Decisions for the fate of frozen embryos: Fresh insights into patients’ thinking and their rationales for donating or discarding embryos

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BACKGROUND: In the final decision for the disposition of unused IVF embryos patients must choose between options involving either donation or destruction, and this decision must be made in a context where there is tension about the status of embryos (i.e. whether viewed as potential children or as a base for further development) and whether embryo donation is adoption or tissue donation. This study explored the emotive experience of making a decision for either the destruction or donation of unused embryos. METHODS: Thirty-three patients (9 women and 12 couples) who discarded embryos and 15 (7 women and 4 couples) who donated embryos were interviewed. Interview data were analysed with particular attention to elements of moral deliberation and use of analogy. RESULTS: Adoption and tissue donation metaphors were both identified, and further, a metaphor of pregnancy termination was identified and found to be highly influential in the decision to donate embryos. Contrary to the majority of current evidence, this study found that participants who discarded embryos emphasized the adoption metaphor while embryo donors emphasized the metaphor of pregnancy termination. For each group the decision was driven by awareness of the option they did not want. CONCLUSIONS: The pregnancy termination metaphor emerged as morally relevant and this holds implications for defining and discussing embryo discard in counselling and consent processes.

Keywords: IVF; frozen embryo; embryo donation; pregnancy termination; embryo destruction

Introduction

In recent years, public interest in the fate of human embryos cryo-stored in IVF clinics has increased. Most patients plan to use frozen embryos in further treatment (Svanberg et al., 2001; Hoffman et al., 2003), but many complete their families and are required to make a decision about the fate of unused IVF embryos within a time period pre-determined by clinic or public policy. Once a woman and her partner have determined that further treatment is no longer possible or desirable, the decision about the fate of frozen embryos typically involves selecting between options that commonly include discarding embryos, donating embryos to another couple (either anonymously or to a known recipient), or donating embryos to research. Although these options appear to offer a ‘smorgasbord’ of choices, the decision primarily involves choosing between the donation or destruction of embryos — or in the case of embryo research, both.

The decision to dispose of unused embryos is widely acknowledged to be an emotionally difficult one (Soderstrom-Anitilla et al., 2001; Svanberg et al., 2001; McMahon et al., 2003; Nachtigall et al., 2005), and one that was reported as involving time and various cognitive stages (Nachtigall et al., 2005). A couple’s conceptualization of their embryo is emerging as an important factor that contributes to the complexity and difficulty of the decision (de Lacey, 2005; Nachtigall et al., 2005). Emerging evidence suggests that embryos are believed to replicate a child or existing children (Laruelle and Englert, 1995; McMahon et al., 2000; Svanberg et al., 2001; de Lacey, 2005; Nachtigall et al., 2005; Parry, 2006).

Little is known about how patients choose between the available options, how they distinguish between them and how they rationalize their choice. Laruelle and Englert (1995) noted that a couple’s opinion on the respective importance of genetic lineage versus social parental bonding influenced how they chose between donation and destruction of their embryos. Couples who emphasized social bonding were more likely to donate embryos to another couple. Newton et al. (2003) found that embryo donors were more comfortable with sharing information, providing personal details and were more receptive to future contact with a child. Some patients were discouraged by thoughts of their child growing up unknown to them, unknowingly marrying a sibling, or by thoughts of a live child ‘knocking at their door’ sometime in the future (McMahon et al., 2000; de Lacey, 2005; Nachtigall et al., 2005). These are social aspects widely understood to be associated with the history of adoption.

