



# Trust women to choose: a response to John A. Robertson's 'Egg freezing and Egg banking: empowerment and alienation in assisted reproduction'<sup>†</sup>

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## ABSTRACT

In 'Egg Freezing and Egg Banking: Empowerment and Alienation in Assisted Reproduction', John A Robertson responds to the American Society of Reproductive Medicine's statement that oocyte preservation should no longer be considered an experimental treatment. He explores the implications of this development, focusing on the potentially empowering impact of oocyte preservation as a means for women to preserve their fertility. He also engages with concerns about the possibility that such a development may raise issues of alienation. He highlights some of the potential problems that may emerge as women gain the capacity to store and either donate or sell any eggs they do not need for their own reproductive purposes. Much of his paper is valuable and considered, but in places, his views rest on assumptions about women's attitudes to their fertility, understanding of the technology, and relationship with their gametes that are open to dispute. This paper teases out some of these assumptions and puts pressure on them by drawing on the growing body of data about what women actually do think and feel about fertility issues. It focuses on two of his main concerns—that social egg freezing may give women a false sense of security and that women may be harmed if a market in eggs leads to their alienation from their

<sup>†</sup> Over a career spanning nearly 50 years, Professor John Robertson made a deeply valuable contribution to the field of law and bioethics, with his 1994 book *Children of Choice: Freedom and the New Reproductive Technologies* making a praiseworthy addition to the scholarship around reproductive medicine. His death earlier this year was a tremendous loss to the academic community, and the author would like to express her deepest respect for his work and his life.

gametes. Via this response to Robertson, I aim to redress the tendency often seen in discussions around women, infertility, aging, and empowerment to unquestioningly accept what I argue are stereotypes and assumptions about women's views and capacity to reason.

**KEYWORDS:** egg freezing, women's attitudes, empirical data, women's capacity to reason, autonomy, challenging assumptions

## I. INTRODUCTION

In 'Egg Freezing and Egg Banking: Empowerment and Alienation in Assisted Reproduction', John A Robertson responds to the American Society of Reproductive Medicine's (ASRM) statement that oocyte preservation should no longer be considered an experimental treatment.<sup>1</sup> Exploring the implications of this development, he addresses both the potential to empower women wishing to preserve their fertility and the possible issues of alienation this raises. In particular, Robertson highlights some of the potential problems that may emerge as women gain the capacity to store and either donate or sell eggs they do not need for their own reproductive purposes. Positing the development of egg banking as a growing sector within the infertility industry, Robertson raises timely concerns about the need to think about how the commercial dimension of this sector may affect practice around egg banking and the implications this may have for women.<sup>2</sup>

While much of his paper is valuable and considered, I want to respond to some aspects of his treatment of the issues raised by egg freezing for 'social' reasons, that is, the preservation of fertility against natural, age-related decline rather than as a result of illness (or the treatment for an illness). Much of what Robertson has to say on these issues is useful, and he raises concerns that certainly do need attention. However, some of his views rest on assumptions about women's attitudes to their fertility, their understanding of the technology, and their relationship with their gametes that are open to dispute. In this paper, I tease out some of these assumptions and put pressure on them by drawing on the growing body of data about how women actually think and feel about fertility issues. I focus on two of his main concerns. The first is that social egg freezing may operate as an insurance policy that does not pay out, giving women a false sense of security. His second concern turns on the consequences of women becoming able to donate or sell their eggs more easily, and essentially able to deal with them like private property, leading to 'alienation'.

Beyond merely responding to Robertson, I aim to redress the frequent tendency in discussions around women, infertility, aging, and empowerment to unquestioningly accept stereotypes and assumptions about women's views and decision-making capacity. To interrogate these assumptions, this paper draws on the considerable amount of data about women's motivations to postpone childbearing, the effect this has on their careers, their understanding of fertility decline, and their attitudes toward their gametes now available. My aim is to offer a more nuanced and accurate picture of women's

<sup>1</sup> Practice Committees American Society of Reproductive Medicine (ASRM) and the Society for Assisted Reproductive Technology, *Mature Oocyte Cryopreservation: A Guideline*, 99 FERTIL. STERIL. 37 (2013).

<sup>2</sup> John A. Robertson, *Egg Freezing and Egg Banking: Empowerment and Alienation in Assisted Reproduction*, 1 J. L. & BIOSCI. 113 (2014).

situation and to build a more evidence-based foundation from which to draw conclusions as we construct a response to the emergence of egg freezing as an increasingly accessible and popular means by which women can potentially turn back the biological clock, which—as they are so often reminded—keeps on ticking. In particular, I dispute the view that restrictions should be placed on access to egg freezing if it is to be used for ‘social’ purposes. I argue instead that women who are presented with full, accurate information are not only fundamentally capable of but also entitled to make their own choices about their bodies. To do otherwise and so effectively fail to trust them to make their own decisions about the reproductive risks they run leads us down a paternalistic path we would do better to avoid.

## II. AGE-RELATED FERTILITY DECLINE

The exact point at which a woman will no longer be able to conceive varies. Nonetheless, all women will be approaching infertility by the time they are in their mid-40s,<sup>3</sup> despite some exceptional cases of women conceiving in their late 40s and even 50s.<sup>4</sup> It is widely but wrongly believed that this fertility decline happens quite suddenly during a woman’s mid-30s. In fact, the decline is gradual as women proceed through their 20s and 30s and, with the decline then accelerating from the mid-30s onwards.<sup>5</sup> This happens largely because the store of ova, with which a woman is born, decreases as she ages, as does the quality of those eggs, reducing the likelihood of both successful fertilization and development.<sup>6</sup> In addition, for every year she postpones, a woman faces more chances to contract infections or develop conditions that adversely affect fertility, compounding this decline.<sup>7</sup>

IVF can help some women to conceive despite this decline in the number of eggs. However, the age of the egg itself affects success rates. A woman in her early 30s using her own eggs has a 40%–50% chance that IVF will produce a live baby, dropping to 27% at 38 and 20% by the time she is 40. By the time she is in her early to mid-40s, this chance has dropped to 5%.<sup>8</sup> However, if she uses younger eggs supplied by a donor, her chance of a successful IVF pregnancy remains fairly stable, at around 50%–60%, right up until her mid-40s.<sup>9</sup> From this point onwards the chances of her conceiving decrease

<sup>3</sup> See eg John W. McDonald et al., *Age and Fertility: Can Women Wait until Their Early Thirties to Try for a First Birth?* 43 J. BIOSOC. SCI. 685 (2011); but compare Jean Twenge, *How Long Can You Wait to Have a Baby?*, THE ATLANTIC, June 19, 2013.

<sup>4</sup> See variously: Advanced Fertility Center of Chicago, *Fertility After Age 40 - IVF in the 40s*, <http://www.advancedfertility.com/fertility-after-age-40-ivf.htm> (accessed Mar. 28, 2017); David B. Dunson et al., *Changes with Age in the Level and Duration of Fertility in the Menstrual Cycle*, 17 HUM. REPROD. 1399 (2002); Reproductive Endocrinology and Infertility Committee et al., *Advanced Reproductive Age and Fertility*, 33 J. OBSTET. GYNAECOL. CAN. 1165 (2011); American Society for Reproductive Medicine, *Age and Fertility: A Guide for Patients* (2012), [https://www.asrm.org/uploadedFiles/ASRM.Content/Resources/Patient.Resources/Fact\\_Sheets\\_and\\_Info\\_Booklets/agefertility.pdf](https://www.asrm.org/uploadedFiles/ASRM.Content/Resources/Patient.Resources/Fact_Sheets_and_Info_Booklets/agefertility.pdf) (accessed Sept. 29, 2016).

<sup>5</sup> McDonald et al., *supra* note 3.

<sup>6</sup> Malcolm J. Faddy et al., *Accelerated Disappearance of Ovarian Follicles in Mid-Life: Implications for Forecasting Menopause*, 7 HUM. REPROD. 1342 (1992). Although note there is some research that challenges the idea that a woman’s entire complement of ova are with her at birth.

<sup>7</sup> Susan Bewley et al., *Which Career First: The Most Secure Age for Childbearing Remains 20-35*, 331 BMJ 588 (2005).

<sup>8</sup> *Id.*

<sup>9</sup> *Id.*

markedly regardless of the age of the egg used; very few women in their late 40s and onwards will conceive, even with donor eggs.<sup>10</sup>

A woman conceiving in her late 30s and 40s also faces a much higher risk of miscarriage, which appears to be related to the age of her eggs. It is difficult to accurately determine this risk level generally,<sup>11</sup> but we do know from IVF data in the USA, collected by the Centers for Disease Control, that the miscarriage rate for women who have undergone IVF and had the pregnancy confirmed by ultrasound is higher for older women. For women aged 36 or younger, 15% of cycles ended in miscarriage, rising to 29% for woman aged 40, and over 50% of cycles resulted in miscarriage for women aged 44 and over.<sup>12</sup> This rise can be attributed in large part to the increased incidence of chromosomal abnormalities in the woman's eggs as she ages.<sup>13</sup> For a woman aged 30, about a quarter of her eggs will have chromosomal abnormalities. By age 38, around 50% of her eggs will have abnormalities, while the figure is as high as 90% for women aged 44 and over.<sup>14</sup>

### III. EGG FREEZING AND THE ASRM STATEMENT

These limitations on women's fertility are the reason some turn to cryopreservation of their ova to increase their chances of conceiving with their own eggs later in life. Until fairly recently, the slow freezing techniques used for cryopreservation of ova often led to damage<sup>15</sup> and consequently low conception rates. It is only in the last decade or so that the technique of vitrification, or 'flash freezing', has produced much better results. By December 2012, around 18,000 eggs had been flash frozen in the UK, 580 embryos created, 160 cycles of IVF undertaken, and 20 live births resulted.<sup>16</sup> Vitrification enables mature ova to be preserved once harvested without producing the damaging crystals that other, slower forms of freezing produced.<sup>17</sup> It was the emergence of this technique in the late 1990s that meant egg freezing became a much more viable option for women looking to preserve their fertility. It has the particular benefit of not requiring the woman to choose a partner or sperm donor to inseminate her ova prior to freezing (as is the case with stored embryos), leaving her the sole arbiter of what may be done with those frozen gametes.

As increasing success with thawed, vitrified eggs began to be reported, concerns emerged about the use of the technique by women to extend their fertility (as opposed

<sup>10</sup> Nichole Wyndham et al., *A Persistent Misperception: Assisted Reproductive Technology Can Reverse the "Aged Biological Clock"*, 92 FERTIL. STERIL. 1044 (2012).

<sup>11</sup> Twenge, *supra* note 3.

<sup>12</sup> Centers for Disease Control and Prevention, American Society for Reproductive Medicine, Society for Assisted Reproductive Technology, *2013 Assisted Reproductive Technology National Summary Report*, 22 (Oct. 2015), [http://www.cdc.gov/art/pdf/2013-report/art\\_2013\\_national\\_summary\\_report.pdf](http://www.cdc.gov/art/pdf/2013-report/art_2013_national_summary_report.pdf) (accessed Sept. 29, 2016).

<sup>13</sup> Although note paternal age also plays a role.

<sup>14</sup> Advanced Fertility Center of Chicago, *Female Age and Chromosomal Abnormalities (Aneuploidy) in Eggs and Embryos*, <http://www.advancedfertility.com/age-eggs-chromosomes.htm> (accessed Sept. 20, 2016).

<sup>15</sup> Centre for Reproduction and Gynaecology Wales, *Egg Freezing (Fertility Preservation)*, [http://crgw.co.uk/information.php?t=Egg-freezing-\(fertility-preservation\)&s=Treatment-&Services&id=61](http://crgw.co.uk/information.php?t=Egg-freezing-(fertility-preservation)&s=Treatment-&Services&id=61) (accessed July 27, 2016).

<sup>16</sup> Human Fertilisation and Embryology Authority, *Freezing and Storing Eggs*, <http://www.hfea.gov.uk/46.html#6> (accessed 29 Sept., 2016).

