

DEBATE

How will reproductive technology change the future of reproduction?

Nina Dippold^{1,2}  and Éva Beaujouan^{1,2} 

ABSTRACT This summary outlines the main debates from a round table discussion at the Wittgenstein Centre Conference 2024 in Vienna on the societal implications of assisted reproductive technology (ART) in the context of delayed parenthood. While ART provides new reproductive opportunities, it also raises important ethical, social and political questions concerning access, regulation, reproductive agency and the commercialisation of fertility treatment. The interdisciplinary discussion explored how reproductive technology is reshaping understandings of family formation, gender roles and biological limits. Particular attention was given to inequalities in access, the growing influence of markets, reproductive autonomy and the need for informed reproductive decision-making. The panellists also highlighted how social structures, including labour markets and gender norms, contribute to the postponement of parenthood and increase reliance on ART. Overall, the discussion emphasised the need for broader public debate, continued interdisciplinary research and values-based regulation of reproductive technology. ART was presented not only as a medical innovation, but also as a development with far-reaching consequences for society and the future of reproduction.

KEYWORDS Round table discussion • Assisted reproductive technology • Delayed reproduction • Fertility education • Regulation • Social structures

Introduction

In an era of delayed parenthood, assisted reproductive technology (ART) is expanding rapidly around the world, providing infertility treatments to millions of women and men, but also fuelling a rapidly growing and highly profitable global market. While ART offers hope and options to many people struggling with infertility, it also raises profound social, ethical and political questions. Are the consequences of ART foreseeable and worrisome? Who has access to these treatments, and under what conditions? When is choice empowering, and when does it create pressure? How can ethical issues be navigated? And what do new possibilities for delaying, managing or outsourcing reproduction mean for our ideas of family, gender roles and responsibility?

✉ Nina Dippold, nina.marie.dippold@univie.ac.at.

1 University of Vienna, Vienna, Austria.

2 Wittgenstein Centre for Demography and Global Human Capital (IIASA/POPJUS, OeAW/VID, Univ. Vienna/DoD).

These questions were discussed by five panellists from different disciplines during a round table discussion on the first day of the Wittgenstein Centre Conference 2024 in Vienna, which focused on the topic of “Delayed Reproduction: Challenges and Prospects”. The following text is a summary of the main issues that were discussed in the round table discussion (Uni Wien live, 2024).

The five panellists were (in alphabetical order): Jacky Boivin from Cardiff University, Erich Griessler from the Institute for Advanced Studies Vienna, Marlene Hager from the Medical University of Vienna, Anna Rotkirch from the Population Research Institute Finland and Lucy van de Wiel from King’s College London. Anna Wallner from “Die Presse” moderated the round table discussion.

In a nutshell, the roundtable discussion provided insight into the ongoing debates surrounding the current use and potential future repercussions of reproductive technology. These are complex topics that require more comprehensive data and continued research. The discussion emphasised the importance of a wider public discussion, and suggested the need for values-based regulation of ART. It also touched on the potential impact of ART on our social and biological perceptions of family formation.

Rapidly advancing assisted reproductive technology: Should we worry more?

Assisted reproductive technology is evolving at an exceptional pace, transforming our understanding of reproduction and family formation. These developments present new challenges and prompt the question of whether societies are adequately considering the risks and consequences of ART.

It’s totally changing us. And this is something we should discuss. And that’s what I am worried about: We don’t have the culture, the practice or the bodies to discuss these very important questions. (Erich Griessler)

Therefore, sustained public discussion on the repercussions of ART is necessary, as such debates do not happen frequently enough in current discourse. Rather than focusing on hypothetical future risks, attention should be directed towards the ongoing diversification of family formation processes and our changing understanding of reproduction – a process that is already underway.

Delayed reproduction and fertility awareness: How can societies facilitate earlier and more informed consideration of reproductive decisions?

The demand for a more extensive discussion on the repercussions of ART underscores the necessity to raise awareness and educate individuals on fertility and delayed parenthood. Fertility rates are declining faster than anticipated, with the global fertility rate recently

falling below the replacement threshold needed to keep the population stable in the very long term. This marks a stark reversal of the long-held narrative of overpopulation. Given these rapidly changing fertility trends, educating individuals on reproductive planning and late parenthood is more important than ever. Finland, which has one of the oldest populations and lowest birth rates in Europe, is an example of a country working to empower individuals to have the number of children they want through public discourse. To facilitate these conversations, we need to have better data, more scientific research and open dialogue that addresses these issues, rather than resorting to simplistic solutions.

