RUNNING TWICE AS FAST? A REVIEW OF THE RESEARCH LITERATURE ON TEACHERS' STRESS

VALERIE WILSON AND JOHN HALL

SYNOPSIS

There is a widespread belief that teaching is a stressful occupation which may result in many of its members experiencing physical, emotional or behavioural stress-related symptoms. But does the research evidence support this contention? This article reviews the published literature on teacher stress; explores its main causes and compares the prevalence of stress in teaching compared to other professions. It draws together available Scottish evidence and identifies gaps in current knowledge.

INTRODUCTION

In Lewis Carroll's *Through the Looking Glass*, the Red Queen famously explains: 'Now here you see, it takes all the running you can do, to keep in the same place. If you want to get somewhere else, you must run at least twice as fast as that' (Carroll, 2000). Media reports about 'teacher stress', suggest that many teachers in Scotland may also feel that they are required to run ever faster just to keep up with their job-related activities. But is there sufficient research evidence to show that either the intensity of teacher stress is increasing or that it is felt by an increasing proportion of the profession in Scotland? These questions were addressed by a recent literature review for the Scottish Executive (Wilson, 2002). This article draws upon that review. Its purpose is to clarify the definition of 'stress'; highlight the causes of teacher stress and compare its prevalence to that in other professions, and review the evidence of its existence amongst Scottish teachers. It builds upon previous SCRE reviews (Johnstone, 1989, 1993a, 1993b) and draws upon the evidence from other relevant studies by SCRE (Hall, *et al*, 2000; Malcolm & Wilson, 2000; Wilson & McPake, 1999).

THE CONTEXT

In 1989 the Scottish Council for Research in Education (SCRE) published a review of stress in teaching (Johnstone, 1989). Four years later the review was updated (Johnstone, 1993a) and a separate study of teachers' workload and associated stress was undertaken by SCRE for the Educational Institute of Scotland (Johnstone, 1993b). Even in 1993, Kyriacou and Harriman (1993) were claiming that, 'we now have a clear idea of the major sources of stress facing teachers, the most common symptoms of stress, how teachers typically try to cope with stress, and how schools can reduce levels of stress' (p.297). Since then, interest in occupational stress, and teacher stress in particular, has grown amongst researchers, policy makers, employers, teachers and their professional associations.

Three examples will set the context for this current article. The Trades Union Congress (TUC, 2000) called upon the Health and Safety Executive to recognise that stress is a major workplace hazard by drawing up standards for tackling excessive workloads, low staffing levels and long hours, all of which it believes contribute to employee stress. In addition, 7th November 2001 was designated a National Stress Awareness Day with stress-management events, including seminars to help people deal with stress in the work place.

Within the teaching profession, the Teachers' Benevolent Fund has recently supported the establishment of Teacher Support Scotland, as an equivalent service to the Teacher Support Network in England. The English Teacherline claims to have

received 13,000 telephone calls from teachers in England during the first year of its operation (TBF, 2000). The new Scottish service was launched at a symposium held in Dunblane on 11 December 2001 at which representatives of the Association of Directors of Education, the Educational Institute of Scotland, the Catholic Education Commission and the former registrar of the General Teaching Council welcomed the initiative (TES, 14/12/01).

And finally at the tenth meeting of the Council of the General Teaching Council Scotland, which by coincidence was held on National Stress Day (GTC Minute, 7/11/2001), the Registrar highlighted the need for the Council to develop 'an extension of the Council's powers into the area of competence and ill-health' in its role as 'guardian and protector of the profession and the professionalism of teachers'. Teacher ill-health, including stress, has become an issue of concern, worthy of further exploration.

WHAT IS STRESS?

'What is stress' was the question posed in previous SCRE reviews (Johnstone, 1989, 1993a). It is extremely difficult both to disaggregate stress from its effects, and also to agree instruments with which stress levels in human beings can be measured. Without a clear definition, the reliability and validity of various published studies on stress cannot be assessed.

In the mid-1950s Hans Selye (1956), an endocrinologist, perceived stress to be a neutral physiological phenomenon. He defined it as a general adaptive syndrome or non-specific response to demands placed upon the human body. These demands could either stimulate or threaten the individual. In later work, Selye (1974) distinguishes between 'stress' and 'distress'. This was the first definition presented in previous SCRE reviews and it is still a useful beginning. It also accords with the derivation of the term as explained in *The Shorter Oxford Dictionary* (3rd Ed. 1972). In modern usage stress has come to imply the subjection of a person to force or compulsion, especially through mental pressure or by overwork, which leads to strain or mental fatigue. By 2001, Kyriacou was defining teacher stress as:

> the experience by teachers of unpleasant, negative emotions, such as anger, anxiety, tension, frustration, depression, resulting from some aspect of their work as a teacher (p 28).

