Vienna Yearbook of Population Research 2026 (Vol. 24), pp. 1–17
https://doi.org/10.1553/p-48g9-2645

INTRODUCTION

Introduction: Delayed reproduction reshapes fertility patterns and reproductive experiences

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ABSTRACT This Special Issue offers new perspectives on delayed reproduction in contemporary societies. Delayed reproduction is a consequence of institutional and structural factors that make earlier childbearing challenging and of evolving individual preferences. The articles in this Special Issue explore the unique nature of this interaction between personal aspirations, reproductive constraints and broader social, economic and institutional contexts. They examine the drivers of delayed reproduction and the mechanisms by which childbearing is postponed. These include partnership dynamics, uncertainty and repeated revisions to fertility timing intentions. The contributions also shed new light on stages of the reproductive process that are often overlooked, from conception and birth experiences to non-live birth outcomes. Finally, they provide a comprehensive overview of the consequences of delayed reproduction for individuals and societies, contextualising the phenomenon within broader discussions on low fertility and the increasing significance of reproductive technologies. By bringing together these different perspectives, the Special Issue advances our understanding of how delayed reproduction is reshaping contemporary fertility patterns and reproductive experiences. It provides new evidence to inform both future research and policy responses to the opportunities and challenges associated with delayed reproduction.

KEYWORDS Births • Medically assisted reproduction • Fertility • Fertility postponement • Fertility intentions • Fertility timing • reproduction • low-fertility countries • Europe

Introduction: Why should we study delayed reproduction?

Delayed reproduction, i.e. people becoming parents at older ages, began as a major demographic trend in western Europe in the 1970s. Since then, it has become common in all high-income countries and many middle-income countries worldwide (Beaujouan, 2020; Spoorenberg and Skirbekk, 2025). While women in most European countries typically

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had their first child in their early to mid-twenties in the 1970s, the average age at first birth is now approaching or exceeding 30 (HFD, 2026). In the early 2020s, first births after the age of 35 accounted for 10–20% of the total fertility rate (TFR) in most high-income countries, and for 30% of the TFR in Italy, Spain and the Republic of Korea (HFD, 2026).

This long-term trend has had a profound impact on people's reproductive lives. On an individual level, delaying fertility can increase the risk of infertility, miscarriage and health issues for both mother and child (Myrskylä et al., 2017). Consequently, more people may be unable to have as many children as they had hoped. At an aggregate level, delays in fertility timing result in short-term declines in the TFR, and also appear to reduce the TFR of cohorts over the long term (Beaujouan, 2023; Sobotka, 2017).

Delayed reproduction has multiple causes, reflecting both changes in people's lives and broader transformations in the social contexts in which fertility decisions are made. The expansion of educational and employment opportunities for women is widely recognised as a key driver of delayed first birth (Kreyenfeld et al., 2012; Ní Bhrolcháin and Beaujouan, 2012). Greater gender equality in education and labour markets, as well as women's increased empowerment and reproductive autonomy, have enabled later fertility (Goldscheider et al., 2015). Broader transformations in partnership trajectories, labour markets and the transition to adulthood have reinforced this trend (Mills et al., 2011). At the same time, changing aspirations regarding partnership, family and parenthood have contributed to later family formation: the framework of the second demographic transition emphasises the role of shifting values in explaining changes in family behaviour, including the postponement of childbearing (Lesthaeghe, 2010). Yet delayed reproduction is not simply the result of greater choice. It can also reflect structural constraints, including the opportunity costs of combining childrearing with education and career building in young adulthood, financial insecurity and difficulties in establishing stable partnerships or living conditions conducive to parenthood (Pailhé and Solaz, 2012).

Technological change has further reshaped the possibilities and consequences of postponement. The availability of effective contraception has given individuals greater control over the timing of childbearing, while assisted reproductive technology (ART) has enabled some people to pursue parenthood at older ages. In recent years, ART has developed rapidly and become more widely available: across Europe, 1–7% of births in 2019 could be attributed to ART (The European IVF Monitoring Consortium (EIM) for the European Society of Human Reproduction and Embryology (ESHRE) et al., 2023). An increasing proportion of these births are to women over the age of 35 (Ben Messaoud et al., 2020). These technologies have prompted important questions, including about their affordability and demographic impact. The current and future use of ART raises many ethical and moral issues that may prove difficult to resolve (Frith et al., 2022; Mertes and Pennings, 2011; van de Wiel, 2020).

