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A comparative study of sperm and egg donors' personal descriptions and goodwill messages

BIOGRAPHY

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KEY MESSAGE

Egg and sperm donors provide largely similar types of information, although some key differences do emerge. Egg donors wrote longer goodwill messages and were less likely than sperm donors to provide a personal description. To improve consistency, better support is needed for donors completing donor information forms.

ABSTRACT

Research question: What information do sperm donors and egg donors include in their personal descriptions and goodwill messages?

Design: A total of 131 (76 egg, 55 sperm) donor information forms from 2011 to 2021 were analysed using qualitative content analysis for personal descriptions and goodwill messages written to recipients of donor gametes. Categorical data were analysed statistically to examine differences between egg and sperm donors.

Results: Egg donors wrote longer goodwill messages than sperm donors (X^2 (1) = 6.18, P = 0.013), although they were less likely to provide a personal description (X^2(1) = 4.53, P = 0.033). Sperm donors were more likely than egg donors to describe themselves through their athleticism (X^2 (1) = 12.10, $P < 0.001$) and their personality traits (X^2 (1) = 5.29, P = 0.021), such as being laid back or goal driven. Both sperm donors and egg donors included messages that wished the family and the child well, with sperm donors more likely than egg donors to include advice in their goodwill message (X^2 (1) = 6.39, P = 0.012). Egg donors were more likely than sperm donors to mention motivations that involved helping others (X^2 (1) = 4.59, P = 0.032).

Conclusion: Given the differences found between the content of egg and sperm donor information forms, there is a need for better information and support to be provided to gamete donors to improve the amount of information provided and ensure consistency. More specific and guided questions on the forms may help donors complete them.

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KEY WORDS

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Donor conceived offspring
Donor information
Gamete donation
Human Fertilisation and Embryology Authority (HFEA)
Third-party reproduction

INTRODUCTION

On 1 April 2005, the UK changed its laws regulating gamete donation from anonymous to identity-release donation (*HFEA, 2022*). The change in the law did not retroactively change the anonymity of donors who donated prior to 2005. This legal shift towards identity-release donation was driven by donor-conceived offspring. In *Rose v Secretary of State for Health* (2002) EWHC 1593 the High Court ruled that the Human Rights Act was a basis for donor-conceived individuals to know details about their identity and for them to have the right to obtain information concerning their biological origins. The change in law was also influenced by studies examining the well-being of donor-conceived offspring and their right to access identifiable information (*Scheib and Cushing, 2007*).

Donors donating through UK clinics currently include identity-release donors (i.e. those whose name and last known address can be requested by the donor-conceived adult at age 18 years) and known donors (i.e. those who donate to friends or family, or to recipients they have met through a third party). It is worth noting that defining donor types can be complex as this terminology is dependent on the donor's motivation, expectations and conceptualization of their experience (*Graham et al., 2016*).

The Human Fertilisation and Embryology Authority (HFEA) was established in 1991, after the Human Fertilisation and Embryology Act came into effect, and today acts as the regulator overseeing all fertility treatments and embryo research performed in the UK (*HFEA, 2022*). Data held by the HFEA have shown a steady increase in the use of donor conception over recent years, partly attributed to the growing number of same-sex female couples and single people using donor gametes to have a child. In the UK alone, more than 4100 births resulted from donor conception in 2019, accounting for 1 in 170 of all births in the UK (*HFEA, 2022*). Furthermore, more than half of new sperm donors registered in the UK were connected with imported donations, with data from 2020 showing that 27% of sperm donors were from the USA and 21% from Denmark (*HFEA, 2022*).

Gamete donors may come from a range of academic and professional backgrounds (*Jadva et al., 2011*; *Pennings et al., 2014*; *Thorn et al., 2008*). British sperm donors have been reported to largely identify as heterosexual and are mostly atheist or Christian (*Graham et al., 2016*; *Shukla et al., 2013*). Studies from outside the UK have reported that sperm and egg donors are mostly single at the time of their donation (*Pennings et al., 2014*; *Riggs and Russel 2011*; *Sydsjö et al, 2011*; *Thorn et al., 2008*). This contrasts with recent trends in the UK, which showed that 1 in 3 egg donors and 1 in 5 sperm donors in 2020 had children of their own (*HFEA, 2022*). In a UK study comparing clinic-recruited sperm donors with donors donating on donor-matching websites, it was found that clinic sperm donors were more likely to be older and married and to have children of their own (*Graham et al., 2019*).

