Embryo donation and receipt in Australia: Views on the meanings of embryos and kinship relations

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Abstract

Research on embryo donation and receipt continues to grow, highlighting how specific national contexts shape views and experiences. The present paper reports on a qualitative study on embryo donation and receipt in Australia. Interviews were conducted with 15 participants: embryo donors and those seeking to donate (6), embryo recipients and those seeking donors (3), people with embryos in storage or previously in storage (5), and egg donors where resulting embryos were donated to a third party (1). A deductive thematic analysis identified four key themes: understandings of embryos as cells, potential children, and/or children; a focus on relationships between "siblings"; importance of language and "family words" in discussing relationships; and extended family members having difficulty understanding the concept of embryo donation. The article concludes with a consideration of the implications of the findings in terms of the practice of embryo donation and the policies that surround it.

Keywords: embryos; embryo donation; embryo receipt; donor conception; kinship

Introduction

The use of frozen embryos as part of assisted reproductive technologies is a growing enterprise in many countries around the world. This has resulted in an increasing number of embryos in storage in fertility clinics, many of which will never be used for family building by the people who created them, often due to completion of the family or a successive number of failed attempts at implantation. Generally there are three key options available to people who have additional embryos: discard, donate to research, or donate to others for family building. At the moment, however, relatively little is known about people's views and experiences of embryo donation to others for the purpose of family building. Given the considerable differences between countries with regards to policies and practices of embryo donation for the purposes of family building, specific attention is needed to the contexts within individual countries.

With the above point in mind about the specific contexts in which embryo donation occurs, in this paper we report on an exploratory qualitative study about embryo donation and receipt in Australia. Historically in Australia, a ten year limit was imposed on the storage of frozen embryos (usually a five year limit with the option to extend this for an additional five years) (Stuhmcke and Chandler 2014). However, it is now legally possible for those who create embryos to store them frozen for longer periods of time. Only two Australian states currently have statutory time limits on embryo storage (Victoria and Western Australia) (Millbank, Stuhmcke, and Karpin 2017). Following the time period, a decision needs to be made about whether to use the embryos for their own family, donate for family making, discard, or donate to research.

Embryo donation first occurred in Australia in the 1980s (Kovacs, Breheny, and Dear 2003; Millbank, Stuhmcke, and Karpin 2017), with Australia and New Zealand data indicating that the number of babies born via embryo donation has slowly

increased over the past decade. In 2015 there were 442 initiated ART cycles for embryo recipients, resulting in 77 live deliveries (Fitzgerald et al. 2017). These figures are an increase on 2007 data which reported 238 initiated ART cycles for embryo recipients, resulting in 28 live deliveries (Wang et al. 2009).

In Australia, the National Health and Medical Research Council (2017) has guidelines on embryo donation that include recommending counseling, limiting the number of families created from donations by individual donors, and encouraging recipients to disclose information to their children about their genetic origin. However, there are no federal laws about embryo donation in Australia. While all states and territories follow the national guidelines, specific legislation mentioning embryo donation is present in only four jurisdictions (Victoria, New South Wales, South Australia, and Western Australia). The differences in laws between states can be difficult to navigate, and becomes even more complex when donations are across jurisdictions. Millbank, Stuhmcke, and Karpin (2017) highlight that there are no laws in any state which make joint counseling with donors and recipients mandatory, there are no mandatory requirements for the content of counseling, and there is no requirement for centralized pre-approval of embryo donation arrangements. However, the Australian and New Zealand Infertility Counsellors Association (ANZICA) (2007) do have a position paper on embryo donation which outlines considerations for counselors, and ANZICA's position on embryo donation. Furthermore, while embryo donation is now "open", the use of donor registers varies between states and territories (Karpin and Millbank 2014; Millbank et al. 2017). The state of Victoria has the most comprehensive legislation around donor conception and VARTA (Victorian Assisted Reproductive Treatment Authority) clearly details the laws and policies around embryo donation in that state in ways not available in other jurisdictions.