<sup>17</sup> Practice Committees, *supra* note 1, at 37.

to its use when ovarian tissue or eggs are likely to be damaged by disease or the treatment of disease, such as cancer). In 2009, the ASRM called for fertility clinics to refrain from offering egg-freezing services to healthy women.<sup>18</sup> Four years later, the ASRM released another statement in which it pronounced vitrification no longer experimental when used for medical reasons,<sup>19</sup> but this pronouncement did not extend to 'social' uses, despite the fact that the ASRM stated that

There is good evidence that fertilization and pregnancy rates are similar to IVF/ICSI with fresh oocytes when vitrified/warmed oocytes are used as part of IVF/ICSI for young women. Although data are limited, no increase in chromosomal abnormalities, birth defects, and developmental deficits has been reported in the offspring born from cryopreserved oocytes when compared to pregnancies from conventional IVF/ICSI and the general population.<sup>20</sup>

It is to this second ASRM statement that Robertson responds in his paper, noting that

initially the ASRM's hedge on freezing as social insurance smacked some women as less consumer protection than old-fashioned, male-dominated medical paternalism. Women were quick to argue that they should be informed of that option so that they could make their own choice.<sup>21</sup>

The ASRM's reticence about social reasons for freezing rested on its belief that the technology was not yet sufficiently safe or efficacious to be used for such purposes. For example, one cited study showed that for women younger than 34, the implantation rate was 16.7% and the pregnancy rate per thaw cycle was 24.3%. By contrast, for women aged over 38, this dropped to an implantation rate of 10.8% and only 16.1% per thaw cycle would achieve pregnancy.<sup>22</sup> It was on the basis of these kinds of figures that the ASRM considered that while oocyte preservation 'may appear to be an attractive strategy' to allow women to have biological children later, 'data on the safety, efficacy, cost-effectiveness, and emotional risks of elective oocyte cryopreservation are insufficient to recommend elective oocyte cryopreservation'.<sup>23</sup> They were concerned that marketing of egg freezing to women might give them 'false hope' and 'encourage women to delay childbearing'.<sup>24</sup> This was a particular concern in relation to older women, who were regarded as the most likely to want to take up the technology, given the very low rates of success for women who cryopreserve eggs after the age of 38.<sup>25</sup>

<sup>18</sup> The Practice Committee of the Society for Assisted Reproductive Technology and the Practice Committee of the American Society for Reproductive Medicine, *Essential Elements of Informed Consent for Elective Oocyte Cryopreservation*, 88 FERTIL. STERIL. 1495 (2007).

<sup>19</sup> Practice Committees, *supra* note 1.

<sup>20</sup> *Id.*, at 37.

<sup>21</sup> Robertson, *supra* note 2, at 122, citing Sarah E. Richards, *Why I Froze My Eggs (And You Should, Too)*, WALL STREET JOURNAL, May 4, 2013, at C1.

<sup>22</sup> Veronica Bianchi et al., *Oocyte Slow Freezing Using a 0.2-0.3 M Sucrose Concentration Protocol: Is It Really the Time to Trash the Cryopreservation Machine?* 97 FERTIL. STERIL. 1101 (Level II-3) (2012).

<sup>23</sup> Practice Committees, *supra* note 1, at 41.

<sup>24</sup> *Id.*

<sup>25</sup> *Id.* There are also concerns to be raised about how well founded the ASRM's position was in relation to older women postponing, as in two of the four major studies it cited, the average age of women was actually 35, and the cohorts considered were women <43 and <42 years (Practice Committees, *supra* note 1, Table 1) and

The ASRM did not suggest banning the use of the technique for social reasons, but was not supportive of its use due to its concerns about potential harms to women who relied upon it to extend their fertility. Therefore, it took the stance of recommending that women seeking to use this technology should be ‘carefully counseled’.<sup>26</sup> The clear message was, however, that the need for medical treatment would outweigh the risks of egg freezing, a women’s desire to postpone conceiving probably would not, and so women should ideally be protected from taking on those risks.

### A. Robertson’s concerns

Robertson’s response to the ASRM statement is complex and wide ranging, and I focus here only on his points in relation to egg freezing for social reasons, and the possible emergence of a market in ova if women begin to create banks of stored eggs. This latter development raises, for him, issues around the legal control of these eggs, and women’s options should they wish to donate, store, or sell them. Three core concerns around these issues emerge from Robertson’s paper, and it is on these that I concentrate. First, he argues that in deeming egg freezing no longer experimental, the ASRM risks contributing to the promotion of the technology as an option to extend fertility which may encourage women use and rely upon what, for some, may ultimately prove to be an expensive and ‘ineffective service, particularly if they are in their mid-thirties or older, when their eggs will have already aged considerably’.<sup>27</sup> His second, and related, concern is that while the availability of egg freezing may be empowering for women as a means to extend their fertility, it may also create unwanted pressures. The third issue he raises relates to alienation as a result of the ‘the donation or sale of unused eggs to infertile women, egg bankers, and researchers’.<sup>28</sup> By this he means that the opportunity to store frozen eggs

may... distance [women] from the meaning of producing the female germ cells so necessary for reproduction by breaking the bond that exists between women as producers and consumers of their body’s reproductive inputs, thus raising the commodification issues that weave though the ethics of assisted reproduction.<sup>29</sup>

I now respond to these three concerns in turn; most particularly, I question his conclusions on how women derive a false sense of security from egg freezing that ultimately disempowers them and whether the alienation he sees happening as a result of freezing is, in fact, problematic.

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the ASRM itself noted that the data on which the guideline was based ‘derives from experience using oocytes obtained from healthy, young oocyte donors under the age of 30 years, which have been vitrified for a limited duration. Therefore, such data cannot be extrapolated to other clinics, different patient populations (particularly older women), and to programs that utilize different cryopreservation protocols’ (Practice Committees, *supra* note 1, at 39). Further, the ASRM did not control for the age of the eggs used in the studies cited, casting more doubt on the relevance of the data cited.

<sup>26</sup> Practice Committees, *supra* note 1, at 41.

<sup>27</sup> Robertson, *supra* note 2, at 116.

<sup>28</sup> *Id.*, at 113.

<sup>29</sup> *Id.*, at 116.



#### IV. GIVING WOMEN A FALSE SENSE OF SECURITY

Robertson rightly points out that while women were quick to regard the ASRM's caution about social egg freezing as paternalistic, its concern was actually in relation to clinics selling egg freezing when there is still too little certainty about its efficacy, and he is himself concerned about women being sold an ineffective service.<sup>30</sup> In the USA, where the industry is not tightly controlled, this would seem particularly reasonable. However, it appears less reasonable when, as Robertson comments, one notes that the ASRM supported egg freezing for women undergoing medical treatment to avoid losing their fertility from radiation therapy or similar treatments that carry a risk to their ability to conceive, but felt that the same data did not support the technology's use to avoid the risk of age-related decline resulting from a woman's decision to put off conception in the face of social and cultural barriers to reproduction.<sup>31</sup> So his first point is that the ASRM's stance is inconsistent on risk.<sup>32</sup>

Setting that aside, the key point, which the ASRM was trying to get across and which Robertson emphasizes in response to those who charged it with paternalism, was that women need sufficient, accurate information so that they can make an informed choice about social egg freezing. The ASRM's chief concern that such information may not necessarily be forthcoming from clinics is reflected in its guidelines, which state that

Patients who wish to pursue this technology should be carefully counselled about age and clinic-specific success rates of oocyte cryopreservation vs. conceiving on her own and risks, costs, and alternatives to using this approach.<sup>33</sup>

There is little that is problematic with this. I readily concur with Robertson and the ASRM on the need to ensure women are not *mised* about the benefits and risks, which is, as Heidi Mertes writes, a real issue in relation to egg freezing for social reasons:

egg freezing is often misleadingly portrayed as an insurance policy instead of a last resort. Each frozen egg cell represents a small chance of a healthy live birth, and those chances decline fast after a woman's 35th birthday. Rather than an insurance policy, women are instead buying lottery tickets. If they buy a lot of tickets (that is, if they are able to bank a large number of good quality egg cells), they have a reasonable chance of success, but uncertainty is a fundamental feature of the system.<sup>34</sup>

My concerns about Robertson's view arise instead when he begins to discuss how he believes women will respond to and act upon the information they receive about egg freezing. In suggesting women will obtain a 'false sense of security' from egg freezing, he implies they will not *get what they expect*; they believe they are gaining a security that is in fact illusory. This effectively implies that they are mistaken, or misunderstand the (limited) capacity of the technology to extend their fertility.

This implicit assumption is evident in his description of how women will approach egg freezing. He states that the best time for women to freeze their eggs would be in

<sup>30</sup> *Id.*, at 132-34.

<sup>31</sup> *Id.*, at 133.

<sup>32</sup> *Id.*, and see ASRM, *supra* note 1.

<sup>33</sup> Practice Committees, *supra* note 1, at 41.

<sup>34</sup> Heidi Mertes, *Company-Sponsored Egg Freezing: Perk or Coercion?* BioNews, Oct. 27, 2014.

their early or late 20s, at which point many would have completed their education and started on a career, but their eggs will still be relatively viable. However, even though this would be the best time to freeze to extend their fertility, it offers the unsubstantiated assertion that ‘women might think that they can be complacent about declining fertility until their 30s when it would be wiser to freeze in their 20s and in any case avoid other threats to fertility’.<sup>35</sup>

To this he adds that ‘the optimism bias’ of younger women (those in their 20s)

may make the risk of future infertility seem quite distant. Surely, they say to themselves, they will find a man and settle down in the next few years, so why undergo the intrusion and cost of egg freezing? Only the most risk averse or those with a yen for the latest technological fix, may be willing to take the hormones and pay out cash for ‘egg insurance’ that they may never need to cash in.<sup>36</sup>

But as they reach their late 30s, their perspective may start to shift, he says, leading them to take ‘a cold look at the facts’ which may ‘lead them to stock the egg freezer’. Such women ‘may become acutely aware of the loss they will experience if they postpone conception too long’, and as they age, their anxiety will grow. Once in their late 30s, they will feel ‘internal pressure’ to freeze their eggs, and doing so ‘may still their anxiety and allow them to get their workplace, relational, or psychological states in order’. However, as he emphasizes, the eggs they freeze ‘may not give them the fertility they hope for’ due to the state their eggs may now be in. Instead, he suggests that the main benefit to the anxious woman in her late 30s who freezes her eggs seems to be mostly that she can regain sufficient calm to get her life in order.<sup>37</sup>

He takes Sarah Elizabeth Richard, a woman who wrote about freezing her eggs between the ages of 36 and 38 and called it ‘the best investment [I] ever made’, as exemplar of this, stating

One is struck... by how she oversells the technology as relief from the angst of finding the right mate and having children.<sup>38</sup>

Richards does rhapsodize about the benefits of egg freezing, calling it ‘the most powerful gender equalizer of all—the ability to control when to have children’ and a technology that ‘stopped the deep sadness that without a reliable partner she was losing her dream of being able to have children’.<sup>39</sup> Robertson is right when he suggests that her chances of successfully defrosting and using those eggs are very small, and perhaps it is true, as he says, that because she froze her eggs in her late 30s, the \$50,000 she paid has probably bought her an ‘ineffective way to quiet the ticking fertility clock’.<sup>40</sup> However, his position that women draw a false sense of security is clear when he concludes

<sup>35</sup> Robertson, *supra* note 2, at fn. 27.

<sup>36</sup> *Id.*, at 121.

<sup>37</sup> *Id.*

<sup>38</sup> *Id.*, at 122.

<sup>39</sup> Richards, *supra* note 21; *Talk of the Nation: No Longer Experimental, Egg Freezing May Appeal to More Women* (NPR radio broadcast May 9, 2013), [www.npr.org/programs/talk-of-the-nation/2013/05/09/182313974/?showDate=2013-05-09](http://www.npr.org/programs/talk-of-the-nation/2013/05/09/182313974/?showDate=2013-05-09) (accessed Feb. 21, 2014) (radio broadcast).

<sup>40</sup> Robertson, *supra* note 2, at 122.



that ‘none should think this form of insurance will cash out with the child that they want’.<sup>41</sup> There have, of course, been numerous children born as a result of IVF using frozen (both slow-cooled and vitrified) eggs.

Two implicit assumptions of women’s approach to egg freezing emerge here. First, that the vast majority of women who freeze will do so at a suboptimal time. They will leave it too late, and so waste their money or have their ill-founded hopes dashed. They will, essentially, make a poor decision about when to freeze because given the timing, they are unlikely to achieve much by freezing their eggs, and therefore their choice will almost always have been unwise.<sup>42</sup> I do not wish to attribute views to Robertson that he may not hold, but I do want to argue that it is crucial to challenge the implicit premise in the picture offered (and Robertson is not the only one to offer it) that women will not manage to effectively navigate the risk/benefit analysis they must confront. The message is that women will choose poorly.

The second assumption that emerges is that these women will have a *false* sense of security. His highly critical view of Sarah Elizabeth Richards’ fervent belief in the power of egg freezing is particularly telling on this:

Here’s the rub. \$50,000 for egg freezing at 37 is an expensive and probably ineffective way to quiet the ticking fertility clock. If a woman is listening carefully, this move will only lessen the thrum, not quiet it altogether because the viability of late-30s eggs is much less than that of eggs frozen in one’s 20s or even early 30s. (They can also buy solace at a lesser price than Richards paid). None should think this form of insurance will cash out with the child that they want.<sup>43</sup>

Here, as earlier, Robertson essentially suggests that she miscalculated the risks and benefits. She got it wrong (and did not even cut a good deal in doing so). In presenting this response to Richards, he means to support his earlier points that women will be unlikely to make a good decision in the context of the risks and benefits of freezing, and will rely unwisely.

