)		28 (84.8%)
No longer wanting to wait for the 'right' relationship	18 (75%)	7 (77.8%)		25 (75.8%)
Fear of getting older	15 (62.5%)	8 (88.9%)		23 (69.7%)
External encouragement	18 (75%)	8 (88.9%)		26 (78.8%)
Desire to reproduce	13 (54.2%)	6 (66.7%)		19 (55.6%)
Fear of separation/divorce	1 (4.2%)	4 (44.4%)		5 (15.1%)
Initial worries about single parenthood*			<i>P</i> = n.s.	
Lack of resources	24 (100%)	9 (100%)		33 (100%)
Financial resources unavailable	22 (91.7%)	8 (88.9%)		30 (90.1%)
Lack of acceptance from family of origin	21 (87.5%)	8 (88.9%)		29 (87.9%)
Lack of support from friends	14 (58.3%)	5 (55.6%)		19 (57.6%)
Lack of support at work	11 (45.8%)	5 (55.6%)		16 (48.5%)
Child's experience of growing up in a single father family	17 (70.8%)	8 (88.9%)		25 (75.8%)
Possible teasing the child might receive due to his/her family type	15 (88.2%)	2 (25%)		20 (80%)
Child's negative reactions to growing up without a mother	12 (70.6%)	7 (87.5%)		19 (76%)
Child missing out on having a female role model/doing female-type activities	9 (52.9%)	6 (75%)		15 (60%)
Potential new partner's reluctance toward the existing child	5 (20.8%)	2 (22.2%)		7 (21.2%)
Preferred path to parenthood			<i>P</i> = 0.01	
Always preferred surrogacy	17 (70.8%)	1 (11.1%)		18 (54.6%)
Considered/attempted casual sex with women	2 (8.3%)	6 (66.7%)		8 (24.2%)
Considered/attempted adoption abroad	4 (16.7%)	2 (22.2%)		6 (18.2%)
Considered/attempted co-parenting arrangement	1 (4.2%)	0		1 (3%)

Continued

Table III *Continued*

	Gay fathers (n = 24) n (%)	Heterosexual fathers (n = 9) n (%)	Fisher's exact test	Total (N = 33) N (%)
Motivations for surrogacy*			<i>P</i> = n.s.	
Desire for genetic relatedness to child	22 (91.7%)	6 (66.7%)		28 (84.8%)
Surrogacy easier/more secure than adoption once returned to Italy	19 (79.8%)	7 (77.8%)		26 (78.8%)
Desire for raising a child from birth	10 (41.7%)	3 (33.3%)		13 (39.4%)
Risk of confused parental role with co-parenting arrangement	8 (33.3%)	2 (22.2%)		10 (30.3%)

Note: *Because the fathers gave more than one answer, the percentages exceed 100. Fisher's exact test was performed only considering the main categories of each variable.

(*P* = 0.51). All of the men were asked if they had tried to become a parent in their previous relationship. More than half (*n* = 18, 54.6%) answered no and the remaining (*n* = 15, 45.4%) answered yes. However, more heterosexual fathers (*n* = 7, 77.8%) had tried to conceive in their previous relationship than their counterparts (*n* = 8, 33.3%) (*P* = 0.05). Fathers were also asked to name the people with whom they had discussed their decision to become a single parent through surrogacy. Almost all (*n* = 31, 93.9%) had spoken with one or more family members (i.e. parents or siblings), followed by other single fathers whom they knew or met on a specialized chat forum (*n* = 30, 90.1%) and by persons in extended social networks (i.e. health practitioners, friends and colleagues) (*n* = 27, 81.8%). There was no difference between gay and heterosexual fathers in their discussions about going it alone (*P* = 0.82).

With regard to worries relating to undertaking parenting alone, no differences emerged between gay and heterosexual fathers (*P* = 0.92). All (100%) were concerned about a lack of resources, in terms of both support—from parents, siblings, friends and colleagues—and financial availability. About one-third (*n* = 25, 75.8%) were also concerned about their child's experience of growing up in a single father family because of the possible teasing their child might receive, their child's negative reactions to growing up without a mother, and their child missing out on having a female role model and doing female-type activities. Few fathers (*n* = 7, 21.2%) cited worries about a potential new partner's reluctance to assume a parental role for the child.