Egg and sperm donors have been reported to have a range of reasons for donating their gametes. A systematic review of egg donation identified several motivations across 64 studies and concluded that the motivations for donating varied between different types of egg donor (*Purewal and Van den Akker, 2009*). Known egg donors were found to be motivated by the relationship they had with the recipients, donors who did not receive payment were largely motivated by wanting to help others, and commercial donors, i.e. those who were paid, tended to report both altruistic and financial motives (*Purewal and Van den Akker, 2009*). Egg donors in South Africa, where they are compensated a fixed fee for their donation, have been found to be strongly motivated by wanting to help others (*Thalder, 2020*). Thus, different laws in different jurisdictions are likely to impact motivations for donating (*Pennings et al., 2014*; *Van den Broeck et al, 2013*).

A study of egg donors in New Zealand where donors are reimbursed for their expenses and where they may have contact with the recipients before the offspring is aged 18 found that donors viewed their donation as relational and personal (*Goedeke et al., 2023*). These findings highlight how broader social, cultural and economic frameworks within which donation occurs are likely to influence donor motivations (*Gilman, 2018*; *Goedeke et al., 2020*). Other donor motivations, albeit less common, include 'to make up for a loss' that took the form of pregnancy termination, miscarriage or sexual assault (*Jordan et al., 2004*).

Sperm donors have been reported to be motivated by financial gain or altruism or a combination of the two (*Bay et al., 2014*; *Van den Broeck et al, 2013*). Some sperm donors have reported donating because they wished to procreate and pass on their genes (*Freeman et al., 2016*; *Jadva et al, 2011*; Riggs and Russell, 2010).

Investigating a donor's motivation can have certain limitations as social desirability and donor bias may influence the ways in which donors choose to present themselves (*Purewal and Van den Akker, 2009*). There may also be a link between motivation and satisfaction, with studies finding that donors who reported altruism as their motivation are more likely to be satisfied with their donation (*Kenny and McGowen, 2010*). Motivations to donate are therefore layered and multifaceted and cannot always be reduced to a single incentive (*Graham et al., 2016*; *Svanberg et al., 2012*).

Whereas in the UK the donor's identifying information can be provided to the donor offspring at the age of 18 years, non-identifying information can be shared with the parents earlier and can also be accessed prior to treatment by patients looking for a donor. Many sperm and egg donors have been found to report positive feelings towards providing identifiable information and possibly having future contact with the child (*Bracewell-Milnes et al., 2016*; *Graham, 2022*; *Graham et al., 2016*; *Van den Broeck et al., 2013*). In the UK, donors complete a donor information form in which they can include a description about themselves, and they may also write a letter to the recipients and/or child (*HFEA, 2022*).

The donor information form that is completed by the donor varies based on where the donor is recruited from. For example, the HFEA's own form comprises one question for the personal description and one question for the goodwill message. Donor forms used by sperm or egg banks, particularly in countries other than the UK, may include multiple detailed questions that can help to create a donor profile encompassing physical characteristics, family health history, educational background, hobbies, preferences and even photographs (*Almeling, 2011*).

Some previous studies have, however, identified a reluctance on the part of donors to complete these forms (*Abdalla et al., 1998*; *Graham et al., 2016*). This

hesitation has been attributed to feelings of anxiety and uncertainty among donors as well as the fear of placing too much emphasis on their role as a donor (*Crawshaw and Dally, 2012*; *Graham et al., 2016*). Additionally, donors can report dissatisfaction and confusion regarding the counselling offered to help them complete the forms (*Crawshaw and Dally, 2012*). A US study of sperm and egg banks found gender differences in the traits that staff encouraged their donors to include in their donor profiles, with egg donors being encouraged to state altruistic motives and sperm donors being asked to include financial motivations (*Almeling, 2006*).