The message his picture sends is that women will *mistakenly* rely on their frozen eggs (or the possibility of freezing them in the future) because they do not appreciate how low their chance of being helped by the technology actually are. Therefore, any feeling of security they gain from freezing their eggs is ill founded. Again, the deeper message here is that women either lack understanding of the technology or lack the ability to weigh its risks and benefits.

These two assumptions are intertwined, of course, because the decision to rely on egg freezing will sometimes be tied to understanding of, and decisions about, *when* to freeze. They cannot sensibly be teased apart in a paper of this length, and so I will deal with together as a general perception that women are likely to make unwise or irrationally optimistic choices when they freeze their eggs and postpone conception. There are substantial problems with these assumptions, and I will demonstrate that are

<sup>41</sup> *Id.*

<sup>42</sup> It is worth noting that the woman here cannot get it right, as those who freeze at the optimal time will, he considers, probably not need the insurance policy on which they have spent their money. But of course, this is the case with most insurance, and indeed what most people hope when they take it out—that they will never need it.

<sup>43</sup> Robertson, *supra* note 2, at 122.

likely to be inaccurate in relation to many women by drawing on the considerable information available about what women do in fact understand about their fertility, fertility treatment, and their attitudes toward it.

### A. Challenging the assumptions

On the assumptions around women's decisions about *when* to freeze, suggesting that they will often choose a suboptimal age at which to do it might rest on a range of beliefs about how they decided when to preserve their ova. It may reflect a belief that they do not fully appreciate that their fertility will decline (Robertson's 'optimism bias' of women in their 20s), or that they do not understand the importance of freezing early, or that they do not appreciate the need to take fertility-preserving steps at all—that they have flawed understanding of how female fertility decline occurs. There is no question that some women may lack such appreciation, particularly of the need to freeze their younger eggs. But if it is the case that many women *do* understand either this or at least the need to do *something* to preserve their fertility because it will decline, then the assumption that their decision to freeze when they actually do is unwise must be rejected.

Given the data we have on women's understanding of fertility decline, the latter belief is unlikely to be true of most women. Age-related fertility decline is regularly in the news, while popular magazines cover the topic with considerable zeal.<sup>44</sup> Women's understanding of the specifics is imperfect, but the general message appears to have found its target. While some surveys indicate that women underestimate the impact of age on fertility,<sup>45</sup> many others suggest that women are very well aware that their fertility will decline in their 30s.<sup>46</sup> One survey by Tough et al found that 70% of women surveyed were aware that their fertility would decline with age, and half knew that age increased the likelihood of miscarriage and stillbirth.<sup>47</sup> A survey of 1000 women aged between 20 and 40 conducted by the British Pregnancy Advisory Service found that

Nine out of 10 women (89%) were aware that the risks of pregnancy increased with age, both for mother and foetus, and for the majority (65%) this was a factor in their decision making around when to try for a baby.<sup>48</sup>

It reported further that

Many women were concerned they were 'running out of time' to have children, including a third (32%) of women aged 25–29, and more than one in 10 (12.4%) of the youngest

<sup>44</sup> See eg Twenge, *supra* note 3; Yakoub Khalaf, *Cassandra's Prophecy and the Trend of Delaying Childbearing: Is There a Simple Answer to this Complex Problem?* 27 REPROD. BIOMED. ONLINE 17 (2013).

<sup>45</sup> Wyndham et al., *supra* note 10.

<sup>46</sup> See eg Twenge, *supra* note 3; Khalaf, *supra* note 44; Suzanne Tough et al., *Factors Influencing Childbearing Decisions and Knowledge of Perinatal Risks among Canadian Men and Women*, 11 J. MATERN. CHILD HEALTH 189 (2007). The investigators interviewed 1006 women and 500 men. For a more in-depth exploration of the data on women's knowledge of fertility decline, see Imogen Goold, *Postponing Motherhood: Ethico-Legal Perspectives on Access to Artificial Reproductive Technologies*, in OXFORD HANDBOOK OF REPRODUCTIVE ETHICS (Leslie P. Francis ed., 2017).

<sup>47</sup> Tough et al., *supra* note 46.

<sup>48</sup> British Pregnancy Advisory Service (BPAS), *Becoming a Mother: Understanding Women's Choices Today* (Nov. 2, 2015) <https://www.bpas.org/media/1698/becoming-a-mother-understanding-womens-choices-today.pdf> (accessed Sept. 29, 2016).

women (20–24) polled. That women who are at their most fertile are concerned speaks to the prevalence and power of current messages around fertility and infertility.<sup>49</sup>

### As BPAS themselves commented on their study

far from sleepwalking into infertility, women are aware of their reproductive window and more than 60% feel there is now pressure on women to have a baby before they are ready to do so.<sup>50</sup>

Based on this, we should not assume that women do not appreciate that their fertility will decline, and it is inaccurate to imply an ‘optimism bias’ to women in their 20s. Most are aware, and most appreciate the need to do something about it. Richards found this herself in the course of her numerous conversations with women about fertility, during which she was surprised to discover

how much more common it was for younger women to think about freezing their eggs.... In the future, a woman who registers for law or medical school—and knows ahead of time that she will spend her prime baby-making years in the trenches—would ask for loans for tuition and egg freezing at the same time. Or she might ask a boyfriend who wants to wait a few years to start a family to pony up for the procedure. In either scenario, she would assume control of her fertility from the outset, rather than freeze her eggs as a frenzied reaction to her life’s not having unfolded the way she imagined.<sup>51</sup>

Whether, however, most women fully understand the need to *freeze their eggs* earlier is another matter. Data on this are difficult to find, and I have been unable to locate any studies that focus on this specific question. There are recent surveys that show that it is *younger* women who are possibly more interested in egg freezing. Camille Lallement et al found in one survey of nearly 1000 women that 83% were aware of egg freezing and 46% were interested or potentially interested in technology. They reported that ‘characteristics significantly associated with intention to freeze... were being single, age under 35, childlessness, and a history of infertility’, commenting on the counterintuitive nature of this finding:

As fertility declines with age, interest in the procedure might be expected to similarly increase. It was therefore surprising to observe that younger women appeared to be more supportive of it, because they are not yet confronted with age-related fertility decline and have time to plan.<sup>52</sup>

The Liminal Space (via ICM) surveyed 1110 women as part of their educational installation event, *Timeless*, which explored the issues around egg freezing. Of these, 11%

<sup>49</sup> *Id.*

<sup>50</sup> *Id.*

<sup>51</sup> Richards, *supra* note 39.

<sup>52</sup> Camille Lallement et al., *Medical and Social Egg Freezing: Internet-based Survey of Knowledge and Attitudes among Women in Denmark and the UK*, 95 ACTA. OBSTET. GYNECOL. SCAND. 1402 (2016). They noted that their findings agreed with those of other similar surveys, such as that by Dominic Stoop et al., *A Survey on the Intentions and Attitudes towards Oocyte Cryopreservation for Non-Medical Reasons among Women of Reproductive Age*, 26 HUM. REPROD. 655 (2011).

of women of all ages would consider (or were considering) having their eggs frozen. Among 18–24 year olds, 20% would or were considering it.<sup>53</sup> Findings of this kind suggest at least that women are considering freezing their eggs relatively early on, and at least some may realize the benefits of freezing sooner rather than later, but we cannot draw firm conclusions on this point. In the absence of evidence either way, we should not make assumptions at all about what women understand about egg freezing. But we should make sure that the benefits of freezing earlier are publicized and women are informed of this when they consult clinics about treatment.

One related question on which we have considerable data is women's understanding of, and beliefs about, the efficacy of artificial reproduction technologies (ARTs) generally. These data are relevant to whether we should assume that women have a *false* sense of security from freezing. The BPAS survey found that most women do not regard IVF itself as a cure-all for declining fertility,<sup>54</sup> and it is at the very least likely that they will apply the same capacity to evaluate risks and benefits to the promise of egg freezing. Of the 1000 women surveyed, only 9% felt that the availability of IVF made them less worried about running out of time 'despite recent suggestions that access to reproductive technologies made women less worried about later life infertility'.<sup>55</sup> Other studies report similar findings,<sup>56</sup> and as Yacoub Khalaf has commented, 'there is an article on "my IVF heartbreak" in almost every women's magazine in the newsagents'.<sup>57</sup>

This perspective is reflected in Richards' findings, where she comments that

Another concern is that women will push the age of motherhood to an extreme, endure more difficult pregnancies, risk premature labor and deny their children the chance of spending much, if any, time with their grandparents. But women understand that, even with frozen eggs, they don't have forever.<sup>58</sup>

That said, there are other studies that suggest many women do *not* appreciate that ARTs will not save their fertility if they delay too long. In a survey of over 3000 women, Daniluk et al found that 91% were 'unrealistically confident about the ability of [ARTs] to assist most women to have a child using their own eggs until they reach menopause',<sup>59</sup> while Benzie et al reported from their study:

Women were confident that, if they needed it, reproductive technology would be available to assist with conception whenever they decided to bear a child. Sheila who was older than 30 years without children stated: 'Women are having babies later because of technology,

<sup>53</sup> London School of Economics, *Launch of Pop-Up Shop to Stimulate Public Debate on Egg Freezing as Survey Reveals Shift in Attitudes*, <http://www.lse.ac.uk/website-archive/newsAndMedia/newsArchives/2016/02/Launch-of-pop-up-shop-to-stimulate-public-debate-on-egg-freezing-as-survey-reveals-shift-in-attitudes.aspx> (accessed Mar. 24, 2017).

<sup>54</sup> BPAS *supra* note 48.

<sup>55</sup> *Id.*, at 10.

<sup>56</sup> Alison Cooke et al., *Advanced Maternal Age: Delayed Childbearing is Rarely a Conscious Choice: A Qualitative Study of Women's Views and Experiences*, 49 INT. J. NURS. STUD. 30 (2012).

<sup>57</sup> Khalaf, *supra* note 44.

<sup>58</sup> Richards, *supra* note 39.

<sup>59</sup> Judith C. Daniluk et al., *Childless Women's Knowledge of Fertility and Assisted Human Reproduction: Identifying the Gaps*, 97 FERTIL. STERIL. 420 (2012), at 424. See also Alison Cooke et al., 'Informed and Uninformed Decision Making'—Women's Reasoning, Experiences and Perceptions with Regard to Advanced Maternal Age and Delayed Childbearing: A Meta-Synthesis, 47 INT. J. NURS. STUD. 1317 (2010), at 1325.

fertility technology that allows us to kind of extend our fertility period, where before we couldn't, you know?'<sup>60</sup>

Based on such findings, we ought not them to readily assume that women will consider egg freezing a magic bullet that will address their future fertility decline, that is, they will not be insensible to the risk/benefit calculus they must make. Some will overestimate its potential, others will not. But it is at least likely that many will see it as a back-up plan (as many report), rather than a perfect postponement strategy.<sup>61</sup> Richards states as much in her piece:

Despite its promise, however, there is still a lot wrong with egg freezing. At \$9000 to \$13,000 a cycle (not including the drugs or storage), the cost is prohibitively high for most women and is rarely covered by insurance or paid for by employers. Plus, doctors lack critical experience in making babies this way. According to a recent survey of U.S. fertility clinics that offer egg freezing, nearly half of doctors had never thawed a patient's eggs to attempt a pregnancy. Even in the best of hands, there's a real chance your frozen eggs might not work when you decide to start your family.<sup>62</sup>

The women she surveyed also seemed not to consider egg freezing as sometime to rely on heavily:

the women I've talked to didn't use their frozen fertility as an excuse to date their DVRs. In fact, they said that egg freezing motivated them to take charge of their lives. They relaxed. They dated, married and thawed. They became ready to be mothers.<sup>63</sup>

Indeed, she found that taking the step to freeze actually galvanized the women she interviewed to face up to the decline they face head on:

When a woman freezes her eggs, two things happen: She comes to terms with the fact that her fertility is fading, and she invests significant time, energy and money in protecting that asset by seeking medical help. The combination puts the issue front and center and makes you commit to your goals.<sup>64</sup>

She details numerous stories of how she and other women changed their approach once egg freezing made them face up to their risk of never becoming the mothers they dreamed of being. After freezing, Richards herself left her partner because he could not commit to having children with her. Other women, she said, were spurred to work harder to find a partner, while some instead stopped their panicked search for a mate and in the process found peace in their lives. Richards herself, though Robertson portrays her as planning to rely on egg insurance that will probably never pay out, reports that the experience of doing so

<sup>60</sup> Karen Benzie et al., *Factors Influencing Women's Decisions About Timing of Motherhood*, 35 J. OBSTET. GYNECOL. NEONATAL NURS. 625 (2006), at 628.

