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Inquiry Based Research Essay

As a child I had loved watching movie's, especially those that were based on science fiction. Out of all the movies that I had watched the ones that involved cloning were the most interesting because they were creating a complete identical copy of a living organism. Throughout the years this fiction has turned into reality as advancements in technology and our understanding of the world has now opened the door to cloning. Human cloning is the creation of a genetically identical copy of a human. There are two commonly discussed types of human cloning, therapeutic cloning and reproductive cloning. Therapeutic cloning consists of cloning cells from a human for use in medicine and transplants, and is an active area of research, but is not in medical practice anywhere in the world. Reproductive cloning involves making an entire cloned human, instead of just certain parts of the human body. Even though this incredible feat has been accomplished, is it moral to be cloning humans? What about the various problems that can come along with it? Is human cloning beneficial or just detrimental?

To answer these various questions, we must first understand how cloning is done. In a cloning fact sheet written by National Genome Research Institute they state that in Reproductive cloning researchers must remove a mature somatic cell, like a skin cell. Then they transfer the DNA of the somatic cell into an egg cell that had its nucleus removed. Researchers can add the DNA from the somatic cell to the empty egg in two different ways. In the first method, they remove the DNA-containing nucleus of the somatic cell with a needle and inject it into the empty egg. In the second approach, they use an electrical current to fuse the entire somatic cell with the empty egg. In both processes, the egg can develop into an early-stage embryo in the test-tube and then is implanted into the womb of an adult female. Ultimately, the adult female gives birth to an organism that has the same genetic makeup as the organism that donated the somatic cell. Therapeutic cloning involves creating a cloned embryo for the sole purpose of producing embryonic stem cells with the same DNA as the donor cell. These stem cells can be used in experiments aimed at understanding disease and developing new treatments for disease. To date, there is no evidence that human embryos have been produced for therapeutic cloning. The richest source of embryonic stem cells is tissue formed during the first five days after the egg has started to divide. At this stage of development, called the blastocyst, the embryo consists of a cluster of about 100 cells that can become any cell type. Stem cells are harvested from cloned embryos at this stage of development, resulting in destruction of the embryo while it is still in the test tube.

There are various sources that talk about the pros and cons of human cloning and cloning just in general. One of these is a scholarly source called "Say no to human clones: First monkeys, and then us? There are good reasons why human reproductive cloning must stay off limits, says

Marcy Darnovsky." by Marcy Darnovsky the author stresses the importance of not allowing the process of human cloning. The author states that human cloning has still yet not been proven and is still too complicated to go about doing the author backs these claims up by introducing the evidence of the various fails while trying to clone primates, "Most scientists concluded it was too dangerous to attempt in people." Human cloning is said to be unethical because of the psychological and emotional risks a cloned child may face, human cloning will also come other health risks to the many eggs that would need eggs extracted, and the dozens of people that would be needed surrogates for clone pregnancies. The intended audience of this article is the general public but mostly targeted at women because they are a big part of the experiments as well as the high net worth individuals that would be needed to fund large projects like this one. I think that the articles purpose was to argue and inform people of the negatives of human cloning because the author focuses on what could go wrong during the process and never on the good things that could come about. The author uses a very formal and informative tone in his writing in order to go about getting his purpose across which is to argue that human cloning is not ethical.

On the Center for Genetics and society website they have a reading on the pros and cons of human cloning. The cons they state of are the diminishment of uniqueness in an individual, it would violate convictions on human individuality and freedom. Cloned children would need psychological and social developmental help understanding how they came to be and the world that they are in. Then they go on to use statistical reasons why stating that 95% of mammalian cloning has resulted in failure such as miscarriages and life-threatening anomalies. If human cloning were allowed, they project an increase in the selling of organs in black markets and the creation of genetically modified humans that could be used as weapons. However, the pros that

this website states is that it would allow people who are not able to become fertile to have a genetically identical child. Reproductive cloning would allow lesbians to have a child without having to use donor and for gay men to have a child without having to derive genes from an organ donor. It also parents of a child who has died to seek redress from their loss, despite the child not having the same memories. This article is trying to target the general public essentially people who have no previous knowledge on the topic of human cloning, they do this because the articles purpose is to inform people on the negatives and positives of human cloning, doing so with an informative and knowledgeable tone.

