

Socioeconomic Position and Mortality-Reply

Archana Signh-Manoux, Silvia Stringhini

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1 In Reply:

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3 In response to our study, Drs Gonzalez-Santiago and Balderas-Renteria highlight the
4 importance of air pollution as an explanatory factor for social inequalities in health.

5 Similarly, Dr Gross raises the possibility of psychological distress as a factor. We agree with
6 these possibilities; indeed, there are multiple pathways linking socioeconomic position to
7 health.

8

9 The Black Report, commissioned by the Department of Health in the United Kingdom in
10 1977, was the first comprehensive review of evidence in this domain.¹ It identified 4
11 theoretical explanations for social inequalities: artifactual, natural or social selection,
12 materialist/structural, and cultural/behavioral. Subsequent research has attempted to examine
13 (and promote) the relative importance of one pathway over another, with little consensus.² In
14 the last decade or so, there has been a surge of interest in neighborhood studies, with
15 increasing recognition of the methodological challenges and the need to identify the causal
16 chain linking exposure to outcome.³ Exposure to environmental toxins and air pollution, is
17 likely to contribute to health disparities. Unfortunately, we have no data on air pollution.

18 However, the extent to which these factors explain the monotonic association between
19 socioeconomic position and mortality in high income countries with tighter regulatory
20 controls on the one hand and access to universal health care on the other remains unclear.

21

22 The principal conclusion of our study was that the effect of health behaviors in explaining
23 social inequalities in health is greater when they are assessed longitudinally (42 %
24 longitudinal assessment compared to 72% for baseline adjustment for all-cause mortality) .

25 We were careful not to draw conclusions about their relative importance in relation to other

26 possible explanations of social inequalities. We accept Gross's assessment of the importance
27 of psychological distress. However, in our data psychological distress measured by the
28 General Health Questionnaire explained only 2% of the association between socioeconomic
29 position and all-cause mortality when assessed at baseline (HR for mortality changed from
30 1.60 (1.26 – 2.04) to 1.58 (1.24 – 2.02)) and 5% when assessed longitudinally (adjusted HR
31 1.56 (1.23 – 1.99). The role of psychological factors in influencing health is likely to be
32 complex;⁴ and perhaps mediated by health behaviors.

33 The task of modeling repeat measures of psychological factors, behavioral factors, and other
34 possible elements along the causal chain is daunting. However, in order to improve
35 population health and reduce inequalities, elements that can be targeted either in clinical
36 settings or through public health messages and policies need to be identified. So far, the
37 interventions aimed at changing social, behavioral, or psychological factors have produced
38 disappointing results, perhaps due to the short term nature of these studies.⁵ The effect of the
39 socioeconomic context on health and well-being develops over the life course. Thus, attempts
40 to delineate the underlying pathways, either in observational studies or randomized controlled
41 trials, need to bear this in mind. Our study, using observational data, demonstrates the
42 importance of a longitudinal follow-up for health behaviors. The challenge now is to take the
43 same approach to other key mediators of the association between socioeconomic position and
44 health while attempting to also model the interrelationships between them.

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46 Archana Singh-Manoux, PhD

47 Silvia Stringhini, MSc

48 silvia.stringhini@inserm.fr

49 INSERM, U1018

50 Centre for Research in Epidemiology and Population Health

51 Villejuif, France

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