A difference was found between the gay and heterosexual men in their preferred path to parenthood (*P* = 0.001), with most heterosexual fathers having previously considered or attempted casual sex with women as a path to parenthood (*n* = 6, 66.7%) and most gay fathers having always preferred surrogacy (*n* = 17, 70.8%). Conversely, these groups of men did not differ in their motivation to pursue surrogacy (*P* = 0.99). The most common reason reported for doing so, which was provided by a large majority of fathers (*n* = 28, 78.8%), was the desire for genetic relatedness with their child, followed by the greater security of surrogacy over adoption once they returned to Italy, due to Italian laws (*n* = 23, 69.7%). Fathers also cited the duration and complexity of the adoption process, the stigma that adoption agencies attached to single fathers, and the feeling that adoption was a random process as factors that discouraged this path to parenthood. Other fathers chose surrogacy because they wanted to raise their child from

birth (*n* = 13, 39.4%) and they felt that a co-parenting arrangement might generate a confused parental role (*n* = 10, 30.3%).

Reasons for single parenthood

Fathers' reasons for single parenthood through surrogacy related to the four themes of right timing, encouragement to proceed, desire to reproduce and fear of separation/divorce, with the first theme further comprising four subthemes related to career and financial stability, a feeling of having 'worked through' concerns about single parenthood, a fear of getting older and the bother of waiting for the 'right' relationship. Differences between gay and heterosexual fathers are reported in Table III, while illustrative quotations of the themes and subthemes are presented in Table IV.

Right timing

All fathers (*n* = 33, 100%) decided to parent alone only when they felt sure of the timing. Almost all (*n* = 30, 90.91%) proceeded 'after having "worked through" concerns about single parenthood', such as assumptions that a man cannot be a good single parent and that mothers are necessary, and a fear that the child would be orphaned if they were to die. In these cases, fathers felt frustrated by a general lack of representation of single fatherhood. Most gay fathers (*n* = 15, 45.45%) intertwined these concerns with an internalized homophobia. The majority of fathers (*n* = 28, 84.84%) noted the high expense of surrogacy and child rearing, and started their journey to parenthood only when they felt they had achieved 'career and financial stability'. Most fathers (*n* = 25, 75.8%) were also 'bothered about having to wait for the "right" relationship', and felt conflicted due to their desire for a child in the context of their previous failed relationship. Other fathers (*n* = 23, 69.70%) had a 'fear of getting older' and worried that they might not live long enough to see their child grow up or to be an older parent.

Feeling of being adequately encouraged to proceed

Alongside describing their desire for a child, most fathers (*n* = 26, 78.79%) explicitly declared that they expected raising a child to be exhausting. Thus, a relevant factor that convinced them to start surrogacy alone was adequate encouragement from family and friends. Even fathers who were especially unsure of family members' reactions trusted that the arrival of their child would change their hearts.

Table IV Choosing single parenthood through surrogacy: Illustrative quotations.

