

# Job satisfaction and occupational stress among general practitioners — a pilot study

PETER J. MAKIN, PhD, AFBPsS

USHARANI ROUT, MSc

CARY L. COOPER, PhD, FBPSS

**SUMMARY.** Questionnaires assessing levels of job satisfaction and possible sources of stress were distributed to a random sample of general practitioners in the Greater Manchester area. The highest levels of job satisfaction were reported for 'intrinsic' job factors such as freedom to choose method of working, amount of responsibility and amount of variety, rather than 'extrinsic' factors such as rate of pay and hours of work. The main causes of stress appeared to be interruptions of various kinds. Factor analysis revealed four major sources of stress: interruptions; emotional involvement; administrative workload and work/home interface; and routine medical work. Of these, all but routine medical work were associated with job satisfaction. It is concluded that the major sources of stress for the general practitioner are not medical, but social.

## Introduction

THE contribution of stress, especially job related stress, to physical and psychological complaints is generally recognized by general practitioners. It is perhaps surprising therefore, that only recently has attention been given to the level and sources of stress among general practitioners in the UK,<sup>1</sup> especially as many of the physical and psychological symptoms associated with stress show a higher incidence among general practitioners than other groups. Stress related symptoms range from mild medical unfitness, through general unhappiness and anxiety, to more serious impairments including drug dependency, excessive drinking, increased smoking, divorce, psychiatric problems and suicide.

In the USA Bissell and Jones estimated that between 13 000 and 22 000 doctors were alcohol dependent at some stage in their careers.<sup>2</sup> In the UK Allibone and colleagues estimated that there may be as many as 3000 practising general practitioners who are alcoholics, while many others may show other signs of stress.<sup>3</sup> Similarly, Murray showed that the first admission rate of alcohol dependence was 2.7 times higher among general practitioners than among social class 1 controls.<sup>4</sup>

Suicide levels are also higher among doctors. In the USA, Rose and Roscow reviewed the death certificates of physicians and health care workers in California from 1959 to 1961<sup>5</sup> and they found that, as a group, they were twice as likely to commit suicide as the general population. In the UK, the Registrar General's figures suggest a higher figure still, with doctors being 3.5 times more likely to commit suicide than the general population.<sup>6</sup>

In the years immediately after the second world war doctors were almost twice as likely as the general population to develop a myocardial infarction,<sup>7</sup> but this level has declined, and doctors below 54 years of age are now less likely to die of heart

disease than the general population.<sup>8</sup> There may, however, be differences between those in different branches of the profession. Russek and Sohan for example, found that anaesthesiologists and general practitioners reported two to three times the levels of coronary heart disease of dermatologists.<sup>9</sup>

This evidence suggests that general practitioners are indeed subject to occupational stress. Research in other occupational areas indicates that increased levels of stress are likely to lead to reduced job satisfaction. Among general practitioners this may manifest itself in lowered job performance, such as dysfunctional prescribing<sup>10</sup> or higher prescribing rates.<sup>11</sup>

While the sources and effects of stress remain undetermined, pointers are available. Porter and colleagues proposed a model of general practitioner stress and considered the likely sources, while reporting data from their own preliminary studies on self-perceived stress.<sup>1</sup> In announcing plans for a study on stress Howie reported that important sources of stress may be telephone calls, interruptions and administrative tasks.<sup>11</sup> In addition, Rankin and colleagues have examined the factors associated with self-reported negative mood changes in general practitioners. Just over half of these changes were associated with a combination of 'hassle' (unexpected demands, intrusions and delays) and 'time pressures'.<sup>12</sup>

This study aimed to determine how satisfied general practitioners are with their jobs, which aspects of the job general practitioners report as causing stress and how the two are related.

## Method

### Job satisfaction

Job satisfaction was measured using the method developed by Warr and colleagues.<sup>13</sup> This was chosen because it takes a relatively short time, has high reliability and was developed for a British population. Satisfaction is assessed for a number of job dimensions, using a seven-point Likert type scale. Warr and colleagues assessed 15 dimensions but in the present study only nine items were used, the others being inappropriate for general practitioners. In addition a single item assessing overall satisfaction was included.

Warr and colleagues only report data for blue collar workers<sup>13</sup> and this would not be an appropriate group with which to compare general practitioners. The job satisfaction of general practitioners was compared with that of airline pilots, the only comparable professional group for which data are available.<sup>14</sup>

### Job stress

A list of potential sources of stress was developed from interviews with a sample of general practitioners. A total of 20 general practitioners in the Greater Manchester area were interviewed at their surgeries between February and May 1986. The interviews lasted between 20 and 30 minutes. The doctors were asked to identify potential causes of stress, both at work and at home and socially, as suggested by Cooper and Marshall.<sup>15</sup> Content analysis of the responses produced 30 items to which were added two suggested by a review of the literature.<sup>16</sup> An occupational stress questionnaire, specific to general practitioners, was produced using the 32 items. Each item was scored on a five-point Likert type scale.

P.J. Makin, Lecturer in Organizational Psychology, U. Rout, Doctoral Candidate and C.L. Cooper, Professor of Organizational Psychology, School of Management, UMIST.

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### Study sample

A total of 200 questionnaires investigating job satisfaction and sources of stress were distributed to the doctors in a random sample of 72 practices in the Greater Manchester area. Of the sample, 42 were group practices and 30 single handed. One hundred and eight questionnaires were returned, of which 101 could be analysed (response rate 50.5%).