Although past research has identified important causes of delayed reproduction, the complexities of this phenomenon have not been fully captured. We have identified five key challenges and unresolved issues relating to delayed reproduction that will shape the research agenda over the next few decades. We outline these issues here to initiate discussion before providing a more detailed overview of the topics covered by the papers in the Special Issue.

https://doi.org/10.1553/p-48g9-2645

1. Is delayed reproduction a sign of progress or a symptom of constraints?

   Delayed reproduction can be viewed as a consequence of positive societal developments, such as increased educational opportunities, gender equality and reproductive autonomy. As such, it is a marker of social progress. However, it is also often seen as a result of constraints, including the later achievement of the socioeconomic conditions typically considered necessary for parenthood, such as having stable employment, a committed partnership and adequate housing (Mills et al., 2011). Social science research examines how individuals navigate and adapt their reproductive decisions amid uncertainty or conflicting life goals (Datta et al., 2023). When people find it challenging to meet the conditions they deem necessary for having children, constraints may play a disproportionate role in reshaping fertility patterns. This issue is closely related to the current debate about whether people are having fewer children because they want to or because they cannot fulfil their reproductive preferences under current institutional conditions (UNFPA, 2025).
2. The chicken and the egg: is low fertility partly a consequence of fertility timing shifts, or does delayed fertility itself result from people wanting smaller families?

   Demographic research generally suggests that a shift towards higher ages at first birth can contribute to lower fertility rates and smaller family sizes at the population level because it compresses the remaining window of opportunity for reproduction (Beaujouan et al., 2023; Kohler et al., 2002). Nevertheless, further investigation is needed to determine causality, as people may also start having children later because they want smaller families in the first place. Decreases in fertility intentions and ideals among young people have recently been observed in several countries, including France, Canada and the Nordic countries, which lends weight to this complementary explanation (Bouchet-Valat and Toulemon, 2025; Dommermuth et al., 2025; Laplante and Blouin, 2026). Therefore, in order to understand the underlying mechanisms of delayed fertility, it is essential to take a stratified approach by age, exploring trends in fertility intentions and levels, as well as the gap between intentions and the actual number of children born at different ages.
3. More complex reproductive trajectories.

   Due to structural changes, later partnership formation and shifting preferences, people are seeking to conceive children closer to the end of their reproductive window. This increases the risk of infertility and miscarriage, as well as the need for ART (Almeling, 2015; Schmidt et al., 2012). These events, in turn, may contribute to delayed reproduction or even prevent people from having children. Have reproductive trajectories changed accordingly? Do these trajectories differ for men and women, and do they vary depending on people's partnerships, their socioeconomic characteristics and the institutional context?
4. The role of reproductive technologies in an era of delayed reproduction.

   ART is increasingly used by people who are unable to conceive naturally, including same-sex couples and single women. However, there is a misconception about its ability to address age-related infertility, particularly oocyte ageing. The rates of pregnancy and live birth decrease with women's age, dropping dramatically as they reach their forties. Thus, people may be overestimating their chances of having children at higher

https://doi.org/10.1553/p-48g9-2645

reproductive ages (Compans et al., 2026). Although egg freezing offers the potential to preserve fertility for the future, the cost and limited accessibility of the procedure may actually increase inequality in access to late childbearing. Do ART and social egg freezing mitigate the consequences of fertility postponement, or do they create the (false) expectation that reproductive ageing can be overcome by technology? How do these patterns vary by socioeconomic status and context?

5. The capacity to postpone safely is not the same for everyone.

   Delayed reproduction may create new inequalities in addition to existing ones. People who are highly educated and economically advantaged generally have greater access to stable employment, housing, childcare, fertility treatment and egg freezing. Consequently, they are better positioned to transition from planning to have children later in life to successfully reproducing. In contrast, socially and economically disadvantaged groups may more often postpone reproduction in response to uncertainty and limited opportunities rather than due to deliberate planning. The high costs of ART and a lack of flexibility in the workplace may prevent them from having children, either without or with medical assistance if needed (Goisis et al., 2024). First birth timing varies by gender, socioeconomic position, migration background and context (Ferraretto and Vitali, 2024; Van Roode et al., 2017). Could delayed reproduction conceal fundamentally different experiences with different outcomes, i.e. privileged postponement for some and constrained postponement for others?

