Is control at work the key to socioeconomic gradients in mortality? By: Smith, George Davey, Harding, Seeromanie, Lancet, 00995355, 11/08/97, Vol. 350, Issue 9088

Socioeconomic differentials in coronary heart disease (CHD) are substantial and cannot be accounted for by conventional cardiovascular risk factors.[1] It has been suggested that a particular form of job stress--that associated with a low degree of control over activity at work--is a major contributor to such socioeconomic differentials. Statistical adjustment for self-reported job control has been found to essentially abolish the socioeconomic gradient in CHD incidence.[2] There are, however, serious questions regarding collinearity in such analyses: low control over work is virtually synonymous with low socioeconomic position and an exploration of the associations between different work characteristics and cardiovascular disease risk demonstrates that these associations may be dependent on the social patterning of the work characteristic in question.[3]

Historical considerations lend support to a sceptical view of a specific causal contribution of low job control to the social distribution of CHD. Earlier this century, when most women were not in formal employment, the socioeconomic gradient in CHD was much steeper for women than for men.[1] Similarly the social gradient of CHD among people who are beyond working age is the same as that of those of working years. We have further explored this issue by analysing the association between socioeconomic position, as indexed by car access, and mortality in the Longitudinal Study, a follow-up of 1% of the population of England and Wales from the 1981 census.[4]

The analyses relate to men and women of working age at the time of the 1981 census. All-cause and CHD mortality according to household car access (0, 1, or more) in 1981 was examined for those who were in full or part-time employment and those who were seeking work or waiting to take up a job. The mortality differentials according to car access (table) are similar for those in work and for those not working. What is clear is that socioeconomic differentials are not specific to people in work, for whom low job control could be a plausible mechanism for the increased CHD risk. The hypothesis could be expanded to say that it is control over the contingencies of life in general, rather than at work in particular, which is important. However, if job control explains the socioeconomic gradient in those who are at work[2] this suggests that there is no independent influence of control during the non-working part of the lives of employed people, while this is of major importance in non-employed people. This seems unlikely. Furthermore, the expanded hypothesis becomes more difficult to test or to implement in intervention programmes.

In the first Whitehall study,[5] not owning a car was associated with a 49% higher risk of all cause mortality. Adjustment for employment grade left a significant increase in mortality risk of 28%, just as adjustment for employment grade in the Whitehall II study left a residual significant influence of job control. Because we have no reason to believe that non-car ownership is a cause of increased mortality, we treat it as a

sensitive indicator of socioeconomic position; the same could well be true of job control.

Hazard ratios for all causes and coronary heart disease (CHD) between 1981 and 1994

| | | Hazard ratio (95% CI) | |
|---|---|---|---|
| | | Employed 1981 | Not employed 1981 |
| Women | | | |
| All cause | No car | 1.00 | 1.00 |
| | Car | 0.69 (0.64–0.75) | 0.81 (0.61–1.07) |
| CHD | No car | 1.00 | 1.00 |
| | Car | 0.61 (0.50–0.74) | 0.72 (0.37–1.40) |
| Men | | | |
| All cause | No car | 1.00 | 1.00 |
| | Car | 0.70 (0.67–0.73) | 0.70 (0.63–0.77) |
| CHD | No car | 1.00 | 1.00 |
| | Car | 0.78 (0.73–0.85) | 0.70 (0.59–0.83) |


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