In terms of the small body of previous Australian research on the topic, it has been suggested that individuals may change their mind about embryo donation for the purposes of family building, dependent on where they are in the process. Specifically, research has found that donation may be considered the best option at the start of the IVF process or in principle, but far less people (only approximately 10%) actually donate their embryos to others for family building (Access Australia 2008; de Lacey, 2005; Millbank et al. 2013). In terms of policy and individual understandings of embryos, Millbank (2016) argues that there is a tension in the Australian context between how embryos are treated in policy (as not quite life, but as nonetheless deserving 'respect'), and how women who have embryos in storage are treated (as ill equipped to make decisions about stored embryos). Millbank et al.'s (2017) research with donors (11), recipients (6), and individuals who had been prevented from donating (9) found that participants viewed genetic ties and kinship as largely separate, and therefore did not equate embryo donation with adoption. In terms of individual decision-making, de Lacey (2007) found that of the 33 participants interviewed, those who donated their embryos to others viewed disposal as either a 'waste' or as a form of abortion, and resisted the idea that donation was akin to (closed) adoption. The time context of de Lacey's research is important to note here, with participants making decisions about embryos before identity disclosure was required in South Australia, and when there was an imposed time limit for embryo storage. Finally, of the 123 couples surveyed by Hammarberg and Tinney (2006), the 20 (16%) who donated embryos for family building either did so from a desire to help infertile couples, or to give possible life to the embryos.

Lacking to a degree, however, from existing Australian research is a focus on how those who donate, receive, or have embryos in storage understand the relationships between donors and recipients, specifically with regard to kinship relations, and the meanings accorded to embryos (the work of Millbank and colleagues being a notable exception). As such, in this article we explore views and experiences relating to both topics amongst a sample of 15 Australians comprised of donors and intended donors, recipients and intended recipients, people with embryos in storage or previously in storage, and an egg donor where resulting embryos were donated to a third party.

Materials and Methods

Ethics approval was granted by the Flinders University Social and Behavioural Research Ethics Committee.

Participants

A number of strategies were used in order to recruit participants. The research was promoted by the Embryo Donation Network in Australia to their members, and information about the study was posted to relevant threads on the Essential Baby, Bubhub, and Raising Children Network forums. Some of the participants also shared information about the research with their networks. Despite the wide range of recruitment methods, and 2,500 views on the forums, only 24 individuals or couples emailed for more information or to participate. Of these, 15 individuals took part in interviews. The remaining people who contacted us but did not participate either did not respond to follow-up emails to arrange interviews, or were involved in egg donation.

The final sample included participants that fell in one of four groups: embryo donors and those seeking to donate (6), embryo recipients and those seeking donors (3), people with embryos in storage or previously in storage (5), and an egg donor where resulting embryos were donated to a third party. For most participants, their involvement in embryo donation was recent or current at the time of the interview. Four

donor participants, the donor participant who had previously donated eggs, and two recipients were currently going through the embryo donation process; two donors had been through the process in the past year; and one recipient had been through the process about three years earlier. Three participants currently had embryos in storage, and for those who had discarded embryos, one had done this just before the interview and the other a few years earlier. In the findings section we indicate participants' temporal relationship to embryo donation or storage (e.g. "donor", "intending donor").

Participants ranged in age from 27-50 years (average 39.2 years). Participants who had received or wished to receive donated embryos were older than all other participant groups. Participants lived in six of the eight states and territories across Australia: New South Wales (4), Queensland (3) South Australia (3), Victoria (3), Western Australia (1), and the Australian Capital Territory (1). Fourteen women and one man participated in interviews. Participants had a range of different relationship statuses (married, de facto, single) and self-identified sexualities (heterosexual, bisexual, lesbian). In order to try to maintain participant anonymity, rather than referring to participants by individual demographic characteristics in the analysis reported below, they are referred to by the group they fell into as described above.

Procedure

All participants were provided with a detailed information sheet about the study, consent form, and brief demographics form after emailing to express their interest in the study. Each participant returned their signed consent form and completed demographic form via email prior to their interview. Semi-structured interviews were conducted via Skype or phone, depending on the preference of the participant. Interviews were conducted from April 2017 to February 2018. All interviews were audio-recorded, with the average length of recordings being just under one hour. Interviews were conducted

by the first author. Recordings were transcribed verbatim by a professional transcription service.

