



Department of Health

WELLBEING AND LONGEVITY

- *Subjective wellbeing influences health and longevity in healthy populations. It is estimated that high levels of subjective wellbeing can add 4 to 10 years to life.*
- *Positive wellbeing may be more protective than negative wellbeing is detrimental.*
- *Wellbeing may play an additional protective role in the course of physical illness. Stress (a proxy for low wellbeing) is associated with slower wound healing.*
- *Wellbeing is associated with survival in older populations (aged 60 and over). Survival over an average of more than nine years was associated with greater enjoyment of life.*

1. Life expectancy and mortality rates

- **Life expectancy and mortality rates give an indication of objective wellbeing.** The Office for National Statistics (ONS) Interim Life Tables for 2009-2011 report **UK life expectancy to be 78.7 years for males and 82.6 years for females¹.**
- ONS Mortality Data reports age-standardised mortality rates in the UK as 655 per 100,000 for men and 467 per 100,000 for women (see Figure 1)².

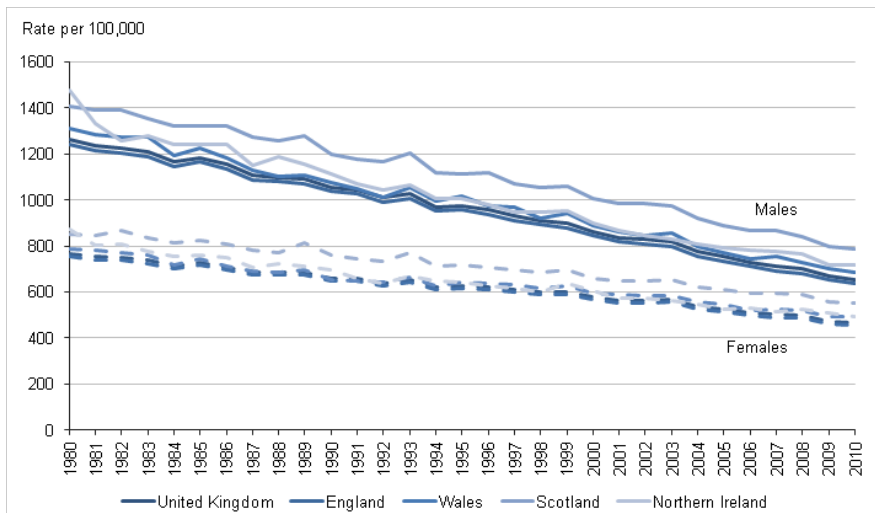


Figure 1: Age-standardised mortality rates by gender

2. Wellbeing, health and longevity

- **Subjective wellbeing influences health and longevity in populations.** Subjective wellbeing is predictive of mortality after controlling for initial health in a generally healthy population. Subjective wellbeing is also predictive of mortality across a number of health conditions, including depression, anxiety, coronary heart disease and cancer³.

- **It is estimated that high levels of subjective wellbeing can add 4 to 10 years to life compared with low levels of subjective wellbeing³.**
- **High levels of wellbeing are associated with a 19% reduction in all-cause mortality in a healthy population.** There is some evidence to suggest this relationship is partially or completely mediated by social networks⁴.
- Life satisfaction and positive affect predicted longevity when controlling for socio-demographic factors and physical health, however this relationship is mediated by self-reported health and physical activity⁵.
- **Positive wellbeing may be more protective than negative wellbeing is detrimental.** For example, life satisfaction and positive affect have been found to be associated with mortality independently of negative affect, which had no association with mortality risk⁵.
- After adjusting for illness, medications and cognitive condition, **a one standard deviation increase in positive affect was found to be associated with a 9% reduction in mortality risk.** Similarly, a one standard deviation increase in life satisfaction was associated with a 13% reduction in mortality risk⁶.

3. Wellbeing and recovery from illness

- **Wellbeing may play an additional protective role in the course of physical illness.** Those with a more negative emotional styleⁱ have a poorer immune system and may be at more risk of illness than those with a positive emotional styleⁱⁱ ⁷. Patients with a physical illness who had high baseline levels of emotional wellbeing were 1.14 times more likely to recover and survive than those with low levels of wellbeing⁸. Although this effect is small, this finding is important as diseases are very prevalent in the population, and a small effect can have a large impact on the population.
- **Higher levels of wellbeing were associated with a 29% reduction in cardiovascular mortality in healthy populations. Similarly, wellbeing was associated with a 23% reduction in mortality in renal failure patients, and a 24% reduction in HIV patients⁹.**
- **Stress (a proxy for low wellbeing) is associated with slower wound healing¹⁰.** Similarly, couples who experienced marital conflict experienced slower wound healing¹¹. While other studies show that personal relationships are good for wellbeing, these relationships must be supportive and positive.
- **The tendency to experience positive emotions was associated with greater resistance to developing a common cold¹².** Experiencing positive emotions was also associated with reporting fewer 'unfounded' symptoms of a cold, whereas a tendency to experience negative

ⁱ Negative emotional styles include anxiety, stress, depression, etc

ⁱⁱ Positive emotional styles include happiness, optimism, enjoyment of life, etc

emotions was associated with reporting more ‘unfounded’ symptoms (see Figure 2)¹². This suggests that people’s emotional styles can bias their interpretations of physical sensations.

