

# Repro-Timing Harm and Benefit in Assisted Reproduction: Person-Affecting Reasons Before the Advent of Genome Editing

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## Repro-Timing Harm and Benefit in Assisted Reproduction: Person-Affecting Reasons Before the Advent of Genome Editing

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McMahan and Savulescu (2023) argue that the availability of reproductive Genome Editing (rGE) introduces person-affecting reasons to benefit and not harm the future individual, who is numerically identical to the embryo that will be transferred to the uterus and can be modified by rGE. I supported a similar thesis in my works (Battisti 2021; Battisti forthcoming a), also addressing several objections (Rulli 2019; Douglas and Devolder 2022; Sparrow 2022). I argued that, due to the possibility of rGE, prospective parents face a *greater moral obligation* toward their offspring compared to a context where only selective techniques are available, such as *In Vitro* Fertilization (IVF) combined with preimplantation genetic diagnosis.

Such a moral obligation to benefit and not to harm the offspring only applies to prospective parents already engaged in the IVF process but not to *all* individuals intending to reproduce. Prospective parents who reproduce via sexual intercourse cannot harm or benefit the future individual by such a choice, as it affects their numerical identity. Depending on the method of procreation chosen, a different combination of gametes occurs; thus, a different numerical identity, namely a different child, will be born (Battisti forthcoming a). Indeed, personal harm and benefit, as McMahan and Savulescu suggest, are *comparative* notions (McMahan and Savulescu 2023, 2), and to evaluate their occurrence for a person P, we need a comparison between at least two states of affairs in which P exists. By comparing these states of affairs, we can determine whether P is better off or worse off.

Stemming from the same conceptual framework, I introduce a new typology of comparative harm and benefit emerging in assisted reproduction, which the bioethical debate has systematically overlooked (Battisti forthcoming b). I argue that in order to observe person-affecting reasons<sup>1</sup> in assisted reproduction, it is

not necessary to wait for the future availability of rGE; instead, it is sufficient to consider the current possibility of accessing IVF and the cryopreservation of embryos produced *in vitro*, namely the freezing at very low temperatures of embryos and their preservation. In this context emerges what I call “repro-timing” harm and benefit. This concept suggests that, under certain circumstances, the timing of procreation can significantly influence the well-being of the future individual, thereby shaping the moral duties of prospective parents.

Reproducers undergoing IVF could, in principle, choose to transfer the designated embryo at a time different from when they underwent the IVF process. This means that the same person developed from the embryo produced could be born not only nine months after its creation but potentially after ten months, fifteen months, two years, or even longer. Therefore, there would be several possible states of affairs related to the specific historical period in which the future individual may be born.

Moreover, it is important to recognize that a person can benefit or be harmed not only through interventions aimed at altering their gene expression, as would occur with rGE, but also through interactions with the external world. It is known that social, economic, technological, and emotional environments can significantly impact people’s well-being. Consequently, coming into existence in a “specific future” characterized by particular social, economic, technological, and affective conditions can be better or worse for a future child, if at least another future with different circumstances is available to them.

Although repro-timing harm and benefit can potentially emerge every time a prospective parent within the IVF process is about to transfer an embryo in utero, assessing this can be highly challenging. How

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<sup>1</sup>In this paper, I refer only to person-affecting reasons related to consequences, namely, the effects on the future individual. However, in other works, I have argued that person-affecting reasons can also arise from the moral relevance of certain procreative attitudes and intentions (Battisti 2023; Battisti forthcoming 2023a).

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Q1

97 can we predict whether the designated time to trans-  
 98 fer the embryo is better or worse compared to another  
 99 time in the future, given the structural complexity,  
 100 unpredictability, and uncertainty involved in this eval-  
 101 uation? In some cases, however, the occurrence of an  
 102 *expected* repro-timing harm or benefit—and thus its  
 103 moral relevance—can be more evident than in others.  
 104 Below, I present three exemplary cases that could help  
 105 clarify my proposal.

106 Consider a couple who underwent IVF to have a  
 107 child living in Country A; the embryos are created,  
 108 but right before the scheduled day for the embryo  
 109 transfer, Country B decides to invade Country A. The  
 110 war and its adverse effects could last for years and  
 111 significantly affect the quality of life of the family and  
 112 the future child. If the couple decided to proceed with  
 113 the pregnancy, their future child would be born into  
 114 a particularly difficult context, and their quality of life  
 115 could be negatively compromised.