This Special Issue engages with these challenges by examining whether and when people have children; how their reproductive intentions evolve; and how postponement affects their chances of conceiving and having a live birth. It also brings together new empirical and conceptual perspectives to reframe delayed reproduction not simply as a demographic trend, but also as a process that is embedded in the life course and is central to contemporary fertility patterns and reproductive experiences.

We have organised the contributions to this Special Issue around three broad themes relating to delayed reproduction. The first theme revisits some of the drivers of delayed fertility, offering both quantitative and qualitative perspectives. The second theme highlights the complexity of reproductive pathways by examining not only live births, but also the entwined reproductive experiences. The third theme focuses on the implications of delayed fertility and asks whether it should be a cause for concern. Finally, we highlight several issues that remain open and revisit some policy approaches that may help to address the challenges associated with delayed reproduction.

Are the drivers of delayed reproduction well understood?

A variety of frameworks are being used to study delayed fertility and how it develops. Asking people about their fertility goals provides valuable insights into whether and when they expect to become parents. Recent evidence suggests that there is increasing uncertainty surrounding fertility choices, and that lifetime childbearing intentions have declined among young adult women and men (Bouchet-Valat and Toulemon, 2025;

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Dommermuth et al., 2025). These findings are consistent with theoretical perspectives that emphasise the growing role of uncertainty in contemporary life course decisions (Badolato et al., 2025; Vignoli et al., 2020). Nevertheless, rather than signalling a permanent rejection of parenthood, lower intentions at younger ages may instead reflect the postponement of fertility plans in response to uncertainty about future life circumstances. Indeed, pathways to parenthood have become increasingly complex, and fertility goals – including timing intentions – are subject to uncertainty and change over the life course (Bachrach and Morgan, 2013; Hayford, 2009; Ní Bhrolcháin and Beaujouan, 2019; Slabá et al., 2024; Trinitapoli and Yeatman, 2018). Using panel data from Germany, Shalini Singh's contribution (this volume) shows that although individuals typically plan to become parents earlier in life, they frequently revise these plans as their circumstances change – i.e. they postpone their intended age at parenthood, especially in response to their partnership status. Therefore, delayed reproduction can be understood as a consequence of changing reproductive preferences and uncertain intentions in young adulthood, as well as repeated revisions to fertility intentions throughout life.

Alongside the traditional narrative of women's evolving circumstances, alternative frameworks have expanded their scope to encompass women's partners, the trajectory of women's relationships and couples' social status (Miller and Pasta, 1995; Trimarchi and Van Bavel, 2020). Concepts focusing on gender equality and gender relations have emphasised the impact on fertility behaviour of the unequal domestic division of labour, differences in partners' ages and educational attainment and differences in women's and men's socioeconomic conditions (McDonald, 2013). In this volume, M-C Compans, Alessandra Trimarchi and Éva Beaujouan show that age differences between partners matter for the transition to the first birth when unions are formed after age 30. In more gender-equal Nordic countries, both age homogamy (the partners are similar in age) and age hypogamy (the woman is older than the man) are associated with a higher likelihood of having a first birth for women who partnered later in life. In contrast, in other European regions, couples who adhere to more conventional age patterns, in which the man is moderately older than the woman, are more likely to have a first birth.

Other frameworks pay attention to the importance of kin and social networks in family formation and fertility behaviour (Balbo and Barban, 2014; Lois and Arránz Becker, 2014; Pessin et al., 2022; Sear, 2017). In her Debate contribution (this volume) Anna Rotkirch emphasises the importance of social connections for fertility behaviours and timing. She discusses how perceived social norms and levels of institutional and familial support may influence a person's reproductive desires, and how the fertility behaviour of peers may trigger the decision to become a parent at a given time.