In a New York times article called "The Nation; Two Cheers For Human Cloning" by Sheryl Gay Stolberg, the author goes on to talk about a small group of bioethicists discussing wither reproductive cloning was something good or bad, they all had a different views upon the topic. The author then goes on to discuss about a Massachusetts biotechnology company having created the world's first cloned human embryos, not for reproduction but tissues to treat disease, the embryos all died but the debate over human cloning continues. The author states that so far it is a one-sided debate as the senate is considering a ban on any type of cloning, because of the widespread agreement that making babies is wrong, even the company that had conducted the experiment is against human cloning. However, there are legitimate scientists, bioethicists, and advocate for infertile people, that say if cloning becomes safe it can be made to bring the joy of parenthood to infertile couples. Instead of upending society by mass producing clones it can be used to help a small amount of people by giving them a child, many scientists believe the only ethical use for human cloning is to give infertile people a chance to have a child. This article's audience is are people who don't the effect of Human cloning because it goes on to explain the

uses of it and the reasons on why it should be done and the reasons as to why it should. This also bring us to the purpose of this article to inform people on the debates around human cloning using a serious and knowledgeable tone.

In a Discover magazine article "Cloning's Long Legacy — And Why It'll Never Be Used on Humans" the author Karen Weintraub which goes on to say that prominent scientists had never had any intention of replicating a person and they are wary of this idea. Investigations in cloning have been divided into two areas, reproductive cloning which is mainly used to improve livestock breeding, and therapeutic cloning aimed at growing cells to be used to treat diseases. Only a handful of labs work in cloning, but a big reason why no is cloning humans is because there is not a big enough reason for it to be happening. However, cloning technology has led to new treatments for rare and devastating diseases. Scientists have devised a way to keep women with mitochondrial disease from passing on to their children using cloning. A similar technique was sued in the 1990s to treat women with infertility, cloning can help a women that has no eggs of her own have a baby, researchers can clone one of her skin or blood cells and make an egg like cell that has a single DNA strand rather than a double strand. However, cloning will never be more than a niche technology says Ian Wilmut for now they can only be used to improve livestock and prevent and cure new diseases. The audience of this article are people who want an understanding of the cloning process and how it works and why it is not being implemented in today's world, the author addresses this in a serious and informative tone so he is able to get through with his purpose of informing people about human cloning and cloning in general.

Even though there are many pros to human cloning a collection of over 60 surveys done by the Center for Genetics and Society found that over 80% of people disapprove of human cloning. This page displays the results of more than 60 major public opinion surveys about four categories of emerging human biotechnologies: human genetic modification, human reproductive cloning, and embryonic stem cell research and research cloning. he Center for Genetics and Society has compiled and analyzed these results, which are based on surveys conducted between 1987 and 2018. Following brief narrative notes about each category, a tabular listing of the surveys in each category is shown. The surveys are organized by date, with the most recent in each category first. Respondents from North America and Europe—the populations most often surveyed—consistently oppose human reproductive cloning by large majorities, with opposition generally above 80%. Sentiments among opponents of human reproductive cloning are more strongly felt and seem less likely to change than are those among supporters. Only a small portion of the opposition to cloning is based on perceptions of its physical danger. More often people cite beliefs that it is "morally wrong," "interferes with human distinctiveness and individuality," "could be used for questionable purposes like breeding a superior race," or conflicts with their religious beliefs. Opposition to human reproductive cloning is generally consistent across political persuasions. Opinions on research cloning were frequently surveyed between 1998 and 2010, since for much of that period cloning was essential to embryonic stem-cell research. As the issue became politicized, some polls showed contradictory results, but generally a slight majority of Americans opposed research cloning. In recent years, research cloning has become less relevant, largely because of scientific advances, notably the development of induced pluripotent stem cells, which can be made to be disease-specific or patient-specific but do not require the creation of embryos.

Gallup, for instance, no longer asks specifically about research cloning, but does ask annually about “medical research using stem cells obtained from human embryos,” which in 2018 was considered morally acceptable by 66 percent of people.

From analyzing all the information from these different sources, I have found that human cloning should not be allowed due to the various issues it would cause. It’s not worth cloning human’s because it's too costly and has a low success rate and does not have enough pros to make it justifiable. Even though it would allow us to make advancements in medical research and allow for people who are incapable of having their own child to have one, there are too many social issues that would come along with it. Not only this the clone child will likely have serious psychological problems, we currently live in a world where human cloning would not be widely accepted so it would be a better decision to not allow human cloning.

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