<sup>61</sup> Courtney Stanton & Evan Sussman, *I-2 A Survey on Awareness and Interest Towards Proactive Egg Freezing among Women 25-35 Years Old*, 101 FERTIL. STERIL. e34 (2014).

<sup>62</sup> Richards, *supra* note 39.

<sup>63</sup> *Id.*

<sup>64</sup> *Id.*

gave me the confidence to go back on Match.com at nearly 40 and proudly tell men ‘I can have kids whenever I want’. It feels so nice not to have to rush relationships.

She quickly met a new partner and they intended to try for a baby naturally, and her plan?

If I don’t get pregnant on my own within the next year or so, I plan to thaw my eggs and hopefully give birth to my first child at 44 and maybe a second by 46.

Her approach, given her situation, was far from a ‘false’ sense of security and undue reliance, but rather a personal weighting of risks and benefits that suited her.

We could also say (though we need not) that actually her decision was also entirely rational in her situation, as she still had a fair chance of conceiving naturally anyway (4% of children born in the UK are now born to mothers aged over 40),<sup>65</sup> and she developed a multifaceted plan to deal with the situation she faced.

This leads us to another way in which Robertson’s perception of how women will approach risk can be analysed, and the assumption that egg freezing will give women a false sense of security challenged. ‘False’ assumes that they have relied on the technology to preserve their fertility when they should not have done so because it cannot give them the security they expect. This view, which I consider to be Robertson’s position, effectively constructs a woman’s decision to freeze as mistaken reliance or over-reliance; she would have done better to choose otherwise. But another way to frame such as choice is as the woman’s personal valuation of the options before her in the context in which she finds herself. Whatever she has chosen, however she has relied, she almost certainly has reasons to do so that *she personally* considers sufficient. She may have misunderstood some facts or statistics, or she may come to regret it, but we should at the least assume she has *made* a choice.

The law is rarely concerned with whether a person makes a *rational* choice, only that their choice is autonomous in the sense of being free from coercion. In some contexts and jurisdictions, it must also be informed, but even this only requires that the chooser understands and can weigh relevant information. It does not require their choice to be rational or even supported by reasons at all. So we might simply say that as long a woman has been given appropriate information and can understand and weigh it, what she then chooses to do is no one else’s business and she should be left to bear the consequences. On this view, unless the woman lacks capacity, it is in a sense irrelevant if she unduly relies on egg freezing to her detriment. That is her right as an autonomous citizen.

But the suggestion that her reliance is false is open to substantive challenge in the sense that her reasons are very likely to be *good* reasons. This should not be a surprising conclusion given that we have seen that most women understand that their fertility will decline, and yet are increasingly choosing to delay regardless. Over the past 30 years, there has been a clear trend for women (and men) in developed countries

<sup>65</sup> Office for National Statistics (ONS), *Live Births in England and Wales by Characteristics of Mother 1:2013*, <https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/livebirths/bulletins/livebirthsinenglandandwalesbycharacteristicsofmother1/2014-10-16#timing-of-childbearing> (accessed Sept. 29, 2016).



to have their children later in life.<sup>66</sup> This is reflected in the rising *average* age of mothers, which is now close to or equal to 30 across Europe,<sup>67</sup> while in Canada, over 52% of all births in 2011 were to women aged over 30 (up from 47.4% in 2002 and 37.9% in 1992).<sup>68</sup> The data show that women are also having children in their 40s much more. In the UK, the number of children born to mothers aged 40 or older quadrupled between 1982 and 2013.<sup>69</sup> In Canada, only 1.2% of live births in 1992 were to women aged between 40 and 49. By 2012, the rate had nearly tripled (3.5%).<sup>70</sup> It is also clear that women are having their *first* child much later than they once did (which drives up the average age).<sup>71</sup> The average age of a first-time mother in the USA is now 26.3, up from 21.4 in 1970.<sup>72</sup> The UK has seen a similar trend, and, in fact, in 2012 almost a quarter of live births to women over 40 were firstborn children.<sup>73</sup> Why would a woman do this? There are many very good reasons, and they suggest that far from being egg freezing providing a false sense of security, the better understanding of a woman's decision to rely on freezing might be that reliance is simply the best option open to her. It is not difficult to see why this might be so; there is a substantial body of evidence to both explain and indeed justify such a woman's decision.

First, it is well established that women's educational outcomes may be adversely affected by a decision to have children, and in particular, the timing of this decision.<sup>74</sup> Postponement is also correlated with greater participation in higher education,<sup>75</sup> and higher rates of childlessness with the attainment of degree level qualifications.<sup>76</sup> Why are men not affected in the same way? In part, because childbearing affects a woman's capacity to undertake education. She must take time out to care for the child in the early months, and if she chooses to breastfeed, this demands a substantial and continuous time commitment in the early months, as well as an environment later that permits ongoing feeding or milk expression. As women still carry the greater burden of childrearing responsibilities, for many the expectation (and perhaps the desire) will be

<sup>66</sup> Tough et al., *supra* note 46; Melinda Mills et al., *Why Do People Postpone Parenthood? Reasons and Social Policy Incentives*, 17 HUM. REPROD. UPDATE 848 (2011).

<sup>67</sup> ONS, *supra* note 65, at 1; T. J. Mathews & Brady E. Hamilton, *Delayed Childbearing: More Women Are Having Their First Child Later in Life*, 21 NCHS DATA BRIEF 1 (Aug. 2009).

<sup>68</sup> Anne Milan, *Fertility: Overview, 2009 to 2011*, 91 COMPONENT OF STATISTICS CANADA, Catalogue no. 91-209-X, Report on the Demographic Situation in Canada (July 2013), <http://www.statcan.gc.ca/pub/91-209-x/2013001/article/11784-eng.htm#a4> and Statistics Canada, *Trends in Canadian Births*, <http://www.statcan.gc.ca/pub/82-625-x/2016001/article/14314-eng.htm> (last accessed Sept. 2016).

<sup>69</sup> ONS, *supra* note 65, table 2a.

<sup>70</sup> Mathews et al., *supra* note 67.

<sup>71</sup> T. J. Matthews & Brady E. Hamilton, *Mean Age of Mothers is on the Rise: United States, 2000-2014*, NCHS DATA BRIEF No. 232 (2016), <http://www.cdc.gov/nchs/data/databriefs/db232.htm> (accessed Sept. 29, 2016).

<sup>72</sup> *Id.*, at 2.

<sup>73</sup> ONS, *supra* note 65.

<sup>74</sup> Ann Berrington, *Perpetual Postponers? Women's, Men's and Couple's Fertility Intentions and Subsequent Fertility Behaviour*, 117 POPULATION TRENDS 9 (2004). See also, Cooke et al., *supra* note 59; Tough et al., *supra* note 46 and as cited therein: John P. Hansen, *Older Maternal Age and Pregnancy Outcome: A Review of the Literature*, 41 OBSTET. GYNECOL. SURV. 726 (1986); Phyllis K. Mansfield & William McCool, *Toward a Better Understanding of the 'Advanced Maternal Age' Factor*, 10 HEALTH CARE WOMEN INT. 395 (1989). Women who delay childbearing are also more likely to participate in higher education: Mills et al., *supra* note 66, at 852.

<sup>75</sup> Mills et al., *supra* note 66, at 852.

<sup>76</sup> Berrington, *supra* note 74. See also Cooke et al., *supra* note 59.



that she, rather than the father, stays in the home to raise the child.<sup>77</sup> Further, childcare costs will prevent many women from combining study with childrearing, particularly those whose partner is also still in education and hence unlikely to be earning. Not surprisingly, given the relationship between education level and employment prospects, childlessness and postponement are correlated with higher income levels.<sup>78</sup>

In the employment context, women must take at least some time out of work to bear children, and it is they who also, more often than men, take extended periods away from employment to care for children.<sup>79</sup> Melinda Mills et al argued that childcare costs, lower rates of pay, and (in many countries) the more generous leave offered to women than men lead to this decision, which then have the consequence of producing a response to the birth of a new child that is

often ... a crystallization of gender roles, with women increasing time spent in housework and childcare in comparison with men only after the birth of the first child.<sup>80</sup>

This situation remains even when men receive more generous or even equal leave, which is explained partly by cultural expectations on both genders and their employers,<sup>81</sup> unequal financial impacts, but also by women being reluctant to share their leave in some cases.<sup>82</sup> Charles Elvin, CEO of the Institute of Leadership and Management, has suggested that inconsistency in leave entitlements, leave payments, and culture had a serious impact on women and

also reinforces a cultural expectation within organisations that women will be the ones taking extended periods away from the workplace, which may halt their career progression.<sup>83</sup>

<sup>77</sup> For example, until 2015, in the UK men received only 2 weeks paternity leave entitlement, while women could take up to 1 year while retaining job security.

<sup>78</sup> Tough et al., *supra* note 46 and as cited therein, Hansen, *supra* note 74; Mansfield & McCool, *supra* note 74.

<sup>79</sup> For example, one British Social Attitudes survey found that women report doing 22 hours looking after family members per week, v. men who claim to only do 10 hours/week. Thirty-one per cent of British respondents thought that woman should stay home to look after the children and the man should be the sole income earner. Thirty-eight per cent believed that the woman should work part time so that they are able to look after children, while the man should work full time. Virtually none supported the idea of the woman working full time while the man took on the role of carer part or full time: J. Scott & E. Clery, *How Should Parents Divide Their Work and Caring Responsibilities When Children are Young?* BRITISH SURVEY OF ATTITUDES REPORT NO.30, <http://www.bsa.natcen.ac.uk/latest-report/british-social-attitudes-30/gender-roles/division-of-work-and-caring-responsibilities.aspx> (accessed Sept. 29, 2016).

<sup>80</sup> Mills et al., *supra* note 66, at 855 citing Bianchi et al., *Is Anyone Doing the Housework? Trends in the Gender Division of Household Labor* 79 SOC. FOR. 191 (2000); Jonathan Gershuny, *CHANGING TIMES: WORK AND LEISURE IN POSTINDUSTRIAL SOCIETY* (Oxford 2000); Jennifer L. Hook, *Care in Context: Men's Unpaid Work in 20 countries, 1965–2003*, 71 AM. SOC. REV. 639 (2006).

<sup>81</sup> For example, the Institute of Leadership and Management (UK) reported in 2014 that fewer than 10% of new fathers took more than 2 weeks paternity leave, with a mere 2% of managers doing so. Twenty-five per cent of new fathers took no leave at all: Institute of Leadership and Management, *Shared Opportunity: Parental Leave in UK Business* (2014), <https://www.i-l-m.com/~media/ILM%20Website/Documents/research-reports/shared-leave/ilm-shared-parental-leave-report%20pdf.aspx> (accessed Sept. 29, 2016).

<sup>82</sup> My Family Care, *Shared Parental Leave: Where are We Now*, 3 (Apr. 2016). See also, Jorge Cabrita & Felix Wohlgemuth, *Promoting Uptake of Parental and Paternity Leave Among Fathers in the European Union*, EURO-FOUND (2015); Institute of Leadership and Management, *supra* note 81.

<sup>83</sup> Institute of Leadership and Management, *supra* note 81.

The net result is that women, rather than men, take longer out of the workplace when a child is born.

Taking extended periods out of the workplace has a strongly negative impact on women's employment prospects and lifetime income. By contrast, women who delay childbearing experience significant economic benefits:

A year of delayed motherhood is found to increase career earnings by 9%, work experience by 6%, and average wage rates by 3%. The effects are heterogeneous across women; those with college degrees and in professional and managerial occupations receive the greatest career returns to delay. Post-motherhood wages are also shown to vary with motherhood timing.<sup>84</sup>

Indeed, the point at which a woman exits the workforce to have children may account for as much as 12% of the gender wage gap because of the effect on women's work experience and the resulting depreciation in their skills.<sup>85</sup> Women who want to pursue highly skilled jobs benefit most from delaying, and this relates to the time and training needed to build these skills to be successful in such careers.<sup>86</sup> In a review of evidence about the impact of reproduction timing, however, Amalia Miller suggests that:

On the supply side, mothers may reduce their hours in the labor market and invest less in skill development. From the demand side, employers may offer mothers fewer training and advancement opportunities.<sup>87</sup>

Many high-earning careers also demand people put in very long hours, particularly in the early stages, and if women are taking on the greater proportion of childcare responsibilities, then it is not surprising that they face barriers to success in such careers.