A study of donors registered on a website to connect with donor offspring found that men experienced greater pride and envisaged closer contact with their offspring than egg donors. Egg donors were more likely to be concerned about the welfare of the offspring (*Nelson and Hertz, 2017*). An analysis of websites of organizations recruiting gamete donors found differences between those recruiting sperm donors and egg donors, with organizations recruiting egg donors emphasizing the altruistic gift of motherhood more than fatherhood was discussed for sperm donors (*Halcomb, 2020*). The aim of the present study was to explore the content of donors' personal description and goodwill messages and to see whether these differ between egg and sperm donors.

MATERIALS AND METHODS

Personal descriptions and goodwill messages

All donor information forms completed within the UK are stored by the HFEA. For the present study, donor information forms were randomly selected. Any donor information forms written by embryo donors and forms that were completed by donors who had not consented to non-contact research were excluded. A total of 131 donor information forms completed between 2011 and 2021 were included in the study; comprising 76 forms completed by egg donors and 55 by sperm donors. Identifiable information was redacted prior to analysis. Ethical approval for this study (ID 22017/002, date of approval 13 May 2022) was obtained from the University College London Research Ethics Committee.

The donor information forms used in the present study are not standardized and can differ between different sperm and egg banks, some of which are located in different countries. However, all contain demographic information, personal descriptions and goodwill messages. The HFEA form used by licensed centres contains a single question for donors to describe themselves in their personal descriptions, whereas some overseas sperm and egg banks use multiple guided questions to help donors structure the content. The question on the HFEA issued form used by licenced centres reads:

The space below is provided for you to give a description of yourself as a person. The type of information that may be helpful could include your education, achievements, values and life experiences. Try to imagine yourself as a donor-conceived person and think about what you might wish to know.

Goodwill messages were presented in the same way across all the forms (i.e. HFEA forms and sperm and egg banks) and included a single question that read 'You may wish to write a goodwill message for anyone born as a result of your donation', followed by space in which to write the message. Appendix 1 shows a copy of the HFEA form.

Data coding and statistical analysis

The personal descriptions and goodwill messages were analysed using inductive qualitative content analysis (*Krippendorf, 2004*). Each form was carefully read by the first author and text-driven codes were produced based on the content of the information included within the donor forms. Each code was identified as a variable and each donor form was assigned a numerical value indicating whether this item was present in the donor form ('1' for mentioned or '0' for not mentioned).

Religion was coded using the Office for National Statistics (ONS) index on religious affiliations present in the Annual Population Survey published in 2019 (*ONS, 2019*). Occupation was coded using the International Standard Classification of Occupations 2008 (ISCO-08) (*ONS, 2020*). The length of the goodwill message or personal description was also coded (exceeding 250 words versus below 250 words). Messages were categorized based on whether they were directed to the child or the recipient. Missing information was noted as such.

To assess the differences between egg and sperm donors, the coded data were imported into SPSS version 2021 (IBM, USA). Statistical comparisons (which were considered significant at $P < 0.05$) were conducted using chi-squared tests or Fisher's exact tests. Illustrative quotations of the text used in the donor information forms have been included to explain the categories, and care was taken to amend the quotes to maintain the anonymity of the donors.

RESULTS

Demographics of sperm and egg donors
The demographic information for egg and sperm donors showing their occupational status and religion can be seen in TABLE 1. Both sperm donors ($n = 34$, 61.8%) and egg donors ($n = 51$, 67.1%) were predominantly atheist. A significant association was found between donor type and occupation (Fisher's exact test = 0.01), and indicated that sperm donors were more likely than egg donors to be students.

Length of donor information/personal descriptions
TABLE 2 shows whether donors provided a goodwill message or donor information details and the length of these. A significant association was found between the donor type and length of the goodwill message, with egg donors ($n = 22$, 44.9%) being more likely than sperm donors ($n = 6$, 15.0%) to write a long goodwill message (X^2 (1) = 6.18, $P = 0.013$). Egg donors also wrote longer personal descriptions ($n = 30$, 58.8%) than sperm donors ($n = 16$, 34.8%) (X^2 (1) = 5.61, $P = 0.018$). A significant association was found between donor type and the inclusion of a personal description, with sperm donors ($n = 46$, 83.6%) more likely than egg donors ($n = 51$, 67.1%) to provide a personal description (X^2 (1) = 4.53, $P = 0.033$). A similar proportion of sperm and egg donors ($n = 35$, 63.6% sperm donors; $n = 45$, 59.2% of egg donors) directed a goodwill message to the child (X^2 (1) = 0.263, $P = 0.608$).