And here lies the problem. As Selye (1974) explained, humans require sufficient pressure to encourage them to perform creatively but excessive pressure can produce feelings of oppression or harassment and lead to distress or collapse. Not everyone will react uniformly to the same demands: a stimulus to some may reduce others to distress. Lazarus (1976: p.47) proposed that 'stress occurs when there are demands on a person which tax or exceed his (*sic*) adjustive resources'. This definition recognises the two components of stress: the pressure imposed and the adaptive resources of the individual to withstand the pressure. This remains a useful distinction.

The SCRE reviews of stress in teaching (Johnstone, 1989, 1993a, 1993b) drew heavily on Dunham (1984) who proposed three ways of defining stress. Each model has different implications for teachers and educational managers.

The engineering model

The engineering model presents stress as the load or demand placed upon a person which exceeds the 'elastic limit' of the individual's capacity to adapt to it. In this model, teachers are perceived to be passive recipients rather than actors. Some operate in situations, such as during probation, working with children with special educational needs or in areas of multiple deprivation, which may give rise to demands beyond their adaptive limits.

176

The medical model

The medical model focuses on physiological and psychological responses, which can arise as a consequence of stress. Such symptoms as depression, tension, irritability, insomnia, loss of appetite, weight loss, are essential components of the definition. But these symptoms are not unique to stress and may be attributed to other medical conditions. Again the teacher is portrayed as a passive recipient to whom pressure is applied with resultant stress.

The interactive model

This model perceives stress as interactive and situational. It recognises that on the one hand teaching as a profession and some schools in particular may exert pressures on teachers; while on the other, individual teachers react in different ways and bring a variety of adaptive resources to help them cope with those pressures. Importantly, teachers are portrayed as actors who are no longer at the mercy of external pressures. We believe that this is the most helpful model and it is the one which we have applied throughout this review We do, however, acknowledge more recent work by Lazarus (1999) which distinguishes between social stress, physiological stress and psychological stress and highlights the role played by self-appraisal in determining individual stress levels. Some might find this a more appropriate approach, but we believe that the concept of self-appraisal adds an extra dimension to the interactive model.

HOW CAN STRESS BE MEASURED?

The search for greater clarification of what stress is led researchers to devise ways to measure it. The *Occupational Stress Indicator* (Cooper, Sloan and Williams, 1988) offers a variety of self-report scales which have been norm-referenced against samples drawn from various occupations. In the USA, the eponymous *Burnout Inventory* (Maslach and Jackson, 1981) purports to identify three different aspects of 'burnout'; while the Holmes and Rahe (1967) scale measures individual adjustment to traumatic events, such as the death of a close relative or redundancy. All of these were mentioned in previous SCRE reviews and are still in use today. None is unproblematic.

Most attempts to measure stress levels in teachers have relied on *self-report inventories* unsupported by medical tests or observational evidence. The findings are then open to challenge. At the very least it would be advisable to triangulate sources of evidence in order to increase the validity of the findings. For example, do teachers who report high levels of stress also have high sickness and absence rates? Are their heart and blood pressures rates elevated? Does contact with particular 'stressors', such as a particular class, pupil or parent, correspond with changes in physiological conditions? We suspect that most teachers would consider such methods intrusive and refuse to participate in such studies. Those studies of stress which have employed multiple methods have tended to be conducted on volunteers in laboratory conditions and, as Fisher (1984) points out, real life is far more complex.

Since SCRE's original work on stress, there has been considerable development in the use of diaries and log books to help teachers record events in the classroom. These still rely on self-reporting but are more sophisticated than simple inventories. Johnstone's (1993) study of *Teachers' Workload and Associated Stress* relied upon workload diaries, as did two more recent studies; first of participants on the Scottish Qualification for Headship (Malcolm and Wilson, 2000); and second of teachers' workload (Hall *et al*, 2000). It would be wrong to dismiss self-reporting but there are limitations to the method.

Absence through illness

The amount of stress in teaching, and the number of teachers suffering from stress,

will always be a problem to quantify nationally. It is difficult to say with any accuracy whether stress among teachers is increasing or how this level compares with stress in other professions. Apart from the inherent difficulties of measurement, attempts to estimate trends are further hindered by possible changes in teachers' willingness to report stress rather than any real increase in its prevalence. However, absence rates may provide a proxy measure and a limited way of comparing different professions.

Recently Bowers and McIver (2000) followed up a sample of 570 former teachers which represents 27.5% of the total number of teachers granted early retirement in England in the year 1998-9. Sixty-four per cent responded. The researchers found that teachers in maintained schools in England lose less time from work through illness than comparable social service staff, including social workers, staff in day nurseries and managerial staff. Teachers' sickness absence rates are 15% lower than other local government employees doing non-manual jobs. Specifically:

- The average teacher loses 27% less working time than the UK average employee (6.13 days per year as against 8.5 days per year), although these figures are not strictly comparable as the typical working year of the latter is longer. The best estimate of absence as a percentage of working time is 3.2% for the average teacher and 3.4% for the average employee.