In addition, there is the problem of perception. Many employers, evidence suggests, tend to believe that women are less likely to work hard. In jobs where output is not easily tracked, this perception may mean that women who have children are regarded as less valuable in the workplace.<sup>88</sup> Given this, many women may have sound reasons for delaying childbearing until they are in a stronger employment position, or have built a sufficient skill base such that their careers can tolerate them taking time out. Alternatively, they may need to reach a point of financial stability that will enable them to afford the childcare needed so that that they can work the hours their jobs demand of them.

Many surveys show that women are well aware of the impact of having children on their career prospects. One study found, for example, that female medical residents intentionally postpone childbearing due to concerns that their careers will be affected if their training is extended due to childbearing. Of medical students surveyed, nearly half the men were prepared to have a child during their residency while only a quarter

<sup>84</sup> Amalia R. Miller, *The Effects of Motherhood Timing on Career Path*, 24 J. POP. ECON. 1071 (2011), at 1073. Similar results are reported in Elizabeth T. Wilde et al., *THE MOMMY TRACK DIVIDES: THE IMPACT OF CHILD-BEARING ON WAGE OF WOMEN OF DIFFERING SKILL LEVELS* (National Bureau of Economic Research Working Paper Series No 16582, 2010).

<sup>85</sup> Miller, *supra* note 84, at 1073–4.

<sup>86</sup> Miller, *supra* note 84. See also, Wilde et al., *supra* note 84.

<sup>87</sup> *Id.*, at 1097.

<sup>88</sup> Wilde, *supra* note 84.

of women would do so.<sup>89</sup> Women are highly concerned about financial security when making decisions about childbearing, so concerns about timing of conception are naturally part of the calculus many will be performing when they make a decision about freezing. As the BPAS survey found:

The three most important factors women for starting a family were being in the right relationship (82%), having financial security (77%) and owning their own home (40%)... The perception that combining paid work with children was difficult was prevalent (70%), and women were most interested in policy measures that would support them as working mothers – improving access to affordable childcare (supported by 62%) and flexible working (50%). Support for allowances to care for children at home was much lower (26%).<sup>90</sup>

In addition to the financial and educational implications of the timing of reproduction, women often report a desire to delay childbearing to ensure that they are emotionally and psychologically ready,<sup>91</sup> and have found their desired partner. In one survey, 80.2% cited ‘partner suitability to parent’ as reasons for delaying procreation.<sup>92</sup>

Given all this, if a woman is choosing to freeze, the assumption that she has done so with good reasons need not rest just on her capacity to choose what she considers best for herself; we can conclude that her risk/benefit analysis is very likely to be highly rational precisely because there are demonstrable benefits to be gained from holding off until the right time for a woman to procreate. Further, the view that a woman’s reliance might be false in the sense of being misplaced rests on the implicit assumption that she had a free choice about when to procreate, and would face no penalties based on when they choose to do so. It assumes she could have chosen better if she had simply chosen to freeze earlier, or to have had her children earlier. For many women, this is simply not the reality of their situation. We should respect women’s choices regardless as long as they have capacity. But if we must make assumptions about the falsity or otherwise of their sense of security, the foregoing suggests that the better assumption is that a woman’s postponement decision is based on good reasons, even if we disagree with the risk/benefit evaluation she has made.

It should be noted at this point that Robertson *does* acknowledge that egg freezing may ‘provide some women with reassurance that they can commit themselves to education and work without losing their fertility’.<sup>93</sup> It is also fair to note that he suggests the best approach would be to change social conditions to remove the barriers women face when deciding when to have children. It is his assumptions that women will reason poorly about risk with which I am taking issue.<sup>94</sup>

<sup>89</sup> Lisa L. Willett et al., *Do Women Residents Delay Childbearing Due to Perceived Career Threats?* 85 ACAD. MED. 640 (2010).

<sup>90</sup> BPAS, *supra* note 48.

<sup>91</sup> Karen Benzies et al., *Factors Influencing Women’s Decisions About Timing of Motherhood*, 35 J. OBST. GYN. NEON. NURS. 625 (2006).

<sup>92</sup> Tough et al., *supra* note 46.

<sup>93</sup> Robertson, *supra* note 2, at 121.

<sup>94</sup> In fact, his approach to women’s reasoning about risk is not unique. Therese Huston has argued that women’s decisions are more heavily scrutinized, and that research suggests that women are less likely to be trusted to make decisions for themselves in the context of healthcare. For example, she cites a study by Hoffman and others of 1100 adults about their recent discussions with doctors, which found that while 70% of (male) prostate cancer patients were asked if they wanted a test, only 43% (female) breast cancer patients were asked the

### B. Can it be said that egg freezing offers women a false sense of security?

If they are given accurate information, then this cannot really be the case. Their sense of security will not be false as the extent to which they regard it as sufficiently secure is their own decision to make. They might make a choice that does not best help them achieve their goals, but that then is a question about how far one person's decision-making power should be overridden for their benefit, which is a question far beyond the scope of this paper. The simple conclusion here is that the option of more effective egg freezing technology does not fundamentally alter the challenges women face. Women have always had to choose between risks—to their education, to their career, to their relationships, or to their fertility. The emergence of vitrification techniques has merely changed the risks and benefits to be weighed; it has not created an entirely new type of analysis that they must undertake. Previously, their realistic choices were limited to risking their future reproduction for the sake of other goals, or creating embryos using donor sperm (or that of a current partner, which may lead to problems if he later refuses consent to implantation).<sup>95</sup> Egg freezing simply introduces an added option to weigh.

For the most part, too, the addition of this option will not actually be harming and so there is even less reason to be concerned for women making the choice to freeze. Some may make a financial loss if they do not end up needing their insurance policy. Others will postpone for the same time as they would have done anyway but be saved from infertility by that insurance. Others will postpone *longer* in reliance on their frozen eggs' potential, with some being disappointed and others rejoicing that their proactive freezing has made all the difference. It is only this latter group where the option of egg freezing can actually be harming, because in this case she behaves *differently* and runs a risk (or extra risk) *solely* because of the promise offered by freezing. But in all cases, given what has been said about a woman's right to make her own choices, the only real issues are informational ones—does she appreciate that she is running a risk and understand the nature of the risk (and egg freezing's potential to ameliorate it)? The only relevant concern is whether the information she has received is accurate and sufficient.

This leads us to the real issue in relation to egg freezing, which is not whether women will gain a false sense of security, but whether those providing services can be effectively required to offer good, unbiased information. In a commercialized context, this might (as Robertson recognizes) legitimately be a problem. Companies offering freezing services may not accurately present data about general success rates, or about their own company-specific success rates. The concern can thus be largely met by mandating

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same (HOW WOMEN DECIDE, 9 (2016)) citing Richard M. Hoffman et al., *Lack of Shared Decision Making in Cancer Screening Discussions: Results from a National Survey*, 47(3) AM. J. PREVENT. MED. 251 (2014). Hutson also cites research that shows women are considered less capable of independent decision making following mock job interviews (Victoria L. Brescoll & Eric L. Uhlmann, *Can an Angry Woman Get Ahead? Status Conferal, Gender, and Expression of Emotion in the Workplace*, 19 PSYCH. SCI. 268 (2008)). Joan Williams & Rachel Dempsey argue this kind of perspective on women's decision making is an example of a 'prove it again' bias women often suffer, when there is less inclination to accept a woman's decision as being based on sound judgement unless she can prove herself again (WHAT WORKS FOR WOMEN AT WORK (2014)).

<sup>95</sup> Natalie Evans faced exactly this problem when her ex-partner, with whom she had created embryos prior to having her ovaries removed as part of treatment for ovarian cancer, later refused to consent to her using them to become pregnant. Both the English Court of Appeal ([2004] EWCA (Civ) 727) and the European Court of Human Rights (Evans v. United Kingdom, no. 6339/05, judgment of Apr. 10, 2007) affirmed that his refusal to give consent under the Human Fertilisation and Embryology Act 1990 meant she could not use the embryos, even though they were her only means of having a genetically related child.

what information must be provided to women when freezing their eggs.<sup>96</sup> When we give that information, we should also make sure that when women seek egg freezing, they are given information tailored to their situation, particularly their age and reproductive health. Such mandating should be supported by public education campaigns to help women understand that if they intend to freeze, sooner is better than later. Such programs should also try to address the incorrect understanding some women have about fertility decline and the promise of ARTs,<sup>97</sup> because we should see this as a public health issue that requires women to be educated about their reproductive health. Robertson is rightly supportive of ensuring good information provision, which is in fact one of the main aims of his paper.

None of this removes the need to continue to work toward removing the barriers to conceiving naturally earlier in life for those women who would prefer to do so, a point on which Robertson concurs. But until those barriers are removed, the key thing is to ensure that women have the right information and are able to make free choices. That women's choices may be swayed by advertising, clinics and the market is simply a reason to offset so far as possible those impacts via compulsory information provision and counseling. It is not a reason to think that women cannot be trusted to choose for themselves, or make unsubstantiated assumptions about their capacity to evaluate risk.

## V. DOES EGG FREEZING EMPOWER WOMEN?

Although this paper is largely about putting pressure on the ways in which Robertson constructs women's thinking about fertility decline, I also want to respond to his concerns about empowerment on the basis of the foregoing discussion. Robertson asserts that while 'egg freezing is generally empowering for women', 'empowerment through reproductive technology is usually a double-edged sword'.<sup>98</sup> I agree with this very general conclusion, but offer some critical responses to some of Robertson's viewpoints.

He takes the view that for women who wish to 'reschedule motherhood', as he puts it, 'egg freezing has also been touted as a way to provide [those] who are still fertile with insurance against their biological clock'.<sup>99</sup> Egg freezing offers women more choices and greater capacity to achieve their educational and career goals by extending the reproductive life of their ova. This, he says, 'does sound empowering, but... nothing is as simple as it sounds'.<sup>100</sup>

Robertson rightly argues that a more desirable approach to the dilemma of the impact of childbearing on women's educational and employment outcomes

would be to change traditional employment models so that women do not face restrictions from time off for childbearing and rearing. Egg freezing is no substitute for those

<sup>96</sup> Which, in fact, the 2008 ASRM guidelines on egg freezing did, listing 13 points of information that must be provided to women, see Practice Committees, *supra* note 18.

<sup>97</sup> Such as the belief that individual health is indicative of fertility (the two are not correlated to any meaningful degree, although unhealthy behaviors such as smoking, and also being obese can adversely affect fertility): Gill F. Homan, Michael J. Davies, & Robert J. Norman, *The Impact of Lifestyle Factors on Reproductive Performance in the General Population and Those Undergoing Infertility Treatment: A Review*, 13 HUM. REPROD. 209 (2007).

<sup>98</sup> Robertson, *supra* note 2, at 114.

<sup>99</sup> *Id.*, at 120.

<sup>100</sup> *Id.*, at 120.

efforts, but it may provide some women with reassurance that they can commit themselves to education and work without losing fertility.<sup>101</sup>

Julian Savulescu and I made similar arguments 8 years ago,<sup>102</sup> but little has changed in that time. For example, despite legal steps toward allowing sharing of leave between male and female partners after the birth of a child, the rate of take-up by men has been extremely low.<sup>103</sup> This suggests that at least in the short term, cultural change is coming slowly (which is supported by the survey data on women's caring role and employment cited earlier); as a result, egg freezing remains a useful option for women wishing to avoid the disadvantages they might otherwise face if they have children earlier. Freezing is therefore empowering in that it at least gives women more options in relation to how they deal with the conditions in which they find themselves.

There are, however, two ways in which Robertson suggests that egg freezing may be disempowering. One is the 'false sense of security' argument already addressed—it is not disempowering to afford a woman the opportunity to make her own calculation about risk as it pertains to her own life. Indeed, if we are to empower women and respect their choices, we should presume that whatever choice they make in relation to egg freezing is—in so far as it is based on accurate information—for them in their current situation and relative to the other choices before them, the best option. To prevent her from choosing freely is unacceptably paternalistic, particularly when that the harm she may suffer—the inability to conceive—is a sad, possibly damaging outcome, but a far cry from a choice that may endanger her life. In fact, under English law, she is at liberty to make choices that will end her life.<sup>104</sup> Where only self-harm results, the law rightly places only minimal limits on individual freedom, thereby respecting individual autonomy, including reproductive autonomy.<sup>105</sup> It would of course be far better if women did not need to risk their fertility, but paternalistically reducing women's options for addressing the challenges they face does not empower them (and generally will not harm them). Far from it.

