

THE WHITEHALL STUDIES

The name 'Whitehall' originates from the first Whitehall study of 18,000 men in the Civil Service, set up in 1967. The first Whitehall study showed that men in the lowest employment grades were much more likely to die prematurely than men in the highest grades. The Whitehall II study was set up to determine what underlies this grade or social gradient in death and disease and to include women.

1. THE ORGANISATION OF SOCIETY AND WORK HAVE A LARGE IMPACT ON HEALTH

The Whitehall II study has shown evidence that the way work is organised, the work climate, social influences outside work, influences from early life, in addition to [health behaviours] all contribute to the social gradient in health. These lead to the uncomfortable (for some) finding that inequalities in health cannot be divorced from inequalities in society. The inescapable conclusion is that to address inequalities in health it is necessary both to understand how social organisation affects health and to find ways to improve the conditions in which people work and live.

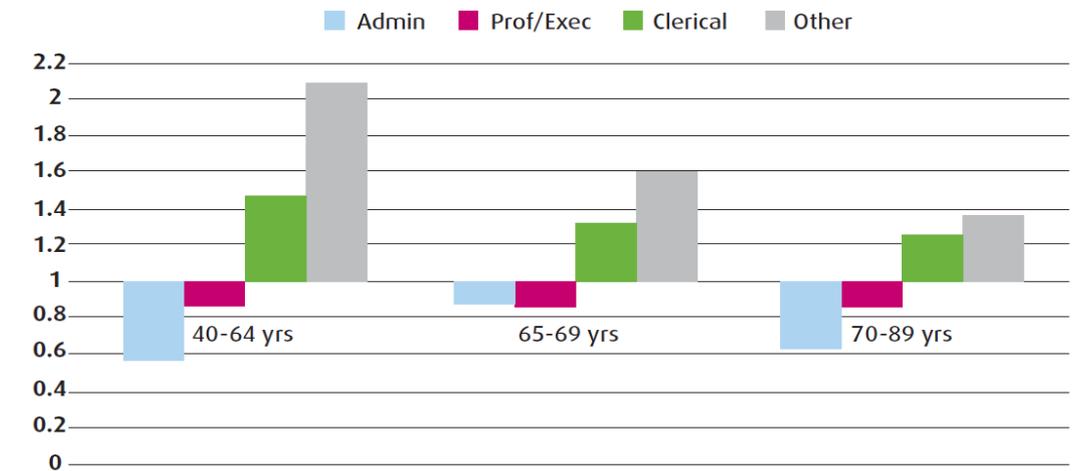
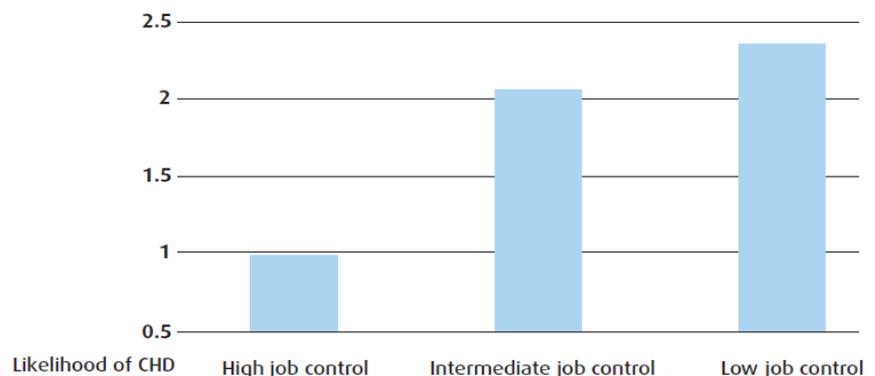


Figure 1 shows the death rate in each grade relative to the average for the whole civil service population (set at 1). The Administrators have about half the average mortality at age 40-64 yrs, while the office support staff who make up the 'other' grade have about twice the average. Hence there is a four-fold difference between the bottom and top grade.