For participants who had undertaken or were interested in undertaking embryo donation or receipt, interview questions focused on how they came to embryo donation and how they made the decision to donate or receive donated embryos, including emotional aspects and support and information around decision making. For participants who had embryos in storage or had previously had embryos in storage, interview questions focused on how they came to have embryos in storage, and the decision making processes around what to do with the embryos, including emotional aspects and support and information around decision making. All participants were also asked about their views on embryo donation, particularly their views on the relationship between embryo donors and recipients, and the relationship between children born via embryo donation.

Analytic Approach

A deductive thematic analysis was undertaken focusing on interview responses related to how both embryos and kinship ties were understood, given the relative dearth of research on these topics in the Australian context. This specific data corpus was thematically analyzed drawing on the process outlined by Braun and Clarke (2006): 1) becoming familiar with the data, 2) generating codes, 3) identifying themes, 4) reviewing themes, 5) refining specifics of the themes, and 6) selecting extracts that best illustrate the themes identified. The first author began by identifying interview responses that focused on understandings of embryos or kinship ties. Having collated the data corpus, the first author then read all of the data extracts repeatedly, identifying codes across the corpus. From these broad codes, specific themes were identified that brought together groupings of codes that cohered around similar topics. These

groupings were refined and used to identify key themes. These themes were then confirmed by the second author. The first author then selected indicative data extracts to include under each theme in the analysis below.

Results

Four key themes were identified during the data analysis: 1) varied understandings of embryos, 2) desires about relationships between donor and recipient families, 3) importance of language and 'family words' in discussing relationships, and 4) impact of extended family. These themes are explored below using illustrative extracts from the interview transcripts.

Cells, potential children, or children: Varied understandings of embryos

Previous research has considered the different ways in which people understand embryos, highlighting that embryos are understood in a multitude of different ways, likely having implications for decision-making around what to do with additional embryos (for a review see Goedeke et al. 2017). However, this previous research does not always explore the complexity of people's understandings. In the present study participants tended to discuss embryos either as cells, as potential children, or as children. However, these three categories were used more on a continuum rather than being distinct.

In terms of the first category outlined above, only a few participants described their embryos as cells, and this was always in the context of cells which have "potential", rather than simply as cells stored in a clinic. For example:

Discard was never in my imagination, because to me they were little balls of cell that have potential to be life and they're meant to be there (donor)

I think very much that from the moment of conception that that was a potential person. And I guess once you've had a child – maybe the fact that we'd had a child already changed our opinion on the potential of what those little cells could be (donor)

These responses highlight that even when framing embryos as cells, they may still be seen as having the "potential to be life".

The most common understanding of embryos was the view that they were the chance to have a baby or were potential children. For example, the following two participants framed embryos as giving people a "chance" to have children, without drawing on the idea of "cells" like the participants above:

I understand that some people just emotionally cannot donate, but to me, giving another family a chance at having children, and giving those embryos a chance at life, that's a good thing. (recipient)

I felt strongly that I wanted the embryos to give somebody else a chance of having a baby that they wanted so much. So, seeing as how I decided I wasn't going to use them myself for a baby but I would want to donate them to someone else to give them a chance of having a baby. (intending donor)

These participants framed embryos as giving someone a "chance" to have children, highlighting that the process may not always work. The second participant quoted above noted elsewhere in the interview that the number of embryos she had in storage meant that someone else would have the chance to hopefully have one or two children, as not all of the embryos were likely to result in a pregnancy and child. The quality and number of embryos, and thus chance of resulting in a pregnancy and child, was also mentioned by other participants, which in most cases highlighted that they saw their embryos as having the potential to be children, but that this was not guaranteed.

In terms of the third category, some participants, particularly donors, viewed embryos as already children. One of the ways in which embryos were viewed as children was when framing embryos as the children that people did not have::

Even though I know I don't want any more, and I guess there's kind of a - not issue, but had my youngest not been such a difficult baby we probably would have had more [children]. [....] I guess it's just the letting go that's the really hard thing. It's probably the best way I can explain it - I view it very much like adoption. (embryos previously in storage)

I was just going to say it's difficult when morally and ethically I don't feel like I have any other decision. I think that's probably the hardest thing, is that if I don't have these children myself, I actually don't feel like I have another option, I have to give them to someone else because I just simply can't destroy them. (donor)

The view that embryos were children, specifically children of donors, was also reflected in the response from one of the intending recipients:

Interviewer: Why do you think more people don't donate their embryos?