Robertson's other argument concerning empowerment is that the 'opportunity' to freeze may transform into an 'expectation' to freeze. He suggests that '[r]ather than "you may choose to freeze," some might read the message sent as "you must freeze" for

<sup>101</sup> *Id.*

<sup>102</sup> Imogen Goold & Julian Savulescu, *In Favour of Freezing Eggs for Non-Medical Reasons*, 23 *BIOETHICS* 47 (2009).

<sup>103</sup> Much of this lack of change has been attributed to the resistance by employers to 'topping up' additional paternity leave pay and also the absence of a cultural shift toward men taking on equal responsibility for care. According to research carried out in 2013 by the Institute of Leadership and Management, there is still a cultural expectation (in the UK, at least) that women, rather than men, will be the carer who takes extended periods away from the workplace to raise children within a couple: BBC News, *Barriers' Stop Fathers Taking Paternity Leave*, News report, Mar. 24, 2014, <http://www.bbc.co.uk/news/business-26710507> (accessed Mar. 28, 2017). However, there are signs that improvements in sharing arrangements that will come into force in 2015 may encourage more men to take advantage of the opportunity to share care: John Bingham, *Bosses 'Seriously Underestimating' Demand for Shared Parental Leave*, *THE TELEGRAPH* (UK), Nov. 29, 2014.

<sup>104</sup> See *St George's Healthcare NHS Trust v S* [1998] 3 WLR 936 (CA); *Re Ms B v a NHS Hospital Trust* [2002] EWHC 429 (Fam).

<sup>105</sup> Although increased maternal age is also correlated with higher risks of stillbirth and preterm delivery, which carry risks to the fetus, so it cannot be said that the choice to conceive later in life is entirely self-harming, although note the impact of the non-identity problem.



the sake of workplace and career efficiency'.<sup>106</sup> Given the recent moves by Apple and Facebook to fund the freezing of female employees' eggs,<sup>107</sup> it is possible that women in the workforce may find themselves under pressure to take up such offers. Rather than empowering them in the sense of offering greater choices, the possibility of freezing might disempower women by pushing them into having to freeze and postpone in an effort to retain their competitiveness in the employment market. They might also face very real pressure from employers to freeze and remain in work, or face a failure to progress after taking time out if doing so is regarded negatively. This is a very fair point.

I agree with Robertson that 'young women wanting to start families earlier rather than later should be protected in the choice, and not pressured to think they must defer children because of the demands of launching a career', and with his position that 'it will be important that egg freezing be structured as an opportunity not a requirement (though the two may be difficult to separate)'.<sup>108</sup> We should certainly, as he says, protect women's choices and ensure that they are not pushed into deferring reproduction due to workplace pressure, particularly given that this pressure is likely to be increased if their employer is offering to pay for egg freezing. There is little doubt that egg freezing will be heavily marketed toward women in the early stages of their careers.<sup>109</sup> He is right, too, when he argues that egg freezing is not empowering when it becomes 'a prescription that all women entering the workforce or reaching a certain age should store their eggs', particularly given the invasive nature of the procedure and the cost.<sup>110</sup>

So the question, then, is are these concerns sufficient that the law do something in response? It is beyond the scope of this paper to offer any detailed answer, and therefore I will make only some brief comments about how to think about the issue. Women already face pressure in the workplace about reproductive timing. Making egg freezing available gives women one more option to choose from with benefits and harms attached. Can it disempower people to simply have more choices? Simon Rippon has argued that it can in the context of organ sales, as the existence of the choice can itself create pressure to take it up.<sup>111</sup> This is probably true of egg freezing, especially when offered by an employer. Once the choice is there, women must now resist it and may have to justify this resistance. If the choice is one that may be harmful, namely it pressures women to postpone reproduction and risk infertility, women may be pressed to act in ways they otherwise would not and suffer harms they would otherwise have avoided. In this sense, it may well be disempowering.

The obvious riposte to this argument is that if we assume that people are rational or at least capacious choosers (as we should), then if they choose to freeze their eggs (or sell their organs) it must be because all the alternative choices open to them are less preferable (assuming such a choice is a harmful one). If this is so, removing this choice is itself harmful, because they are left only with less optimal choices.<sup>112</sup> This is the case

<sup>106</sup> Robertson, *supra* note 2, at 122.

<sup>107</sup> Mark Tran, *Apple and Facebook Offer to Freeze Eggs for Female Employees*, THE GUARDIAN (UK), Oct. 15, 2014.

<sup>108</sup> Robertson, *supra* note 2, at 123.

<sup>109</sup> *Id.*, at 123.

<sup>110</sup> *Id.*

<sup>111</sup> Simon Rippon, *Imposing Options on People in Poverty: The Harm of a Live Donor Organ Market*, 40 J. MED. ETHICS 145 (2012).

<sup>112</sup> See further Janet Radcliffe-Richards, *Commentary by Janet Radcliffe-Richards on Simon Rippon's 'Imposing Options on People in Poverty: The Harm of a Live Donor Organ Market'*, 40 J. MED. ETHICS 152 (2012).



that has generally been made against Rippon's view, and it holds in the context of egg freezing as well, but to a lesser extent because egg freezing is not the same kind of harmful choice as an organ sale. Egg freezing, unless relied upon due to false information or where a woman lacks capacity, could be said to merely add to a woman's options in the ways explained earlier. It may not be an inherently harmful choice in the way organ selling probably is.

This demonstrates that there is in part a framing issue here. Robertson tends to frame the issue as 'the possibility of egg freezing may place pressure on women to freeze', but as women already face pressure to make choices between timing of reproduction, education, and employment goals, it would be more accurate to frame the choice to freeze eggs within the context of these existing pressures. Their choice is not driven by the option of freezing per se, but rather that given the pressures they already face, the introduction of egg freezing simply provides an additional way for them to approach these pressures.

Taking the Rippon line, having that choice might be considered harming, but in this context, at least for women who were already going to run the risk of infertility by postponing childbearing (which the data show women already do in many contexts), for some of these women egg freezing may avert that risk (albeit at a financial cost). If they work in a competitive employment environment in which postponing childbearing is already something they are likely to consider, many will postpone regardless of whether they have the option of egg freezing. Of these women, some will face infertility when they try to conceive in their late 30s and early 40s. If they would have postponed anyway, the opportunity to egg freeze will allow at least some of them to avoid the consequences of a choice they would have made in any case. Those who end up infertile because they delayed and who do not conceive with their frozen eggs are no worse off, but those who do succeed will be better off than they would otherwise have been. The option to freeze only carries negative consequences where it (a) induces a woman to postpone when she would not otherwise have done so, (b) that postponement results in infertility (which is not always the case—many women conceive naturally in their early 40s), and (c) her frozen eggs do not enable her to conceive.

It is worth noting, too, that given the cost of egg freezing, those most likely to be able to use it are also those most likely to have wanted to delay regardless, namely highly educated women in well-paid employment. For these women, egg freezing may alleviate the impact of the decision to delay that they would have made regardless. So while some women may be induced to delay by the promise of egg freezing when they might not otherwise have done so, many others would have delayed anyway. For the women in the latter—and, as the evidence suggests, far bigger category—the option to freeze can only improve, rather than damage, their situation.

However, the situation is actually a little more complex than this suggests. If the choice to freeze is taken up by substantial numbers of women, it will in fact *change the conditions* in which women are making their own choice about freezing. This is particularly so when that choice is being made in a competitive employment environment, where the failure to freeze may place women at a disadvantage relative to their female colleagues. They may miss opportunities for career progression or promotion, with consequent economic impacts. So it might be true that having the choice may encourage *more* women to run the risk than would otherwise have done so, and some of these

women will then fail to reproduce when their frozen eggs do not avert the effects of their delaying reproduction. Nevertheless, it is worth questioning to what extent such pressures can be meaningfully distinguished from the pressure felt by women today as a substantial number of women already postpone childbearing for fear of falling behind in an environment. Given that a critical mass has already been reached sufficient to pressure women into staying in full-time employment, it is questionable whether this would increase even if *more* women postponed childbearing because of the option to freeze their eggs. Arguably, egg freezing—however fraught with risks—does not increase the pressure on women to postpone childbearing; at most, it may increase the pressure to deal with such a decision in a certain way. Since this only increases the chances of these women to procreate, this may well be empowering as opposed to disempowering.

The further dimension to this analysis is the impact of the choice on workplace conditions generally. When that option is not on the table, the pressure to change workplace conditions, care arrangements and other barriers women face remains. When we put a choice like egg freezing on the table, some of this pressure is removed and therefore the conditions that we ought to change may remain static for longer. This is exacerbated by the fact that employers will benefit from women choosing to delay as they remain in work longer and may not require the same level of accommodation that those who reproduce do. It is likely that Apple and Google were acting in their own self-interest in offering freezing; it is unlikely that they made the offer despite expecting to make a financial loss.

Where does this leave us? It simply brings us back to the original point that the option of egg freezing is potentially a pressure, and we might think that it is wrong to place additional pressure on women to postpone reproduction by normalizing a process that enables this, rather than focusing on changing the existing pressures that make the choice to freeze the optimal one at all. Do we allow women to make the best choice for themselves in the context in which they find themselves until we have changed conditions to remove the desirability of using egg freezing? We can never render those conditions perfect if choice of partner and psychological readiness remain part of that context. Nor can we account for other individual reasons at play. So on balance, this limited analysis leads to the tentative conclusion that the best solution remains leaving the decision to individual women, but committing ourselves to continue to address those societal barriers that we can address.

## VI. ALIENATION, MARKETS, AND FEMALE EMPOWERMENT

Robertson's other core concern that I want to explore in this paper is that the emergence of egg freezing services as a separate section of the infertility industry will lead to an increase in the creation and storage of frozen ova. With improved freezing technology and the incursion of the market, women's eggs will become a commodity, and hence women will be 'alienated' in some sense from their gametes. Egg donation already promotes alienation, but this will be exacerbated, he argues, if women become entrepreneurs in a market for frozen eggs.<sup>113</sup> Presenting a carefully worked through speculation on how a market in eggs is likely to develop as egg freezing increases, he explains that freezing for fertility preservation is likely to produce a surplus of eggs as most

<sup>113</sup> Robertson, *supra* note 2, at 125.

women will not need all of the eggs they are likely to store.<sup>114</sup> He regards the woman as the legal owner of the eggs, and hence as having full dispositional control over their fate, including the option of transferring ownership to someone else altruistically.<sup>115</sup> Part of his concern is that the wider uptake of egg freezing and the consequent increase in transfers of eggs (altruistic, commercial, or brokered) may

Distance [women] from the meaning of producing the female germ cells so necessary for reproduction by breaking the bond that exists between women as producers and consumers of their body's reproductive inputs, thus raising the commodification issues that weave through the ethics of assisted reproduction.<sup>116</sup>

In his view, the next step is that 'one can expect some women who freeze their eggs to participate in the market for donor eggs':

As women come to view storing eggs as a banking transaction, with the possibility of accruing interest (in the form of rising prices) or independent sale, a sense of alienation or commodification might accompany egg freezing... At some point women freezing their eggs may come to see them as another commodity on the reproductive market that arose from their non-market efforts to preserve their fertility.<sup>117</sup>

At a later point, these women may 'become marketeers, either as entrepreneurs or sellers in their own right' and the empowerment that might accompany this transformation 'occurs... at the price of ... alienation'.<sup>118</sup>

Here, Robertson recognizes that such framing is already akin to that which surrounds markets in sperm, but throughout the paper there seems to be an underlying current of concern that such commodification and alienation should be avoided when it comes to women's ova. He notes, for example, that although the opportunity to sell eggs might be empowering, 'empowerment occurs ... at the price of ... alienation'.<sup>119</sup> Similar concerns are not expressed over the sale and supply of sperm. As Robertson recognizes, egg banks and egg donation are currently framed around the notion of gift, where one woman gives some of her stored eggs to another woman to help her conceive, even where this is done for a fee or a reduction in the donor's IVF costs. This is profoundly different to the way in which sperm is donated, where the latter is treated as much more of a commodity. Robertson suggests that

While the money is the key to women choosing to be egg donors, the gift nature of the situation is also important, and very different than how sperm donation is framed by sperm banks and experienced by sperm donors.<sup>120</sup>

<sup>114</sup> *Id.*, at 123.

<sup>115</sup> *Id.*: 'Here egg freezing empowers women to assert ownership and control over the eggs they have produced. This follows from the structure of property or ownership rights in one's gametes'. While there may be some variance of opinion as to whether these women actually are full legal owners of their ova, it is the case that, as Robertson points out, in almost all states she would be permitted to sell her eggs.

<sup>116</sup> *Id.*, at 116.

<sup>117</sup> *Id.*, at 124-5.

<sup>118</sup> *Id.*, at 125.

<sup>119</sup> *Id.*

<sup>120</sup> *Id.*, at 129.

