

# Review: positive psychological well-being reduces the risk of mortality in both ill and healthy populations

## QUESTION

**Question:** Does positive psychological well-being reduce the risk of mortality in healthy and already ill populations?

**Outcomes:** Risk of mortality.

## METHODS

**Design:** Systematic review with meta-analysis.

**Data sources:** Medline, PsycINFO; Web of Science and PubMed were searched for articles between database inception and January 2008. Reference lists from found articles were also hand searched for additional studies.

**Study selection and analysis:** Prospective cohort studies investigating the relationship between positive psychological factors and mortality in both healthy and already ill populations (with follow-up periods of  $\geq 1$  year for ill populations) were included. Studies looking at the effect of either positive affect (state measures) or positive disposition (trait measures) were included. Exclusions: psychological well-being determined by self-rated health or functional status; reversed indicators of negative affect; or mortality outcomes of suicide, injury or accident. Effect sizes were measured using hazard ratios (HR) or relative risks and the data were analysed using random effects modelling because of heterogeneity between studies.

## MAIN RESULTS

The review identified 35 studies in healthy populations and 35 studies in people with existing illness that investigated the effect of positive psychological well-being on mortality. Of these studies, 21 in healthy populations and 19 in people with existing illnesses could be included in meta-analyses. Positive psychological well-being reduced the risk of mortality in both healthy population studies ( $n = 36\ 598$ ; HR 0.82, 95% CI 0.76

to 0.89,  $p < 0.001$ ) and disease population studies ( $n = 15\ 711$ ; HR 0.98, 95% CI 0.95 to 1.00,  $p < 0.05$ ). The results were similar when a positive affect was considered separately from positive trait-like disposition in the healthy population but the results became non-significant in the disease population (positive affect: healthy population HR 0.79, 95% CI 0.66 to 0.95 and disease population HR 0.99, 95% CI 0.97 to 1.01; positive trait-like disposition: healthy population HR 0.83, 95% CI 0.74 to 0.92 and disease population HR 0.91, 95% CI 0.80 to 1.03). Positive psychological well-being was more protective in healthy populations over 60 years of age compared with the total sample (HR 0.74, 95% CI 0.64 to 0.85,  $p < 0.001$ ).

## CONCLUSIONS

Positive psychological well-being is associated with a reduced risk of mortality in both healthy populations and those already ill at baseline.

**Notes** There was some evidence of publication bias but the number of non-significant studies that would be required to make the overall results non-significant was high. There was significant heterogeneity in the overall analyses ( $p < 0.001$ ), and the quality of the included studies varied.

## ABSTRACTED FROM

**Chida YC, Steptoe A.** Positive psychological well-being and mortality: A quantitative review of prospective observational studies. *Psychosom Med* 2008;**70**:741–56.

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**Source of funding:** British Heart Foundation, Sumitomo Life Social Welfare Services Foundation and Kanae Foundation for the Promotion of Medical Science.

Stress, depression and anxiety have been the focus of most research investigating the link between mental and physical well-being, with overwhelming evidence demonstrating that increased negative emotions and ill-being lead to declines in physical and physiological health. Only recently has there been attention to the protective effects or benefits of positive emotions and well-being on health. This paper follows-up on larger scale research syntheses exploring multiple health outcomes<sup>1,2</sup> by narrowing the focus to mortality only. This emphasis represents the next step in research; not only in mental health psychology but for all work involving the benefits of, and interventions to improve, well-being. Thus the restricted scope of this meta-analysis allows us to better understand (a) the specific factors that may affect mortality in both healthy and diseased populations, (b) when well-being may best protect against mortality and (c) that the effects of well-being on mortality are not due solely to

reductions in negative emotions and depression or behavioural changes.

Because Chida and Steptoe demonstrate that both positive affect and positive trait-like dispositions can affect short term and long term mortality, especially in older healthy populations, their findings have implications for medical and psychological interventions. For the past 10 years positive psychological interventions have validated different methods for increasing positive emotions and more enduring positive traits (eg, life satisfaction). This paper links to that literature by suggesting that reduced rates of mortality may result from increased positive affect and enhanced quality of life.

The timeliness of this research has not gone unnoticed. Given the current state of the global economy, affordable and effective strategies to lessen the risks of mortality and morbidity are more important than ever. As morbidity increases, consumption of health care increases and health care costs soar. Thus Chida and Steptoe have taken the

next step in positive health research by outlining the specific populations that may benefit most from positive psychotherapy and positive psychology interventions. Additional outcome specific meta-analyses should be undertaken to follow-up previous large scale research syntheses<sup>1,2</sup> so that mental health researchers will better understand how changes in population demographics affect the degree to which increases in sustained well-being promote improvement in specific health outcomes.

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**Competing interests:** None.

1. **Pressman SD, Cohen S.** Does positive affect influence health? *Psychol Bull* 2005;**131**:925–71.
2. **Howell RT, Kern ML, Lyubomirsky S.** Health benefits: Meta-analytically determining the impact of well-being on objective health outcomes. *Health Psychol Rev* 2007;**1**:83–136.