Personal description
As can be seen from TABLE 3, education was the most common characteristic mentioned by the egg donors ($n = 41$, 80.4%) and sperm donors ($n = 35$, 76.1%) who wrote personal description messages. There was a statistically significant association between donor type and athleticism, with sperm donors ($n = 42$,

TABLE 1 DEMOGRAPHIC INFORMATION

Demographics	Sperm donors (N = 55)		Egg donors (N = 76)		Total (N = 131)		P-value
	n	%	*n*	%	*n*	%	
Religion							
Atheist/no religion	34	61.8	51	67.1	85	64.9	
Christian	19	34.5	18	23.7	37	28.2	
Hindu	0	0.0	2	2.6	2	1.5	
Jewish	2	3.6	0	0.0	2	1.5	
Muslim	0	0.0	1	1.3	1	0.8	
Sikh	0	0.0	1	1.3	1	0.8	
Other	0	0.0	1	1.3	1	0.8	
Not mentioned	0	0.0	2	2.6	2	1.5	
Occupation							0.01
Student	23	41.8	16	21.1	39	29.8	
Associate professional occupations	10	18.2	19	25.0	29	22.1	
Professional occupations	10	18.2	14	18.4	24	18.3	
Caring, leisure and other service occupations	5	9.1	6	7.9	11	8.4	
Administrative and secretarial occupations	1	1.8	6	7.9	7	5.3	
Sales and customer service occupations	1	1.8	4	5.3	5	3.8	
Managers, directors, and senior officials	3	5.5	2	2.6	5	3.8	
Elementary occupations	1	1.8	1	1.3	2	1.5	
Skilled trade occupations	0	0	1	1.3	1	0.8	
Missing	1	1.8	7	9.2	8	6.1	

TABLE 2 AMOUNT OF INFORMATION PROVIDED

Information provision	Sperm donors (N = 55)		Egg donors (N = 76)		Total (N = 131)		X^2 value	P-value
	n	%	*n*	%	*n*	%		
Goodwill message included	40	72.7	49	64.5	89	67.9	0.998	0.318
Personal description included	46	83.6	51	67.1	97	74.0	4.53	0.033
Goodwill message over 250 words	6	15[a]	22	44.9[a]	28	21.3[a]	6.18	0.013
Personal description over 250 words	16	34.8[a]	30	58.8*	46	35.1[a]	5.61	0.018

[a] % Calculated based on donors who provided a goodwill message or personal description.

91.3%) being more likely than egg donors (*n* = 31, 60.8%) to describe themselves using this trait (X^2 (1) = 12.10, $P < 0.001$). Additionally, there was a statistically significant association between the donor type and personality traits, with sperm donors (*n* = 37, 80.4%) being more likely than egg donors (*n* = 30, 58.8%) to describe themselves using personality traits, such as being laid back or goal driven (X^2 (1) = 5.29, $P = 0.02$). Egg donors were more likely than sperm donors to include their profession in their personal descriptions (X^2 (1) = 8.49, $P = 0.004$). No other statistically significant associations

were found between donor type and personal descriptions.

Goodwill message
TABLE 4 shows the content of the goodwill message for the gamete donors who provided this. The goodwill message most commonly included sending good wishes for the recipients and child, for example 'I wish you all the love and happiness in the world', followed by giving advice, such as 'follow your dreams' and 'Always love and do what you can for your family.' Sperm donors were more likely than egg donors to include advice in their goodwill

messages (X^2 (1) = 6.39, $P = 0.012$). No other statistically significant associations were found between the donor type and the content of goodwill messages.