Respondent: Because I suppose they think of them - which is correct - it's little mini them. Their child that - they don't obviously want any more children, but they don't like the idea of having one of their children off somewhere else, you know?

Not in their care, I suppose. (intended recipient)

It is also important to recognize that some participants' talk indicated multiple understandings of embryos, such as referring to embryos as cells, potential children, and/or children at different times during the interviews. This highlights the complex nature of embryos and how they are understood. In one case, a participant explicitly recognized that she framed embryos as meaning different things depending on the context:

I guess for me what's been hard is in my head trying to reconcile that this is a human or a potential human and a bunch of cells because in order to just give them away you have to kind of say to yourself "it's a bunch of cells and I'm giving this bunch of cells to people" but we would never have – we won't destroy them because to me they're people. (donor)

In addition, some participants' understandings of embryos changed over time. This was particularly the case for participants with embryos in storage, whose view changed through the IVF process and as they became parents (see also Blyth et al. 2011; de Lacey, 2005; Millbank et al. 2013).

"Facilitating the relationship between the children": Desired relationships between donor and recipient families

In Australia, potential donors and recipients can seek each other out via clinics or other methods, such as the internet, and can negotiate the level of direct contact desired, if any. Given the specifics of the Australian context, in the present study participants reflected on how they viewed the relationships between donor and recipient families, viewing these on a continuum of close kinship relations to no relationship at all. A midpoint was often discussed, combining some form of kinship relations, often "extended family", alongside "friendship". Importantly, for those involved in or seeking to be involved in embryo donation, how the donor or recipient was found seemed to impact on this. We mention this context for each participant discussed below, although note that due to the small sample size it is difficult to make generalizations beyond the study.

Participants often emphasized that it was for the children (in both donor and recipient families), rather than parents that a relationship was sought (see also Frith, Blyth, and Lui 2017; Millbank, Stuhmcke, and Karpin 2017). This is similar to previous

research which has identified that "siblingship" is viewed as the strongest form of kinship in embryo donor families, due to genetic relatedness (e.g. Collard and Kashmeri 2011). For example, one donor discussed wanting a relationship with the recipients, but letting the recipients "choose how much they wanted us in their lives". At the time of the interview, the donation was in process, and this participant was cautious that while they were "happy to be like an extended family", they were aware that this relationship may change:

I would like to know the updates, but as for in terms of an intricate relationship, I don't know what it will be, but I think children do need to have some sense of belonging, knowing where they're from, I think, yes. That's the relationship. But I'm just happy for the recipients to choose how much they want us in their lives; how much they don't. But at the moment we said we're happy to be like an extended family; so if that works, it works; if it doesn't well we'll find out. (donor)

This particular participant had sought out information about embryo donation on the internet, and had read the profile of potential recipients on an online donation profile website. Following this, she and her partner got to know one couple better before deciding to donate to them, and had ongoing communication with them.

Another donor participant had similarly selected a couple to donate their embryos via an online donation profile website, and the donation had resulted in a child for the recipients. However, this participant's views were more complex, at times viewing the relationship between the families as only relevant because of the children, and at other times as family due to wanting an informal rather than structured relationship:

I view the relationship between [recipients] and [my partner] and I as crucial, but it's only crucial because it is facilitating the relationship between the children. [....] After I met [child born from donated embryo] for the first time, [recipient mother] emailed me and she said "look, will it put your mind at ease if we sit down, look,

you know, we can arrange a visit twice a year and we can email an update once a month" and I went back to her and I said "look, no, we don't – you know, we're family, you don't need to make those sorts of arrangements with family, you just email us when you want (donor)

Other participants did not view embryo donation as automatically translating to a kinship relationship, or a relationship at all. One donor, who had put their profile on a donation site rather than selecting potential recipients by reading their profiles, discussed initially wanting an anonymous donation. She said she initially did not want any direct contact with the participants, or even updates or photos, as "That really then will feel like adoption". However, she and her partner had decided some form of contact was necessary in order to make sure that the recipient family informed their child that they were born as a result of embryo donation. This participant went on to say that she would not "stop" a relationship forming between the children if that was what her children wanted:

I can imagine maybe seeing them [the child born from embryo donation] once or twice in my lifetime, but knowing that it's not going to happen regularly and letting the children decide, I guess what they want to do when they're old enough to make that decision because if my children wanted to have a relationship with the resulting child and the recipient family were happy, then I wouldn't stop that at all. (donor)

The above responses were all from donors who in a way are able to direct the arrangements they would like, even if they are open to hearing the views of recipients. By contrast, one response from a recipient highlighted the precarious position that recipients can be in, and the difficulties of needing to be secure in their status as the parent of the child born as a result of embryo donation. This participant had sought donated embryos from overseas and did not desire a relationship with a donor family, although would possibly be open to a child wanting to contact their "genetic siblings":

If the family wanted them to know and have them contact, then I would be certainly willing but on the basis that I understand that children need material but I am the one who brought the child into the world, so... it's a tough one, really. [....] I hope I'd be open enough and secure enough in myself in what relationship I could develop for the child for contact with genetic siblings. I suppose that would depend on the current space I was [in] at the time. (recipient)

It's also important to note that relationships between donor and recipient families are not always possible, such as when embryos or gametes are identity release only or anonymous. One participant in particular discussed seeking out embryos overseas, her only option being embryos created with eggs which were identity release only, and sperm which was from an anonymous donor. This meant that if her child wanted information about the donors after turning 18, the only information available would be a basic profile of the egg donor. However, there was the potential for seeking out other children born from donated embryos from the same donor.

Finally, while several participants discussed some form of desired relationship, several participants, particularly donors and those thinking of donating, explicitly discussed the preference for recipient families not to live too close to them (particularly so they did not see each other unexpectedly), preferring people who lived elsewhere in their state, in another state, or overseas. As the participant below notes, this was often viewed as being for the benefit of both families:

we didn't want someone in the same city as us. We didn't want them – we didn't want to run into them all the time and we didn't – we wanted them to be able to establish themselves as their own family (donor)

Such a statement was made by many participants, regardless of the relationship they desired.

Sibling, cousin, friend, auntie, uncle: The importance of language

Following on from the above theme, language was important in understanding how participants viewed relationships between families. In particular, language relating to how children and adults referred to each other was viewed as important by several participants. Other studies considering language use in relation to embryo donation have tended to find family words are favored, rather than friendship words. For example, Goedeke and colleagues (2015) found that donors and recipients in their study used a broad range of family terms, including aunts, uncles, god parents, and in-laws, and genetically related children were often referred to as siblings. Studies in the United States have also found that genetically related children born into different families as a result of embryo donation are referred to as "siblings" (Blyth, Lui, and Frith 2017; Collard and Kashmeri 2011).

In the present study, some participants thought it was most straightforward for donor and recipient parents to be "aunties" and "uncles" to children born in the two families and for children to view each other as "cousins". For example, one of the donors reflected on the importance of creating this extended family arrangement in order for the recipients to later discuss the child's origins with them:

the most logical thing we thought was well why don't my kids start calling them [the recipients] auntie and uncle and they're familiar to them, and when they have children using our embryos, that we have a similar relationship. So auntie, uncle, they're extended family [...] So right now, my kids call them auntie and uncle. They have children. They're going to be known as cousins to our kids and vice versa (donor)

In contrast, one of the participants preferred a more direct approach, where the terms "brothers" and "sister" were used in order to reflect their genetic relationship:

I'm part of a lot of the Facebook, online forums, support groups of embryo donation and also ones where there's both donors and recipients and I know there are lots of different views about that [the relationship]. A lot of people post about well yes, the children will know each other but they will refer to each other as cousins and that really irritates me, it's like well, no, my sons refer to [child born from embryo donation] as their sister, she refers to them as her brothers because that is what they are. Perhaps not from a legal perspective, but from a genetic perspective I don't see the point in sort of bullshitting around it (donor)

Interestingly for this participant, while the plan had been for her children to call the recipients by their first names, and for the child born from donated embryos to do the same with the donors, one of her children had asked to call the recipients "auntie" and "uncle" (which the recipients agreed to).

