https://www.economist.com/graphic-detail/2025/02/19/do-lonely-people-have-shorter-lives

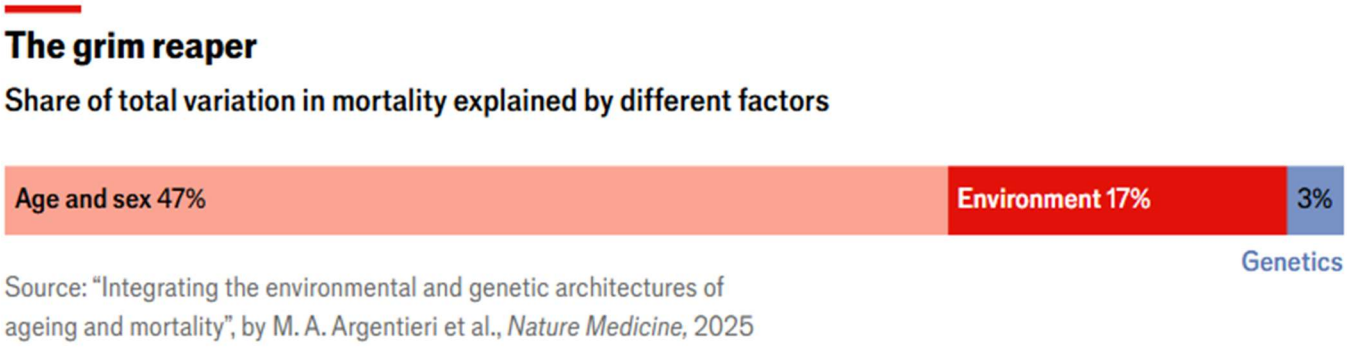
The power of love

Do lonely people have shorter lives?

What studying Britons can tell you about the risk factors for an early death

Feb 19th 2025

FOR CENTURIES emperors and alchemists searched for an elixir of youth. Today Silicon Valley billionaires pour fortunes into cutting-edge longevity treatments. But the real secrets to a longer life are neither mystical nor high-tech.

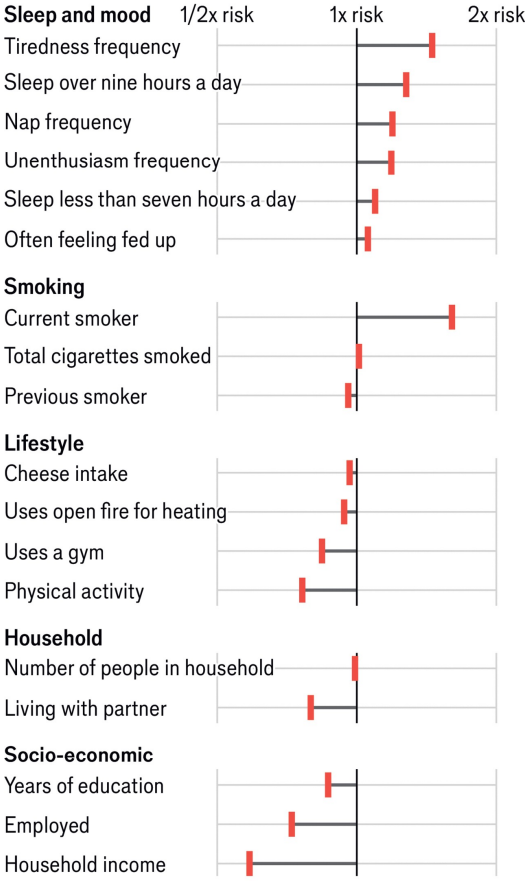


A study published on February 19th in *Nature Medicine*, a journal, draws on the UK Biobank, a biomedical database, to see what genetic and environmental factors are most important in helping people age slower, and thus live longer. The UK Biobank contains detailed genetic and medical data from half a million people, as well as information on their income, lifestyle and upbringing. This allowed the authors to disentangle the effects of different factors on disease risk and mortality.