The impact of education, employment, gender and other socioeconomic and demographic characteristics on individual fertility decisions varies across populations. For example, the relationship between women's employment and the timing of childbirth is influenced differently by gender dynamics within couples in different welfare state contexts (Badolato et al., 2024). Furthermore, whether later births are the result of increased choice or less deliberate decision-making may depend on a person's socioeconomic status and level of education (Miettinen and Jalovaara, 2020). In this volume, Nadia Sturm, Alessandra Trimarchi and Jan Van Bavel show that educational differences

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in women's first birth transitions can be partly explained by shifts to a positive educational gradient in union formation in western and southern Europe, and that women with higher education continue to have children later than their less educated counterparts. Migration background also influences fertility timing, with the timing varying depending on a woman's country of origin, migration trajectory (including her age at migration and reason for migrating) and socioeconomic status (Bueno et al., 2023). Leen Marynissen, Karel Neels and Jonas Wood in this volume reveal distinct age profiles of childbearing by education level, country of origin and migrant generation in Belgium. Such a detailed analysis, based on register data, highlights that the category of "migrants" encompasses heterogeneous groups with various fertility age patterns.

Two mixed-methods studies on Latin America provide further insight into individuals' fertility timing decisions and their context-specific nature. Robin Cavagnoud's multigenerational study of Peruvian women (this volume) challenges the notion that educational attainment directly influences fertility timing by providing evidence of variation across generations. This relationship is shaped by evolving structural constraints, cultural models and degrees of reproductive agency. Nathaly Llanes-Díaz, Víctor M. García-Guerrero and Paula Martes-Camargo (this volume) explore the mechanisms influencing the intentions to postpone or limit fertility among women of reproductive age in Mexico City. They demonstrate the joint influence of partnerships, uncertainty, individualism and the burden of parental responsibilities.

Embedding of delayed fertility in the reproductive sequence

Conceptually, having a child can be understood as a process that can be broken down into multiple potential steps: the emergence of a desire for a child; the formation of an intention to have one; active attempts to conceive; and, ultimately, a live birth. Individuals may not experience all of these steps, and some may not achieve a live birth. Data capturing all these stages are rare, and research often analyses only a subset of the sequence. Additionally, as information on this process is often collected for women only, men's perspectives may be missing.

One notable gap in the data concerns when people start trying to conceive. There is little high-quality data available on this topic (Beaujouan et al., 2025). Gert Stulp, Rolf Granholm, Amke M. G. van Tintelen and Zoltán Lippényi (this volume) have developed a microsimulation approach based on Dutch data to address this issue. They estimate that the average age at which women first attempt to conceive has increased from 26.7 years for those born in 1960 to 28.6 years for those born in 1980. Despite this postponement, the average duration between attempting to conceive and actually conceiving has remained stable. The authors suggest that this constant duration may be observed because at older reproductive ages, only the more fertile succeed in conceiving and having children, while the less fertile often remain childless. Amanda Jean Stevenson, Leslie J. Root and Jane Menken (this volume) examine age patterns of fecundability (probability of achieving a conception) using a simulation, and the results indirectly support this assumption. They find that much of the observed decline in mean fecundability at older ages is due to a higher

https://doi.org/10.1553/p-48g9-2645

percentage of women with lower underlying reproductive capacity attempting to conceive at these ages. The most fertile women have already had a spontaneous conception or immediately succeeded in conceiving at earlier ages.

During the process of trying to have children, women may face reproductive disruptions such as infertility, pregnancy loss or abortion. Nadja Milewski and Jasmin Passet-Wittig (this volume) propose an analytical framework to re-integrate such experiences into the analysis of birth behaviour and outcomes. Applying this framework to German panel data, they show that women of higher reproductive ages are at high risk of having adverse experiences and no births. Éva Beaujouan and Shalini Singh (this volume) provide additional information on these challenges, demonstrating that the proportion of individuals attempting to conceive for more than two years increases significantly with age. In cross-sectional studies of infertility, this leads to selection effects and length bias, whereby older respondents are more likely to be observed as infertile due to spending a longer time in that state. Findings vary across countries, highlighting the cultural variation in the interpretation of constraints to reproduction and in responses to survey questions on these topics.