Finally, other participants used the language of "friends", "family friends", and "friendship" to describe the relationships between families and children:

I think we just like to be seen as friends. I don't want – I wouldn't want the child to have to call me auntie or anything like that. I think if you're in their life all the time, you know, and they visit you and they know who you are and things like that, I think it's a bit different but for us, you know, we're just happy with pictures and to be thought of as family friends and then as they get older and they're able to comprehend and understand, then that's when you can tell them exactly the role we played (donor)

It would be nice for them to have some sort of friendship relationship. But I certainly wouldn't expect them to think of each other as siblings. (embryos previously in storage)

This theme suggests that donors/potential donors and recipients/potential recipients with closer relationships may favor family words, whereas those who do not have close relationships may privilege ideas of friendship. This extends previous research cited above by suggesting that the context of the donor/recipient relationship likely shapes the language used. Again, the Australian context is different to others, particularly

compared to places where a framing of "embryo adoption" is often used, such as in New Zealand (Goedeke and Daniels 2017) and in the United States (Blyth, Lui, and Frith 2017; Collard and Kashmeri 2011).

"To them it was their future grandchildren that we were giving away": Understandings and involvement of extended family

Extended families of embryo donors and recipients are rarely mentioned in the literature on embryo donation. Nordqvist and Smart (2014), in their study of donor conception, include in their sample a number of grandparents whose grandchildren were conceived of donor embryos or whose children had donated embryos. For these participants, kinship was often a key narrative amongst those whose children had donated embryos (with children conceived of donated embryos seen as genetic kin), as was a narrative of shame for those whose own children required the use of donor embryos. In Millbank's (2016) research, one participant noted that the clinic through whom she was donating embryos had advised her to inform her own parents that she was donating embryos, which the participant found odd, given she viewed the embryos as related to her own children, but not to her parents.

In the present study, participants were asked directly about their views on the relationship between extended family members of embryo donor and recipient families. Several participants emphasized that extended family had difficulty understanding the concept of embryo donation, and generally participants said they had not involved (or would not involve) extended family in their decision making around their embryos. Most participants discussed their mothers when asked about extended family, although some also discussed fathers, siblings, and in-laws.

Few participants described extended family being clearly supportive of embryo donation. One of the exceptions was the following participant, who described having inlaws who were very supportive, although this was in contrast to their mother:

[Partner]'s mum and dad were very supportive, very proud and happy with our decision [to donate]. They knew we felt very strongly. [....] My mum and dad, my dad was perfectly fine with it. He's a very go with the flow type of bloke, and my mum was just a little bit apprehensive and, not sure. She never voiced it exactly but I think she felt a little bit weird about it for a while. Yes, cause she thought of them as her potential grandkids. I think she doesn't – she still thinks that a little bit, but not as much. (donor)

As with the quote above, several donors and people with embryos in storage mentioned that extended family had, or would likely have, the view that embryos represented (potential) grandchildren. In some cases this impacted on how much participants told their extended family about their decisions:

I did mention it briefly to my mum, and she doesn't like the idea at all. So I think that's just - it's not her decision. We're not going to take into consideration her thoughts on the matter, because it's something about our family, not hers. [...] Yeah, she was a bit no, it's our grandchild as well. That whole thought that they are genetically related to her grandchildren, and it would be her grandchild, as such, somewhere out there that she's never going to meet. (embryos in storage)

to them [in-laws] it was their future grandchildren that we were giving away. It was their genetics; their bloodline; their family tree basically. It's like cutting off a branch and giving a branch away. (donor)

It is also important to consider that the views of, and levels of support from, extended family may change throughout the process. One participant discussed the ways in which her mother fluctuated between being supportive and not supportive:

[Mum was] [v]ery supportive until it came time to actually do it [the recipient family to use the embryos after they had been donated]. [...] mum, who knew about it all along, agreed that donation was a good idea, but didn't actually want a child to result because she just found that quite difficult because she knew the child as her grandchild and basically we were giving away the grandchild and really, she thought it's a very honorable thing to do, but at the end of the day, why couldn't we just have another baby? (donor)

However, the participant said that after her mother had met the child born from embryo donation, she had a better understanding of the arrangement. This participant further noted that her mother had commented to her that she should have considered the impact of embryo donation on extended family, which the participant said in the interview "I must admit, didn't really cross our minds".