2. STRESS IS CAUSED BY A COMBINATION OF HIGH DEMAND AND LOW CONTROL

While it is common for demands to increase as the occupational hierarchy is ascended, degree of control over work decreases with lower position. Whitehall II provides ample documentation of this: the lower the grade of employment, the less control over work. This combination of imbalance between demands and control predicted a range of illnesses. The evidence from Whitehall II suggested that low control was especially important. People in jobs characterised by low control had higher rates of sickness absence, of mental illness, of heart disease and pain in the lower back.

Figure 2. Self-reported job control and coronary heart disease incidence



Adjusted for age, sex, length of follow-up, effort/reward imbalance, grade, coronary risk factors and negative affect.

Figure 2 compares the incidence of coronary heart disease in three groups of people from the Whitehall II study: those who report that they have a high level of control at work (high job control, incidence of CHD set at 1), intermediate job control and low job control. People with intermediate or low job control had over twice the incidence of coronary heart disease as people with high job control.

3. SOCIAL SUPPORT AT WORK IMPROVES HEALTH

The study found that good levels of work social supports had a protective effect on mental health and reduced the risk of spells of sickness absence. Lack of support from supervisors and unclear or inconsistent information was associated with a twofold increased risk of poor general mental health. Similarly, a lack of support from colleagues was also associated with worse mental health.

Figure 3. Social support at work as a risk factor for subsequent poor mental health

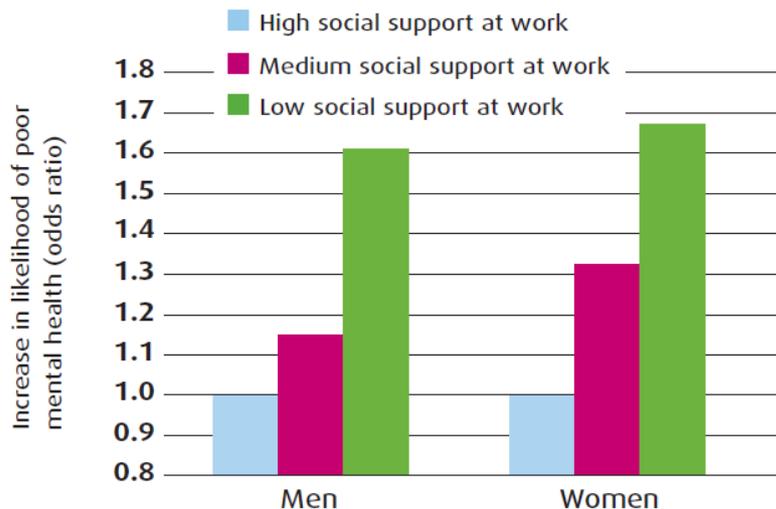


Figure 3 shows the increased risk of poor mental health in those with medium and low levels of work social supports compared to those with high levels of work social supports. Adjusted for age and employment grade.

4. AN IMBALANCE OF EFFORT AND REWARD HARMS HEALTH

Crucial to all social relationships is a sense of reciprocity. One way relationships are likely to be a source of stress and anything that is a source of stress has the possibility of increasing rates of illness. Reward is conceived and measured in three different ways; esteem, career opportunities including job security and promotion prospects, and financial remuneration. The Whitehall II Study examined the independent impacts of income and wealth on illness. Income, of course, is highly correlated with employment grade, so much so that once employment grade was taken into account, income made no additional contribution to predicting illness. There was, however, a continued importance of wealth in predicting illness. Wealth represents a balance of income and expenditure over the whole of life and includes contributions from previous generations. The association between wealth and health may, therefore, represent the effect of accumulation of material and psychosocial factors on health. In addition, wealth will relate to financial security and prospects for the future, which in turn are likely to have an impact on rates of illness.