Jitka Slabá, Anna Šťastná and Jiřina Kocourková's study in this volume contributes to our understanding of the implications of various reproductive experiences (e.g. induced abortion, stillbirth, miscarriage and infertility) on the timing of a second birth. Unexpected reproductive events generally slow the transition to the next birth, but women who have experienced a miscarriage or abortion for medical reasons before their first birth tend to transition to a second birth faster, possibly due to a catch-up effect. The mode of delivery of the first birth (vaginal versus interventional) also appears to be associated with intentions to have a second child, as demonstrated by Alessandra Minello, Francesca Tosi, Elena Vettoretto, Chiara Ludovica Comolli, Gianpiero Dalla-Zuanna and Livia Elisa Ortensi (this volume) in the Italian context.

Finally, studying the reproductive sequence provides insight into whether and when people want to have children, and whether they eventually have the number of children they desire. Unrealised fertility is generally sizeable, depending on the context, and tends to be higher among individuals who have experienced infertility (Lazzari and Beaujouan, 2026; Yeatman and Smith-Greenaway, 2025). Additionally, the age considered as optimal for childbirth is typically lower than the average age at which women actually give birth (Lazzari et al., 2025). Whether such gaps reflect constrained choices, preference revision or measurement artefacts is unclear. Kathleen Broussard (this volume) reviews the methodological choices involved. Drawing on US data, she demonstrates how the use of different measurements can significantly impact estimates of unrealised fertility and their associations with various social and reproductive health characteristics.

Taken together, these articles highlight the reproductive challenges people face when childbearing is delayed. As these experiences are embedded in individuals' life courses, interpretations of survey questions can be subjective, and reports of consequences can differ. However, some patterns do emerge, notably that reproductive delays lead to more frequent adverse reproductive outcomes and can sometimes hinder people's ability to have a child.

https://doi.org/10.1553/p-48g9-2645

Should we worry about delayed reproduction?

Delayed reproduction is closely associated with lower completed fertility, as the reproductive window narrows and the risk of infertility increases with age. The transition to higher-order births may be particularly affected, as an increasing number of people who become parents late in life are attempting to have a second or third child when they are already approaching the limits of their reproductive lifespan (Winkler-Dworak et al., 2024). Furthermore, some individuals may choose not to have children if they have not achieved their ideal circumstances for doing so by a certain age (Berrington, 2004; Morgan, 2003).

Research has consistently shown a discrepancy between people's desired and actual number of children (Yeatman and Smith-Greenaway, 2025). Fertility postponement probably contributes to this gap by increasing the likelihood of encountering obstacles to having children before reaching the desired family size. Peter Fallesen, Lars Dommermuth, Julia Hellstrand, Emil Simonsen, Lisbeth Trille Gylling Loft and Laust Hvas Mortensen (this volume) examine the projected gap between measures of ideal family size and completed fertility in Denmark and Norway. They demonstrate that the gap is expected to increase in both of these Nordic contexts, and that it is driven by a smaller average family size due to a significant decrease in fertility before the age of 30.

Because age-related infertility increases with delayed childbearing, there is a growing demand for ART. Despite the key role these technologies play for some individuals who otherwise would not have become parents, their aggregate demographic impact on fertility levels is limited (Chanfreau et al., 2025). Jiřina Kocourková's Debate article in this volume highlights that medical technologies cannot provide an adequate response to the social causes of delayed reproduction. The technologies developed in response to age-related infertility, such as oocyte cryopreservation (also known as social egg freezing) and egg donation, raise further questions that were explored during the round table organised at the 2025 Wittgenstein Centre conference in Vienna, and that are summarised by Nina Dippold and Éva Beaujouan in this volume. Will such developments extend the age limits of childbearing, and what will the consequences be? Could the commercialisation of these technologies deepen social inequalities in access? These questions, in turn, raise fundamental questions of reproductive justice, as Katherine I. Tierney and Arthur L. Greil discuss in their Debate article (this volume). Without equitable access, ART use could become a privilege of the more affluent rather than representing a genuine expansion of reproductive possibilities for all. In her Debate article, Lone Schmidt (this volume) discusses whether social inequalities in access to ART could be alleviated through the expansion of coverage of assisted reproduction to include "new" family types (single individuals, same-sex couples) and the removal of barriers to access for disadvantaged groups.

