

## **Money is not enough for our health, but greater knowledge on how to spend it**

It is well known that a low socioeconomic status is a major risk factor for health. Actually, deprived people do experience higher death rates and that is partly because of poor health behaviours (smoking, low exercise, poor diets and alcohol abuse) which pose them at higher risk of illness or death.

One's social position is generally defined by considering a number of indicators each focussing on a specific aspect of the social dimension. Educational level, commonly used as a proxy for cultural resources, is used to assess the knowledge-related assets of a person and is closely linked to the capacity of being more receptive to health education messages or more able to access appropriate health services. Income is the indicator that most directly measures the financial resources and can represent potential access to healthy lifestyles and a sense of security.

Despite being closely related, these two indicators emphasize different aspects of social stratification, thus it is particularly crucial to test both of them when addressing health issues related to socioeconomic status.

That's what we did in our study: we sought to see whether the effect on all-cause mortality of either indicator could be somehow 'boosted' by their simultaneous presence at their greatest potential.

To fulfil our research question, we examined data from the Moli-sani study, a large population-based cohort study which recruited 25,000 citizens of the Molise region, a Southern Italian area, with the purpose of investigating genetic and environmental risk factors in the onset of cardiovascular, cerebrovascular and tumour diseases.

The population sample was stratified according to both educational level and household income and for each group we estimated the relative risk of premature death as compared to a reference group composed by individuals with the lowest level of the corresponding social status indicator; in line with previous studies from other epidemiological settings, we found that low educated people were more likely to die for any cause as compared to those with university or postgraduate education and the same was true for subjects with greater income (over 40,000 Euros/year) as compared with those with lower financial resources (lower than 10,000-25,000 Euros/year). The second step of our study was to test what is usually called 'interaction' between two selected factors. In other words, we wanted to see whether the combined presence of both indicators - let's say highest educational level and greatest income category - would have provided greater protection against mortality than the mere addition of the effects of the two single indicators.

Our aim was achieved by building up a variable considering a number of combinations of the levels

of each indicator.

As a reference group, we used those subjects with either low education (none or primary) or low income (less than 10,000 Euros/y) and calculated the risk of death for each of the 16 combination levels. It came out that the greatest protection against mortality was experienced by groups reporting higher levels of both indicators in a synergistic way. Indeed, the likely protective effect of income against all-cause death varied across educational level groups and was larger at higher levels of education.

These findings are open to several interpretations. It is likely that education plays an important role in the way people spend their money in terms of pursuing healthy lifestyle; indeed, highly educated people are likely to make safer choices for their own health, such as following a healthful diet or engaging in sport activities. On the other hand, having greater financial resources might not be enough for pursuing healthful behaviours in the absence of a good set of knowledge and skills likely linked to higher degrees of education. Lessons learnt from this study: money is not enough if you do not actually know how to spend it.

***Marialaura Bonaccio, Augusto Di Castelnuovo, Simona Costanzo, Mariarosaria Persichillo,  
Maria Benedetta Donati, Giovanni de Gaetano, Licia Iacoviello***  
*IRCCS Istituto Neurologico Mediterraneo Neuromed, 86077 Pozzilli (IS), Italy*

## **Publication**

[Interaction between education and income on the risk of all-cause mortality: prospective results from the MOLI-SANI study.](#)

Bonaccio M, Di Castelnuovo A, Costanzo S, Persichillo M, Donati MB, de Gaetano G, Iacoviello L  
*Int J Public Health. 2016 Sep*