- Nurses and midwives take about a third more time off work due to sickness than do teachers.

- Central government employees, ie civil servants, lose 30% more time than teachers due to sickness; but

- Teachers lose 6% more working time than NHS staff with similar levels of training to teachers, e.g. speech therapists and physiotherapists.

However, as Bowers and McIver (2000) point out, these absence rates are by no means uniform across the teaching profession, nor can all absences be attributed to stress. A teacher in a maintained school in England is more than twice as likely to take time off for sickness during the year than a teacher in an independent school. For the average teacher in a maintained school these absences will add up to 30% more time lost due to illness than that lost by the average teacher in an independent school. Undoubtedly these figures reflect the differential conditions of employment in which each operates: pupil-teacher ratios are generally lower in independent schools and teachers work on average 17 fewer days per year.

Goss (2001) cites private correspondence with DfES sources which suggests that there has been no accurate assessment of the cost of teacher absences. Attempts are severely constrained by inconsistencies in the methods of recording sickness absences by school and education authorities. For example Bowers and McIver (2000) report that absences of less than 5 days were not recorded by 5-10% of schools, while an absence of less than a whole day was not recorded by 65% of schools. However, given a mean annual absence from work of 6.4 days per full-time equivalent post (Goss's figure) and an average teacher salary of £25,000, Goss estimates that it costs £819.20 in wages alone per employee per year. This compares with £636 in the food industry, £539 in vehicle manufacture and £492 in the pharmaceutical industry. It should, however, be remembered that these figures are based upon evidence from LEAs in England and it would be unsafe to extrapolate to Scottish schools which operate with different pay scales than their English counterparts.

Retirals

The teacher workforce planning projections contained in *The Supply of Teachers*

(Scottish Executive, 2001) chart both entrants to the profession by sector/subject and also retirals. The total number of teachers taking early retiral from education authority schools in Scotland dropped from 294 in 1995 to 196 in 1999, with the exception of 1996-97 when figures rose following local government re-organisation. These figures may not represent a true demand and probably reflect education authorities' desire to restrict early retirements during periods of financial constraint.

The number of teachers leaving posts, for any reason, fell from 3200 in 1989/90 to 1920 in 1998/99. Again these figures must be approached with caution as they were collected during a period when the number of teachers was declining. In addition, the Scottish Executive combines the number leaving for marriage, ill-health or domestic reasons into one category and this would require to be disaggregated in order to provide a useful source of information on the number of teachers leaving as a consequence of stress.

Some help in understanding movements into and out of the teaching profession in England is provided by Bowers and McIver (2000). In 1999, they surveyed a randomly selected sample of 570 former teachers who had taken early retirement on health grounds. Respondents were asked to classify their illness at retirement using seven categories. However, individual illnesses often fell into more than one category. Overall, the 'psychiatric' category was the largest single one (57% of male and 42 % of female teachers reported retiring because of mental health difficulties). Using these figures the researchers extrapolate to the teaching profession in general and argue that depending on the particular region teacher retiral because of ill-health can vary from as low as 1 in 177 teachers in the 40 to 59 age group to as high as 1 in 488. Again the results should be read with caution as they are based upon retirals in English LEAs.

WHAT CAUSES TEACHER STRESS?

Workload

Johnstone (1989) argued that many researchers (Kyriacou and Sutcliffe, 1977b; Kryriacou, 1980d, 1986; Dunham, 1984) attributed the major causes of stress to:

- Pupils' failure to work or behave

- Poor working conditions, generally in terms of relations with colleagues

- Workload, in terms of overload, underload, or routine work

- Poor school ethos.

Some years later SCRE was still reporting that teachers perceived their job to be stressful (Johnstone, 1993a). *Job overload* and *workload plus little time* featured prominently in a number of different studies. Dewe (1986) found that workload was consistently cited as the most frequent problem, the most anxiety-inducing problem and the most fatiguing problem in a study of 800 teachers in New Zealand.

Other factors have also been implicated. *Poor school conditions* were cited (Schonfield, 1991) as was pupil behaviour (Borg, 1990). A survey of Scottish schools (Johnstone, 1993b) found that repeated minor offences were more troublesome than major single offences: the repetition of the behaviour rather than the level of the offence caused tension and stress. This supports earlier conclusions (Lazarus, 1976) that repeated and continuous irritants can be stressful.

Just before the introduction of the Education Reform Act (1988) in England, a national study of occupational stress amongst headteachers in the UK was undertaken by Cooper and Kelly (1993). They concluded that primary headteachers were experiencing higher levels of job dissatisfaction and stress than their secondary and tertiary colleagues. The two main sources of stress were work 'overload' and

'handling relationships with staff'. The researchers believed that stress was more prevalent in primary schools because of: a lack of clerical support; their small size and hence lack of variety, rewards and power; their relatively low status and other people's perception that teaching in primary schools was less demanding than secondary school teaching; and the amount of teaching cover they had to provide.

