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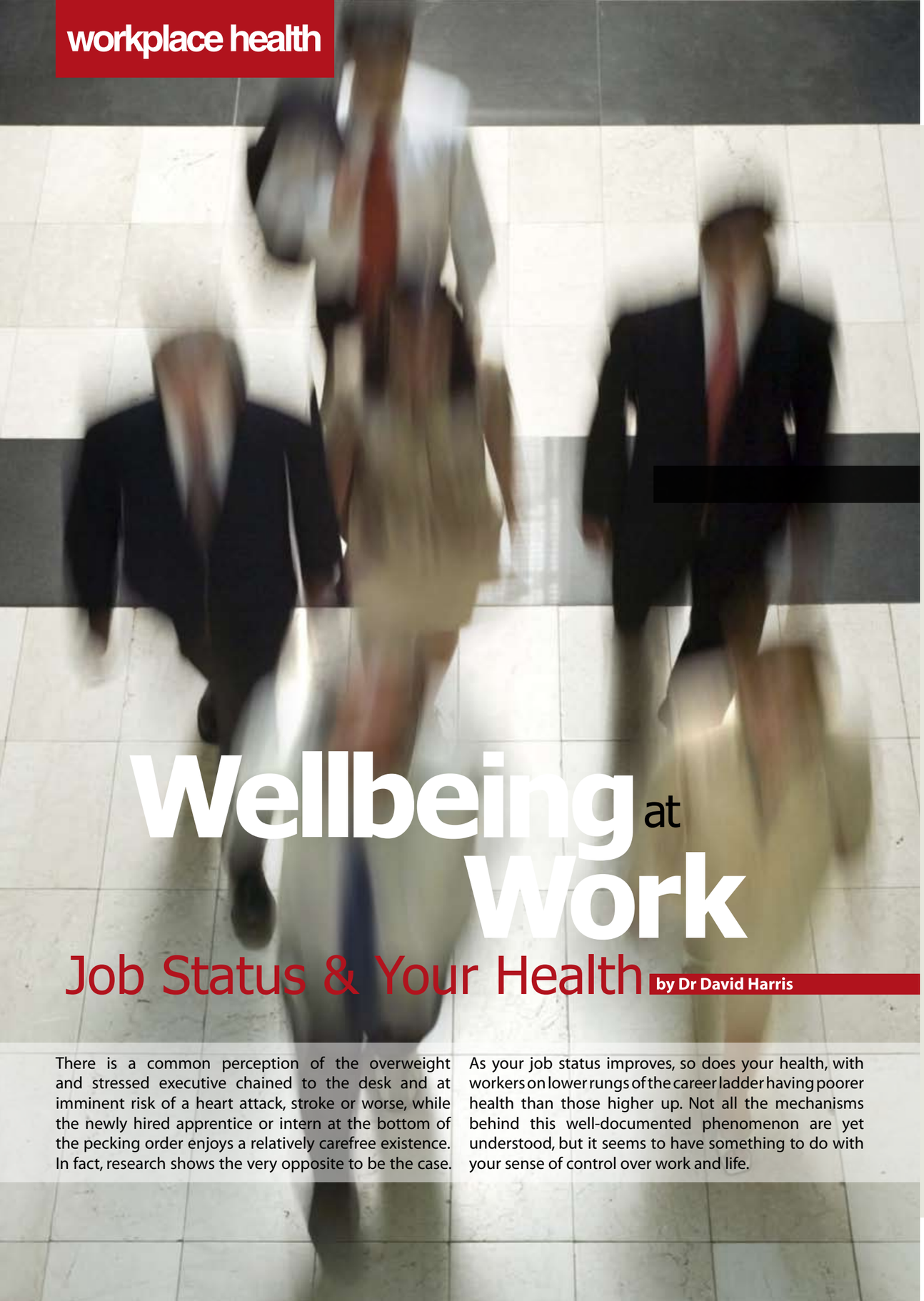

Wellbeing at Work

Job Status & Your Health

by Dr David Harris

There is a common perception of the overweight and stressed executive chained to the desk and at imminent risk of a heart attack, stroke or worse, while the newly hired apprentice or intern at the bottom of the pecking order enjoys a relatively carefree existence. In fact, research shows the very opposite to be the case. As your job status improves, so does your health, with workers on lower rungs of the career ladder having poorer health than those higher up. Not all the mechanisms behind this well-documented phenomenon are yet understood, but it seems to have something to do with your sense of control over work and life.

workplace health

In Control of Your Health

The Whitehall Study by Marmot et al (1984) was a landmark in workplace health research. More than 17,000 British civil servants (who typically work in Whitehall in England, hence the study's name) were monitored for important health outcomes over a period of time. The study found that employment status was a powerful predictor of premature heart disease, even more powerful than the classic risk factors such as smoking, serum cholesterol and blood pressure. Public servants with the highest employment grade had the best health outcomes. Each descending grade of employment status had higher and higher levels of heart disease. The trend was strong and consistent.

