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Parental Selection and Genetic Enhancements: Problems or Potential?

Today, advancements and breakthroughs in the fields of genomics and biotechnology are many. Results of such genetic progress have included the sequencing of the human genome, gene therapies, and the development of treatments for various genetic diseases. Historically, it seems the main goal of medicine has been to discover and advance in a direction with preventative and curative medicine in mind. However, as possible use of genetics to treat disorders such as Alzheimer's disease or hormone deficiencies, non-medical uses—such as genetic enhancement and engineering—are concurrently discovered. With such high demand to discover new treatments for genetically based conditions, the possibility of applying this novel information to other purposes such as genetic manipulation is no longer the subject of science fiction novels and films. Despite the leaps and bounds being made in genetics, perhaps science is advancing too rapidly for our policies or even ethics to keep up. This is readily seen in the current debate discussing parental selection of traits for their children—creating "designer babies." Questions and concerns surrounding this topic range from regulation of such selection and enhancement to its social implications and morality.

I. An Examination of the Parent-Child Relationship

When first presented with the scenario of parents being directly responsible for the traits such as height, intelligence, or musical talent of their child, many find this unsettling for various reasons. Political philosopher, Michael Sandel discusses many of the potential reasons parental selection used for non-medical means is troublesome. A main point of concern is the compromise of the autonomy of the child. Should parents select for their child to be very fit to

pursue a certain path in life, the child will be pressured to follow that path and have a predetermined aim in life (Sandel). For example, children whose parents selected for their musical ability would feel inclined to have a future in music. However, this argument is flawed in that it assumes children who aren't selected in this manner and are products of the "genetic lottery" have control of their characteristics and in what they will be successful (Sandel).

A main argument against parental selection is the distortion it causes to the parent-child relationship. Sandel explains that there are two kinds of love from a parent: accepting and transforming. Parental selection does not allow accepting love—the love of parents for their child just as they are—which is vital to this fundamental human relationship; unlike other relationships with friends and partners, children are not chosen. This particular relationship calls for an openness to the unintentional and uncontrolled aspects of a child, providing humility, sympathy, and humanity to the relationship (Sandel). Implicit in this argument is the idea that enhancement is not necessarily the main goal or focus of humanity.

Despite this, in recent years a societal pressure for achievement and performance has caused an observable trend for parents to exhibit much more transforming love in order for their children to be the best they can be and have the best life they can have in such a competitive culture. This can take the form of parents choosing to send their children to a private school instead of a public school, signing them up for dance or music lessons, or even SAT prep and speed-reading classes (Mehlman). Essentially, parents' attempting to enhance their children is nothing new. Consequently, many beg the question: is parental selection or enhancement of traits significantly different from what parents are already doing?

Furthermore, this type of selection is argued to be present today in somewhat different forms. For instance, people often choose their reproductive partners based on traits that they find

attractive and suitable for their child. A more exaggerated and evident form of this selection is seen with sperm banks. As Sandel describes in a radio interview, women are essentially shopping for sperm and can be allowed information such as lack of history for certain diseases, height, race, etc. There are even instances of advertisements put in newspaper offering $50,000 for eggs from a tall, athletic female who had at least a combined score of 1400 on the SATs (Mehlman). Selection is very clearly taking place here already. Professor of ethics at the Victoria University of Wellington Nicholas Agar states in his book, *Liberal Eugenics: In Defence of Human Enhancement*, "practicalities of human enhancement reveals significant moral advantage of the familiar over the unfamiliar." Could it be that the unsettling nature of parental selection mentioned previously is simply due to a discomfort with the novelty and unfamiliarity of these new means for enhancement?

II. Bordering on Eugenics

Even going ahead and allowing parents to influence the traits of their child in this direct manner, there are still other matters to be addressed. One of the more obvious ones involves the traits parents can and cannot select for. An example discussed by several sources was that of a deaf lesbian couple in the United States that intentionally created a deaf child. This couple received criticism for deliberately trying to make a child with a disability (Spriggs). Both sides of this argument believe that children should be selected for traits that aren't detrimental to the child or other people. However, the two sides have different ideas for what is good for the child and what is a detriment or disability (Savulescu). The couple explains that they didn't view deafness as a disability, but as a culture that they wanted their child to share in. On the other hand, some argue that this choice limits their child if he or she ever wanted to be a part of a

speaking-culture later on in life. The criteria for distinguishing between traits that should and should not be selected for are not black and white and are not unvaried from person to person; there are many perspectives that may not be able to be consoled.

