

- Ageing

Health

Sex, ethnicity and education can affect how fast you age

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Ageing doesn't progress at the same rate for everyone

"What we're seeing is that groups that are at increased risk of early mortality are also showing signs of a faster pace of ageing," says Belsky.

The effects are small but significant. The difference between the pace of ageing in older men and women, or between high school graduates and college graduates, for example, corresponds to something like a 10 to 20 per cent difference in the risk of getting a new chronic disease or a 10 to 15 per cent difference in the risk of developing a disability or dementia during the study period, says Belsky.

"They have found good evidence that the pace of ageing is really important," says Lenhard Rudolph at the Leibniz Institute on Aging – Fritz Lipmann Institute in Jena, Germany. "I kind of buy into that because it's a dynamic measure and we know that pace of ageing isn't linear: it creeps slowly up and then it becomes more exponential at later ages."

Whether you get into this exponential increase in ageing at an earlier age may be a very decisive measure for how long you live, says Rudolph.

Belsky thinks the results are likely to generalise to other countries, but he says disease is affected by diet or genetic background, so there could be slightly different patterns in other parts of the world.

"Eat healthily, do cardiovascular exercise and fill your life with meaning and purpose," he says, because people with these habits tend to be biologically younger. ■

THERE has been growing recognition over recent years that ageing progresses at different rates in different people, and that factors such as stress, poor diet and smoking can accelerate it. Now, your sex, ethnicity and level of education can be added to that list.

Dan Belsky at Columbia University in New York and his colleagues analysed data on about 19,000 people from two long-running surveys: about 70 per cent of them from the Health and Retirement Study in the US and 30 per cent from the English Longitudinal Study of Ageing in the UK.

Both surveys enrol people over the age of 50, but the US one also includes some younger individuals because the spouses of those who sign up can also take part.

"We did this work to establish that the pace of ageing, not just its progress, was consequential for health span and lifespan in older people," says Belsky.

He and his colleagues followed survey participants for eight years. To see how

fast people's bodies were ageing, they measured the levels of three biomarkers in the blood linked to ageing processes, known as glycated haemoglobin, C-reactive protein and cystatin C.

They also assessed the participants' blood pressure, lung capacity, waist size, walking speed, balance and grip strength.

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The study revealed three main things. First, the pace of ageing accelerates as you get older. Second, the pace of ageing is faster in groups of people who tend to have a shorter lifespan – for example, men compared with women and people in the US who identify as Black or Hispanic compared with white. Third, those with a faster pace of ageing are more likely to get a chronic disease, develop a disability or die early (*Nature Aging*, doi.org/ppsr).