The Whitehall Study sparked a lot of interest. What could explain these findings? Why would job status be a more powerful predictor of cardiovascular health than the classic behavioural and medical risk factors? The answer is quite amazing and a little spooky.

To answer these questions, Whitehall II was conducted (Marmot et al 1991, Brunner et al 1997), including more detailed biological measures with a focus on a pattern known as 'metabolic syndrome'. These factors are strong predictors of heart disease and diabetes and include blood glucose and insulin, HDL cholesterol and triglycerides, a blood clotting agent called fibrinogen, and abdominal obesity. Whitehall II also looked at psychosocial factors, such as low control over workload, lack of variety, lack of social contact with friends, distressing life events, difficulty paying bills, hostility and loss of control.

Consistent with the first study, Whitehall II found that employment status was a strong predictor of metabolic syndrome (see Figure 1).

Civil servants at the highest grade had the lowest risk. As employment grades descended, the likelihood of metabolic syndrome increased. The researchers were astonished to find that this trend held true for every single biological measure used in the study! In other words, your job status not only predicts your risk of heart disease and diabetes, it also plays a powerful role in determining your levels of blood glucose and insulin, HDL cholesterol and triglycerides, fibrinogen and tendency to abdominal obesity.

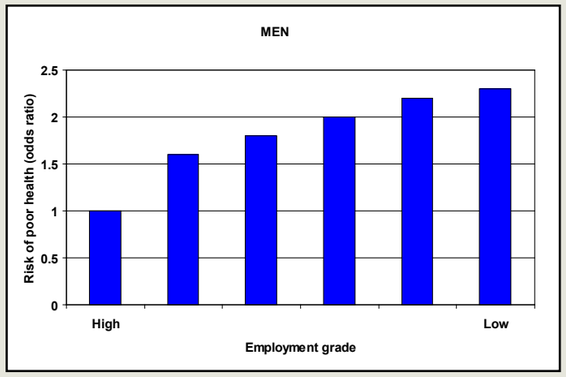

Figure 1: Prevalence of metabolic syndrome by employment grade in Whitehall II study, adjusted for age and, in women, menopausal status (Brunner et al 1997)

The glucose measure was investigated further. The civil servants were given 75g of a glucose drink while fasting. Two hours later, their blood glucose was measured. You can probably guess the results. The workers with the highest job status had the most normal blood glucose. The lower the job status, the more likely it was for the worker to have difficulty metabolising the glucose. In other words, the ability to normally metabolise glucose was somehow influenced by job status.

One of the first questions stemming from this study is whether health differences between employment grades are explained by lifestyle. The answer is no. The researchers controlled for lifestyle factors, such as smoking, physical inactivity and alcohol consumption, and found that 90% of the differences still remained.

Some Animal Insight

Research with baboons may provide some insight into the mechanisms at play in the relationship between job status and health. Baboons are very social animals with a clear and measurable status hierarchy. A highly regarded neuroscientist, Sapolsky, has studied wild baboon troops in the Serengeti for many years (Sapolsky and Mott, 1987). He classified males in the troops as either dominants or subordinates. The findings from blood samples mirrored those of the Whitehall II study - the higher the animal's status, the higher the levels of protective high density lipoproteins (HDL), which promote 'reverse transport' of cholesterol away from the arterial wall. The subordinates also had higher levels of cortisol, a stress hormone inversely correlated with HDL.

Of course, the baboons' health profile could be explained by factors other than social status. Perhaps holding a dominant position in the troop produces a more positive psychological state and feelings of wellbeing, or perhaps the dominant males have better access to the best food. It may be that the fittest baboons attain the highest rank, but recent studies with macaque monkeys suggest that none of these explanations is adequate. Shively and Clarkson (1994) describe how dominant monkeys were taken out of their own group and placed into a different group, where they lost their status and became subordinate. These monkeys had a five-fold increase in coronary plaques compared with animals who remained dominant. In other words, if your social or work status improves, there is likely to be a corresponding improvement in your health. The converse may also be true: that if you lose status, you experience a decline in health.