The spread of ART, its accessibility and its consequences should remain topics of discussion. Indeed, the increasing use of ART has prompted speculation, albeit with little empirical evidence, that it may contribute to the postponement of childbearing. Individuals generally lack awareness of fertility issues, particularly regarding the age-related decline in fecundability (Bunting et al., 2013; Hammarberg et al., 2017). Providing them with the option of technological assistance may create the illusion that they will still be able to have

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a child much later, thereby encouraging them to defer childbearing (Compans et al., 2026; Rainer et al., 2011; Ziebe and Devroey, 2008).

In addition to infertility and ART, pregnancies at advanced maternal ages have been extensively studied due to the increased clinical risks associated with later childbearing, such as the risk of adverse perinatal outcomes for both mother and child (Goisis, Remes, et al., 2017). Using Spanish birth statistics data, Marta Seiz (this volume) shows that higher maternal education protects against adverse perinatal outcomes across ages. However, this is not sufficient to counteract the negative effects of delayed childbearing in Spain.

Discussions about the consequences of delayed reproduction often focus on the risks and challenges involved. The tendency to postpone childbirth has broader implications for population dynamics, extending beyond the impact on fertility rates and fuelling concerns about population ageing (Skirbekk, 2022). Fewer and later births could reshape population age structures, which would have implications for dependency ratios and the sustainability of welfare systems. In this volume, Xueqing Wang and Leng Seong Che consider the consequences for intergenerational relationships in China, highlighting that differences in fertility postponement patterns across rural and urban regions will affect the availability of future caregivers for an ageing population.

The perceived and actual disadvantages of delayed fertility often dominate the scientific literature and public discussion. However, delayed fertility also has various advantages. On an individual level, having children later in life has been associated with higher levels of parental education, greater financial stability, more established career paths and more stable relationships at the time of birth (Myrskylä et al., 2017; Sigle and Kravdal, 2021). These factors have been shown to have a positive impact on child development outcomes (Goisis, Schneider, et al., 2017). At the macro level, Hal Caswell (this volume) formally examines population dynamics, showing that delayed reproduction can temporarily reverse population decline in some countries with below-replacement fertility, such as Japan and Slovakia. In addition, the factors associated with delayed reproduction, such as increased female education and labour force participation, can be viewed as indicators of social progress. Guido Pennings in this volume takes up this interpretation of delayed reproduction as a positive symptom of enhanced opportunities for women in the public sphere. In his Debate article, he also highlights the potential environmental and reproductive autonomy benefits of trends in delayed reproduction. Consistent with these observations, it has been argued that lower fertility and its consequences for population shrinkage, when accompanied by rising human capital, should be welcomed (Skirbekk, 2022). From this perspective, delayed reproduction is less a problem to be solved than a development to be understood.

Discussion: Research gaps, policy challenges and the future of delayed fertility

This Special Issue brings together diverse contributions that examine delayed reproduction as a defining feature of contemporary demographic change. The Research articles provide rich empirical evidence across the life course, examining fertility intentions and their

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evolution, partnership dynamics, age-specific fecundability and parity progression, as well as difficult reproductive experiences such as infertility or miscarriage. Particular emphasis is placed on heterogeneity and social inequality within and across populations. Drawing on data from Europe, the Americas and Asia, the Special Issue highlights that delayed reproduction is a widespread trend with significant consequences for individuals and societies, albeit with specificities across national contexts. The Debate articles further illuminate the tensions between people's aspirations, structural constraints and opportunities, reproductive justice and the limitations of ART. Together, these contributions lay the groundwork for a critical reflection on whether delayed reproduction should be understood as a deliberate choice or as a socially patterned response to broader economic and institutional contexts.

The future of delayed fertility

Regardless of whether delayed reproduction is a sign of progress or a symptom of constraints, it is clear that we have entered an era in which fertility patterns and levels differ substantially from those of the past. People are opting for parenthood later in life, while biological reproductive ageing continues to limit fertility. How this tension between social and biological age will be resolved – or whether it will remain unresolved – is an important question for the future. The current reproductive trajectories differ substantially from those of previous generations, and childlessness and small families have become increasingly common (Beaujouan and Neels, 2025).