What are Robertson's concerns here? Why are women distanced from reproduction in a way that men seemingly are not when they donate or sell sperm? Why is alienation a 'price' for women? And why is the introduction of monetary compensation a problem? He explains that the opportunity for women to act as marketeers in this way will bring 'a greater degree of alienation ... [into]...the already partially alienated practice of egg donation', shifting the 'gift frame' that currently surrounds most egg transfers toward 'a more commercial frame, akin to the frame that now surrounds sperm donation'. He does not see this as harmful in itself. It is not the money per se that appears to concern him, but rather the fact that such frame shifting 'will necessarily require adjustment in the social and psychological valence that eggs now carry'.<sup>121</sup> He regards the fungibility necessary for such market transactions as 'a challenge' because 'the genetic tie and its meaning for women banking their eggs' mean that 'eggs are not fungible'.<sup>122</sup>

He goes on to note that egg transfer is currently framed as a gift to an infertile woman, even when it occurs for a fee.<sup>123</sup> He recognizes that the money dimension is important to women, but comments that the gift aspect is also important and notes again that this is 'very different than how sperm donation is framed by sperm banks and *experienced by sperm donors*' [my italics].<sup>124</sup> He explores ways in which egg donors 'need to meet or know about the recipient' could be met if the process became more commercialized,<sup>125</sup> wondering whether 'a woman or couple seeking an egg donation be willing to forego the notion that the donor donated just for them?'.<sup>126</sup> He echoes again his concern that the efficiency of a market approach might bring with it 'a cost in greater alienation or commodification'.<sup>127</sup>

While he openly recognizes the similarities between the existing market for sperm in the USA and the possible future egg market he describes, nowhere does he raise concerns about the alienating effect this market might be having on sperm donors, nor about the commodification of that sperm. The concern he expresses rests firmly on gendered assumptions about women's attitudes toward their gametes and reproduction and also their likely experience if they enter into a market to transfer those eggs.

The implicit suggestion within Robertson's concern about the alienation of women from their ova is that women's experience of gamete donation differs from that of men, and not merely because the process of retrieving eggs is more onerous. His view assumes that the gift aspect is important to women in a way that it is not to men, and that women (but not men), are more likely to need to meet or know about the recipient. There is more cause for concern because, it seems, women are more likely to suffer harm as a result (where 'alienation' is constructed as a somewhat vague harm). The message, then, is that while men can readily act as sperm entrepreneurs, women may struggle to do so because they are less able to engage in the kind of faceless, arms-length, money-oriented transactions that occur in a real market. They, unlike men, are more likely to need to frame the transaction as in some sense a gift to someone they know. This, it seems then, is the problem for women entering a market in frozen eggs—markets do

<sup>121</sup> *Id.*, at 125.

<sup>122</sup> *Id.*

<sup>123</sup> *Id.*, at 128.

<sup>124</sup> *Id.*, at 128, citing RENE ALMELING, *SEX CELLS: THE MEDICAL MARKET FOR EGGS AND SPERM* (2011).

<sup>125</sup> *Id.*, at 128.

<sup>126</sup> *Id.*

<sup>127</sup> *Id.*, at 129.

not work like this, and so the assumption is that such women will be harmed by the emergence of commercialized egg freezing.

### A. Gamete transfers and gendered attitudes

Robertson in his paper is aiming to identify a potential harm to women that we should consider addressing. But are these assumptions on which his view rests really accurate? Are these gendered distinctions between attitudes to gametes well founded? And are the (gendered) harms about which Robertson raises concerns likely to affect women sufficiently such that an egg market ought to be regulated in ways that a sperm market is not? It is difficult to find survey data focused specifically on attitudes to commercialization of ova, but there are numerous studies about attitudes to gamete donation that examine whether there are gender differences that we can draw on to question the assumptions on which Robertson's views rest. From these, we can to some extent also extrapolate some conclusions about whether women and men are (based on their reported attitudes) likely to be harmed by donations or sales at all, and/or harmed in the same ways.

If women *do* have different attitudes, and *are* likely to suffer harms sperm-selling men would not, this might justify concerns about women selling their ova. However, if it seems men and women feel fairly similarly about their gametes, we should treat women's choices about their gametes in the same way as we treat men's. This approach has been taken because it is difficult find sufficient data solely about women's feelings about alienation, but also because raising concerns about women and alienation necessarily begs the question: Why are we worrying about them doing what we already accept men doing?

My concern here is not with whether women will be harmed by being alienated from their gametes as such. That is a question for another paper. What I want to critique here is the gendered assumption that women *will* be so harmed, while the market for male sperm raises no comment at all. One explanation of this assumption that seemingly underpins Robertson's position is that that men are already more 'alienated' from their gametes due to simple biology (they lose sperm regularly), and hence perhaps that there is less need for concern if further alienation occurs due to donation or sale. Perhaps, therefore, because they are used to losing it, when donating it, they are assumed to feel this loss less keenly. By contrast, women lose their ova slowly, monthly, and any other removal is onerous and medicalized in comparison with the means by which men provide sperm donations, and this might make alienation seem more serious.

But we can put such assumptions under pressure. First, women do, in fact, lose gametes regularly. From puberty through to menopause, women lose hundreds of eggs. They are already alienated from their gametes. Further, while a woman's store of gametes is more finite than a man's, almost all women have sufficient gametes to enable them to reproduce and so the loss of a few does not prevent reproduction any more than it does a man.<sup>128</sup> Given this, the differences in rate and means of accretion are unlikely to be sufficient basis for assuming women feel differently to men about the loss of gametes.

<sup>128</sup> Recent studies suggest that women may have the capacity to produce new eggs during their lifetime: Yvonne A.R. White et al. *Oocyte Formation by Mitotically Active Germ Cells Purified from Ovaries of Reproductive-Age Women*, 18 NAT. MED. 413 (2012).

Another (additional) and probably stronger basis for a gender difference is the notion of women's relationship to their offspring, their traditional role as childrearer and caregiver, and the associated assumptions that they are either naturally suited to such a role or have some inherent characteristics that mean they have different emotional or psychological ties to their offspring and by extrapolation, their gametes. This might mean women's relationship to their gametes is understood as rooted in their thoughts of their future children, or even the genetic link they will have to children created using their eggs if donated or sold. Robertson's reference to a 'genetic tie' suggests as much. This leads to the necessary conclusion, then, that a lack of concern about the alienation of men from their gametes suggests that they do not experience feelings and bonds of a similar kind (or at least to the same degree).

I would argue that it is implicit in Robertson's concerns about alienation's effect on women (but not men) that women are likely to be more emotionally and psychologically harmed by that alienation. I take this view because in focusing on the potential harms of a market in ova rather than of harms in a market for *gametes generally*, he is necessarily drawing a gender distinction. His concerns seemingly rest on a belief that women take a more essentialist attitude toward reproduction and to genetic connectedness, and that alienation will harm them more because it serves an important link between them and their offspring. Implicitly, this harm must be greater than any experienced by men to make sense of the focus on *women* entering the market. This is what I think Robertson means when he states that 'fungibility will be a challenge' in egg markets 'because of the genetic tie and its meaning for women banking their eggs'.

But is it the case that men (or at least most men) lack such a relationship or such feelings, and that women (or at least most women) have them? Are men carefree participants in a commercial sperm market, while women would prefer to donate within an altruistic context to a woman she knows?<sup>129</sup> Is there a gender divide that would justify concern about women that is not expressed about men? It is hard to determine conclusively, but there are some studies that can shed some light on the matter. Few that are directly on point, but we can extrapolate to an extent from what information we have. Such extrapolation suggests that the answer to both questions is actually no.

Numerous studies yield information about people's attitudes to *donation* of their gametes, and collectively they reveal those feelings to be varied and complex. They also do not break down entirely along gender lines. One large systematic review of 64 studies of women's attitudes to oocyte donation found that women's motivations for oocyte donation are reported to include altruism (helping infertile women) and self-interest (reduction in costs of fertility treatment offered in exchange for oocyte sharing). But where donation is made to someone known to the donor, they are also driven by their relationship with them, while wholly commercial donors are motivated by monetary concerns. That said, commercial oocyte donors also report wanting to donate as a way

<sup>129</sup> It is hard to find data on this, but one study found that 16% of oocyte donors were donating to family members, while 4% of sperm donors were related to the recipients. A difference but the vast majority in each case were donations to non-relatives: Agneta S. Svanberg et al., *Gamete Donors' Satisfaction: Gender Differences and Similarities among Oocyte and Sperm Donors in a National Sample*, 92 ACTA. OBSTET. GYNECOL. SCAND. 1049, Table 2 (2013), <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3933731/> (accessed Sept. 29, 2016).



to help others, or to in some sense atone for past decisions such as termination of pregnancy. That is, those women who provide eggs in return for financial reward are driven by both financial and altruistic motives.<sup>130</sup>

Men too, however, report both financial and altruistic motives (such as their own experience of difficulty conceiving) for sperm donation.<sup>131</sup> One systematic review of studies of *potential* sperm donors revealed men to be motivated by financial considerations in large part, but altruistic reasons and experience of infertility were also drivers.<sup>132</sup> The same review showed that most potential male donors would be willing to meet with offspring, but mostly only as a single contact.<sup>133</sup> By contrast, men who were *actual* donors were more likely to report altruism as their motivating factor, with some studies finding it to be the most significant reasons for donating. Financial concerns were also found to be important,<sup>134</sup> as was the desire to father children and to pass on their genetic material. Altruism was more often the driver for older men who already had children of their own.<sup>135</sup> The majority of actual donors said they did often think about the children born as a result of their donation, and many were open to contact. In one study, 40% said they felt happy when thinking about possible offspring, and 40% said they sometimes worried about the future of those possible children.<sup>136</sup> The key finding that emerged was that the decision to donate sperm is usually multifaceted, driven by a cluster of reasons that include, but are not limited to, altruism and financial reward.

Other studies have similarly suggested that both genders are driven to donate by a combination of altruism and financial considerations. One fairly small study in fact showed there was no real difference between attitudes of sperm and oocyte donors in terms of reasons for donating. Both men and women cited financial reward and helping others as their main reasons. Indeed, while the same percentage of men cited each reason as their main reason (around 32% for both) or as one of their reasons (76% for altruistic reasons, 71% for financial reasons), *more* women cited financial reward as their *main* reason (46%) than did those citing altruism (36%).<sup>137</sup>

Though small, this study set in the context of the large reviews goes some way to dispelling the assumption that female donors are driven by altruism or reasons related to care, while men are more financially motivated. It is true in this small study that more women cited altruism as a reason for donation than did men (91% versus 76%), but the difference was not great. The data generally available suggest that there is not, in fact, a clear gender divide in attitudes to personal gamete donation and sale, and that women can have financial motives as well as (or instead of) altruistic ones. Nor is it the case that women are donating *purely* out of concern for other women who cannot

<sup>130</sup> Satvinder Purewal & Olga van den Akker, *Systemic Review of Oocyte Donation: Investigating Attitudes, Motivations and Experiences*, 15 HUM. REPROD. 499 (2009). See also the meta analysis by Timothy Bracewell-Milnes et al., *Investigating Psychosocial Attitudes, Motivations and Experiences of Oocyte Donors, Recipients and Egg Sharers: A Systematic Review*, 22 HUM. REPROD. UPDATE 450 (2016).

<sup>131</sup> Uschi Van den Broeck et al., *A Systematic Review of Sperm Donors: Demographic Characteristics, Attitudes, Motives and Experiences of the Process of Sperm Donation*, 19 HUM. REPROD. UPDATE 37 (2013).

<sup>132</sup> *Id.*

<sup>133</sup> *Id.*

<sup>134</sup> *Id.*

<sup>135</sup> *Id.*

<sup>136</sup> Vasanti Jadva et al., *Sperm and Oocyte Donors' Experiences of Anonymous Donation and Subsequent Contact with Donor Offspring*, 26 HUM. REPROD. 638 (2011).

<sup>137</sup> *Id.*



conceive, or some other caring reason, and so should be assumed to *need* a connection with the recipient, or that alienation is a wrench that is balanced only by this altruistic motivation.