Figure 4. Effort-reward imbalance at work and coronary heart disease



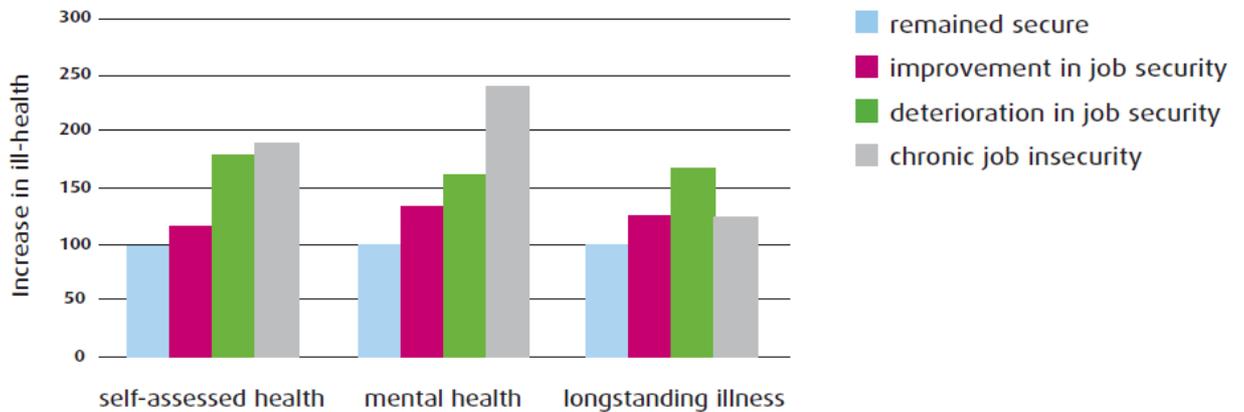
Adjusted for age, sex and grade.

Figure 4 shows that people who reported a high ratio of effort compared to rewards were at increased risk of coronary heart disease compared to people who reported low effort and high reward. (Incidence of CHD set at 1 for low effort and high reward).

5. JOB INSECURITY HARMS HEALTH

Since the study of job insecurity within the Whitehall Study started in the early 1990s, other research groups in the UK and abroad have instigated programmes of research into job insecurity and its effect on health. The findings of these studies confirm those from the Whitehall II study and there is now a large body of evidence that job insecurity increases ill-health, particularly mental illness and use of health services.

Figure 5. Effects of loss or gain of job security and of chronic job insecurity in women



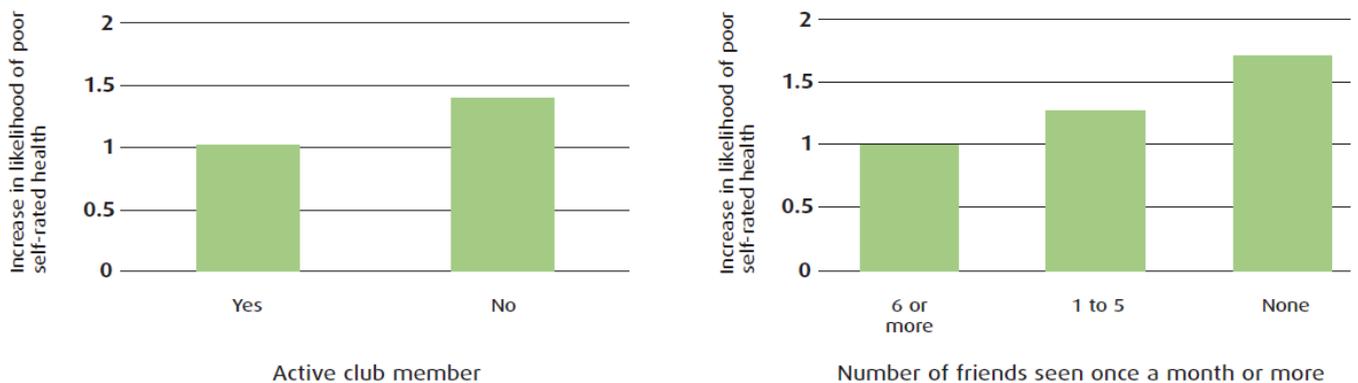
Adjusted for age, employment grade and health at the beginning of the follow-up period.

Figure 5 shows the effect on health of change in job security and chronic job insecurity over a 2 1/2 year period at the end of the 1990s in women. Chronic job insecurity had the worst effect on health, followed closely by deterioration in job security. Even women whose job security improved had worse health than women whose job was secure at both time points. This indicates that the adverse effects of job insecurity are not completely reversed by the removal of the threat. There were similar effects in men.