The shift towards smaller families and delayed parenthood is also transforming family life. Children are increasingly growing up with fewer or no siblings and with older parents. As a result of these changes, relationships between parents, children and the extended family may evolve in ways that are not yet understood, potentially with both positive and negative consequences for individuals, families and societies. The question of what a society organised around later parenthood will look like is undoubtedly intriguing.

Technologies that assist conception may play a decisive role in future fertility. Social egg freezing and other fertility preservation technologies could alter the relationship between reproductive timing and fertility by reducing the tension between social and biological age (Baldwin, 2018; Bruckamp and Lazzari, 2025). However, the rapid adoption of such technologies raises questions about whether they genuinely expand reproductive autonomy or encourage women to postpone childbearing, thereby creating new expectations that women manage their fertility through technology. They could also reinforce the socioeconomic divide between those who can technologically manage reproductive ageing and those who cannot. A clearer conceptualisation of the role of fertility preservation technologies, together with the incorporation of possible scenarios into demographic models, will therefore be important for understanding future fertility.

Increases in the ages at which people become parents are now being reported in countries well beyond the those where postponement first emerged. However, it remains unclear whether we are observing one global phenomenon with different local manifestations or fundamentally different forms of reproductive delay depending on the region. This Special Issue has brought to light socioeconomic inequalities in delayed fertility and its

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consequences. On a broader scale, the mechanisms leading to late fertility can vary significantly between countries, as they are linked to diverse cultures and institutions (Esteve et al., 2013). However, the final result may be similar, with women's reproductive careers becoming more compressed later in their reproductive lifespans. Developing a stronger comparative perspective by leveraging large-scale data, such as the Generations and Gender Surveys, the Demographic and Health Surveys and the UNFPA Demographic Futures Surveys, will be essential for understanding these different pathways and avoiding one-size-fits-all interpretations of reproductive postponement.

Other research gaps

Delayed reproduction encompasses more than fertility; it is part of the broader restructuring of adulthood and the life course. Understanding what reproduction and family life may look like once later parenthood has become widespread will require data that integrate reproductive experiences more effectively with other life course experiences (Beaujouan et al., 2025). Compared to their younger counterparts, prospective parents at later reproductive ages have different health profiles and social networks, and may be at different stages in their education and career trajectories. The profile of future families may therefore differ significantly from that of current families. As natural conception becomes less likely with age, the psychological burden of women trying to conceive may also increase (McQuillan et al., 2003). Later maternal age is associated with a higher risk of adverse health outcomes for both mothers and children, although other developmental aspects may improve with age (Myrskylä et al., 2017). Identifying which dimensions of reproductive success improve and which deteriorate with age will be important for anticipating the future care needs of women and their offspring.

Identical fertility outcomes, such as childlessness, late parenthood or having a small or large family, can result from very different pathways and mechanisms. In demographic surveys, deliberate fertility postponement can be difficult to distinguish from involuntary reproductive delays that may not be explicitly regarded as fertility postponement by individuals. Methodological innovations are therefore needed to better capture the fluidity of fertility intentions and to distinguish between voluntary and involuntary childlessness, as well as between smaller families resulting from parents' choices and those resulting from parents' reproductive constraints or failures (Yeatman and Smith-Greenaway, 2025). It appears that examining subjective perceptions and interpretations of reproductive behaviours and experiences across the life course is key for understanding what counts as voluntary or involuntary. Large-scale and long-term panel studies that include a diverse set of indicators of reproductive experiences and attitudes related to fertility allow us to capture the nuances of reproductive experiences and their implications that administrative data cannot cover.

Further research is also needed on differences between men and women, causal relationships between delayed fertility and other demographic and reproductive dynamics and the full reproductive trajectory, among other questions.

https://doi.org/10.1553/p-48g9-2645

Policy agenda

Society's response to the changes highlighted in the Special Issue is central. Several broad policy positions coexist. With some simplification, two stylised perspectives can be outlined. The first is a societal-level "interventionist perspective", which posits that delayed reproduction, by potentially lowering fertility, poses a demographic challenge requiring active intervention. The second is a contrasting "adaptation perspective" that sees no pressing need for intervention. Proponents of this perspective argue that delayed reproduction often reflects changes in aspirations, opportunities and life courses, and therefore favour adapting society to delayed fertility. A third, intermediate "pro-alignment" approach is currently emerging[1]. This perspective asks the question of how societies can enable people to achieve the reproductive lives they desire, without forcing them to meet demographic targets (Clark, 2026; UNFPA, 2025).

