A holistic approach to stress and wellbeing
Part 2: models, practice and policy

Stress at work has become a major occupational health issue. This article by Prof Andy Smith describes an approach to conceptualising and modelling occupational stress and suggests that such models are integrated with policy and practice.

Musculoskeletal disorders and stress, anxiety and depression are important occupational health issues, and are major causes of sickness absence, loss of productivity and long-term worklessness. The cost of these to the individual, the organisation and society is considerable and there is a need for prevention and management. There is some degree of co-morbidity between musculoskeletal disorders and stress, and there is evidence of similarities in the causal factors. This suggests that a similar approach to both areas may be effective. Indeed, given the links between stress and mental illness and other diseases – such as cardiovascular disease and cancer – a unified approach may have far-reaching effects on wellbeing and long term health.

Models of stress
There is confusion over the conceptualisation of stress. Historically, stress was initially examined in terms of stressful stimuli (stressors) and the physiological (eg racing heart, sweaty palms) and affective responses (eg negative mood, mental health problems) observed during and after exposure to stressors. More recent approaches consider stress in terms of the appraisal of potential stressors – ‘Is it a threat?’ – and the ability to cope with demands. Indeed, stress is now often defined in terms of excessive demands which exceed the ability to cope and lead to negative outcomes. Certain approaches to occupational stress, such as the job demands–control–support model, have focused on negative job characteristics and the buffering of these negative effects by control and support. Others have focused on effort–reward imbalance and problems associated with over-commitment.

Transactional models of stress emphasise the different stages in the stress process and consider not only job characteristics but also appraisals of stress and the impact of different coping styles and personal factors – such as gender, personality, and attributional style – in determining the outcomes. Individual contexts and behaviour are vital to understand the causes of strain, stress, and coping, and they imply that it may make no sense even to consider stressful job characteristics as ‘out there’ without subjective individual perceptions.

Individual differences are often categorised as ‘mediators’ or ‘moderators’. Mediators are variables that transmit an effect, but do not qualitatively change the effect. In work stress research this could be seen as how objective job characteristics are invested with meaning and gain psychological value or relevance, and how individual differences influence subjective perceptions. This appears to be what happens in primary appraisal, for example someone with a high sense of self-efficacy may see a difficult situation as challenging rather than threatening. Moderators are seen as variables that change the direction or strength of relationship between other variables (such as by buffering or interacting effects) or determining when certain responses to stress will occur. This may occur during the coping stage of the transactional model, for example good coping skills may be able to deal with a situation appraised as threatening. Moderator research is likely to be concerned with studying the predictors of health outcomes. Social support is an example of a moderating variable that has a buffering effect between subjective perceptions and health outcomes.

There are many individual differences that have been studied in work stress and depression research, including hardiness, locus of control, type-A personality, neuroticism, coping behaviour (both in terms of ‘styles’ and repertoires), gender and attributional style. Many of these individual differences are complex and have effects through a variety of mechanisms.

Gender differences
Gender is an interesting individual-differences variable because, whether for social or biological reasons, it appears to interact with many other factors and there are significant differences between men and women in health-related work stress outcomes. For example, there is a persistent trend in organisational stress research that females are significantly more likely than males to suffer from depression. Possible explanations for the differences in reported depression include biological and socialisation factors, psychological factors (eg attributions and coping) and psychosocial or socio-
economic factors (e.g., different types and intensity of stressors). Psychosocial factors are vital and such social and work stressors are likely to be different for men and women. These can include life events, workplace discrimination, role conflict, and socioeconomic differences, such as education, income, and poverty.

As well as increased levels of stressors for women, there is also evidence that the same stressors may have a more pronounced impact upon women, so they are more likely to become, and stay, depressed. The demand-control model emphasises the importance of control at work, and states that those with low levels of control and high demands, are more likely to suffer from workplace health problems. Women are often likely to be employed in lower status jobs, and therefore have less control over their work and may suffer more distress as a result.

A negative attributional style strongly correlates with depressive symptomatology, and research suggests that men are more likely to have a positive attributional-control style, and women are more likely to have a negative attributional-control style. It has also been shown that women are significantly more likely to exhibit an emotion-focused style—which is often thought of as negative—and men are more likely to show a problem-focused approach. Finally, it has also been argued that certain biological characteristics can predispose women to become more vulnerable to stress and depression.

**PREDICTIVE VALUE**

Mark and Smith have applied such a model—the Demands, Resources and Individual Effects (DRIVE) model—to mental health issues and shown that it has much better predictive value than one based solely on job characteristics. Such models also show what should be measured in a stress audit and how primary, secondary, and tertiary interventions can best be applied.