Other participants highlighted their desire for little or minimum discussions with, and involvement of, extended family:

I know that in all the literature that they sent us they said that you should share that information with extended family, but I'm not really sure that they have a role, to be honest. (donor)

the extended families sometimes don't have the level of knowledge and understanding of the complex issues and they might think that that child is their grandchild or something like that. [....] if and when I get to donate my embryos [I'll tell my parents] that that's what I'm doing and if a child results. (donor)

Paying attention to the understandings and involvement of extended families of people involved in (or considering) embryo donation shows there is a general lack of support for this process, as experienced by the participants. In part this lack of support appears to relate to the lack of understanding around embryo donation, although it may also relate to extended family members' views of embryos and embryo donation.

Discussion

In order to explore embryo donation in Australia, this paper has drawn on a diverse sample of participants. On the one hand, the sample diversity of the present study is in some ways a limitation, in that it brings together people with different relationships to embryo donation (including those considering embryo donation, having already donated embryos, with embryos in storage, or donating eggs from which embryos were later donated), and people in different roles (including donors and recipients) and thus different experiences. On the other hand, this diversity is arguably a strength of the study, given that even across such diversity, relatively similar views about the meaning of embryos and views on relationships between donors and recipients were evident, particularly when compared to the studies from New Zealand and the United States. In the remainder of this discussion we consider one key finding from each of the four themes, linking these to implications for both policy and practice in the context of embryo donation.

In regards to the first theme relating to understandings of embryos, participants had varied views of embryos which may be viewed as being on a continuum rather than distinct. The ways in which people understand embryos has clear implications for decision making around embryos in storage (Goedeke et al. 2017). Those who viewed embryos as cells that have the "potential" to give someone a "chance" to have a child were more likely to be open to embryo donation. In contrast, those who viewed embryos as potential children or as children had two distinct views: either that the embryos needed to be born, even if it was into another family, or that they could not be donated as they were the children of the people who had created them. An additional point of differentiation was whether participants primarily viewed themselves as agentic subjects (i.e., with regard to making decisions about embryo donation), or whether they

viewed embryos as somehow imbued with agency (i.e., one participant stated that they wanted 'the *embryos* to give somebody else a chance'). This is similar to the tension identified by Millbank (2016) with regard to policies and fertility clinics viewing embryos as inherently deserving 'respect', while women in Millbank's study emphasized their own right to self-determination about stored embryos.

In terms of implications of this theme, and acknowledging that views on embryos can shift over time, it would appear important that people who are in the process of creating embryos are provided with opportunities to speak about their understandings of embryos, and connect this with possible future outcomes of stored embryos that are not used. This is not to suggest that donating embryos for family building should be promoted over other options, but rather to suggest that proactive conversations about the meanings of embryos may at least afford some people insight when it comes to decision making about remaining embryos. These findings link to previous Australian research, such as Hammarberg and Tinney (2006), who argue for the need for counseling for people with additional embryos, alongside other sources of education and information. As noted in the introduction to the paper, while the NHMRC guidelines (2017) recommend counseling, there are no mandatory requirements for the content of counseling meaning that people's views of embryos may not be covered.

In terms of the second theme, as with other studies (e.g. Blyth, Lui, and Frith 2017; Goedeke et al. 2015), some of the participants clearly viewed embryo donation as involving kinship connections between the donor and recipient families, in the form of an "extended family". This is similar to findings by Goedeke and colleagues (2015) in New Zealand, who suggest that an extended family arrangement allows for donors to have some involvement and interest in the lives of children born via their embryo donation, while maintaining some distance between the two families. Unlike other

studies in Australia where donors and recipients were matched via clinics and had little or no contact with each other (e.g. Millbank, Stuhmcke, and Karpin 2017), the participants in the present study more often sought out donors/recipients directly, and were more likely to be in direct contact with each other (including before the donation took place). While we are cautious about making conclusions given the small sample size, and given this finding may reflect the fact that some participants were recruited via an embryo donation network, we would nonetheless suggest this finding may reflect a move towards seeking donors/recipients outside clinics.