Change

Change itself is implicated in teacher stress: it can be a problem or challenge. Travers and Cooper (1996) reported that the five top sources of job pressure were all problematic changes. These included:

- Lack of support from central government

- Constant changes within the profession

- Lack of information as to how changes are to be implemented

- Diminishing social respect for teaching

- The move towards a national curriculum.

The education system in all four home countries has continued to undergo considerable structural changes which may be adding to workload issues. Fullan (1996) argues that such structural reforms as devolved management to schools engender overload and stress because they are experienced as fragmented and incoherent. These are problems inherent in any 'top down' systemic change in which a vision of the whole may be understood by only a few in key positions. Fullan believes that collaborative networks would give teachers more influence over change and increase their feelings of engagement with the change.

The relationship between change and workload seems to have been demonstrated. Timperley and Robinson (2000) cite research which shows that as local involvement in management of schools increased, the percentage of time teachers spent in non-teaching duties rose from 42 per cent in 1971 to 56 per cent in 1990 (Campbell and Neill, 1992). This trend is confirmed by findings from a workload survey of Scottish teachers (Hall *et al*, 2000) in which 83% of respondents (N=1,014) reported that they spent more time on records and reports than before; 69% more on preparation and 43% more on other non-teaching tasks. Coupled with the fact that 58% of senior managers reported working 45 hours or more and 31% for 50 hours or more per week, this gives a picture of the effects of change on the profession.

Raising standards

Another aspect of change associated with stress is the drive to improve school standards. No Scottish evidence could be identified, but there was evidence of the impact of the school inspection process in England. Since 1992, the Office for Standards in Education (OFSTED) system of inspection has provoked intense debate regarding its effects on schools. In 1999, NFER undertook a study of 933 schools which had been inspected by OFSTED: 451 had been placed under special measures as a consequence of inspection and were compared with 482 which had never been under special measures (Scanlon, 1999).

The period after inspection can be quite traumatic and the term 'post-OFSTED blues' has come to describe that feeling of exhaustion, burnout, lack of motivation and depression which can follow inspections (Ferguson, *et al.*, 1999). Scanlon's research at NFER confirms this picture. Respondents from both samples experienced some form of 'post OFSTED blues'. Approximately a quarter of teachers and just under a third of those from special measures schools described their sense of depression and despondency after the inspection. A high proportion of teachers in both samples

reported feeling stressed most of the time during the current school year: 43% of teachers in special measures schools and 32% of the others. Both samples reported rises in sickness and time off work.

School merger

Finally, Kyriacou and Harrison (1993) highlight the stress of school mergers. When school rolls are falling many schools, especially smaller ones, may feel vulnerable. In a qualitative study of two schools which merged, the researchers concluded that stress was highest during the period when posts in the newly merged school were being assigned. Uncertainty, lack of information, coupled with the possibility of job losses and the likelihood of major changes in working practices resulted in acute stress. The researchers suggest that sympathetic interviewing, adequate time for forward planning and extra resources during the first year of merger would have helped.

COMPARISON WITH OTHER PROFESSIONS

How does teacher stress compare with that reported by members of other professions? Unfortunately, few comparative studies have been undertaken. The exceptions are explored below.

Pratt (1976) extracted data from the National Survey of Health and Development cohort, based on 5000 people born in a given week in 1946. At the date of the survey, the respondents were aged 26. They were asked whether in their work they felt no, little, some or severe nervous stress. Of the 227 teachers in the cohort, 61% reported some/severe stress, compared to 51% of the other professionals. This response accords with other research (Griffith, *et al.*, 1999) which indicates that younger teachers are more likely to feel stressed, perhaps because at the beginning of their careers they had not yet learnt how to cope with working conditions.

Munn and Johnstone (Johnstone, 1993b) compared the scores of 530 teachers chosen at random from primary and secondary schools in four Scottish regions with the scores of the general population and people in managerial posts on the components of the Occupational Stress Indicator (OSI). The dimensions used were job pressure, type A behaviour (ie, aggressive, competitive, striving), locus of control, coping strategies, job satisfaction, mental health and physical health. The major points to emerge are that teachers are:

- Less satisfied than the general population with the factors intrinsic to the job, the organisational climate and home/work interface; and also
- Less satisfied with their job than are managers.

Teachers are also:

- More likely to register lower mental and physical health scores than the general population or managers.
- More prone to type A behaviour than managers.
- More convinced that the job is controlled by someone else than are managers.

However, they are:

- More satisfied than the general population with their career and achievement.
- More likely than the general population to cope with stress by using social support.

