

# Good life satisfaction has beneficial effects on bone health

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Women aged 60-70 who are satisfied with their lives have a higher bone density and they suffer from osteoporosis less frequently than their unsatisfied peers, according to a recent study completed at the University of Eastern Finland.

Osteoporosis is a common disease, which easily leads to bone fracture, and hip fractures in particular can have serious consequences. Bone density gets lower as people age; however, for women, the menopause constitutes a significant risk factor. Other risk factors of osteoporosis include low levels of physical activity, light body composition, smoking, low intake of calcium and vitamin D, as well as some drugs and medical conditions. For instance, long-term stress associated with depression can have detrimental effects on metabolism and, in consequence, on bone health. The health behaviour of a depressed person may also increase the risk of osteoporosis, as the person might smoke or exercise too little.

Subjective well-being is an extensive indicator of mental health and depression in particular, and in the now published study, life satisfaction was used to measure subjective well-being. The goal was to find out whether life satisfaction is also associated with bone health.

The data was obtained from the Kuopio Osteoporosis Risk Factor and Prevention (OSTPRE) Study, which has been investigating the effects of various risk and protective factors on [bone density](#) and [bone fractures](#) since 1989. The study participants responded to mail surveys and took part in bone density measurements. The present sub-study included

2,167 women who underwent bone density measurements in 1999, and out of these women, 1,147 took part in follow-up measurements ten years later, in 2009. Life satisfaction was assessed by four questions relating to the study participants' interest in and easiness of life, happiness, and loneliness. Based on the answers, the study participants were divided into three groups: the satisfied, the middle group, and the unsatisfied. The study focused on the possible effects of depression and other factors on bone health.

During the 10-year follow-up, the bone density of all [study participants](#) weakened by an average of 4%; however, the difference between the satisfied and the unsatisfied was as much as 52%. Changes in life satisfaction during the 10-year follow-up also affected bone density. In persons whose life satisfaction deteriorated, the bone density weakened by 85% in comparison to persons whose life satisfaction improved.

Hence, life satisfaction is an important resource and an indicator of well-being. Life satisfaction has been linked to health, and dissatisfaction is a predictor of incapacity for work, illness and mortality. According to this study, it is also associated with bone health, as good life satisfaction diminishes age-induced osteoporosis. The study researchers say that promoting good life satisfaction and good spirits in the elderly is as important as promoting healthy lifestyle choices. Individual factors maintaining and improving [life satisfaction](#) also have beneficial effects on [bone health](#).

The findings were published in *Psychosomatic Medicine*.

**More information:** [journals.lww.com/psychosomatic ...  
=00007&type=abstract](http://journals.lww.com/psychosomatic...=00007&type=abstract)

Provided by University of Eastern Finland

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