A next step is to integrate this approach with combined-effects models so that one uses scores which reflect the total influence of job characteristics, total influence of perceptions of stress and individual resources to predict different outcomes.

**THE MANAGEMENT STANDARDS APPROACH**

The Management Standards approach was developed by the Health and Safety Executive (HSE) to reduce levels of work-related stress. It has two major aspects: a risk management methodology and an assessment model using an indicator tool. The Management Standards approach is a key component of HSE’s ‘stress toolbox’.

Major issues include getting organisations to engage in the risk assessment process, and educating users on what to do with the information from the indicator tool when they have got it. If the indicator tool is considered within the context of models of stress then a number of problems can be identified. First, if stress is thought of as a process, then all stages of that process need to be assessed. For example, it is important not only to assess exposure to negative job characteristics—and there a number of ways of doing this, for example, looking at combined effects of factors—but also to measure perceived stress, coping, personality and attributional styles and also outcomes (both reported health and objective indicators such as sickness absence).

It is quite common for individuals to report frequent exposure to negative job characteristics but little perceived stress. This is because the person can actually cope with the potential stress. Similarly, perceived stress does not inevitably lead to negative outcomes. This shows the need to assess potentially stressful stimuli, appraisal of these stimuli (perceived stress) and negative outcomes (e.g., mental health problems). It is also important to remember that all of these factors are measured by self-report and there is a need to adjust for potential biases, such as negative affectivity (a person high in negative affectivity perceives the glass as half empty, whereas those low in negative affectivity perceive it as half full).

It is also possible for a person to have high levels of perceived stress but report few negative job characteristics on the indicator tool (because the source of stress is different from those on the checklist). Indeed, recent research suggests that it is unclear exactly what the indicator tool is measuring, with the highest correlations being found with job satisfaction.

A number of other weaknesses and limitations of the Management Standards have been identified. These suggest a need to:

- Incorporate higher-level organisational factors. Indeed, Smith and Wadsworth found that one of the best predictors of level of stress in an organisation was safety culture, suggesting that the organisational culture will have a general influence on wellbeing, health and safety.

- Balance positive and negative drivers of employee health, and provide evidence of the validity and reliability of the Indicator Tool and risk management process.

- Tailor to specific contexts.

- Address the equivalence of different approaches to the topic.

- Provide a better link between the risk assessment and interventions.

- Develop a business case for managing stress and other common health problems.

- Educate and provide support for the users and experts.

There is also a need to expand the Management Standards approach to:
CONCLUSIONS

- Stress-related illness and musculoskeletal disorders may share some causal factors as well as comorbidity.
- Various models of occupational stress have focused on different factors, such as job characteristics, demands, effort and reward; more recent ‘transactional’ models consider both job and personal factors in determining outcomes.
- Gender appears to be important because it interacts with other factors affecting occupational stress.
- The HSE’s management standards approach needs to incorporate higher-level organisational factors (such as culture).
- The management standards should provide a better link between the risk assessment process and any workplace interventions.

A WAY FORWARD

The approach adopted here is that the HSE indicator tool should be modified to reflect the total influence of job factors and perceptions of stress and wellbeing. The model underlying this has been described, and other approaches — such as the use of combined effects of job characteristics and appraisals, and the consideration of positive and negative aspects of work — will be discussed in future articles in the series. There is also a need to consider practical aspects of the process. For example, we have shown that single items can replace many of the indicator tool scales. This means that it will be possible to develop a relatively short instrument that collects additional information about job characteristics (such as organisational factors and positive features of the job), perceptions of stress and wellbeing, multiple health outcomes and personal characteristics (for example, measures of coping and personality).

It is crucial that the whole stress process and outcome measures are linked to the risk assessment and audit of job characteristics and appraisals. In terms of policy it has been argued that prevention strategies must be placed within the overarching ‘Health, Work and Wellbeing’ message. This requires a wider development of the health management agenda to develop strategies that go beyond current methods of primary prevention. Indeed, a ‘one size fits all’ approach is unlikely to be successful and future approaches must move towards greater consideration of the individual.

The incorporation of case management into practical approaches to prevention and management of stress at work will be considered later in the series.

A great deal of current research in the occupational stress area fails to achieve its full potential because lack of integration prevents key synergies between the research and policy communities from being maximised. The next article in the series will demonstrate the need for a multi-factorial approach to stress and wellbeing at work.

Professor Andy Smith is director of the Centre for Occupational and Health Psychology at Cardiff University.

Notes
6 http://www.hse.gov.uk/stress/standards
12 Smith AP; Wadsworth EJ. Safety culture, advice and performance: the association between: safety culture and safety performance, health and well being at an individual level; and safety culture, competent occupational safety and health advice and safety performance at a corporate level. Wigion: IOSD, 2008.