116 A similar case can be traced considering a couple  
 117 who undergo IVF and, right before the embryo trans-  
 118 fer, one of the partners loses their job due to a severe  
 119 economic crisis, which is predicted to be tough and to  
 120 last for a while. The new financial situation of the  
 121 family could lead to high stress and economic insta-  
 122 bility, resulting in the newborn receiving less care or  
 123 attention from both an economic and emotional point  
 124 of view compared to a situation where the parent has  
 125 a stable and well-paid job.

126 Lastly, assume a couple undergoes IVF due to  
 127 infertility issues and discovers that the only available  
 128 embryo carries a genetic disease that, while currently  
 129 incurable and potentially compromising the future  
 130 individual's well-being, is still compatible with a life  
 131 worth living. The prospective parents are willing to  
 132 accept and care for a child with this condition.  
 133 However, the doctors inform the couple about a  
 134 promising trial for a treatment that must be adminis-  
 135 tered to the child within the first days after birth,  
 136 before symptoms appear. The treatment is expected to  
 137 be approved by the FDA within a year. Yet, if the cou-  
 138 ple decides to proceed with the embryo transfer now,  
 139 this treatment would not be available in time for their  
 140 future child, condemning them to suffer from the  
 141 disease.

142 In all three cases, it is reasonable to argue that if  
 143 couples choose to transfer the embryo in utero imme-  
 144 diately, the future individual could experience  
 145 repro-timing harm, since their well-being would be  
 146 significantly affected by the timing of their birth. Put  
 147 more formally, in the context of IVF and considering  
 148 the option to cryopreserve embryos and postpone  
 149 pregnancy safely and effectively, an *in vitro* embryo

created at time  $t_0$  could be transferred into the uterus  
 at least at two potential times— $t_1$  and  $t_2$ . If there is  
 a reasonable expectation that life beginning at  
 $t_1+9$  months could significantly compromise the  
 well-being of the future individual compared to start-  
 ing at  $t_2+9$  months, then opting for transfer at time  
 $t_1$  constitutes repro-timing harm. The identification  
 of repro-timing harm in such cases can lead to the  
 emergence of a person-affecting moral obligation to  
 avoid transferring the designated embryo or embryos  
 in utero at a time that results in the future individual  
 being born into a harmed condition. A similar argu-  
 ment can be made for repro-timing benefit.

The argument so presented might sound bizarre.  
 However, it aligns with the common attitude of many  
 people planning to have a child and wondering about  
 the right time to become parents. These intuitions are  
 precisely the same as those we encounter in a canon-  
 ical case provided by Parfit (1984) when presenting  
 the Nonidentity Problem: that of a 14-year-old girl  
 who intends to have a child. A common intuition in  
 this regard is that, by choosing to procreate at such a  
 young age, the girl gives her child a bad start in life.  
 However, her decision does not worsen the child  
 because if the girl had chosen to wait and thereby  
 postponed the pregnancy, another child with a differ-  
 ent numerical identity would have been born. Thanks  
 to the notion of repro-timing harm and benefit, within  
 the context of IVF, we can ultimately reconcile our  
 intuitions regarding the need to worry about avoiding  
 a bad start in life for our future child and the fact  
 that such a decision directly affects the specific indi-  
 vidual who will be born.

Finally, I acknowledge that claiming prospective par-  
 ents should consider the *appropriate time* for embryo  
 transfer may impose significant burdens, probably  
 greater than those associated with the moral obligations  
 emerging from the availability of rGE. This request  
 entails the need to pause one's parental plans for a  
 period long enough to avoid a harmful condition, thus  
 interrupting a project with great biographical and exis-  
 tential value that culminates in beginning a relationship  
 with the future individual who will be born.  
 Furthermore, respecting such moral duties would entail  
 not only emotional or existential burdens but probably  
 also significant material costs, such as economic ones,  
 due to the possible interruption and subsequent  
 resumption of a complex process such as assisted repro-  
 duction, at least in some countries where the public  
 health system does not guarantee IVF. Therefore, I con-  
 cede that moral duties emerging from repro-timing  
 harm and benefit should be considered *prima facie* and  
 balanced with all the morally relevant aspects that

characterize human reproduction. However, this does not imply that these duties should always be overlooked; in certain situations, the occurrence of repro-timing harm and benefit can carry considerable moral weight in procreative decisions.

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