Motivations
TABLE 5 shows the different motivations mentioned by sperm and egg donors across both the personal descriptions and goodwill messages, and shows that the donors' main written motivations fell into three categories. Wanting to help others was the most common motivation mentioned by both egg and sperm donors and included 'wanting to make a

TABLE 3 DIFFERENT CHARACTERISTICS MENTIONED IN PERSONAL DESCRIPTION FORMS

Characteristics mentioned	Sperm donors (N = 46)		Egg donors (N = 51)		Total (N = 97)		X^2	P-value
	n	%	*n*	%	*n*	%		
Education	35	76.1	41	80.4	74	76.3	0.03	0.61
Athleticism	42	91.3	31	60.8	73	75.3	12.10	<0.001
Hobbies	35	76.1	37	72.5	72	74.2	0.16	0.69
Personality traits	37	80.4	30	58.8	67	69.1	5.29	0.02
Likes (e.g. food preferences)	29	63.0	29	56.9	58	59.8	0.38	0.54
Profession	18	39.1	35	68.6	53	54.6	8.49	0.004
Artistic	20	43.5	30	58.8	50	51.5	2.28	0.13
Family oriented	18	39.1	29	56.9	47	48.5	3.05	0.08
Physical appearance	18	39.1	13	25.5	30	30.9	2.07	0.15
Multilingual	15	32.6	10	19.6	25	25.8	2.14	0.14
Family traits	5	10.9	9	17.6	14	14.4	0.89	0.34

The percentages do not equal 100% as some donors described themselves in more than one way. The percentages were calculated based on the donors who wrote a personal description.

Chi-squared tests compared the association between donor type and each of the characteristics mentioned.

TABLE 4 GOODWILL MESSAGE

Goodwill content	Sperm donors (N = 40)		Egg donors (N = 49)		Total (N = 89)		X^2	P-value
	n	%	*n*	%	*n*	%		
Good wishes for the parent and child	28	70.0	33	67.3	61	68.5	0.07	0.79
Advice	22	55.0	14	28.8	36	40.4	6.39	0.01
Motivation	9	22.5	19	38.8	28	31.5	2.71	0.10
Self-description	11	27.5	8	16.3	19	21.3	1.64	0.20
Future contact	8	20.0	13	26.5	21	23.6	0.52	0.47
Donor's role and contribution	9	22.5	12	24.8	21	23.6	0.05	0.83
Gratitude	6	15.0	11	22.4	17	19.1	0.79	0.37
Donor's own family experiences	4	10.0	3	6.1	7	7.8	–	0.69[a]
Influential quotes	2	5.0	2	4.1	4	4.5	–	1.00
Experiences of donating during COVID-19	1	2.5	1	2.0	2	2.2	–	1.00

The percentages do not equal 100% as many donors mentioned more than one variable. The percentages were calculated based on those donors who wrote a goodwill message
[a] Fisher's exact test.

difference to the family' or wanting to 'help another woman to have a family and experience joy and love'. This was followed by personal experiences of infertility or seeing others struggle to have a child, for example 'friends had difficulties having children' and 'we've seen first-hand how upsetting it can be to have difficulties conceiving'. Donors also mentioned their own joy and positive family relationships as a motivation to help others, for example wishing to 'give others the chance to have a family like mine'.

Chi-squared associations were only run on the first three motivations. It was found

that egg donors were more likely than sperm donors to mention motivations that involved helping others (X^2 (1) = 4.59, $P = 0.03$). Egg and sperm donors did not differ on being motivated by experiences of infertility (X^2 (1) = 1.68, $P = 0.19$) or having positive family relationships (X^2 (1) = 2.07, $P = 1.49$).

DISCUSSION

The present study provides an insight into the donor information provided to recipients, parents and donor-conceived offspring under an identity-release system.

The findings show that egg and sperm donors provide largely similar types of information, although some key differences emerge.

Sperm donors were more likely to describe their personality traits and their athleticism compared with egg donors. A large proportion of donors mentioned education and their profession in describing themselves, perhaps unsurprisingly given that the phrasing of the HFEA forms suggests that donors may want to include this information and it may be an easy thing to comment on about themselves. Over a third of donors

TABLE 5 MOTIVATIONS FOR DONATING

Motivations	Sperm donors (N = 48)		Egg donors (N = 59)		Total (N = 107)		X^2	P-value
	n	%	n	%	n	%		
To help others	38	79.2	55	93.2	93	86.9	4.59	0.032
Experience of infertility (self or other)	13	27.1	23	39.0	46	43.0	1.68	0.19
Positive family experience	5	10.4	12	20.3	17	15.9	2.07	1.49
Other								
Believe they are a good candidate	6	12.5	3	5.1	9	8.4		
Do not want children	3	6.3	5	8.5	8	7.5		
Do not need eggs	0	0	5	8.5	5	4.7		
Experienced pregnancy loss/abortion	1	2.1	4	6.8	5	4.7		
Financial compensation	2	4.2	2	3.4	4	3.7		
Responding to advert	2	4.2	0	0	2	1.9		
Seems right/morally correct	0	0	2	3.4	2	1.9		
There is a demand for sperm	2	4.2	0	0	2	1.9		
Egg sharing	0	0	2	3.4	2	1.9		
Interested in the programme/for research	1	2.1	1	1.7	2	1.9		
To feel special	1	2.1	0	0	1	0.8		