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do:10.1093/humrep/dem056
Advance Access publication on April 7, 2007
There is debate about whether we should treat embryo donation as if it is adoption or medical tissue donation. This ethical question was recently raised and debated among counsellors attending the Australian and New Zealand Infertility Counsellors Association (ANZICA) mid-year workshop. Newton et al. (2003) found that patients most likely to donate embryos held views which likened embryo donation to infant adoption. In a comparison of embryo donors to oocyte donors, embryo donors were more likely to perceive they were giving away a child, rather than a cell (Soderstrom-Antitila et al., 2001). But Widows and MacCallum (2002) reported disparities between adoption and embryo donation parent selection procedures, suggesting that, while there are similarities, there are also important differences. Other researchers have concluded that embryo donation has a meaning that is uniquely different to either gamete donation or adoption (Nachtagall et al., 2005). In results reported previously the perception of an embryo having a childlike persona was associated with relinquishment for adoption and decisions not to donate embryos (de Lacey, 2005). But paradoxically, this meant that those patients who perceived their embryos as childlike actually authorized an option that resulted in the embryo’s destruction. This puzzling contradiction was noted in a previous study (Laruelle and Engle, 1995).

These findings assist a clinical understanding of the attitudes of patients but seem at odds with the notion of rational decision-making. Health care professionals across disciplines remain uncertain as to how to best support or assess decisions patients make for unused frozen embryos. In Australia and New Zealand psychosocial counselling prior to the donation of embryos to another infertile couple is the only compulsory action required of counsellors in the accreditation standards (The Fertility Society of Australia, 2002) whereas psychosocial counselling prior to embryo destruction by discard or research is optional. Clearly the process of determining an outcome for frozen embryos is a complex human experience, the depth of which has not yet been fully described. This paper explores the decision-making process of patients who authorized an outcome either to discard their embryos or donate them to another couple between January 2000 and May 2003, by analysing the transcripts of extensive patient interviews.

Materials and Methods
This study was conducted in South Australia where legislation restricts embryo storage to a maximum of ten years with no extension and counselling of prospective embryo donors and recipients is mandatory (South Australian Government, 1995). Ethical approval for the study was obtained from the Research Ethics Committee of the Adelaide Women’s and Children’s Hospital with which the clinic is affiliated.

Participants were not recruited as a representative sample but, rather, for their shared experience in making a decision about unused IVF embryos. Nevertheless, as varied a sample as possible was desired. Groupings of patients who had ended the storage of frozen embryos between January 2000 and May 2003 were sent a description of the study by the clinic and invited to contact the researcher. In all, 101 patients who had requested that their embryos be discarded and 36 patients who had requested that their embryos be donated to another couple were contacted. According to ethical and legal requirements regarding privacy, unless these patients indicated a willingness to participate in the study, the identities of patients remained unknown to the researcher. Embryo destinations (i.e. donation to another couple — ‘Donate’; donation to research — ‘research’; or discard — ‘Discard’) were treated as sampling categories (Glaser and Strauss, 1967) and sample size was determined by data saturation (a state where new data emerge and all categories are accounted for) (Holloway, 2005). Of these three major destinations offered for embryos, only two (Donate and Discard) were compared in this analysis. In the ‘Donate’ category, 11 interviews (7 women and 4 couples) were conducted and in the ‘Discard’ category, 21 interviews (9 women and 12 couples) were conducted (See Table 1 for the demographic composition of the participants). As dictated by law in South Australia, all participants were married or in stable de-facto partnerships, and no embryos that had been created with a donated gamete were donated to another couple.

Where possible, women and their partners were interviewed together, but a number of women were interviewed alone because their partners did not wish to participate or were unavailable. Interviews took place either in participants’ homes or by telephone. Participants were asked to describe their thoughts and feelings regarding having embryos frozen and making a decision for the fate of those that were unused. As their story unfolded, techniques such as open- and closed-ended questions specific to their related experience and hypothetical scenarios were employed to clarify and expand participants’ expression of their views (Gluck and Patai 1991). All interviews were recorded and transcribed verbatim.

Transcripts of the interviews were de-identified through the use of pseudonyms and checked for transcription accuracy. The data were then subjected to a process of coding and categorization to identify convergence and divergence within and between decision groups (Morse and Richards, 2002). This was combined with repeated readings of the whole transcript to maintain the context and develop and consolidate the emerging themes. Close attention was paid to how participants described their perceptions, what knowledge or moral values they drew upon and the connections they made to other issues or experiences. In particular, the use of analogies and metaphors were clear indicators of the use of existing moral codes or values (Lakoff and Johnson, 1980). As the analysis evolved themes were discussed with an advisor who had read a selection of transcripts. Points of conceptual difference were reflected upon and resolved by further discussion. This process verified the findings and established their trustworthiness (Morse et al., 2002).

