

Designer babies

Design



Assisted reproductive genetic technologies affect one of the most profound human experiences, how we have babies and what kind of babies we have. Until recently, the thought of parents being able to walk into fertility clinics and choosing the sex or traits for their children from a list of options; the way a car buyer selects leather seats and chrome or alloy wheels, may have seemed far fetched. Biotechnology critic Jeremy Rifkin refers to this scenario as "the ultimate shopping experience: designing your baby." (Lemonier 1999).

Designer babies is a term coined by journalists that ascribes a baby whose genetic makeup has been artificially selected by genetic engineering to ensure the presence or absence of particular genes or characteristics. This concept has raised numerous ethical issues. This paper seeks to address the social and ethical concerns associated with this procedure. It will weigh the pros and cons of being able to genetically alter chromosomes for cosmetic purposes. Specifically, it will answer the question, "Is it ethical to create designer babies with enhanced physical ability and appearance?"

Scientifically, this process is known as Pre-implantation Genetic Diagnosis (PGD). It is a technology that is used in conjunction with in vitro fertilization to screen embryos for genetic conditions prior to transfer. The procedure involves removing a single cell from a 3-day old embryo, fertilized in vitro and then analyzing that cell for specific genetic or chromosomal abnormalities. Embryos without such abnormalities are then implanted into the mother's womb. In addition to being a high risk procedure, it is extremely expensive, the cost ranges from \$9,000 to \$18,000.

This process has allowed parents to avoid passing on potentially deadly disorders to their children. In response to the development of PEG, several countries have passed laws to limit its use. Motivations to establish a process to consider the full ethical, legal, and social implications of this emerging technology, to ban it outright, or restrict its application, centered around a common recognition of the eugenic nature of PEG. Some countries, including Germany, Austria, Ireland, Switzerland, and Western Australia, outright banned the procedure for any use.

Others, such as the United Kingdom, France, the Netherlands, Belgium, Italy, and Greece, chose to limit the use of PEG to a narrow range of applications, and in some cases, such as the United Kingdom, establish a process for considering future applications of the technology. In the United States, however, no such law or regulatory process has been enacted to limit the use of PEG. Ten states have enacted legislation that prohibits some forms of embryonic research; however, SIX of those have specifically exempted PEG. (Coleman, 2006).

The remaining four only allow PEG when it can be shown that it causes no harm to the embryo and is proved to be beneficial. Moreover, there is no state or federal laws directly assessing the non-therapeutic use of PEG. The lack of policy is unique to the U. S. and may be alarming to some. The fact remains that there is limited oversight of the vast majority of tests used in pre-implantation genetic diagnosis. Some oppose governmental oversight believing legislation encompassing these new technologies will not be desirable.

Others believe regulation would run contrary to basic human rights and freedoms. On the other hand, some say we are sliding down a slippery philosophy, and wealth could ultimately exacerbate the thin line between the affluent and the underprivileged. Many ethicists tend to agree that PEG should only be used for legitimate scientific and medical purposes. Several applications of pre-implantation genetic testing have emerged in the past few years that raise new concerns about the process.

These include avoidance of late-onset diseases such as Alchemist's disease, tissue-typing to save the life of a sibling, screening against embryos with extra or missing chromosomes and avoidance of the birth of a child with genetic mutations; such as those associated with IL-Fragment syndrome (a rare disorder that greatly increases the risk of developing several types of cancer, articulatory in children and young adults). While these new applications have been regarded as "logical extensions" of initial uses of PEG, each raise concerns that go beyond the general concerns previously mentioned.

While it has been used since the sass's for the medical purposes of averting life-threatening diseases in children, the science behind it has quietly progressed to the point that it could potentially be used to create "designer babies". Consequently, applying PEG for the sole purpose of cosmetic uses marks a clear departure from medical uses of this technology. Suppose, a 38-year-old woman, with fertility problems, has three sons but wants a daughter to round out the family.

She uses in vitro fertilization (IVF) to conceive and asks her doctors to transfer only female embryos; the male embryos are destroyed. Is this use of reproductive technology acceptable? What if a couple with a family history of diabetes wants to use IVF to select an embryo without a particular gene linked to diabetes risk? If afflicted family members largely have the disease under control, are the prospective parents justified in choosing in vitro fertilization so that they can bear a child with a lower chance of developing it at all?

What if parents can use pre-implantation genetic diagnosis to avoid having kids with attention-deficit disorder, or those predestined to be short or dull-witted or predisposed to homosexuality? These questions and others are becoming more common as pre-implantation genetic testing makes it possible for prospective parents to select specific embryos before pregnancy. But what are the pros and cons of creating designer babies and is it ethical or not? This specific question opens the door to a great ethical debate with strong arguments on both sides of the issue.

There is a minority of bio-ethicists that consider the notion of designer babies to be a responsible and justifiable application of parental pro-creative liberty. They defend the use of genetic engineering as a moral obligation of parents to try and give them their children the healthiest, happiest lives possible. That might include getting rid of obesity genes. Furthermore, they argue that parents' right to choose eye color, hair color, etc. are choices that are socially acceptable.