The percentages do not equal 100% as many donors mentioned more than one motivation. The percentages were calculated based on the donors who wrote either a goodwill message or a personal description.

included information about their hobbies. Fewer donors mentioned physical characteristics in their personal descriptions. This may have been because this information has already been collected by clinics in the form of height, weight, hair colour, eye colour, ethnicity, etc. and this is provided separately to the HFEA. The goodwill messages also varied in the content that donors chose to include. Both egg and sperm donors expressed positive wishes towards the recipient of the donation and towards the resulting child.

Information on educational qualifications and profession was widely shared by both sperm and egg donors in the donor information forms. These factors may be deemed as important for recipients and donor offspring to be aware of, but they may also help in the selection process by potential recipients. Few studies have examined what characteristics patients look for in their donors. A study by Schieb and colleagues (*Schieb et al., 2000*) that examined the criteria for donors searching for an identity-release or anonymous donor found that most respondents used physical characteristics to select a donor. Those with a partner reported matching the donor to their partner on interests and personality as well as physical characteristics. Donor information forms provided recipients with information they used to form an impression of the donors, with recipients being more likely to select donors that left them with a positive impression and this information was found to be more important for identity-release donors than for anonymous donors (*Scheib et al., 2000*).

A particular strength of the current study was the ability to directly compare the content of the sperm and egg donor information forms and goodwill messages. That sperm donors were found to be more likely than egg donors to describe themselves through their athleticism and personality traits may either reflect a gender difference between donors in terms of the traits they deem important to share with the recipient family or could reflect what donors are being asked to include by clinic and sperm/egg bank staff (*Almeling, 2011*).

Similar to an earlier study of UK egg donors (*Graham et al., 2016*), the present study found that the donors' religious background was predominantly either atheist or Christian. The religious affiliation of donors is not reported by the HFEA, although data on the ethnicity of gamete donors is available and showed that, from 2016 to 2020, 88% of egg donors and 87% of sperm donors were white (*HFEA, 2022*). That report highlighted the disparities in the availability of donors from Black and Asian minority ethnic groups, and also showed that gamete donation was used less by Asian patients compared with patients of other ethnicities.

The disparity in access to donors of different ethnic and religious backgrounds needs further attention and remains a largely neglected area of research. Although cultural and religious factors may impact the acceptability of third-party reproduction among some minority ethnic groups in the UK (*Culley et al., 2009*), for those patients who do who wish to use donor gametes, the religious affiliation of donors may be an important consideration for selecting donors.

Only a quarter of donors mentioned future contact with the child in their goodwill messages. This may suggest that identity-release donors may not include this information in their form as they may wish to allow the recipient family to decide on whether or not they wish to initiate contact. However, not including this may reflect an intention to have no future contact. One UK study of identity-release sperm donors reported that 36.7% of sperm donors wanted future contact, with a similar proportion (38.6%) being unsure (*Graham et al., 2019*). Although access to the identity of donors does not necessarily mean that donors will be

willing to be contacted, there may be an expectation by donor-conceived people and their families that contact will be made.

However, research has shown a variation in the expectations that recipients have: a Dutch study found that intended parents had not considered future contact with the donor during treatment (*Visser et al., 2016*). A UK study of parents who had used egg donation found that many mothers expressed concern that their child would have a stronger relationship with the donor than they themselves would (*Lysons et al., 2023*), a finding also expressed by parents using identity-release sperm donation (*Isaksson et al., 2016*).

The absence of a mention of future contact in goodwill messages may also reflect donors' own feelings of not wanting to intrude on the parent—child relationship. Graham found that despite all 11 donors in their study being open to future contact, only four donors completed the pen-portrait and three completed the goodwill message (*Graham et al., 2016*). Whether or not identity-release donors will be responsive to children's requests to be contacted remains to be seen and will be an important area of future research as the UK begins to release identifying information to the first children born through identity-release donation later in 2023.

