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## **Population based study of social and productive activities as predictors of survival among elderly Americans**

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**Objectives:** To examine any association between social, productive, and physical activity and 13 year survival in older people.

**Design:** Prospective cohort study with annual mortality follow up. Activity and other measures were assessed by structured interviews at baseline in the participants' homes. Proportional hazards models were used to model survival from time of initial interview.

**Setting:** City of New Haven, Connecticut, United States.

**Participants:** 2761 men and women from a random population sample of 2812 people aged 65 and older.

**Main outcome measure:** Mortality from all causes during 13 years of follow up.

**Results:** All three types of activity were independently associated with survival after age, sex, race/ethnicity, marital status, income, body mass index, smoking, functional disability, and history of cancer, diabetes, stroke, and myocardial infarction were controlled for.

**Conclusions:** Social and productive activities that involve little or no enhancement of fitness lower the risk of all cause mortality as much as fitness activities do. This suggests that in addition to increased cardiopulmonary fitness, activity may confer survival benefits through psychosocial pathways. Social and productive activities that require less physical exertion may complement exercise programmes and may constitute alternative interventions for frail elderly people.

**Excerpts from the study:** “The exact mechanisms through which activity acts on health and survival are not known, although several mechanisms have been suggested. Activity has been found to be associated with more optimal lipid metabolism, high density lipoprotein concentrations, and glucose metabolism. It also seems that inactivity is associated with a greater likelihood of behavioural risk factors for cardiovascular disease,

including obesity, poor diet, and smoking. Whether or not additional psychosocial mechanisms associated with the affiliated aspects of activity also contribute to the survival advantage enjoyed by more active people is not yet known. Recent evidence suggests that psychosocial factors may influence some of these physiological variables, raising questions as to whether the benefits of activity may operate through a wider range of mechanisms. Social activities have been previously shown to be associated with several risk factors for cardiovascular mortality including fibrinogen, blood pressure, and presence of coronary heart disease. This study contributes to a growing body of research in gerontology that recognises the importance of social engagement and productive activity as essential features of successful ageing.”

“This study reports on the impact of activity on risk of all cause mortality among elderly people. More active elderly people were less likely to die than those who were less active. Social and productive activities were observed to confer equivalent survival advantages compared with fitness activities. This observation is important because it suggests that activities that entail little or no physical exertion may also be beneficial. A wider range of mechanisms, both physiological and psychosocial, may be involved in the association between activity and mortality than had been previously thought.”

“Psychosocial pathways may be involved in the health benefits of activity. Recent research has shown that social contacts influence several biological factors. Substantial evidence indicates that social contacts may reduce the deleterious effects of psychological stress through enhancement of both cellular and humoral immune response. Secondly, social and productive activity involves the performance of meaningful social roles. These roles may have important consequences that go beyond the benefits of fitness alone. Meaningful social role performance promotes a sense of self efficacy that has been linked to several important health outcomes in later life. Social and productive activity may result in a sense of meaning and purpose in life, which has been linked to survival in at least one study. Finally, social and productive activity reinforces relationships as well as norms of reciprocity and mutuality. Social and productive activity may enhance social networks and social support, which have been linked to survival in several prospective studies.”

“Evidence from the national health and nutrition examination survey and other population studies suggests that the prevalence of inactivity is considerable among adults in the United States and that it increases substantially among those aged 65 and older.”