Genetics played a surprisingly minor role in overall longevity. Age and sex explained 47% of the variability in mortality, while genetics added just 3% after controlling for these factors (see chart 1). Environmental and lifestyle factors accounted for about 17%. (The remaining variation in mortality cannot be predicted.)

Risky business

Effect of factors on risk of mortality
In separate models*



*Controlling for age, education, ethnicity, income, location and sex (unless the factor is already included in model)
Source: "Integrating the environmental and genetic architectures of aging and mortality", M. A. Argentieri et al., *Nature Medicine*, 2025

Chart: The Economist

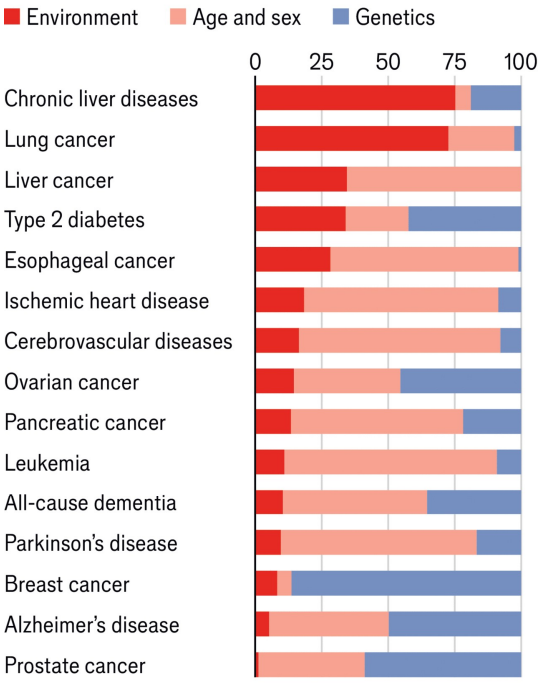
The authors then identified the environmental factors with the strongest influence on mortality (see chart 2). Some of the results are obvious: smoking increases a person's risk of premature death by around 60% compared with a non-smoker of the same age, sex and background. Being educated, employed and wealthy were among the most life-extending factors. Physical activity reduced the risk of mortality by roughly 25%.

But the study also found that social connections were a surprisingly powerful predictor of a long life. Living with a partner was roughly as beneficial as exercise. Regular visits with family or having someone to confide in also appeared to lower mortality risks. Loneliness is a known risk factor for an early death—people who are socially isolated tend to have greater levels of cellular inflammation and poorer immune responses. It is not clear, however, whether this is a direct effect of being alone, or because lonely people tend to be less active and eat poorer diets.

Loneliness also affects mental wellbeing—another factor in longevity. People who reported feeling fed up or unenthusiastic in Biobank surveys were also at higher risk of premature death. Those who reported often feeling tired—which can be a symptom of depression or burn-out—had a 45% greater risk of mortality than more energetic peers. Early childhood experiences had more modest, but lasting effects: Britons who reported being relatively overweight at the age of ten or whose mothers smoked during pregnancy had an increased risk of mortality of 16% and 12%, respectively.

So predictable

Relative importance for predicting disease, %



Source: "Integrating the environmental and genetic architectures of ageing and mortality", by M. A. Argentieri et al., *Nature Medicine*, 2025

Chart: The Economist

Environmental factors matter more for some diseases than others (see chart 3). They explain roughly 35% of the variation of lung and liver disease prevalence, but less for certain cancers, where genetics dominate. Breast cancer, for example, is often caused by a variant of the BRCA2 gene. Brain diseases, such as dementia, also have stronger genetic ties: a variant of the APOE gene greatly increases the risk of developing Alzheimer's.

There are caveats to these findings. The study is a lesson in correlation not causation. Installing an open fireplace in your home or gorging on cheese will probably do little to help slow ageing—but both factors were linked to a lower mortality risk (probably because they are also associated with higher wealth in Britain). But the findings do suggest that social connections and mental wellbeing might be just as important as physical exercise in warding off an early death.■