First thought of having a child	
Always known	'It's just a core part of who I've always been'. (Heterosexual father)
At an early age	'It's been a dream since I was a child myself, as an adult. Even if I didn't know how it would materialize, the wish was always there, very strong'. (Gay father)
In late 30s	'I started with a series of little steps in my late 30s, but it soon got me thinking, "I should think about this seriously"... and some years later here we are'. (Heterosexual father)
Never thought it would happen	'You know what, it was always something that I thought would never happen to me, so I never really thought about it in any serious way'. (Gay father)
Reasons for single parenthood	
Right timing	
Feeling of having 'worked through' concerns about single parenthood	'Before starting surrogacy I thought, thought, and thought again: "If something happens to me, who's going to take care of my son? Is this a selfish act?". I was waiting until I was sure it was the right thing to do, but you can't know until you do it. So I made that decision and said "Women have been raising kids alone for a millennium. If they can do it, why not me?"' (Heterosexual father)
Internalized homophobia	'I've been raised with the idea that a mother should be in the home and that gay men can't be parents. When I was coming out I remember my mother saying "If you're gay you will not have a family", which seemed to be the case at that time, until I realized that my sexual orientation wasn't a good reason to stop my wish for a family'. (Gay father)
Career and financial stability	'You have a window of time in your life when having a child is a viable option... this window became a door when I moved as I got a new job in a business company. I could now finance surrogacy and afford to raise a child. Why wait?' (Gay father)
No longer wanting to wait for the 'right' relationship	'I just wanted to be a dad. I hoped it would have been with my previous partner, but it didn't work. He thought we couldn't be good parents as we were gay, so we broke up. Then time was not on my side, and I didn't have the luxury of waiting for an ideal mate. I couldn't let my life wait for that random event'. (Gay father)
Fear of getting older	'Waiting around for some woman in a relationship, wasting a few years, getting older and then being an old man trying to raise a newborn were not part of my plan. So I told myself, "Now or never"'. (Heterosexual father)
External encouragement	'I could begin this journey alone, but once back home I would need their help to raise my child'. (Gay father)
Desire to reproduce	'I wanted to not only have a child but to have my own genetic child... I wanted to pass on my genes, I just wanted to see my own, I don't know, child in the world'. (Heterosexual father)
Fear of separation/divorce	'When marriage ends in divorce and it comes to custody the law usually favors women. I didn't want having my children taken from me. This way, that can never happen'. (Heterosexual father)
Initial worries about single parenthood	
Lack of resources	'It isn't only the cost of surrogacy, you can get a loan for that... but you have to raise a child once he arrives!' (Heterosexual father)
Child's experience of growing up in a single father family	'We all have been raised with a mother, that's always in the back of our mind, so it's hard when you choose the opposite from the start... how will my daughter feel about it? I thought long about that'. (Gay father)
Potential new partner's reluctance toward the existing child	'How would a woman react to raising a child to whom she hasn't given birth? Since then I have thought my chances of finding a partner are limited'. (Heterosexual father)
Motivations for surrogacy	
Desire for genetic relatedness with child	'Before starting this journey, I felt that a genetic child would really be my child... it is DNA, there is nothing we can say or do about it'. (Gay father)
Surrogacy easier/more secure than adoption once returned to Italy	'It just seemed like adoption was too much a random process... mental health issues could arise, the child could be born with genetic defects and stuff like that. There is a great deal of unknown with adoption and I didn't want that. With surrogacy it is much more of a guarantee, and it seemed like the most promising way to have my family'. (Gay father)
Desire for raising a child from birth	'I've always thought that if I had a son, I would raise him from the start'. (Heterosexual father)
Risk of confused parental role with co-parenting arrangement	'Too many parents are involved in the child's life when you choose co-parenting... maybe there are too few with surrogacy, but parental roles are very clear at any rate'. (Gay father)

Desire to reproduce

About half of the fathers ($n = 19$, 55.6%) explained their 'desire for a child of my own' in terms of a desire to reproduce. They did not limit their experience of parenthood to raising a child, but expanded this definition to include the creation of their child.

Fear of separation or divorce

In a few cases ($n = 5$, 15.15%), fathers preferred to be a sole parent to avoid the potential for their child to experience parental separation. Among these fathers, three heterosexual fathers also feared that, in the case of divorce, a judge would grant custody to the mother.

Feelings about and reactions to single parenthood through surrogacy

As shown in Table V, gay and heterosexual fathers did not differ in their feelings about having undertaken single parenthood through surrogacy ($P = 0.40$). Most fathers ($n = 20, 60.6\%$) were mostly satisfied with their choice, about one-third ($n = 10, 30.3\%$) had neutral feelings, and the remaining three (9.1%) felt mostly dissatisfied because of the cost of surrogacy or because they lacked a partner with whom they could share their feelings during the pregnancy, especially in cases of failed cycles. Of those who were satisfied, a large majority ($n = 16, 80\%$) claimed that they would have preferred to have a child within the context of a relationship.

When asked how supportive their families of origin were when they disclosed their plan of becoming a single parent through surrogacy, almost half of the fathers ($n = 16, 48.5\%$) described the reactions as mixed, involving concern about the family arrangement or the ethical aspects of surrogacy, and approximately one-third ($n = 10, 30.3\%$) described these reactions as supportive from the start. Seven families (21.2%) reportedly reacted negatively, thinking that the child would suffer due to the absence of the second parent. After the child's birth, the reactions changed significantly ($P = 0.002$), with most families becoming supportive ($n = 21, 63.7\%$) and others maintaining some concerns ($n = 12, 36.3\%$). Family reactions were not different between the gay and heterosexual fathers, at either the point of initial disclosure ($P = 0.68$) or the time of the study ($P = 0.99$).

As for the reactions of friends, there was no difference between the reports of gay and heterosexual fathers ($P = 0.68$); the majority of friends were mostly supportive ($n = 24, 72.7\%$). However, some

fathers did note that they had lost some friendships, as their friends disagreed with surrogacy, and the remaining nine (27.3%) expressed perplexities relating to both their decision to parent without a partner and surrogacy as the preferred path to parenthood.

Discussion

This study was the first to explore the experiences and decisions of single men who actively choose to parent alone and build their family using surrogacy and egg donation, showing that single fathers by choice tell a similar story to that of single mothers who use donor insemination to conceive (Leiblum *et al.*, 1995; Murray and Golombok, 2005; Hertz, 2006; Jadva *et al.*, 2009; Graham, 2014).