Three major metaphorical frameworks emerged within which participants structured their decision to discard or donate frozen embryos to another couple. These findings are reported below with verbatim quotes from interview transcripts as examples of common concepts.

Results
The data in this study supported previous evidence that the decision to either donate or discard frozen embryos within the policy-dictated time limit for cryo-storage is extremely difficult and morally challenging. As in Nachtagall et al.’s (2005) study the decision process evolved gradually and involved philosophical thought, discussion and moral reasoning. The process involved, primarily, rejection of an option that was strongly opposed by one or both partners. For instance, some participants whose embryos were discarded had initially wanted to donate them but, after thinking this through thoroughly, they described embryo donation as something
they most emphatically ‘just could not do’. Discarding embryos was not described in terms of an active decision to destroy an embryo but, rather, as the unavoidable consequence of a decision not to donate it to another couple.

**Anne-Marie**: ['Discard' Group] To actually say ‘I’m going to destroy this embryo’ – that had taken so long to get there, that is still you know a child to me ... but the thing was to not donate. I couldn’t donate it.

On the other hand, the ‘Donate’ group held strong feelings about embryo destruction and were emphatic that discarding an embryo was ‘out of the question’ or ‘was never going to happen’!

**Jenny**: ['Donate' group] There wasn’t an option of discarding them [embryos], it just wasn’t an option for me – I felt strongly about that and Geoff did too. There was only one option [in the list] that made sense to me.

There were other participants in this group who similarly described embryo donation as a consequence of a decision not to discard it.

Between the two groups it was evident that there were contesting beliefs concerning what was perceived to be ‘the right thing to do’. The justification of a decision was commonly framed by metaphor — a common tool of human expression (Lakoff and Johnson, 1980) accepted as being principal tools for philosophical insight (Lakoff and Johnson, 1999). In this study, metaphors were evident in the everyday language employed by participants in their rationale. For example, some participants referred to ‘giving it away’, indicating a metaphorical reference to adoption/relinquishment, while others referred to ‘getting rid of it’ indicating metaphorical reference to pregnancy termination.

The various options had been carefully considered through visualizing possible scenarios and consequences, then considered and discussed using metaphors to help explain deeply

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**Table 1**: Demographic composition of patients in the study sample in relation to their decision to discard or donate frozen embryos

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Embryos discarded</th>
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<th>Embryos donated</th>
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<tbody>
<tr>
<td></td>
<td>Female</td>
<td>Male</td>
<td>Female</td>
<td>Male</td>
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<tr>
<td>Age (years)</td>
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<td>30–40</td>
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<td>40–50</td>
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<td>2</td>
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<tr>
<td>Number of frozen embryos</td>
<td>No. of couples</td>
<td></td>
<td>No. of couples</td>
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<tr>
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<td>7</td>
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<td>6–10</td>
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<td>&gt;10</td>
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<tr>
<td>Ethnic background</td>
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<td>(100%)</td>
<td>15</td>
<td>(100%)</td>
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<tr>
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<td>4</td>
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<td>25–75% quantile</td>
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<tr>
<td>More than 75% quantile</td>
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<td>IVF treatment outcomes</td>
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<tr>
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<tr>
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<td>5</td>
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<tr>
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<tr>
<td>No pregnancy</td>
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<tr>
<td>Non-treatment outcomes</td>
<td></td>
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<tr>
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<td></td>
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<tr>
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<td></td>
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<tr>
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<td>1</td>
<td></td>
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<tr>
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<td>1</td>
<td></td>
<td></td>
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<tr>
<td>Childless</td>
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<td>1</td>
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<tr>
<td>Miscarriage</td>
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<td></td>
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<tr>
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<td>0</td>
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<tr>
<td>Stillbirth</td>
<td>1</td>
<td>0</td>
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</tbody>
</table>

*Areas of residence contain a high proportion of people who experience relative disadvantage.