That said, some studies do suggest some gender division in attitudes to donation of gametes generally (as opposed to reasons about donating personally). One study that considered attitudes to sperm donation found that women were more much more likely to be concerned about genetically related children being created outside their relationship, and about the possibility of inadvertent incest.<sup>138</sup> Women were more uncomfortable with the notion of donor insemination generally,<sup>139</sup> and were more likely to want personal contact with the recipient couple.<sup>140</sup>

Another study also found some small gender differences. Before donation, women were more likely to experience anxiety (8.1% vs 6.7%) and almost twice as likely to experience anxiety after donation (14.7% vs 8%).<sup>141</sup> Before donation, around 2% of women experienced depressive symptoms vs 1% of men. For men, there was no change after donation, but for women this increased significantly to 4.3%.<sup>142</sup> However, this could be explained because 12.8% of women said they did not receive enough information on future consequences. Only 3% of men said they wanted to have more information on future consequences.<sup>143</sup> And when asked about their attitudes to donation, both types of donor were generally positive about the experience. For example, almost the entire sample said that they were happy to help others have children and 98% of oocyte donors said they felt like they had made a contribution to their fellow human beings. In fact, 37% of egg donors stated it was a highlight of their life. Only a very small number of women, 3.1%, said that they would 'brood about it for the rest of their life', which was actually a smaller proportion than for sperm donors, at 4.6%.<sup>144</sup> Although most women, 86%, said their experience overall was good, this was significantly lower than for men, for whom almost 98% said they had a good overall experience of donation.<sup>145</sup> But these differences can be explained by the fact that 15% had a bad experience with hormones and 18% found retrieval painful.<sup>146</sup>

While of course not an exhaustive survey of the literature, these studies suggest that there may be some gender differences, but they are relatively small—most women (like most men) did not experience anxiety before or after donation. Women in the first study also seemed to find gamete donation generally more problematic than men, suggesting that it is the donation per se that is at issue for some, rather than alienation from their own eggs. But the much more well-established conclusion from all the studies presented is that most men are driven by many of the same motivations and are plagued with many of the same concerns in relation to their donated sperm as most women.

<sup>138</sup> Alison Purdie et al., *Ethics and Society: Attitudes of Parents of Young Children to Sperm Donation—Implications For Donor Recruitment*, 9 HUM. REPROD. 1355 (1994).

<sup>139</sup> *Id.*, at 1357.

<sup>140</sup> *Id.*, at 1356.

<sup>141</sup> Svanberg, *supra* note 129, at Table 2.

<sup>142</sup> *Id.*

<sup>143</sup> *Id.* at Table 3.

<sup>144</sup> *Id.*, at Table 4.

<sup>145</sup> *Id.*, at Table 3.

<sup>146</sup> *Id.*, at 1052.

Therefore, it isn't at all clear on the basis of this data that the majority of women have different attitudes toward their eggs, or feel any greater sense of alienation in giving them up. It is not the case that men and women have *distinctly* gendered motivations in relation to gamete donation and sale, nor that women are more emotionally involved or somehow likely to suffer psychologically as a result than men if they donate and come to regret it.

Therefore, the evidence suggests that we should be reluctant to assume some deep, biological attachment to oocytes on the part of women, while ascribing to men some detached perspective that allows them to donate sperm without harm, such that we should feel concern for women entering the market that we do not show for men. Essentially, there is an insufficient basis on which to assume women will be harmed and perhaps ought to be protected, while men will not be and need not be.

Therefore, if we already accept (as we clearly do) that sperm may be donated and in some jurisdictions sold, we should bring the same level of concern (or lack thereof) to women similarly donating and selling eggs, unless good evidence of differences in approach and potential harms can be identified. We should trust women to make decisions for themselves about selling their eggs, just as we do men with their sperm. Otherwise, we both undermine their autonomy and perpetuate gendered stereotypes about attitudes to reproduction, bodies, and life roles.

We should also avoid framing female donation and sale as a kind-hearted gift that necessitates enabling contact between donor and donee, while tolerating an arms-length market for sperm, when it is clear that there is no clear gender division of attitudes to support this. Fundamentally, the data show that we cannot successfully make assumptions about how women will react to egg donation, and so we should not found our approach on such assumptions. Rather, we should provide women (and men) with information and choices that allow for the full range of feelings about donation to be encompassed and respected.

Given the doubts the foregoing analysis casts on assumptions about how women will feel about egg donation and sale, the next question is whether we *should* be concerned, as Robertson is, about potential harms to women if they become egg sellers. The studies examined do not suggest that most women are particularly concerned about being alienated from their ova, and generally no more so than men. Consequently, as we do not appear to have serious concerns about the harm of sperm markets on men, if women do not report feeling substantially differently about donation to the way men feel, we should at least begin from the position of treating the genders in the same way and permit both to donate and sell in the same way unless clear *evidence* of harms to women can be identified.

Do the data suggest evidence of harm to women? Not particularly. Of studies focusing solely on women, one extensive metastudy of 62 studies found that a majority of women were positive about their experiences donating eggs.<sup>147</sup> Another found that 70% of women who had donated were satisfied with the experience, 42% would donate again, and 50% would recommend donation to a friend, even though quite a few did experience negative emotional experiences during the process. Many found their expectations that they would experience satisfaction from helping other

<sup>147</sup> Bracewell-Milnes et al, *supra* note 130.

women were fulfilled, but felt their expectations.<sup>148</sup> The Svanberg study found similar results, with 86% satisfied with the overall experience.<sup>149</sup> These data suggest that while some women may find egg donation an unsatisfactory experience, most report the opposite.

These findings collectively suggest that a better approach would be to discuss gamete markets generally. Although men's experiences will not be completely analogous to those of women, the lack of a strong gender divide suggests that they may be more similar than they are different. Thus, the starting point should be an open approach that draws on the experiences of men in sperm markets and considers how far those are shared by women rather than making assumptions about how women will feel.

I agree that egg freezing may alienate women from their eggs, but I am not convinced that this is necessarily problematic. The main, concrete differences between egg and sperm donation are the invasiveness of the process for obtaining eggs and the existence of some health risks for women.<sup>150</sup> If women donate repeatedly, this may affect their future fertility in a way that a man's would not be. But these are simply risks of which women should be warned, not bases upon which to restrict or reframe practice; nor are they reasons to assume that a market in eggs is profoundly different from that in sperm.

Further, enabling alienation by women may in fact be an important means by which to encourage a shift away from assumptions about women's relationship to their offspring and their presumed role as caregiver. Although alienation may be harmful for some women who do maintain a very emotive or psychologically complex relationship with their eggs, for others, as surrogacy is for some women, it may in fact be empowering to alienate themselves from their eggs. For some, this may come simply from taking control of their own financial destiny, and for others it may be empowering to be in the position to help other women to conceive. It will depend on the woman and her relationship with her eggs, just as the same could be said of men and their sperm. As with using egg freezing, then, the better approach is to permit individual decision making, supported by good information provision.

More generally, in treating male and female donors similarly may be an additional step toward breaking away from the presumption of women being the main caregiver for children, and the essentialist perceptions of women and reproductive capacity that continue to permeate our culture. Even if Robertson is right that many women may well feel strongly linked to their ova and be uncomfortable with selling them or donating them as sperm is currently sold or donated, we should not assume all women feel this way. This cannot therefore be an argument against a market in eggs or arrangements to allow donation in exchange for a benefit when we permit men the freedom to alienate themselves from their gametes in this way. Those women who feel strongly can, autonomously, decide not to alienate themselves.

Setting aside the comparison with sperm markets, the data discussed above suggest that women are broadly positive about their experiences donating eggs. This would

<sup>148</sup> Cynthia B. Jordan et al., *Anonymous Oocyte Donation: A Follow-Up Analysis of Donors' Experiences*, 25 J. PSYCHOSOM. OBSTET. GYNAECOL. 145 (2004).

<sup>149</sup> Svanberg, *supra* note 129, at Table 3.

<sup>150</sup> The Svanberg study found that 15% of women reacted badly to the hormones they had to take as part of the donation process, and 18% reported pain from the retrieval process: Svanberg, *supra* note 129, at 1052.

suggest that they were not harmed in being alienated from their ova (or at least did not feel themselves to have been harmed). The empirical evidence sits quite comfortably with the findings reported by Hilary Marshak, who undertook psychological evaluations of potential egg donors over a 15-year period. In response to the question ‘how do you feel about donating your eggs?’, she reports replies such as

“It’s like donating an organ. It’s not a baby.”

“I don’t have any attachment to my eggs.”

“It’s just tissue to me.”

“I wouldn’t have any interest in meeting the person who got my kidney—why should I want to know about my eggs?”

“I don’t want kids—at least not now – why shouldn’t someone else use my eggs?”

“My eggs just go to waste every month. I feel better using them for something good.”<sup>151</sup>

This is not, of course, an academic study, but my point here is *not* that the data cited above and Marshak’s anecdotes provide definitive proof that women will not be harmed by alienation from their ova. Large amounts of data are of course lacking because egg sale and donation is a relatively recent phenomenon that is not widely undertaken. However, these studies should at the very least raise some doubts about the assumptions we might otherwise make about women. They should warn us against concluding that there is a sufficient risk of harm to women that we might want to overly control their capacity to choose whether to sell their ova. Some might be harmed, but these data suggest that many will not, and we should regulate accordingly (and continue to gather data to inform those regulatory approaches) by allowing women the same freedom to decide for themselves as we currently allow men. Our focus should be on informing those choices, not constraining them.

## VII. CONCLUSION

The professed aim of Robertson’s paper was to provide a guide through the thicket of issues at stake as opposed to necessarily adopting a particular stance in respect of them. In this regard, his paper is highly valuable, and there is much for us to consider if a move toward widespread donation and sale of frozen eggs emerges. But we must also be mindful of too readily accepting a discourse premised on a gender-differentiated approach to donation and sale of gametes without strong evidence that there indeed are valid gender differences. Even if egg donation is to be framed differently to sperm donation, such a gendered frame should not be perpetuated unless it is justified by solid evidence. I suspect that much of the gift-oriented framing may have derived less from women’s

<sup>151</sup> Hilary Marshak, ‘Donors’ Attitudes About Egg Donation’, *Resolve: The National Fertility Association*, <http://www.resolve.org/family-building-options/donor-options/donors-attitudes-about-egg-donation.html> (accessed Sept. 29, 2016).

attitudes to their eggs per se, and more from the greater degree of bodily invasion and risk that attends egg donation. The more finite nature of a woman's egg supply and the risk of infertility as the result of depletion are probably also factors in how women's perspectives on such donation have been framed.

However, we should be wary of these physiological distinctions leading us to make assumptions about women's emotional and psychological perspectives on the donation and sale of gametes. Moreover, a genuine concern along those lines would necessitate a prohibition on 'donating' eggs for fee reductions—a sale by another name. Letting them 'donate' while not permitting them to sell their ova generally means that really we are permitting transfers for compensation only when the 'donor' has a reason for doing so with which we agree, namely to help them fund their IVF treatment. But it is unacceptably paternalistic to deprive adult women of their ability to make decisions about what is done with their ova. This paternalism is particularly patriarchal when no similar concerns are being raised about the practice of sperm donation for financial gain, which has been happening for decades.

My further concern is that throughout Robertson's paper, he includes suggestions and assumptions that rest of genetic essentialist views about how women think and feel. Although he never quite comes out and says women should not become entrepreneurs in an egg market, his repeated warnings about egg donors being 'simply paid for their ovarian bounty, with less of a connection to the recipients they are helping'<sup>152</sup> absent any similar concern being raised for the men who do so every day, suggests a gender-based concern, which as we have seen is unsupported by the evidence. This gender distinction in places drifts toward the implicit conclusion that women, but not men, might need greater protection in relation to whether and how they might commodify their gametes.

Certainly, we should protect women from harms that may result from donating or selling their eggs where we can do so without undermining their autonomy. We should also take care that the option to freeze eggs is not sold to women as a panacea for the challenges they face in balancing their various goals. But such an approach must nevertheless respect women's capacity to make autonomous, personal choices when provided with accurate information. Assumptions portraying women as overly optimistic about their future fertility or as lacking understanding of the limitations of egg freezing later in life should be avoided. Instead, we should take account of the empirical research that suggests that most women are aware of the risks of postponing reproduction. However, these data also identify some misconceptions and gaps in some women's knowledge of the extent to which egg freezing (and ARTs generally) can assist them. We should do so via good information provision, counseling requirements, and public education campaigns, rather than restrictions on their choices. Our goal should be the promotion of women's education on reproductive matters and legislating to ensure women receive appropriate information from service providers, for example, by regulating advertisements of egg freezing so as to ensure accuracy. By doing so, we give women the best chance to make choices that are most likely to be right for them. When we provide this information, we should avoid making assumptions, but when we need to, they

<sup>152</sup> Robertson, *supra* note 2, at 136.

should be based on the best evidence available, and we should avoid as far as possible presuming to know how a woman thinks or feels. Finally, none of this should detract from efforts to alter the underlying societal conditions that drive women to postpone reproduction toward the end of their natural reproductive life, which if successful will improve the options open to women. But whatever we achieve in that sense, above all we should trust women to make the choices they believe are best for them and facilitate these choices insofar as we can.