6. WIDER SOCIAL NETWORKS ARE IMPORTANT FOR HEALTH

Our work shows that having a large circle of friends and seeing them regularly is good for overall health. These friends do not all have to be intimate friends – contact with acquaintances or friends of friends has health-promoting effects too. There was no indication that social network size was important for mental health.

Figure 8. The effect of social contact on health



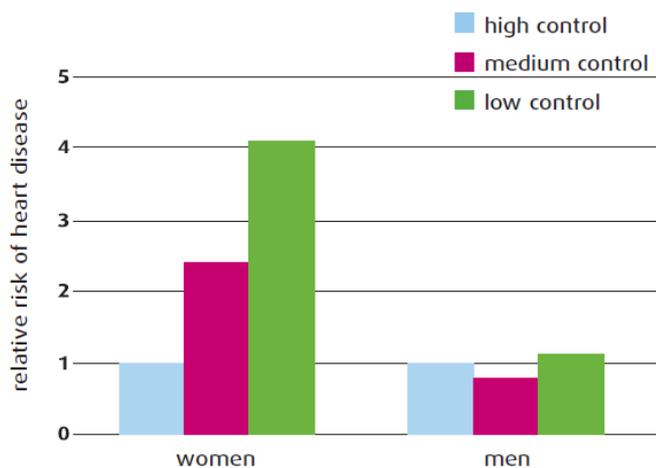
Adjusted for sex, employment grade, marital status, and deprivation.

The figure on the left shows that people who are active club members are less likely to rate their health as poor than those who actively participate. The figure on the right shows that people who regularly see their friends are less likely to rate their health as poor. People who don't see any friends regularly are more than 1.5 times as likely to report poor health compared with people who see 6 or more friends regularly.

7. CONTROL OUTSIDE WORK

The study found similar patterns of a social gradient in health when household income or wealth was used, instead of Civil Service employment grade, to measure social status. This suggests that, in addition to work related factors, factors related to family or home life may also contribute to the social gradient in health. Similar to the results about the negative effect of having low control at work on heart disease, we found that women who reported having low control at home had higher risks of heart disease. In contrast, among men, having low control at home was not a predictor of heart disease. Having control over one's life thus appears to be important for health, although there may be differences between men and women in terms of control over work or home life. Having financial problems, and caring for dependent children and elderly relatives predicted low control at home.

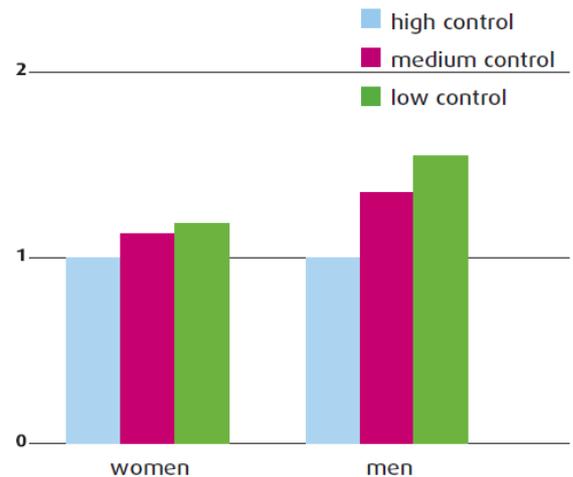
Figure 9.1 The effect on heart disease of control at home



*age adjusted

The figure shows that for women, having lower control at home is associated with higher risks of heart disease.

Figure 9.2 The effect on heart disease of control at work



*age adjusted

The figure shows that for men, having lower control at work is associated with higher risks of heart disease.

For more see:

WORK STRESS AND HEALTH: the Whitehall II study

http://www.ucl.ac.uk/whitehallIII/pdf/Whitehallbooklet_1_.pdf

The Life Scientific – Sir Michael Marmot

<http://www.bbc.co.uk/programmes/b016ld4q>

The Whitehall Study Site

<http://www.ucl.ac.uk/whitehallIII/>