The OSI also provides norms for other occupations: police officers, health workers,

water company employees, brewery workers, ambulance workers, general practitioners, senior civil servants and university lecturers. The only group which Munn and Johnstone found to approach the score of the teachers on factors intrinsic to the job (mean=33.25) was general practitioners (mean=32.48). A higher score on this factor indicates a greater level of stress. The mean for the general population on this factor was 30.22. Johnstone (1993b) cautioned that "The teachers' scores on the OSI were not normally distributed. This makes statistical comparison and inference more difficult. Nevertheless, the teachers did seem to indicate a high-stress profile."

Pithers and Soden (1998) compared a sample of 169 Scottish further education lecturers, with 163 Australian equivalents. Heavy workload, lack of resources and lack of time were common sources of occupational stress in both groups, but the scores remained within the 'average' levels when compared to their own norms and those from the OSI.

The TUC also points out that workers in the UK work longer hours than employees anywhere else in Europe (43.6 hours compared with an EU average of 40.4). Johnstone (1993) and Hall, *et al*. (2000) found that Scottish teachers worked 42.5 hours in 1993 and 42 hours in 2000 - more than other European countries, but less than the UK average. Readers should remember that all these averages disguise significant variations within and between groups.

WHAT DOES THE SCOTTISH EVIDENCE SHOW?

There are 14 references to Scottish-based research on teacher stress in the ERSDAT[1] database, but most were small-scale studies undertaken as part-fulfilment for post-graduate degrees in education at Scottish universities. Four were discounted because of the professional group or country studied (teachers in Malaysia, nurse tutors, care workers and students in training). Most of the remainder are dated; two are the SCRE reviews by Johnstone (1989 and 1993a), and two are surveys of the average number of hours worked by teachers funded by the EIS. The evidence from these last two will be reported here.

In 1993, Munn and Johnstone (Johnstone, 1993b) provided a snapshot of the number of hours teachers worked in schools within four Scottish regional authorities. 570 teachers from different sectors and levels of responsibility responded. These teachers maintained a work diary for a week (in mid-September) and also completed an *Occupational Stress Indicator* questionnaire. The response rate was 66% for the work diary and 62% for the OSI questionnaire. Over the week teachers recorded an average of 42.5 hours of work. Their main activities were teaching, preparation and marking. Meetings occupied almost as much time as paperwork in secondary schools.

Ninety-three per cent of respondents (N=531) reported at least one occasion when they felt stressed during the survey week. Most reported between three and five such incidences. Although the number of 'hours worked' and 'workload' are not synonymous (the former being an objective measure of the length of time spent working, while the latter is a perception of the volume of work undertaken) there was a connection between the two. The longer the hours teachers worked, the more stress occasions were reported. Amount of work was the most frequent cause of stress, but it is also clear that the inherent nature of the job including new demands, administrative tasks and planning associated with change were being identified as stressors.

At the behest of the EIS, SCRE in conjunction with System 3 again surveyed the teaching profession in Scotland (Hall, *et al.*, 2000). A random sample of 3000 EIS members, from nursery, primary, secondary and special schools, were asked to complete a work diary during the week Monday 10 January to Sunday 16 January 2000. (It was returned by 1189 respondents, 40% of the sample). The following picture emerged.

- Teachers in the survey worked an average of 42 hours in the seven days covered by the survey

- Over a third of respondents (35%) worked for 45 hours or more, and 15% for 50 hours or more

- 58% of senior managers worked for 45 hours or more, and 31% for 50 or more

- 98% of teachers reported doing some work outside normal school hours during the week, and 91% reported doing some work at the weekend

- Over three-quarters (77%) of respondents worked for 35 hours or more between Monday and Friday in the survey week. The average was 39 hours for primary teachers and 37.4 hours for secondary teachers.

- 48% of teachers had worked for 10 or more hours outside normal school hours between the Monday and the Friday of the survey week. The overall average was 10 hours.

- 41% of teachers had worked for 4 hours or more during the weekend of the survey week. The overall average was 3.5 hours.

Much of the detail in the second survey is similar to the first. Again teaching, occupied the largest proportion of teachers' time (an average of 16.6 hours per week for secondary teachers and 20 hours for primary teachers). But preparation, planning, marking and record keeping were also significant items. The average time teachers spend on preparation was 8 hours per week but 66% spent up to 10 hours, and 18 % spent more than 10 hours. Marking occupied 2.9 hours per week on average but over a third of teachers (38%) spent more than 4 hours. The overall average for record keeping was 1.5 hours per week, but this varied greatly depending on sector and seniority of staff. It ranged from 1.2 hours per week for classroom teachers to 3.6 hours for senior managers.

However, despite the actual hours recorded in their diaries, 93% believed their workload, ie the volume of work undertaken, had increased recently (71% 'a lot' and a further 22% 'somewhat'). The strength of feeling is more apparent amongst those with longer years of service; however, even relative 'newcomers' (ie with less than five years' service) perceived significant increases in the past few years.