*Areas of residence contain a high number of people who experience lack of disadvantage.*
personal views. The final decision was referenced to wellbeing and described in subjective terms of what ‘felt right’.

The adoption metaphor
Regardless of their final decision, virtually all participants had considered what it would feel like to know there was a child born from their embryo ‘out there’, growing up in another family. In Western societies such as Australia, adoption usually involves the relinquishment of a genetically related infant to the care of genetically unrelated parents. When explaining why embryo donation was not morally possible for them, participants had engaged in rehearsing common scenarios. They imagined seeing someone in public that looked like them or their children and imagined contact being sought in the future by offspring unknown to them. For the ‘Discard’ group these situations were viewed negatively. They perceived a lack of control in knowing where their children were. The ‘Donate’ group had considered the same scenarios, but expressed confidence that whatever occurred in the future, they would be able to cope. These scenarios emerged from a metaphor of adoption but, while both groups had applied it in reasoning, there were major differences observed as to acceptance of or resistance to the metaphor. The ‘Donate’ group did not relate to this metaphor when describing their rationale and, in their reflections, identified features of the metaphor which they perceived did not fit embryo donation. These are described in detail below.

Within the metaphorical structure, the ‘Discard’ group saw the family as an organic unit, biologically bonded by genetics. They commonly described the embryo as having a ‘make-up that is us’ or as ‘already us together’. These participants commonly described their embryo in terms of their existing children, indeed, as if it were one of their children but whose development was suspended. Their belief that families are determined by genetics led them to project an image of the embryo as a ‘virtual’ child, a genetic ‘replica’ of an existing child. This directly echoes findings previously reported in several studies (McMahon et al., 2000, 2003; Soderstrom-Antitila et al., 2001; Nachtigall et al., 2005). ‘Real’ parents were believed to be those who contributed to the genetic makeup of the child. ‘Belonging’ and even ‘ownership’ through genetics were emphasized. For the ‘Discard’ group, embryo donation was metaphorically like relinquishing a child for adoption.

Sonia: ['Discard' group] that child [from a donated embryo] would always be in my mind. That I’ve got a child out there that I don’t know about. It would be as is, even though I’m not giving birth to it, it would be like I’d had a child I’ve adopted. In my mind it would be like that.

Although the majority of participants in the study were parents, the data from the one couple for whom treatment was unsuccessful and who remained childless suggested similar sentiment. Crystal and Ian believed it untenable for ‘someone else to have my child when I couldn’t’. This supports a previous finding that patients’ decisions for embryos were unaffected by whether they were parents or not (Lornage et al., 1995).

In contrast, in the ‘Donate’ group, a view of the family as a relational unit was emphasized. The nurturing role of parenting was emphasized over the genetic role and participants thereby positioned themselves at greater emotional distance from their embryos. The genetic relationship was not denied but, rather, was reduced to a biological fact.

Gary: ['Donate' group] We both said the parent is the person that raises the child. Biological stuff is medical history and that’s all.

Pam: ['Donate' group] Over time I’ve come to realise that the parents are really the people that bring up that child and nurture that child. And basically all we are is an egg and a sperm but you know it’s still hard because biologically it is our child.

The ‘Donate’ group also perceived that embryo donation creates two sets of parents and that there was an issue to be resolved about what criteria constituted ‘real’ parents. Whereas the ‘Discard’ group identified themselves as the ‘real’ parents in relation to frozen embryos, the ‘Donate’ group identified the recipient couple as the ‘real’ parents and themselves as donors of reproductive material. Bonney, for instance, described the perceived dichotomy of social relationships in embryo donation as ‘parents’ who develop the child and ‘people’ who gave the embryo an opportunity for life — a ‘head start’.

Despite the undeniable genetic connection, the ‘Donate’ group did not perceive donation as being metaphorically like adoption. They distinguished embryo donation from adoption in two ways:—first, the fact that they were not involved in gestating or birthing the embryo, and secondly, the difference in how they conceptualized the embryos i.e. as a seed, not as a ‘virtual’ child.