What this Means for You

The implications of Whitehall and Whitehall II are profound and have fuelled enormous interest in social inequality, social status and health. The studies help explain some of the mechanisms behind previously unexplained societal patterns. For example, in the mid-1980s, Professor Tony McMichael, an Australian epidemiologist, found that the higher your occupational status, the lower your risk of heart disease (McMichael, 1985). The Whitehall studies and related research suggest that higher job status boosts your sense of control, while moderating feelings of powerlessness and depression that can drive the stress response and trigger physiological reactions that lead to metabolic syndrome, diabetes and CVD (see Figure 2). In other words, higher job status brings empowerment and a sense of control, while low job status means powerlessness and a sense of futility, depression and hostility.

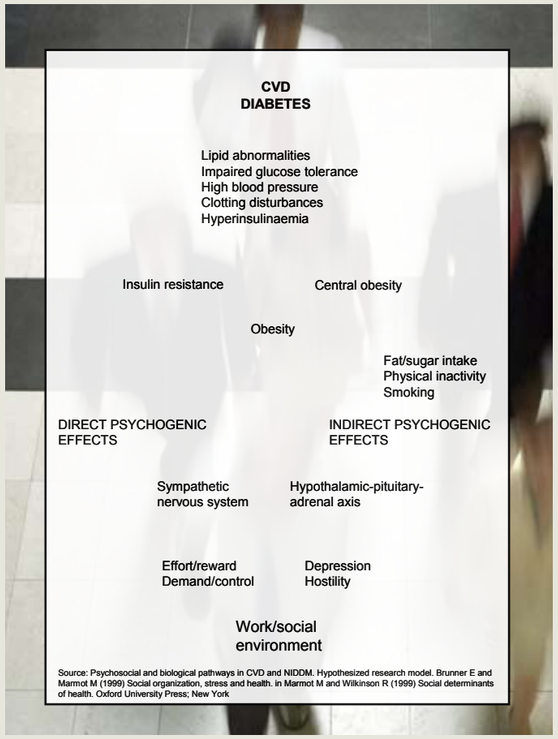

Figure 2. Psychosocial and biological pathways in CVD and NIDDM. Hypothesized research model. Brunner E and Marmot M (1999). Social organisation, stress and health. Marmot M and Wilkinson R (1999). Social determinants of health. Oxford University Press, New York.

Studies confirm that the relationship between job status, social inequality and health is real and has far reaching implications. In Australia, groups such as unemployed people and Aboriginal people have some of the poorest levels of health, and studies show this is not entirely explained by lifestyle or poverty. There is something about being in a group of low social status that makes you sick. A fascinating study in the US shows that states where income inequality is highest are the states with the lowest social cohesion (measured by how much you trust your neighbour) and the lowest social capital (measured by how likely you are to be involved in community activities). These states also have the most firearm homicide and violent crime, and higher death rates from heart disease, cancer and infant mortality. Conversely, states with the smallest gap between rich and poor are the states with the highest levels of social cohesion and social capital.

What Can You Do?

It's important to understand that the research discussed here relates mostly to population-based health outcomes, so if you're in a high status position, you're not necessarily bullet-proof. Likewise, if you're in a low status job, you're not necessarily destined for poor health, you simply have some work-related risk factors working against you. A smart strategy would be to develop some extracurricular interests, like a hobby or a sport, to give you some goals and allow you to

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enhance your sense of control and empowerment outside of work. It could also be helpful to be aware of your feelings at work and, if something is getting you down or worrying you, to look at the issues objectively and work though some realistic solutions with your workmates, supervisor or union representative.

It may not be possible to change your work or social status in the short-term, but understanding the relationship between your work and your health can help you better understand why your health is the way it is, and how you can better manage it in the long run. Knowing that social and income inequality is detrimental to social cohesion and social capital might also bolster your confidence to stand up for the Australian egalitarian spirit!

Dr David Harris

David Harris is a specialist in workplace health, safety and productivity. He combinesastrongacademicbackground in public health, behavioural medicine and safety with a successful track record helping companies solve problems related to managing workforce health and preventing injury, especially in physically demanding occupations.

David is the former Director of the National Workplace Health Project, one of Australia's largest studies of worksite health and safety promotion. He has developed successful health protection programs for a range of industries in Australia and the US, including firefighters, the energy industry, road and rail transport, local government and the armed forces.

David has a PhD in Medicine from the University of Sydney and is a Director of AlphaOne, one of the only research-based workplace health and productivity programs in the world to specifically target and effectively reach employees at greatest risk of poor health on an industry-by-industry basis.