These results highlight the influence of perceptions and demonstrate the role played by self-appraisal in determining an individual's stress level (Lazarus, 1999). The sample of teachers in the second survey believed that their workload has increased, when in fact they worked the same number of hours as had been reported by the first sample of teachers in 1993. These are two different samples of teachers and some difference in their response might be expected. However, the explanation for the perception of increased workload reported by the second sample may lie in the distribution of time to job activities which may have changed during the intervening period. The main point it that the majority of teachers thought that they now spent more time on preparation and planning (69%) and record keeping (83%) than they used to spend – a significant change in perceptions.

Further illumination of the impact of change is provided in an evaluation of the first cohort of candidates for the Scottish Qualification for Headship (Malcolm and Wilson, 2000). On the positive side candidates 'reflect more often on the various skills'; 'have a more helpful framework within which to work' and 'plan work in greater depth than before'; but this must be counterbalanced by the majority (89% on the standard route and 83% on the accelerated route) who 'feel under greater stress than before SQH'.

Cryptic comments from respondents, sometimes demonstrating the humour noted by other researchers in this field, help us understand why:

- I have spent a lot of my time at home either reading or working on SQH – my social life has definitely suffered!

- I have never been so busy. Were I not what I am, I'd be stressed out by now.

- Exhausted and ill after Christmas term, time for family.

- Too many tasks, too little time.

- I am too tired to think!

- I feel I need to have some life away from work and work-related issues.

- I am also class-committed (and have a husband, daughter, dog, two cats and a horse to feed and speak to once in a while!).

An earlier SCRE study shows the impact that a decade of educational innovation has had on head teachers in small primary schools. Between 1996 and 1998 Wilson and McPake (1998) surveyed all small primary schools in Scotland (N=893), and identified the tension associated with the role of *teaching headteacher* during periods of multiple policy innovation. As in the workload survey (Hall *et al*, 2000), headteachers of small schools perceived an increase in the pace of change. One pointed out:

> Although I agree with the philosophy *[of 5-14]* … there is simply not enough time to cover all the targets. TIME, TIME, TIME – there is not enough hours in the day. (Headteacher, 19 pupil school)

Headteachers of small schools also indicated that informal discussions with other headteachers are their first source of support – hence confirming the importance of social support systems as a way of mediating stress (Griffith *et al*, 1999). Informal meetings also served to overcome headteachers' feelings of isolation which were not necessarily associated with geographical remoteness in island and rural areas.

CONCLUSIONS

Research on teacher stress now focuses almost exclusively on its negative aspects. Kyriacou in his numerous papers (for example, Kyriacou and Sutcliffe, 1978a; Kyriacou, 2001) points to the negative affective response of the teacher, 'such as anger or depression, which is usually accompanied by potentially pathogenic, physiological and bio-chemical changes, such as increased heart rate or release of adrenocorticotrophic hormones into the bloodstream' (Kyriacou and Sutcliffe, 1978a, p.2) which may arise as a consequence of various aspects of teaching. These demands may be mediated by the teacher's perception of the demands and also their individual coping mechanisms. The positive role of sufficient stress to enhance job performance and maintain motivation and creativity appears to have been lost in the current debate.

It is difficult to overstate the complexity of the situation and the problems associated with trying to interpret such data as we have. We have seen that stress is inherently difficult to measure, and that such measures as we have must be treated with caution. Throughout this paper we have had to resort to reporting average figures, but many of these averages hide wide variations which we cannot analyse further because there is insufficient data. Proxy measures such as absence rates and figures for early retirements show teachers to be no worse than much of the rest of the population, but there is no guarantee that teachers' attitudes towards, or opportunities for, such absences or retirements are the same as other parts of the population. It

is interesting to note Johnstone's (1993b) findings that teachers generally score negatively on the *Occupational Stress Indicator* for 'factors intrinsic to the job' but positively for their general career satisfaction. This could be interpreted as showing that teachers are generally committed to their chosen career, but find some aspects of the work they are now expected to do to be stressful. Similarly, while surveys do not suggest that teachers are working longer hours than they did a decade ago (on average), the teachers of today feel as if they are. This may well be because of the increase in administration and record keeping, which are reported to be unpopular aspects of the work, and also their perceptions of constant change beyond their control. Both are factors likely to increase stress.

Of the three models of stress discussed at the beginning of this paper, the third approach—interactive and situational—is perhaps the most helpful. It implies that responsibility for the maintenance of acceptable levels of stress in teaching is a two-way process. Employers have a statutory duty to ensure that the working environment in schools does not adversely affect employees' health; but teachers must also apply their adaptive resources to help them cope with the inherent pressures of their chosen profession. In addition, recent appeal court reductions of awards for stress at work (Guardian, 2002) have also made it clear that employees who feel under undue pressure have a responsibility to inform their employers.