Gestation, birthing and attachment
When an embryo is donated, it is transferred to the uterus of the recipient infertile woman who, if it implants, carries the child to term and delivers it. This biological difference was a pivotal point for the ‘Donate’ group in their understanding of embryo donation. In their own parenting experience, they were aware of emotional attachment emerging from the embodied experience of pregnancy.

Caroline: ['Donate' group] When you’re pregnant you think about the child a lot, your hopes for the child, your dreams for the child, you know, all the things that you think, and the difference it’s going to make to your life and all through the pregnancy you’re thinking about this child because it’s right there in front of you all the time.

Therefore, women participants in particular believed that the woman who invested her body in the reproductive work of gestation was the child’s mother and that this motherhood determined ownership. A legislative framework in Australia which determines legal mothers through gestation and delivery supports this distinction.

Bonney: ['Donate' group] You do sort of look at it as being adoption, but the way you also look at it is this woman is actually going to have this child so she’s going to go through the ups and downs and the pregnancy and the sickness and she’s going to actually have this child. So as far as I’m concerned it’s sort of their child.
Mandy: ['Donate' group] whilst I know that biologically it’s mine, I don’t have an attachment to it, no, because I’m not carrying them and not giving birth to them and that sort of thing. I don’t feel I have any form of, you know, attachment to it [the embryo/child] emotionally.

These findings suggest that the beliefs of participants reflect wider community differences — observable in what is now called the nature/nurture controversy (de Melo-Martin, 2005). These differences in beliefs about what makes a parent a ‘real’ parent (i.e. whether genetics or social bonding are emphasized) confirm and elaborate findings reported by Laruelle and Englert that how patients ‘locate’ parenthood explains how they choose between donation or destruction. It also supports one reason proposed for the disparity in parent selection between adoption and embryo donation (Widdows and MacCallum, 2002).

Embryo status

Regardless of conclusion, all participants acknowledged the potential for their embryo to become a child. Even if the embryo was to them, visually, what one participant, Michael, described as a ‘multicellular organism’, the experience of having been pregnant and becoming parents was clearly influential because, as Michael put it: ‘we now knew what it [the embryo] becomes’.

While the ‘Discard’ group emphasized a projected image of an embryo as a child already, the ‘Donate’ group tended to describe embryos as inanimate cells or tissue ‘that had potential’ to be a child. Rather than describing an embryo in subjective terms as being like existing children, they tended to describe an embryo in more objective terms according to how they had observed it through the microscope at the time of embryo transfer.

Gary: ['Donate' group] I guess they are [children] – technically. But if you saw these photos it’s just a little blob. It looks like someone wiped up their white part of an egg or something and got the bubble blowing machine and 8 of the bubbles stuck together.

Embryos were defined as ‘seeding’ or ‘base’ material for further development by recipients. Embryos could become children but were not yet ‘real’ children in the same manner as their existing children.

Alida: ['Donate’ group] It’s a way of looking at it: we are not donating a child we’re just...it is at this stage tissue I guess and children come about from the personality that develops from both environmental as well as genetic [influences].

Laura: ['Donate’ group] They don’t look real and because they can’t do anything, they can’t tell you anything and they don’t cry or they don’t look like anything either. So I guess that makes it easier to say they’re not real.

In an earlier study it was suggested that embryo donors were more inclined than oocyte donors to consider their embryos as potential children (Soderstrom-Antitila et al., 2001). However it has also been reported that the conceptualization of embryos by patients is complex and may range from envisaging embryos as little more than tissue to envisaging them as independent children (Nachtigall et al., 2005). The findings presented in this paper strongly support Nachtigall’s findings and provide further insight into the conceptualization of embryos that underpin decisions for their fate. The findings of this study suggest that while embryo donors were aware of the potentiality of their embryos to become children, they nevertheless chose to construct and emphasise a view of their embryos as cellular and as ‘seeding’, rather than as childlike. This uncovers and refines subtle cognitive processes by which patients justify their moral inclination.