The present study found that egg donors were more likely to write longer goodwill messages and less likely to provide a personal description compared with sperm donors. Previous UK-based studies investigating personal descriptions and goodwill messages indicated that most donors did not complete this section of the donor information form (*Crawshaw and Dally, 2012*; *Graham et al., 2016*). Egg donors reported that these sections were difficult to write and that they were concerned with expressing ideas of relatedness that would confuse the child (*Crawshaw and Dally, 2012*; *Graham et al., 2016*). The absence of personal descriptions and goodwill messages was attributed to feelings of empathy and concern for the recipients (*Graham et al., 2016*). Given that non-identifying donor information forms are accessible to the offspring prior to the age of 18 years they remain a source of additional information about the donor that may help with their identity formation (*Persaud et al. 2017*). The disparity in the information provided

by donors may, however, lead to inequalities in the information that donor-conceived persons can access.

These findings suggest the need for better information and improved clinic guidance to help donors write the donor information forms and goodwill messages, to improve consistency. The HFEA's code of practice states that donors should be informed that their non-identifying information may be shared with the recipients and the child, but how this is done by individual clinics may vary. Studies focusing on how donors are supported to complete these forms and what relevance they themselves place on providing this information may help in understanding the variation in the quantity of information given as well as in who the letters are directed to.

The study uncovered a nuanced and detailed breakdown of motivations for donating. The most common motivation for both donor types was wanting to help others. In the present study, donors were completing these forms with the aim of being selected as donors, as well as providing information to patients and the recipient child once they had been selected. It is therefore likely that the content they wished to include would be shaped by their own ideas of what patients and donor offspring would want to see, as well as what they were advised to include by staff at different clinics and sperm/egg banks. Social desirability may have prevented some donors from stating financial motives or other motives related to self-interest (*Graham et al., 2016*, *Kenny and Gowan, 2010*; *Purewal and van den Akker, 2009*).

Another common motivation mentioned by donors included positive family experiences in which donors were motivated by the love and positive experiences they had with their own families. This motivation was identified by *Warren and Blood (2003)*, who found that over half of their donor participants were part of big families and indicated that their family experiences had influenced their decision to donate.

Only two of the donors in the present study mentioned being motivated by an advertisement. This finding contrasts with previous studies which have reported that media, advertisements, word-of-mouth advertising and the internet have consistently attracted potential donors to donate (*Graham et al., 2016*; *Van den*

Broeck, 2013). Although advertisements may act as a way of attracting donors, this may not be the motivation that donors wish to include in the donor letters, which largely focused on the desire to help others through their donation.

A small number of donors described their own experiences of loss as leading them to donate. Most of these were egg donors who described having an abortion or losing a child as a motivation for donating, a finding also reported by previous studies (*Jordan et al., 2004*; *Kalfoglou and Geller, 2000*). Similar to previous studies, gamete donors often listed more than one motivation, thus indicating that the motivation to donate is multifaceted (*Van den Broeck et al., 2013*).

The use of HFEA data was a major strength of the current study as it allowed for a highly representative sample of gamete donors available for use in the UK. Another methodological strength was the use of the inductive, data-driven approach to data analysis as it allowed for a careful examination of the content included in the forms. A number of key associations highlighting the differences and similarities between the two donor types were identified. However, given that a large proportion of sperm donors whose donations are used in the UK are from overseas, compared with egg donors who are largely from the UK, the differences between egg and sperm donors may have reflected a variation in the location of the donors rather than differences between egg and sperm donors donating within the UK.

Nevertheless, the study has provided a comprehensive look at the information that gamete donors include in their personal descriptions and goodwill messages and is the first to offer a comparative approach. The findings point to a need to improve the support and guidance provided by clinics and sperm/egg banks to better support donors with completing donor information forms, to improve consistency in the amount of information provided. Further studies should also examine how these donor information forms are used by the recipients, both during the selection process and in terms of how this information is shared with the child.

DATA AVAILABILITY

The data that has been used is confidential.

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AUTHOR CONTRIBUTIONS

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