Workload continues to be important. Not only is it implicated in most previous research as a cause of occupational stress but it was also a major component of the McCrone Report and subsequent agreement with the teaching profession. Teachers believe that their workload has increased considerably during the past decade, largely because of an increase in the paperwork now expected of them and the number of changes to the educational system which they have to implement. However, as Timperley and Robinson (2000) point out, increased workload, *per se*, is not necessarily a problem: many teachers obviously do cope, largely by working longer hours. However, as workload is commonly associated with increased stress, teacher burnout and low job satisfaction, it cannot be ignored. The interactive and situational model may help to explain some of this. If it is true that the number of hours worked by teachers has not changed significantly (on average) over the last decade, but that the nature of the tasks demanded of them has changed so as to increase the number or amount of unpopular tasks over which they have little control, then teachers may very well be feeling more stressed as a consequence. A similar effect will occur when they are forced to implement changes which have been imposed upon them. When the teachers' scope for adaptation is reduced, the same overall amount of work can result in greater perceived stress.

Finally, although we conclude that most teachers believe their workload has increased over the past decade and many researchers implicate increased workload with rising levels of stress, there is clearly a need for more information to underpin policy making. Specifically, it would help if:

- Schools, education authorities and the Scottish Executive collated and published statistics on teachers' absence rates and reasons for early retiral and undertook exit interviews with staff taking early retirement - thus providing evidence of the incidence of stress in the teaching profession in Scotland. At present Scottish researchers must extrapolate from data collected in England which may, or may not, be relevant to the Scottish situation.

- A teacher-specific measure of occupational stress were designed. This should be sufficiently comprehensive to incorporate job, organisational, personality pre-dispositions and strain scales which apply to teaching and could be used to monitor the teaching profession's capacity to adapt to any proposed educational changes. This would enable stress within the teaching profession

to be more accurately measured using an instrument which takes account of the specific demands of teaching rather than the generic measures of stress now commonly used.

- There is still a lack of evidence to show how stress arises from pupil/teacher interactions within the classroom. Therefore, we recommend that an observational study be undertaken to identify the impact of teachers' stress on teacher/pupil interactions.

- Many teachers complained that educational innovation was causing them increased stress. We recommend that more monitoring, in particular of the continuing impact of educational changes on teachers' experience of stress, be undertaken; and finally

- Because there is a lack of evidence on the effectiveness of various strategies and interventions aimed at helping teachers and schools reduce teacher stress, we recommend that a systematic evaluation of these be commissioned.

Unless these underlying issues are addressed, we suspect that palliative measures, such as those proposed by Teacher Support Scotland, will ultimately have little impact on recruitment and retention of competent teachers – which is a problem that has already arisen in some areas.

NOTE

1. ERSDAT is the electronic database of educational research in Scotland maintained by SCRE.

REFERENCES

Borg, M. (1990) Occupational stress in British Educational settings: a review. *Educational Psychology*, 10 (2), 103-126.

Bowers, T. & McIver, M.(2000) Ill Health Retirement and Absenteeism Amongst Teachers. *Research Brief No 235*, London: Department for Education and Employment.

Campbell, R.J. & Neill, S.R. (1992) *The Use of Management of Secondary Teachers' Time after the Education Reform Act*, 1988. Warwick: University of Warwick.

Carroll, L. (2000) Through the Looking Glass. *In*: *The Annotated Alice*. *The Definitive Edition*. *Introduction and Notes by Martin Gardner*. London: Allen Lane, The Penguin Press.

Chaplain, R.P. (2001) Stress and Job Satisfaction among Primary Headteachers: A Question of Balance? *Educational Management and Administration*. 29(2), 197-215.

Cooper, C., Sloan, S. & Williams, S. (1988) *Occupational Stress Indicator*, Slough: NFER-Nelson.

Cooper, C.L. & Kelly, M. (1993) Occupational stress in head teachers: A national UK study. *British Journal of Educational Psychology*, 63, 130-143

Cooper, C.L. (1995) Life at the chalkface – identifying and measuring teacher stress. *British Journal of Educational Psychology* 65 (1), 69-71.

Dewe, P.J., Guest, D. & Williams, R. (1979)Methods of coping with work-related stress in Mackay & Cox (eds) *Response to Stress: occupational aspects*, IPC Science and Technology Press.

Dunham, J. (1984*) Stress in Teaching* London: Croom Helm.

Ferguson, P. Earley, P., Ouston, J. & Fidler, B. (1999) New heads, OFSTED inspections and the prospect for school improvement. *Educational Research*, 41 (3), 241-249.

Fisher, S. (1984) *Stress and the Perception of Control*. London*:* Lawrence Erlbaum Associates.