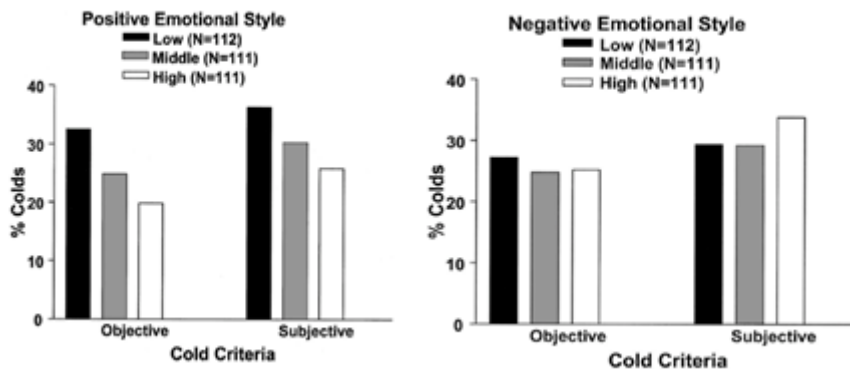


Figure 2: The relationship between emotional style and developing a common cold

- **Positive emotions can undo the negative effects of negative emotions on health.** Negative emotions generate increased cardiovascular activity, and positive emotions can undo harmful physiological effects by speeding physiological recovery¹³.

4. Wellbeing, ageing and mortality

- Stress can exacerbate the effects of old age on immune functioning. Evidence suggests **wellbeing predicts better immune functioning in older adults** – this has been found both in healthy adults and clinical samples, and is independent of poor health¹⁴.
- **Wellbeing is associated with survival in older populations (aged 60 and over)**⁴. A one unit increase in positive affect was associated with an 18% decrease in mortality risk in people aged 65 and over⁵.
- **Wellbeing is inversely related to all-cause mortality in older people.** Mortality rates in those aged 75 and over were 19% for those with high levels of wellbeing, compared with 30% for those with lower levels of wellbeing. High wellbeing (positive life orientation) predicted good survival prognosis among both among men and women, and among the old (75-85 years) and the oldest old (85 years and over)¹⁵.
- **Survival over an average of more than nine years was associated with greater enjoyment of life.** Effects were large, with the risk of dying being around three times greater among individuals in the lowest (compared with the highest) third of enjoyment of life. These effects were independent of age, sex, ethnicity, wealth, education, baseline health and other factors (see Figure 3)¹⁶.

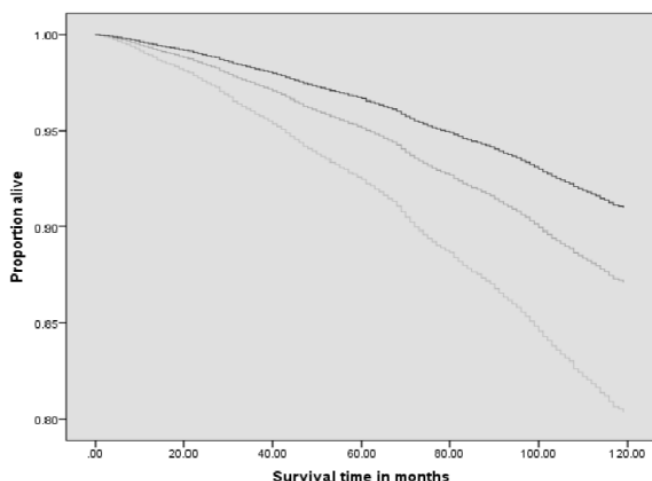


Figure 3: Survival curves showing the proportion of people who were alive in the highest (darkest), medium (middle) and lowest (lightest) tertile of enjoyment of life.

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¹ ONS Interim Life Tables for England and Wales 2009-2011. Office for National Statistics

² Mortality in the United Kingdom (2010). Office for National Statistics

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¹³ De Neve, Diener, Tay & Xuereb (2013). The objective benefits of Subjective Wellbeing. *LSE Subjective Wellbeing Through the Life-course Project*

¹⁴ Friedman (2012). Wellbeing, ageing and immunity. In Segerstrom (Ed.) *The Oxford Handbook of Psychoneuroimmunology*. Oxford University Press: New York

¹⁵ Tilvis, Laitala, Routasalo, Strandberg, Pitkala (2012). Positive life orientation predicts good survival prognosis in old age. *Archives of Gerontology and Geriatrics*, 55, 133-137

¹⁶ Steptoe, Demakakos & de Oliverira (2012). The psychological wellbeing and health functioning of older people in England. *The Dynamics of Ageing: Evidence from the English Longitudinal Study of Ageing 2002-10*