The tissue donation metaphor

Participants in this study referred to a concern about ‘waste’. This concept had several meanings — waste of personal effort, of sentimental value, of the intrinsic value of an embryo and of its potential for benefiting others. Virtually all participants emphasized the perceived value of their embryos. Women participants in particular referred to what we went through’ or the ‘trouble it took’ to ‘get’ or ‘make’ embryos in the first place. Embryos were referred to in terms that indicated they were highly valued and hard won.

Christine: ['Donate’ group] I couldn’t discard them. No way! I mean what with what I went through to get them. Why just throw them away and defrost them?

Geoff: ['Donate’ group] The way I looked at it, it was a waste if we just thawed them out because I mean there’s people out there that haven’t got kids at all and it was a chance for them to have them. It just seemed ridiculous to let them go to waste.

The importance of not wasting embryos was also noted in McMahon’s (2003) study in relation to the views of patients regarding embryo donation for medical research. The findings of this study suggest that the concept of waste is related to wider community understandings of the value of biological material and its preservation. Current rhetoric states that demand for donated organs outstrips ‘supply’. In Australia, public campaigns suggest that choosing not to be an organ donor is to waste beneficial biological material — there are even T-shirts bearing the slogan ‘Donate it, don’t bury it’. For one participant, Esme, this metaphorical relationship was expressed explicitly.

Esme: ['Donate’ group] There was no decision for me really. I’m the same with organ donation. Like I’m thinking ‘why go upstairs or downstairs after this life with everything when you don’t need it?’ You might as well give it to someone else.

This suggests that some participants are more comfortable with the metaphorical likeness of embryo donation to tissue donation.

Laruelle and Englert reported the contradiction apparent in their study that while embryos were perceived by some patients to be childlike, they were nevertheless discarded. In this study it was also apparent that the ‘Discard’ group perceived their embryos to be childlike. This seemed irrational, since embryos were so universally valued. But in the context of IVF, embryo implantation and survival was perceived by participants in the ‘Discard’ group to be a matter of chance. It was evident that many in the ‘Discard’ group had experienced
a pregnancy loss in the form of a miscarriage or blighted ovum. Several participants also referred to various uncertainties intrinsic to IVF treatment and their perception of embryo loss as normal.

Sue: ['Discard' group] There’s an aspect of uncertainty anyway. Would they have taken [had we put them back]? There’s still a chance factor in there because not all transfers take.

Louise: ['Discard' group] they certainly don’t always take anyway. They, you know, just die when you thaw them out quite often.

A study of early pregnancy loss (Wilcox et al., 1988) which determined that many pregnancies are expelled before they are detected supports this distinction of embryonic loss as biologically natural. Rather than being concerned about waste, the ‘Discard’ group perceived waste in reproduction (especially IVF) to be normal.

Michael: ['Discard' group] It was a decision we just put off. It was simply too hard. But then in the end we just decided to bite the bullet and let nature take its course.

For the ‘Discard’ group, loss of embryo potential was morally acceptable (if not desirable) because discarding them was emulating nature.

The pregnancy termination metaphor
By medical definition pregnancy termination is accompanied by the death of the embryo or fetus, and can be induced or spontaneous (Merriam-Webster Medical Dictionary, 2007). In this study participants in both groups described their perception of discarding embryos as being like pregnancy termination. This perception was also evident in the words of participants in McMahon’s (2003) study, where one participant is quoted as commenting: ‘I see this as a form of abortion’. There were two apparent meanings within the metaphorical framework of pregnancy termination.

For everyone in the ‘Donate’ group, discarding an embryo was analogous to a deliberate act to terminate its life. Participants in this group emphasized the deliberate nature of embryo creation, the potential for human life and beliefs that the embryo should be given an opportunity to implant. Within this framework embryo discard was metaphorically like terminating a planned pregnancy.

Mandy: ['Donate' group] we couldn’t sort of put up with the thought of, in essence, aborting the children.