There are many potential pathways to education. You can start with educating young people, but if you do that, then you have to make sure that you give the right kind of knowledge otherwise, it produces anxiety. (Jacky Boivin)

A personalised, diversified approach to fertility education is needed that combines age-appropriate information with support to help people reflect on their preferences and make decisions based on the information they have. This process involves providing people with knowledge about all existing options and their attributes, ranging from fertility testing to IVF and ICSI for conception, and alternative family formation methods such as solo parenting. However, this information must be presented carefully to avoid causing unnecessary anxiety.

Although people today are generally better informed about their fertility, this does not necessarily mean that they will start a family earlier. Many people arrive at fertility clinics in their mid-thirties, not because they want to have children immediately, but to find out whether they can safely postpone parenthood for a while. Alongside the decision to have children, there are numerous life goals that people want to achieve. Uncertainties surrounding childbearing and other life circumstances, such as career decisions, also play a significant role in the continuous postponement of parenthood. Consequently, individuals try to keep all their options open.

Between reproductive agency and the commercialisation of ART: How should reproductive technology be regulated?

In what ways can societies regulate and govern emerging forms of reproductive technology to ensure reproductive agency and legal rights, while also addressing inequalities, cross-border access and the influence of commercialisation and power relations? This question encompasses multiple levels, including legal regulation, economic conditions, societal norms and entrenched prejudices.

With egg freezing or other types of assisted reproduction, there are real problems with limiting access and there are real problems with having complete deregulation due to commercialisation and financialisation. (Lucy van de Wiel)

Neither unrestricted access nor strict limitations offer optimal solutions; both raise questions about the reproductive politics involved in the usage and regulation of ART.

While restricting access can undermine reproductive agency, complete freedom raises concerns about commercialisation and financialisation. This tension must be resolved through explicit choices; regulation is based on underlying norms that need to be openly debated. Instead of allowing regulatory frameworks to emerge implicitly through state control or market dynamics, there must be public discussions about how to regulate ART and for which social purposes.

We should base our regulations on discussions: Which kind of values do we want to support and which we don't. (Erich Griessler)

At the same time, attention is increasingly shifting away from regulating the use of and access to ART for patients – most often women – and towards the governance of the markets, corporations and investors that increasingly shape reproductive options. Instead of basing eligibility criteria on age, relationship status or social background, there should be greater ethical scrutiny of reproductive technology companies and their investors to ensure that these emerging markets are just, allow equal access for everybody and do not exploit those seeking ART treatments.

The national legal framework and funding schemes in a given country have a significant impact on patients' access to ART. While some countries impose strict eligibility criteria and provide limited or no funding, others grant many groups access to ART and provide generous financial support. From this perspective, reproductive agency and freedom are closely tied to how much the state restricts or opens up access to ART. However, at the same time, reproductive technology is increasingly operating in a transnational context. People are often well informed about treatment options in other countries and may travel abroad to access procedures that are restricted domestically, while remaining aware of what treatments they are denied at home. This cross-border dimension complicates national regulation and highlights inequalities between countries and reproductive regimes.

Biological versus social limits: In what ways does ART challenge our current understanding of reproductive barriers?

As educational and career pathways are becoming more complex, people are often delaying starting a family until their mid- to late thirties. By this time, female fertility has already begun to decline. This creates a conflict between social expectations and biological limitations. Social structures, such as educational systems, labour markets and gender norms, substantially impact the timing of childbearing and may conflict with these limits. This raises the question of whether technological solutions should compensate for these constraints, or whether societies should create conditions that enable childbearing at biologically optimal ages – or perhaps a combination of the two.

Should female biology adjust to our social lifestyle? Or should we have a society where women and men who want children can have them when it's biologically optimal to have them and can combine studies and work in a more family-friendly way? (Anna Rotkirch)

Limits to childbearing are not only biologically determined. While men can have children at an advanced age, society is much less accepting of women having children in their fifties. *“That’s where the inequality comes in”* (Marlene Hager). However, many reproductive technology procedures have evolved beyond their original purpose of treating specific infertility disorders and are now being used by a broader population dealing with age-related infertility. The increased use of ART pushes reproductive boundaries and could lead to parenthood at an advanced age becoming normalised in the future. Therefore, reproductive technology has the potential to challenge our concept of gender roles and of the differences between barriers to motherhood and fatherhood.

*Reproduction, after all, is about finding a way to continue despite circumstances.
Humans evolve – that’s what we do.* (Jacky Boivin)

ORCID iDs

Nina Dippold  <https://orcid.org/0009-0000-2004-8376>

Éva Beaujouan  <https://orcid.org/0000-0003-3072-4336>

Reference

Uni Wien live. (2024). *Reproductive futures: Shifting the limits of late fertility?* [Video]. YouTube. 21 November 2024. <https://www.youtube.com/live/p5iTyssGR7s>.