Another concern is the permeation of prejudices into parental selection. It is possible that this concern stems from the history of eugenics with respect to Nazi Germany. This was a state in which eugenics was implemented with coercion and forced sterilization. Although this history suggests the negative aspects of eugenics mainly had to do with coercion, Sandel suggests otherwise with the example of Roger Graham's sperm bank. Roger Graham accepted only the sperm of Noble winners or promising young scientists at his sperm bank in an attempt to make highly intelligent children (Sandel). It was unsuccessful and many were appalled, revealing the aversion to eugenics felt even without coercion involved (Sandel). For this reason, eugenics in its forms without coercion is still something a society should watch out for and morally analyze.

This is evident in present-day examples of sexual selection and sperm banks that don't have a goal of eugenics. More specifically, methods such as sperm sorting, pre-implantation genetic diagnosis, and prenatal diagnosis allow parents to know and select the gender of the child. Cultural views such as those instilled in parents of India that females are a financial burden to the family will most definitely cause females to be selected against (Mehlman). This is clearly a form of discrimination. Moreover, the sperm bank also eventually results in discrimination due to social and cultural preferences of certain traits. Even though the sperm bank does not claim to have a goal to propagate some traits over others, "tall, blonde, brown-eyed, college graduates" is the traits they look for in donors because that is the demand from the customers (Sandel). This direction influenced by prejudice and culturally-driven consumerism begins to deviate from simple enhancement and selection.

III. Regulation and Accessibility

As seen with the many problems and questions that surface with the realization of allowing parental selection and enhancements, regulation is likely needed. The main limitation commonly discussed is the distinction between the use of selection and enhancements for medical or non-medical reasons (Sandel). In other words, they should be used in cases in which they are a treatment and therapeutic for those with a detrimental condition, not for individuals of the population that are considered average or normal; used on a normal individual, it would be considered an enhancement (Sandel). This limitation is already being determined for human growth hormone. This treatment was meant for individuals with a deficiency in the hormone and would allow them to grow to statures closer to the average height of the population (Agar). This treatment is also allowed to those that don't necessarily have the hormone deficiency, but are predicted to be in the shorter 5% of the population (Agar). Then again, how is it known that the line should be drawn at 5%? Why shouldn't those who could benefit from the treatment in the lower 10% or 15% also be allowed to use it if they wanted? This leads to another problem: it is not always easy to distinguish between medical and non-medical uses. A similar example is that of the memory enhancements done on mice, fruit flies, and now being developed for older humans with Alzheimer's or trouble remembering (Sandel). However, what is the cutoff for needing this treatment for medicinal purposes and for enhancement purposes? As of yet, it is not clear.

While some will be concerned with what traits or enhancements are acceptable to manipulate, others might be worried about whether they could afford any of it. It is uncertain whether the regulation of selection and enhancement includes government or healthcare providing treatments for the lower socio-economic classes that wouldn't otherwise be able to

afford it if it were simply sold by private companies. Such lack of access to selection and enhancements for the lower classes is an item of concern. In this case, it could create a larger disparity between the classes. Predictions of the resulting disparity include the creation of different sub-species to the richer classes exhibiting superiority, almost as if from a line of nobility (Mehlman).Whether advancements in the genetic field will help create equality or disparity between those with disabilities and those without or the rich and the poor could depend on the final conclusions on how it is to be regulated.

IV. Accountability

Even after the discussion of these topics of the parent-child relationship, eugenics, regulation and accessibility, the biggest question still left to address is if we should go ahead and manipulate our nature in the first place, or is this something we shouldn't control? Arguments like the following cause hesitation to put so much power in our own hands.

> There is, however, evidence for human failure. The benignity of human nature is, in the light of our continuing propensity for war, genocide and mutual loathing, a dubious proposition. Equally dubious is the belief in progress in the light of our newly rediscovered enthusiasm for torture and for the continuing ingenuity with which we deploy new technologies to kill each other. Ethical progress plainly does not occur and, given the reality of anthropogenic global warming, material progress may soon prove to be catastrophic (Appleyard).

The same author also states that this new genetic knowledge will not be enhancement, or "transcendence" of the human, but merely amplification. Enhancements that would result in actual improvement of the species are possibly something we cannot foresee. Perhaps parents—or anyone, for that matter—are not fit to take on the responsibility to apply this new knowledge beyond the medical uses they were initially created for.

V. Conclusions

In my research for this topic, the general trend was that further analysis of each aspect of parental selection and enhancement created more questions and divide than answers or main points of agreement among those discussing the topic. In fact, the only common point of concurrence dealt with limiting the use of current and potential advances at medical uses. There is no doubt that such breakthroughs are contributing greatly to preventative medicine and quality of life. Less certainty is expressed for non-medical uses, but it is conceivable that we and our ethics will eventually catch up with science. It is at that point that our society could be able to take on the great responsibility that comes with manipulating our very nature.

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