Mark Hughes, one of the inventors of pre-implantation genetic diagnosis, argues that using reproductive technologies for cosmetic purposes is just an

old-fashioned parental impulse, translated into 21st century technology. He claims that as long as no one is hurt by the process, then genetic modification is perfectly okay and restricting it is an assault on reproductive freedom. He says, " There should be no law restricting the kind of kids people have, unless there's gross evidence that they're going to harm that kid, or harm society. (Kim, 2009). He points out that these choices are not going to exacerbate inequalities in society that require or not want to see a law or regulatory process that will limit the use of PEG. Another position in favor of pre-implantation genetic diagnosis argues that trait selection in babies is simply a service that should be offered to those wanting to pay for it. There are already a number of fertility clinics that offers PEG for gender selection for non- medical purposes. Dry.

Steinberg, the head of Fertility Institutes, supports the use of this procedure to select non-medical traits. His clinic announced not to long ago, those couples who signed up for embryo screening would soon be able to make a re-selected choice eye color, hair color and complexion, along with screening for potentially lethal diseases. There are many people that oppose the use of this technology for tailor-making children. Opponents argue that increasing uses of PEG for non-medical purposes may also open the door to other eugenic technologies.

Eugenics is defined as " the study of or belief in the possibility of improving the qualities of the human species or a human population, by such means as discouraging reproduction by persons having genetic defects or presumed to have inheritable undesirable traits. " (Random House Dictionary, 2011). Doll Hitler was on a quest to create a race of Aryan Blond, blue eyed and tall
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people. Creating designer babies is believed to be on the same lines. The question arises, which skin color and physical features are to be chosen.

The creation of designer babies will affect biodiversity. Moreover, traits decided by parents, eliminates the say of the child in his or her life. Parents passionate about sports would have the athletic ability engineered into the child; however, the child may not want the same. This reduces the child's freedom to choose. Another argument against this process is that allowing PEG to be used to select "the best" children based on an increasing list of genetic indicators; normalizes the idea that a child's particular genetic make-up be viewed as an extension of parental choice.

In other words, it instrumentalizes children as a means to the parents' ends and places limits on a child's right to an open future. This becomes increasingly worrisome as the intent of these techniques moves away from arguably "medical" purposes to those that are clearly non-medical. The psychological impacts to children selected to have particular traits, desires, and talents could be immense. Genetic engineering, if accepted, will have a negative impact on the society. It will endorse a set of societal and commercial dynamics that would lead us into a new world of inequality and discrimination.

Such a practice will decrease human diversity. In addition, it will result in increase of unreasonable fear or hatred towards foreigners or anyone who appears different. People with genetic defects will be socially rejected. They will be called 'gene poor' and will be separated from the society too. Today, people who have genetic defects are already treated differently and cast out

from society in several parts across the world. Designer babies concept, will lead to discrimination on the basis of certain qualities or traits.

Kids of rich families will receive genetic enhancement, leading to genetic aristocracy. This gives them an unfair advantage over the other children. People unable to afford genetic engineering will be looked down upon. Thereby, it will create a greater rift in society. Moreover, most parts of the world are still male dominated, and sex or gender determination of the baby can lead to gender discrimination across the globe. There is no question that human genetic research has led to innovations in increase the demand for access to PEG.

Although most can agree that screening for genetic or chromosomal abnormalities is acceptable, this technology does have the potential to open the flood gates to selecting a wider array of traits or essentially customizing conception. The use of pre-implantation genetic diagnosis as a means of selecting physical characteristics, behavioral traits or intelligence is just down the road. It is only a matter of time before technology will allow parents to select traits for their children that are most desirable to them.

The potential for impacting future generations makes this a revolution that could be in danger of becoming a more politically and ethically sensitive matter than abortion. Based on the arguments above, I stand in opposition to utilizing PEG solely for cosmetic purposes. This position is more compelling to me because of the range of its scientific applications. How can we even tell if it is safe without doing unethical human experimentation? I find it is

morally inappropriate to create designer babies with enhanced physical ability and appearance.

In addition, the use of reproductive technologies to pick cosmetic traits is an extreme technology that goes beyond the scope of freedom and choice. In a sense, it is like playing God. When it comes to procreation, I think we should play the hand we are dealt. We are taught to accept ourselves and others for who we are, the way God made us. More over, I believe that nature should be allowed to take its course of action, and that interfering with this course is not humane. Parents that seek to change their children according to their own desires and what they deem socially acceptable is wrong.

Further more, I believe genetic engineering is not something to play with. It is very complex, and any mistake can alter the lives of many generations. We never know when a particular mutation can lead to a new virus or disease. We as humans did not choose to enter this world! There are a plethora of things we do not understand about ourselves as well as the world around us. It is time to realize, that we cannot control everything in this world, although our flesh desires to.