The fathers in this study were generally well educated and financially secure men in professional occupations. Their decision to conceive without a partner was complex and carefully considered, and one that was taken following discussion with family, friends, health practitioners and other single fathers. To make this decision, the men needed to feel secure in their career and financial situation and adequately encouraged by their social network, and they needed to have 'worked through' concerns about the responsibilities of parenting alone, the possible teasing their child might receive, and their child's potential negative reactions to growing up without a mother, missing a female role model and/or engaging in female-type activities.

These concerns were echoed by the men's family and extended social network when first told of the men's decision to undertake single fatherhood. Further, the gay men struggled with their internalized homophobia, as they had been raised with the idea that gay men were

Table V Feelings about and reactions to single parenthood through surrogacy.

	Gay fathers (<i>n</i> = 24) <i>n</i> (%)	Heterosexual fathers (<i>n</i> = 9) <i>n</i> (%)	Fisher's exact test	Total (<i>n</i> = 33) <i>N</i> (%)
Feelings about single parenthood			$P = n.s.$	<i>N</i> (%)
Mostly satisfied	13 (54.2%)	7 (77.8%)		20 (60.6%)
Would have preferred to have a child within the context of a relationship	10 (76.9%)	6 (85.7%)		16 (80%)
Neutral	9 (37.5%)	1 (11.1%)		10 (30.3%)
Mostly dissatisfied	2 (8.3%)	1 (11.1%)		3 (9.1%)
Initial reaction of parents and siblings			$P = n.s.$	
Mostly supportive	8 (33.3%)	2 (22.2%)		10 (30.3%)
Mixed	12 (50%)	4 (44.5%)		16 (48.5%)
Mostly negative	4 (16.7%)	3 (22.2%)		7 (21.2%)
Current reaction of parents and siblings			$P = n.s.$	
Mostly supportive	15 (62.5%)	6 (66.7%)		21 (63.7%)
Mixed	9 (37.5%)	3 (33.3%)		12 (36.3%)
Mostly negative	0	0		0
Reaction of friends			$P = n.s.$	
Mostly supportive	18 (75%)	6 (66.7%)		24 (72.7%)
Mixed	6 (25%)	3 (33.3%)		9 (27.3%)
Mostly negative	0	0		0

not allowed to become parents (Baiocco and Laghi, 2013). The majority of the men embarked on surrogacy alone, because they did not want to wait for the 'right' relationship, they wanted to pass on their genes and they were afraid of getting older. A few preferred to undertake single parenthood because they did not want their child to experience parental separation, or they worried that they might lose custody of their child in the event of divorce.

Earlier investigations of single mothers by choice (Leiblum et al., 1995; Klock et al., 1996; Murray and Golombok, 2005; Hertz, 2006; Jadva et al., 2009) have shown that women consider single motherhood only when they have limited prospects of finding a partner with whom to conceive in the time frame allowed by their increasing age and decreasing fertility. Similarly, a majority of the single fathers were motivated by a fear of getting older and a desire to reproduce. In this sense, single parenthood was not actually a choice (Graham, 2014).

Unlike single women by choice, however, who tend to become mothers in their mid- to late-30s (Leiblum et al., 1995; Jadva et al., 2009), the single men achieved fatherhood mainly in their early 40s, with some in their mid-40s. As the mean age at the time of study was over 47 years (with the older children aged about 8 years), this research adds to the growing debate on the ethical controversy and counseling challenges posed by older fathers, especially with regard to the best interest of the child, who might lose his/her father or be forced to care for an aging or ill father (Braverman, 2017). In this debate, the interplay between cultural expectations of male parenthood and the high costs of surrogacy (particularly when it is not practiced in the father's resident country) should be considered to explain the men's delay in embarking on parenthood.

Although all of the single men had experienced mature relationships and studies have shown a general increase in men's desire for children and involvement in child care (Lamb, 2000), about one-third of the fathers had never previously thought about having a child and only the majority of heterosexual men had tried to conceive in a previous relationship. This difference between the gay and heterosexual fathers can be interpreted in light of the similarities and differences characterizing their routes to parenthood. The single men, regardless of sexual orientation, shared the influence of societal sexism, wherein a female parent is perceived as fundamental for child development. But the gay men also had to struggle with issues related to coming out and internalized homophobia (Baiocco and Laghi, 2013), and this may have resulted in a delay in the recognition and legitimization of their parental aspirations.