The metaphorical framework of pregnancy termination held overtones of the embryo having been deliberately and systematically created, then deemed unwanted and its life potential undervalued and wasted. Implantation and the embryo’s development into a child after donation were not presumed. In fact, in one case where the embryos had all been transferred to a recipient and there was no pregnancy, the donors expressed relief at not having to face family complexities. However, the concept of having given the embryo what one participant referred to as, ‘a shot at life’ was clearly an important and highly influential factor.

Expression of beliefs about an embryo’s absolute right to life was explicit in the interviews of two ‘Donate’ group participants, who indicated that these beliefs arose from practising Catholicism. For the remaining participants in this group who expressed no religious affiliation, the rejection of embryo discard was explained in humanistic terms.

Caroline: ['Donate’ group] I’m probably a pro-lifer [anti-abortion] you know. I know that embryos…they’re not [alive] …there’s more the potential for life [there]. They’re not really viable without being implanted so I just thought we should give them a chance for life.

Pat: ['Donate' group] I feel guilty squashing a bug because you’ve squashed a living thing. This [embryo] is a life opportunity you know. Give it every chance that it can have.

Pam: ['Donate' group] One option was to discard them altogether and I couldn’t do that because even though it’s an embryo and it’s not very old, to me it’s life.

In the ‘Discard’ group, some women expressed regret that they were unable to give the embryo an opportunity to implant. Sarah (who had indicated a wish to donate her embryos) described feeling ‘forced to terminate the embryo’ when insufficient time was available for donation before the storage expiry date. A further two women (whose embryos were discarded by choice) expressed a lingering feeling that they had ‘killed’ their (potential) children. However, other ‘Discard’ group participants framed the consequences of their decision as a spontaneous pregnancy termination that was metaphorically like miscarriage. In this way, consistent with their perceptions of waste as outlined above, they were able to perceive discarding their valued embryo as a natural and normal process of loss.

Anne-Marie: ['Discard' group] For me it was much like the miscarriages [we had]. It’s like a sense of lost opportunity in that there was a kid that we’d never met. That’s the way I looked at it and I just sort of thought well yes, if I treat it like that, that’s the way I’ll handle it. Saying goodbye to this embryo was much the same except it was within our control.

While a decision to discard an embryo that is conceptualized as a child seems irrational, the findings of this study suggest that the way in which the decision and its consequences are framed is influenced by different, yet equally rational, cognitive processes.

Conclusion
Previous qualitative data has drawn largely upon the perspectives of participants who have not yet been able to come to a disposition decision. The strength of this qualitative study is that all participants had engaged in the cognitive processes of decision-making for embryos and finalized a decision. The study sample included participants across the broad sampling categories of the three major outcomes offered for embryos, two of which were compared in this analysis. They were therefore able to retrospectively articulate their rationale and provide valuable insight into various decision-making processes.
One element identified as a major factor in this process was the deeply personal conceptualization of embryos held by patients. This is congruent with Nachtigall’s (2005) findings.

Another major factor was the conceptualization of the consequences of a decision and in particular, the metaphor that framed it. The findings of this study suggest that the final disposition decision is characterized primarily by what patients find morally abhorrent, rather than a choice of the most attractive option, as it is driven by avoidance of the worst possible outcome.

In contemporary consent processes, health care practitioners have rightly assumed that a decision made about frozen embryos reflects an expression of free choice by a couple. But the findings of this study suggest that this is a limited view of autonomy and that there is more at stake in the final decision. Consent and counselling processes need to account for what the patient does not want to happen as much as they concentrate on which outcome the patient has authorized. This is a subtle shift, yet an important one in avoiding psychological harm to patients who hold strong moral principles about the sanctity of life of an embryo or about relinquishment of their offspring. If would-be embryo donors were refused donation on the grounds of psychological instability or genetic unsuitability, for instance, this would clearly confront them with the very consequences they have chosen to avoid at all costs — embryo destruction. An incident such as this was reported in an earlier paper (de Lacey and Norman, 2004).

Further, the findings of this study suggest that acting upon advance directives that indicate a preference to donate embryos to another couple, in the absence of secondary consent, may constitute harmful and risky practice.