Some of the policy actions associated with the first and last positions may be broadly similar, but their objectives are ethically different. Taking fertility indicators as policy targets can be harmful, with the (recent) past providing examples of women's autonomy and freedom being suppressed to achieve certain fertility levels (Gietel-Basten et al., 2022; Sigle, 2023). Hence, there is a danger of turning demographic concerns into pressure on individuals to reproduce earlier and to have more children (UNFPA, 2025). In contrast, the "pro-alignment" position ensures reproductive autonomy by seeking to provide people with what they need to have children when they want to have them, and to improve the structural conditions for parenthood. This position thus avoids the negative consequences of both targeting a particular fertility level and leaving people who want to have children to navigate these challenges on their own.

Potential interventions could involve removing structural barriers that prevent people from having children earlier, such as unstable employment, inadequate parental leave, unaffordable housing and insufficient childcare. Access to assisted reproductive technologies and information on their efficacy could be improved, while addressing social inequalities in access to ART. When considering any of these actions, it is important to recognise that the constraints are structural, and that fertility postponement is, at least in part, a reaction to wider changes in society. Therefore, society should avoid framing postponement as an individual-level decision given that both the reasons for postponement and its consequences are socially patterned and are responses to changing structural conditions. Such a framing shifts responsibility to the individual and runs the risk of collectively blaming individuals, and particularly women, for delayed reproduction, low fertility and higher rates of childlessness.

One policy challenge is to ensure that reproductive timing is less determined by structural inequalities, and that all individuals have meaningful opportunities to realise their reproductive preferences (Almeling, 2015). Tackling this challenge would require policies tailored to different population subgroups and their specific needs. As reproductive decisions become more individualised, structural constraints can translate into increased responsibility,

1 The panel "Aligning Population Policies with Low Fertility" of the International Union for the Scientific Study of Population, chaired by Prof. Shelley Clark and Prof. Sarah Hayford, is developing this approach theoretically and empirically, and promoting it. https://iussp.org/en/aligning-population-policies-low-fertility

https://doi.org/10.1553/p-48g9-2645

anxiety and uncertainty. Improved information on reproductive ageing and its associated barriers is essential to enhancing reproductive agency, and should accompany policy responses to delayed fertility (Boivin, 2013).

Finally, policy responses should consider delayed reproduction in conjunction with the wider demographic shifts it is linked to, such as low fertility and an ageing population. This approach is consistent with the wider recommendation that societies adapt to and plan for an ageing population. Substantial economic and welfare interventions would be necessary to minimise the challenges faced by pension systems, healthcare systems and labour markets (Bloom et al., 2024; Marois and Lutz, 2026).

Delayed reproduction is here to stay and will continue to reshape fertility and population dynamics. This phenomenon lies at the intersection of biological ageing, individual aspirations, social institutions and structural inequalities. Therefore, the challenge for the coming decades will be to build societies in which people can exercise meaningful reproductive agency, i.e. societies that recognise both the biological limits of reproduction and the social conditions that shape whether and when these limits are reached.

Acknowledgements

The authors of this introduction would like to thank EAPS for their encouragement, support and sponsorship of the EAPS Working Group 'Infertility and Medically Assisted Reproduction'. This Special Issue has been enriched by the activities organised by this group, with many of its participants contributing as authors and reviewers. We thank all the authors of the Special Issue for their valuable contributions. We are also grateful for the work of many reviewers for the time and effort they invested to provide thoughtful and constructive feedback, which strengthened the articles and made this Special Issue possible.

Funding

Éva Beaujouan was supported by the European Research Council (ERC) under the Horizon 2020 research and innovation programme, project 101001410 (BIC.Late). M-C Compans was supported by ERC under the Horizon Europe programme, project 101077594 (SOC-MISC).

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