

Children to Order: The Ethics of 'Designer Babies'

By Tia Ghose, Staff Writer | March 13, 2014 02:00pm ET

Creating designer [babies](#) who are free from disease and super athletic or smart may finally be around the corner.

But American society hasn't fully thought out the ethical implications for the [future of baby making](#) or policies to regulate these techniques, an ethicist argues in an article published today (March 13) in the journal Science.

"We're on the cusp of having much more information, and the appearance of having much greater discretion, in choosing the traits of our children," said article author Thomas H. Murray, a bioethicist at the Hastings Center, a nonprofit research center in Garrison, N.Y. People also need to think about what parents and doctors will do with the technology, he said. "What use will they make of it, and should there be limits?"

In fact, in February, the Food and Drug Administration (FDA) met to consider conducting clinical trials to test out genetic manipulation techniques to prevent mitochondrial [disease](#) from occurring in offspring. [\[Top 10 Mysterious Diseases\]](#)

New technologies

Since the 1990s, the prospect of futuristic technologies such as human cloning or selecting for superhuman traits have stoked public fears about "[designer babies](#)."

Back then, most of these techniques were purely speculative, but now several methods for genetic selection are either already possible or will soon become so.

For instance, parents can choose to screen embryos created via [in vitro fertilization](#) (IVF) for sex or diseases, a process known as pre-implantation genetic diagnosis. Scientists have also recently reported a method of extracting defective mitochondria, the energy powerhouses of cells, from a woman's egg and replacing them with healthy [mitochondria from a donor egg](#).

And new tests can detect fetal DNA circulating in a woman's blood stream early on in pregnancy, determining sex or catching errors in the number of chromosomes, Murray

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told Live Science. Abnormal chromosome numbers cause disorders as Down syndrome. [5 Myths About [Fertility Treatments](#)]

And though parents may not be able to screen their future babies for [genes that confer intelligence](#), hair color or athletic aptitude just yet, the company 23andme recently applied for a patent on such tests, the article notes. (Traits such as intelligence and height are governed by a complicated interplay of dozens of genes and the environment, so such tests are still a ways away, Murray said.)

Soon it may be possible to screen the entire genome of a fetus, or to select a child based on its odds of long-term [diseases](#) such as Alzheimer's or diabetes, Murray said.

No consensus

Yet most of the major medical societies, such as the American Society for Reproductive Medicine (ASRM) and the American Congress of Obstetricians and Gynecologists (ACOG), have wildly different attitudes about when and where these techniques should be allowed, the study noted. The ASRM typically defers to a client's wishes on issues such as sex selection, for instance, whereas the ACOG advocates prohibiting [sex selection](#) because of its potential to lead to sex discrimination against women in society.

The FDA, meanwhile, only regulates the potential safety and efficacy of these techniques, not their ethical implications.

But when bringing a new child into the world, society has an obligation to determine whether the technologies used to do so actually benefit or harm the infant. On a larger scale, it's possible that giving parents the ability to select the genetic traits of their offspring could subtly worsen the relationship between parents and children.

"One of my concerns is if we let parents think they are actually choosing and controlling [their child's outcome], then we set up all that dynamic of potentially tyrannical expectations over what the child will do or be," Murray said.

But the idea that parents can determine children's eventual identities has always been somewhat illusory.

"You could clone Michael Jordan, but Michael Two might want to be an accountant," Murray said.

Fears overblown

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Not everyone thinks these ethical issues are so worrisome.

While safety, prospective benefits and medical claims need to be evaluated, designer babies may not present such a new ethical arena, after all. It's not clear that there's anything unique, from an ethical perspective, in parents trying to foster certain traits through genetics as compared to using tutors, music lessons or instilling discipline, said Bonnie Steinbock, a philosopher at the University at Albany, State University of New York (SUNY), who was not involved in the work.

"I don't think there's anything wrong with the attempt to make our children smarter or kinder," Steinbock told Live Science. "If we did think that was wrong, we should give up parenting, and put them out on the street."

And even if there were some potential harms of "designer babies," those drawbacks may not be worth regulating, said John Robertson, a law and bioethics professor at the University of Texas at Austin, who was not involved in the work.

If there were a family that really valued [musicality](#), for instance, and "if they have four embryos and one has the perfect pitch trait, then why should they not be able to choose that embryo?" Robertson said.

The potential harms, such as parents forcing a child to study trombone when the kid would rather play soccer, don't seem big enough to interfere with parental choice, he added.