**Resolved:** Given sufficient advances, bio-engineering of humans should be mandatory.

|  |  |
| --- | --- |
| **Pro** | **Con** |
| Can help reduce climate change | May increase discrimination |
| Mandate helps biological rich-poor gap | Mandate removes autonomy |
| Can permanently end genetic diseases | Possible negative side-effects |
| Government has duty to enforce citizen wellbeing | Eliminates diversity: crucial to species survival |

**Pro: Cures Diseases**

#### Genetically-modified babies 'ethically justified'. **BBC News. (2019).** Retrieved 20 November 2019, from https://www.bbc.com/news/uk-scotland-tayside-central-50460721

He said that **if common disorders could be avoided or delayed by genetically modifying humans, the average disease-free lifespan could be "substantially extended".**

**Dr Smith said that to win public trust, an ethical approach must be at the heart of any advances, as society was "largely opposed" to genetically modifying humans.**

He said: "The negative publicity generated by the ethically-problematic first-ever production of GM babies in China last year was strongly criticised by most geneticists and ethicists, further hardening attitudes against the creation of so-called 'designer babies'."

**The doctor said delaying an ethically-sound move to a world where genetic disease could be reduced, was failing people with debilitating conditions.**

**Pro: Human bio-engineering will continue to be more widely accepted**

#### **Lawrence**, David. *Postdoctoral Fellow, Newcastle Law School.* **(2019).** Genetic engineering and human-animal hybrids: how China is leading a global split in controversial research. The Conversation. Retrieved 20 November 2019,

**Yet if China is fast becoming the world capital of controversial science, it is not alone in producing it.** **More babies produced using the “CRISPR” gene-editing technology**[**are now planned**](https://www.nature.com/articles/d41586-019-01770-x)**by a scientist in Russia,** where another researcher is also hoping to conduct the world’s [first human head transplant](https://theconversation.com/the-problem-with-human-head-transplants-53522). **And Japan has**[**recently lifted**](https://theconversation.com/human-animal-hybrids-are-coming-and-could-be-used-to-grow-organs-for-transplant-a-philosopher-weighs-in-121228)**its own ban on human-animal hybrids.**

**Pro: Human Bioengineering is i. inevitable ii. & increases rich-poor gap; mandate solves**

#### Sherman, Erik. Genetic Engineering Will Make Income Inequality Much Worse. **Forbes. (2019).**Forbes.com. Retrieved 20 November 2019, from https://www.forbes.com/sites/eriksherman/2017/08/20/genetic-engineering-will-make-income-inequality-much-worse/#3aec7ed33d75

**Studies have shown that**[**physical beauty translates into higher earnings**](http://www.businessinsider.com/beautiful-people-make-more-money-2014-11)**than people who are less attractive by cultural norms**. The gap is as large as those due to gender or racial factors. **People wrongly assume that physical attractiveness has a strong correlation with competence and ability.**

….

**Genetic engineering of humans will happen as certainly as the atomic bomb would be developed once physics proved that such a device was possible in theory.** Parents who can afford to already run children through enrichment programs and get them tutoring in how to take important standardized tests.

**What separates such kids from the majority is that their parents can afford these paths to a higher percentage of achievement.** **Genetic engineering will be no different, particularly in who benefits from it.**

**Con: Creates Inequality**

#### Genes and Identity: Human Genetic Engineering | Learn Science at Scitable. **Nature.com. (2019).**  Retrieved 20 November 2019, from https://www.nature.com/scitable/topicpage/genetic-inequality-human-genetic-engineering-768/

**Finally, in terms of society, it is not feasible for everyone to have access to this type of expensive technology. Thus, perhaps only the most privileged members of society will be able to have "designer children" that possess greater intelligence or physical attractiveness. This may create a genetic aristocracy and lead to new forms of inequality.**

**Con: Discrimination**

#### Genes and Identity: Human Genetic Engineering | Learn Science at Scitable. **Nature.com. (2019).**  Retrieved 20 Nov 2019, from https://www.nature.com/scitable/topicpage/genetic-inequality-human-genetic-engineering-768/

The results of the aforementioned study may be surprising to many people, as **one major concern associated with testing for nondisease traits is the fear that those people who do not possess the genes for a positive trait may develop a negative self-image and/or inferiority complex.** Another matter bioethicists often consider is that people may discover that they carry some genes associated with physiological or behavioral traits that are frequently perceived as negative. **Moreover, many critics fear that the prevalence of these traits in certain ethnic populations could lead to prejudice and other societal problems.**

**Con: Ethicists believe mandates are wrong**

#### Andersen, R. ***The Atlantic*. (2012).** *How Engineering the Human Body Could Combat Climate Change*.  Retrieved 20 November 2019, from https://www.theatlantic.com/technology/archive/2012/03/how-engineering-the-human-body-could-combat-climate-change/253981/

The lead author of the paper, S. Matthew Liao, is a professor of philosophy and bioethics at New York University. Liao is keen to point out that the paper is not meant to advocate for any particular human modifications, or even human engineering generally; rather, it is only meant to introduce human engineering as one possible, partial solution to climate change. **He also emphasized the voluntary nature of the proposed modifications. Neither Liao or his co-authors**, Anders Sandberg and Rebecca Roache of Oxford, **approve of any coercive human engineering; they favor modifications borne of individual choices, not technocratic mandates.** What follows is my conversation with Liao about why **he thinks human engineering could be the most ethical and effective solution to global climate change.**