This finding may have implications for those people wishing to seek support and guidance around the process of embryo donation when selecting donors/recipients from sources other than clinics. While people may seek donors/recipients outside of clinics by choice or because their clinic does not undertake embryo donation, the lack of laws and policies in Australia relating to counseling and arrangements between donors/recipients potentially places people in a vulnerable position. Previous research into gamete donation has explored the use of online forums to seek donors and recipients (e.g. Freeman et al. 2016; Jadva et al. 2018), suggesting that such arrangements have implications for policy and that definitions and boundaries may be more blurred (such as between "anonymous" and "known" donation). The implications of the rise in people seeking donors and recipients in relation to embryo donation online needs further exploration.

With regard to the third theme relating to language, it would appear that in some ways the Australian context is similar to other contexts with regard to the terms used to describe recipient/donor family relationships (see Blyth, Lui, and Frith 2017; Collard and Kashmeri 2011; Goedeke et al. 2015). A key point of difference, however, was an apparent resistance to framing embryo donation as adoption. As such, while some of the

participants used kin terms to describe relationships, this was primarily limited to relationships between siblings, with donors positioned outside of standard kinship narratives (i.e., as aunties or uncles rather than as parents). Other research about embryo donation has also tended to find that recipients rather than donors are viewed as the parents of children born from donated embryos (e.g. Frith, Blyth, and Lui 2017; Goedeke et al. 2015; Millbank, Stuhmcke, and Karpin 2017), but has not paid much attention to alternative language used (an exception being Goedeke et al. 2015).

These findings suggest the need for further research in the Australian context examining how both donors and recipients negotiate the demarcations between embryos as life or potential life, and embryos as constituting kinship in some senses (i.e., for children), but not in others (i.e., donors not being parents). Whether or not this maps across to a resistance in the Australian context to seeing embryo donation as adoption requires further attention, given that internationally some donation programs specifically frame embryo donation as adoption, particularly the United States, but also New Zealand. Importantly, the ways in which the adoption of children is framed within different jurisdictions can also impact on the ways in which "embryo adoption" may be understood (e.g. as "open" or "closed" in the US and as "open" in New Zealand). If, as the data in the present study might suggest, this same rhetoric of "embryo adoption" may not be as palatable in Australia (where adoption of children is "open"), then further attention is required to other narratives that may help facilitate decision making about stored embryos (including the possible decision to donate for family building).

In terms of the final theme relating to the understandings and involvement of extended family, it could be suggested that while embryo donors in particular did not view donation as adoption, it might well be the case that their own families did. If, on the one hand, as per the first theme, embryos are viewed by some as cells, then their

donation is a matter of their exchange between parties, relatively free of kinship ties. If, however, embryos are viewed as children, then it is reasonable that they will be viewed as bringing with them kinship ties, that for some extended family members may mean that embryo donation becomes a family affair (though of course even in the case of adoption this is often not treated as a family affair by parents).

As is evident across the findings reported in this paper, embryos are never one thing. As a result, it is entirely possible that donors and recipients may hold differing views to those of their extended family members. Where this may become an issue, however, is if extended family members seek a relationship with children conceived via embryo donation (which may impact negatively upon the recipient family), or if extended family members strongly discourage people from donating embryos (which may mean their wishes about donation as opposed to destruction may be thwarted). As such, this would suggest the need for services to offer support and counseling to family members, with the aim of encouraging support for the decisions that those with embryos in storage and those who received donated embryos may make. Different to the participant in Millbank's (2016) research discussed above, this would not involve instructing potential donors to inform their parents, but rather involve making available the opportunity for counseling for extended family should potential donors feel that this may be of use. Again, while the NHMRC guidelines (2017) recommend counseling, extended family members are not mentioned in relation to this, nor are they covered elsewhere in the guidelines.

In conclusion, the study reported in this paper makes a useful contribution to the growing Australian literature on the topic. It specifically highlights some unique aspects of the Australian context that require ongoing attention, and highlights the need for a

more holistic and comprehensive approach to supporting those who seek to engage in embryo donation in Australia.

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