

1. Mark your confusion.
2. Show evidence of a close reading.
3. Write a 1+ page reflection.

The Pursuit of Longer Life

How long can human beings live? That's a matter of debate, but some scientists believe 125 or even 150 is possible. Here's everything you need to know:

Source: TheWeek.com, November 27, 2021

What is current life expectancy?

Over the past century, global life expectancy has roughly doubled, to 72.6 years. In the U.S. it rose from 39 years in 1860 to 53 in 1920 to 78.8 in 2019. To some extent these figures are deceptive, as a substantial amount of the average increase reflects lowered infant mortality rates, but average life spans for adults also grew in recent decades. There were about 95,000 centenarians in 1990 and more than 450,000 in 2015, according to a United Nations estimate. By 2050 there will be an estimated 3.7 million people 100 or older; by 2100, 25 million. A report by the World Economic Forum estimated that about half of the babies born in the U.S. in 2007 will live to 104. And the number of "supercentenarians" — those who live past 110 — has multiplied at least 10-fold over the past 50 years.

Why are people living longer?

A combination of improvements in public health measures and medical advances. Vaccination has eradicated or virtually eliminated viral diseases such as smallpox, polio, hepatitis A and B, and rubella that used to cripple and kill millions, while antibiotics have turned once lethal infections into treatable illnesses. Public sewage systems, chlorinated drinking water, and pasteurization have prevented countless deaths from infection and disease. In the 21st century, people generally eat better, exercise more, and smoke less than their grandparents did. And they get much better medical care, aided by major advancements in treating cancer, heart disease, and other potential killers.

How long could people live?

That's a matter of vigorous debate — and a growing amount of research. The longest-lived person in documented history was a Frenchwoman, Jeanne Calment, who was born in 1875 and lived to 122. Nobody else is known to have lived past 120, though numerous others have come close. Many specialists in the study of aging believe that the outer limits are fixed — that people just wear out, as their cells accumulate damage and decay and the body loses its ability to regenerate. In a major study published in *Nature* this year, an international consortium of scientists concluded that the life spans of all primate species have a built-in ceiling, and that we are unlikely to see it grow meaningfully. "The trajectory towards death in old age has not changed," said author José Manuel Aburto of Oxford University. "Evolutionary biology trumps everything." But other scientists believe huge advances are possible.

What do they envision?

These scientists say that in the near future we're going to see drastic changes in the life span, with people living to 125, 150, or even longer. "I have no doubt, zero doubt, that in the foreseeable future, we'll hear of a person who has lived to about 150," said Michael West, a prominent researcher on aging. The potential to extend the life span has attracted giant interest in Silicon Valley, where a

growing number of lavishly funded biotech companies are investing in research that they hope will halt or even reverse the aging process.

How could aging be halted?

One idea that's garnered much attention is cell "reprogramming," a method of rejuvenating body cells through gene therapy. Harvard Medical School genetics professor David Sinclair likens it to a "reset process"; in experiments, it's been used to extend the life of mice and even restore their eyesight. Therapies that clear the body of damaged cells are thought to hold great potential. Another intervention that's shown promise in animal studies involves treating the blood by infusing it with younger animals' plasma. Researchers are also studying the anti-aging potential of such common compounds as the diabetes drug metformin and the dietary supplement alpha-ketoglutarate (AKG); mice given AKG performed 40 percent better in tests measuring frailty and "looked much blacker, shinier, and younger," said a researcher.

What would longer lives mean?

For individuals, it might be appealing to push death back a few decades, but for society, much longer average life spans would create major problems. Medical costs could soar if people lived for, say, 75 years after becoming eligible for Medicare. Overpopulation would inevitably result when people no longer died off in their 70s, 80s, and 90s, creating even worse housing shortages and more greenhouse gas emissions. Successful anti-aging interventions would probably be expensive, so the wealthy might live decades longer than the poor. From a philosophical and spiritual standpoint, some argue that greatly extended life spans would rob our time on earth of some of its urgency and meaning. Would people become bored with life at 110? Still, the potential to prolong life and delay death has such power that these very real practical concerns are unlikely to stop the research. "If you ask me, do I want to have cancer at 75, or do I want to be bored at 110," said veteran aging researcher Brian Kennedy, "I know which one I'm going to take."

Possible Response Questions

- What are your thoughts about life expectancy? Explain.
- Would you like to live until 150? Explain.
- Did something in the article surprise you? Discuss.
- Pick a word/line/passage from the article and respond to it.
- Discuss a "move" made by the writer in this piece that you think is good/interesting. Explain.