Fullan, M. (1996) *The New Meaning of Educational Change*. New York: Teachers College Press.

Goss, S. (2001) *Counselling: a quiet revolution*. London: Teachers Benevolent Fund.

Griffith, J., Steptoe, A. & Cropley, M. (1999) An investigation of coping strategies associated with job stress in teachers, *British Journal of Educational Psychology*, 69 (4), 517-531.

GTC (2001) Minute of the meeting of the Tenth Council held in Clerwood House, 96 Clermiston Road, Edinburgh, on Wednesday 7 November 2001 at 10.30 am. Edinburgh: The General Teaching Council Scotland.

Guardian (2002) Judges curb stress cases. *Guardian*, 6 February 2002.

Hall, J., Wilson, V., & Sawyer, B. & Carroll, L. (2000*) Teachers' Workload Survey: A Survey conducted on behalf of the Educational Institute of Scotland*, Edinburgh: SCRE.

Holmes, T.H. & Rahe, R.H. (1967) The social readjustment rating scale, *Journal of Psychosomatic Research*, 11, 213-218.

Johnstone, M. (1989) *Stress in Teaching: An overview of research*. Edinburgh: SCRE.

Johnstone, M. (1993a*) Stress in Teaching: A return to the questions*. Edinburgh: SCRE.

Johnstone, M. (1993b) *Teachers' Workload and Associated Stress*. Edinburgh: SCRE.

Kyriacou, C. (1980) Coping actions and occupational stress among school-teachers, *Research in Education*, 24, 57-61.

Kyriacou, C.(2001) Teacher Stress: directions for future research. *Educational Review*, 53 (1), 27-35.

Kyriacou, C. & Harriman, P. (1993) Teacher Stress and School Merger. *School Organisation*, 13 (3) 297-302.

Kyriacou, C. & Sutcliffe, J. (1979b) A note on teacher stress and locus of control. *Journal of Occupational Psychology*, 52, 227-228.

Lazarus, R.S. (1976) *Psychological stress and the coping process*. New York: McGraw-Hill.

Lazarus, R.S. (1999) *Stress and emotion: A new synthesis*. New York: Springer Publishing Co.

Malcolm, H. & Wilson, V. (2000*) The Price of Quality: An evaluation of the costs of the SQH programme*. Edinburgh: SCRE.

Maslach, C. & Jackson, S.E. (1981) *The Maslach Burnout Inventory*, Palo Alto, California: Consulting Psychologists' Press.

McIver, M. & Bowers, T. (2000*) Ill health retirement and absenteeism amongst teachers*, Nottingham: Department for Education and Employment Publications.

Pithers, R.T. & Soden, R. (1998) Scottish and Australian teacher stress and strain: a comparative study, *British Journal of Educational Psychology* 68 (2) 269-279.

Pratt, D. (1976) *Perceived Stress among Teachers: an Examination of Some Individual and Environmental Factors and their Relationship to Reported Stress,* unpublished MA thesis, University of Sheffield.

Scanlon, M. (1999) *The Impact of OFSTED Inspections*, Slough: NFER.

Schonfield, I.S. (1990), Coping with job related stress: the case of teachers, *Journal of Occupational Psychology*, 63, 141-153.

Scottish Executive Education Department (2001) *The Supply of Teachers*. [Edinburgh: SEED.] Retrieved 20 February 2002, from the World Wide Web: http://www.scotland.gov.uk/library3/education/suppteach.pdf

Selye, H. (1974) *Stress without Distress*, New York: Signet Books.

Selye, H. (1956) *The Stress of life*. New York: McGraw-Hill.

TBF (2000) *Managing Stress in Schools: teacherline first report*. London: Teachers Benevolent Fund, The Teacher Support Network.

Times Educational Supplement Scotland (2001) £30 m-plus, the price of sick leave. 14 December, p. 8.

Timperley, H. & Robinson, V.(2000) Workload and the Professional Culture of Teachers. *Educational Management and Administration*, 28 (1), 47-62.

Trades Union Congress (2000) *A TUC dossier Work Smarter – An End to Burnout Britain: the case for sensible regulation to tame the modern workplace*. London: TUC Campaigns and Communication Department.

Travers, C. J. & Cooper, C.L. (1996) *Teachers Under Pressure: stress in the teaching profession*. London: Routledge.

Troman, G. (1998) *Living at a Hundred Miles an Hour: Primary Teachers' Perceptions of Work and Stress*, paper presented at the British Educational Research Association Annual Conference, Queen's University, Belfast, August 27-30.

Wilson, V. (2002) *Feeling the Strain: An Overview of the Literature on Teachers' Stress*. (unpublished report for the Scottish Executive Education Department).

Wilson, V. & McPake, J. (1999) Headteachers of Small Scottish Primary Schools: A match for the job? *Scottish Educational Review*, 31 (1), 35-48.