Arguably, it would be best if consideration of the consequences for embryos was given before embryos are committed to cryopreservation. The question of how moral reasoning could be facilitated prior to the decision to cryo-store embryos and the outcome of treatment is yet to be explored.

Counselling practices in South Australia and elsewhere occur within a legislative or ethical framework that prioritises the best interests of a child. Therefore counselling practices are presently at least encouraged to assume practices from adoption (Widdows and MacCallum, 2002) and at most to publically promote embryo donation as ‘embryo adoption’ (Caplan, 2003).

In making a decision about the disposition of frozen embryos, this study found that those who favour embryo donation are least likely to relate to the metaphor of adoption. This contrasts with findings of previous studies, where congruency was found between embryo donors and views of embryo donation as adoption.

In the rationales presented by the ‘Donate’ group, the metaphor of adoption was morally irrelevant. In contrast to the ‘Discard’ group, they de-emphasized their parent status and emphasized the status of the embryo as reproductive seeding material, not a child. While acknowledging some likeness to adoption, they leaned towards defining embryo donation as a different form of gamete donation. Moreover, what was morally relevant to this group was the metaphor of embryo discard as pregnancy termination. This is a metaphorical structure rarely referred to as a concern for counselling in relation to either group of patients and has also been overlooked in research and policy development. For instance, in their study Laruelle and Englert (1995) explicitly avoided discussing embryo reduction with patients. In our haste to define embryo donation as either adoption or tissue donation, we have overlooked the possibility that patients’ decisions may lie in other metaphorical structures.

Study limitations

Whilst the qualitative approach taken was effective in uncovering the complexities of decision-making, there are limitations to this study. The number of respondents was small and, therefore, were the sample sizes. Nonetheless, the data in each group was saturated. A particular limitation is that only one participant couple was childless, thereby limiting the working hypothesis about decision-making to parents. While links between demographic variables, such as pregnancy loss, and the option selected for unused embryos were observed in this study, the relationship was unable to be assessed statistically due to the small sample sizes that are usual in qualitative studies. The effect of such variables on decisions about how to dispose of unused embryos is currently untested and could be pursued in future research.

Demographically (Socioeconomic profiling of the sample was undertaken using Socio-economic Indexes For Areas (Trewin 2001). The Index of Relative Socioeconomic Disadvantage is the most general measure of socioeconomic status across three variable levels containing data about education, occupation, income, living conditions, access to services including the internet, transport, English fluency and indicators that signal some disadvantage in an area, such as a high percentage of indigenous Australians. While this index is a measure of geographical area and not individual status, the extent to which social diversity was achieved in the non-probability sample was able to be assessed by extracting the median for the postcode of participants) the participants in this study were homogeneous across variables such as age, number of frozen embryos and, in particular, ethnicity. While balanced with regard to socioeconomic factors there is an under-representation of participants from ethnic backgrounds other than non-indigenous Australians. Thus the findings tend to reflect reproductive values and moral reasoning prevalent in Western societies. It is therefore uncertain to what extent this metaphorical thinking exists in other cultures. For instance, other reproductive practices such as surrogacy and child sharing are considered differently within non-Western cultures (Dickenson, 2001). Whilst the homogeneity of the sample restricts the fit of the findings to Caucasian residents of Western societies, it is possible that they may be transferable to other cultures residing within or separate to Western cultures (Lincoln and Guba, 1985) but this would need to be explored in further studies.

Acknowledgements
This study is supported by an Australian Clinical Research Fellowship (NHMRC 250472). I wish to acknowledge the assistance of Repromed
in this study, in particular, Anne Graham and Sharyn Sayers. I am indebted to the women and couples who willingly engaged in an interview with me.

I also acknowledge my appreciation of the support of Dr Margie Ripper and Professor Rob Norman in the conduct of this study. Finally I thank the anonymous reviewers whose perceptive advice influenced the revision of this paper.

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Submitted on September 19, 2006; resubmitted on December 12, 2006; accepted on February 13, 2007