The interplay between the desire for a genetic connection to the child and the multitude of factors involved in the adoption process (relating to, e.g., duration, cost, legality and stigma, and concerns about adopted children's psychological and behavioral problems) motivated a large majority of the men to choose surrogacy over adoption. This echoes the findings of a study of 14 American single mothers who used donor insemination (Goldberg and Scheib, 2015). It also reveals that genetics may be important to men, even those whose parental configurations deviate from the heteronormative procreative context (Blake et al., 2017), and challenges societal recommendations for adoption over surrogacy.

Of interest is that, while the gay and heterosexual fathers shared similar reasons for pursuing single parenthood and similar concerns about single parenthood, they differed in their preferences for surrogacy over other pathways to parenthood. Future studies with larger samples of single men would help clarify whether sexual orientation is influential in leading

men to surrogacy, as it is with heterosexual and lesbian two-parent families who decide to adopt (Jennings et al., 2014).

The finding that most families displayed mixed reactions and were confused or perplexed when first told of the men's decision to be a single father is perhaps unsurprising when considered in light of the fathers' older age (47 years) and objections surrounding surrogacy and single parenthood. Moreover, previous studies with families created through surrogacy and donor insemination (Fulcher et al., 2002; Bergman et al., 2010; Blake et al., 2017) have shown that initial confusion in family members may be disentangled once the child arrives.

The risk of socially desirable responding should be taken into account when interpreting the findings that the majority of fathers were satisfied with their choice of single parenthood through surrogacy. Caution is further recommended because about half of the fathers would have preferred to have a child in the context of a relationship and, due to the convenience nature of the sample, those with a particularly positive experience with surrogacy may have been more likely to participate in the research. Whether this finding reflects their profound experience or is partly influenced by the public and political discourse that views single parenthood as a crack in the traditional nuclear family, depriving the child of a mother (Golombok, 2015), remains an issue to be explored. However, the findings are consistent with the emerging literature on gay father families created via surrogacy (Blake et al., 2017) and single mothers by choice created via donor insemination (Leiblum et al., 1995), which reports satisfaction with these family arrangements.

Although the small sample size and participants' characteristics (e.g. their older age, Italian nationality, mainly gay sexual orientation and high income) may limit the generalizability of the findings, the thematic and qualitative content analyses enabled an in-depth understanding of various factors in single men's experiences and decisions relating to this path to parenthood. This study provides valuable empirical insights for counseling and treating these patients, and it warns practitioners and policy-makers against making assumptions about people with access to fertility treatments on the basis of marital status, gender or sexual orientation. Larger-scale quantitative studies in different cultural contexts should investigate these issues further.

Supplementary data

Supplementary data are available at *Human Reproduction* online.

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Authors' roles

All authors were responsible for the study design and contributed to the interpretation of data. N.C. conducted the interviews, analyzed the data and drafted the manuscript. R.B. and V.L. contributed to its revision and approved the final version for publication.

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Conflict of interest

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Data categorization

Data were categorized as follows: (i) when they initially determined that they would like to have children (coded as 'always known', 'never thought it would happen', 'at an early age', 'in my late 30s' or 'do not remember'); (ii) whether they had tried to conceive in previous relationships (coded as 'yes' or 'no'); (iii) whether they had discussed their choice of single fatherhood with others (coded as 'family members', 'other single fathers', 'extended social networks' or 'no one'); (iv) their reasons for undertaking parenting alone (coded as 'the timing felt right', 'a feeling of being adequately encouraged to proceed', 'a desire to reproduce' or 'a fear of separation or divorce'); (v) their worries related to parenting alone (coded as 'a lack of resources', 'their child's experience of growing up in a single father family' or 'the potential

teasing their child might receive due to his/her family configuration'); (vi) their preferred path to parenthood (coded as 'always preferred surrogacy', 'considered/attempted casual sex with women', 'considered/attempted adoption abroad' or 'considered/attempted a co-parenting arrangement'); (vii) their motivations for surrogacy (coded as 'a desire for genetic relatedness with their child', 'a feeling that surrogacy would be easier/more secure than adoption once they returned to Italy', 'a desire for raising a child from birth' or 'a feeling that a parental role of co-parenting would confuse the child'); (viii) their current feelings about single parenthood through surrogacy (coded as 'mostly satisfied', 'neutral' or 'mostly dissatisfied'); (ix) their initial and current reaction of their family of origin to their reproductive choice (coded as 'mostly supportive', 'mixed' or 'mostly negative'); and (x) their support from friends (coded as 'mostly supportive', 'mixed' or 'mostly negative').