### Results

Of the 101 general practitioners 22.8% were aged 25–34 years, 49.5% 35–44 years, 11.9% 45–54 years, 12.9% 55–64 years and 3.0% 65 years or over. Men accounted for 81.2% of the sample, a figure which is close to the national average. The majority of the doctors practised in group practices (85.1%) and just over a third (37.6%) had received their initial training overseas. The comparable figures for general practitioners in the Greater Manchester area are 80% men, 79% in group practices and 27% trained overseas.<sup>17</sup> The age distributions are not directly comparable as different categories were used.

### Job satisfaction

Means scores for each of the dimensions, plus the overall level of job satisfaction are given in Table 1. Overall job satisfaction was somewhat above the mid-point of the scale, between 'moderately' and 'very' satisfied. In addition, the mean scores for all the dimensions were above the mid-point of the scale. The highest levels of satisfaction were reported for freedom to choose methods of working and amount of responsibility, with amount of variety scoring slightly lower. The lowest levels of satisfaction were reported for rate of pay, recognition for good work and hours of work.

There were statistically significant differences (t-tests) between the general practitioners and the airline pilots for all dimensions except hours of work and overall job satisfaction, and with the exception of fellow workers, general practitioners had higher levels of satisfaction. Compared with this group, it would appear that general practitioners' satisfaction with the different aspects of their work is relatively high.

**Table 1.** Mean scores for the dimensions of job satisfaction (in order of importance) for the 101 general practitioners.

Dimension	Mean score (standard deviation)
Freedom to choose method of working	5.37 (1.23)
Amount of responsibility	5.36 (1.25)
Amount of variety	5.25 (1.07)
Physical working conditions	5.22 (1.23)
Fellow workers	5.17 (1.09)
Opportunity to use ability	4.86 (1.35)
Rate of pay	4.68 (1.45)
Recognition for good work	4.66 (1.09)
Hours of work	4.64 (1.30)
Overall job satisfaction	5.11 (0.98)

### Sources of job stress

Means scores for the sources of stress are given in Table 2. Of the 32 sources of stress included in the questionnaire, six had mean values above 3.0, the centre point of the scale. With the exception of problem patients and the demands on family life, the other four may be considered to be interruptions of one kind or another.

Comments made by the 20 general practitioners during the initial, exploratory interviews also suggested that interruptions were considered stressful. For example:

'It is very annoying when calls come for emergency visits half-

**Table 2.** Mean scores for the sources of stress (in order of importance) for the 101 general practitioners.

Source of stress	Mean score (standard deviation)
Emergency calls during surgery hours	3.85 (0.93)
Coping with phone calls during night and early morning	3.60 (1.20)
Night calls	3.57 (1.02)
Dealing with problem patients	3.45 (0.90)
Demands of job on family life	3.17 (1.00)
Interruption of family life by telephone	3.04 (1.09)
Fear of assault during night visits	2.85 (1.49)
Demands of job on social life	2.82 (0.98)
Dividing time between spouse and patients	2.80 (1.10)
24 hour responsibility for patients	2.70 (1.17)
Remaining alert when on call	2.59 (1.24)
Dealing with relatives as patients	2.47 (1.06)
Arranging admissions	2.46 (1.03)
Dealing with friends as patients	2.44 (1.04)
Adverse press publicity	2.38 (1.24)
Home visits	2.36 (0.86)
Worrying about patients' complaints	2.31 (1.10)
Increased demands for a second opinion from hospital specialists	2.26 (0.91)
Coping with journals and newsletters	2.22 (1.17)
Practice administration	2.14 (0.98)
Dealing with the terminally ill and their relatives	2.12 (0.91)
Hospital referrals and paperwork	2.09 (0.88)
Lack of emotional support at home	2.09 (1.23)
Taking work home	2.09 (0.92)
Conducting surgery	2.07 (0.72)
Daily contact with dying and chronically ill patients	2.02 (0.89)
No appreciation of your work by patients	2.01 (0.87)
Conflict with partners in a group practice	1.86 (1.03)
Driving	1.82 (0.82)
Taking several samples in a short time	1.80 (1.01)
Examining patients of the opposite sex	1.73 (0.81)
Working environment	1.73 (0.89)

way through the surgery. I feel guilty leaving the patients in the waiting room, but at the same time I am obliged to attend the emergency call.'

Likewise for night calls:

'The majority of calls during night time are totally unnecessary and the patients could wait until the next day. They should realize that a doctor is a human being who has to have adequate rest at night to function properly in the morning.'

Even when not at night the interruption of the telephone is stressful:

'It gets on my nerves when the telephone rings as soon as I sit down for a meal.'

**Factor analysis.** Factor analysis was carried out on all 32 sources of stress. It is usual to report factors whose eigenvalues exceed 1.0 and variables whose factor loadings are greater than 0.3. Using this criterion for eigenvalues, 10 factors were extracted. However, because this was a pilot study only the four factors with eigenvalues greater than 2.0 and items with loadings greater than 0.4 are reported (Table 3).

For factor 1 all the items are characterized by their unpredictable nature or by a problem associated with such an event, with the exception of dealing with problem patients (the item with the lowest loading). Explaining slightly less than 50% of the variance, this is the most important factor in the present study.

Although factor 2 is the second most important factor, the proportion of variance explained by this factor is well behind

**Table 3.** Factor analysis of the sources of stress.

	Loading
<i>Factor 1: interruptions</i>	
Remaining alert when on call	0.75
Coping with phone calls during night and early morning	0.74
Interruption of family life by telephone	0.71
Emergency calls during surgery hours	0.69
Demands of job on social life	0.67
Night calls	0.65
Demands of job on family life	0.61
Fear of assault during night visits	0.59
Dealing with problem patients	0.52
(Eigenvalue 7.42; variance 23.2%)	
<i>Factor 2: emotional involvement</i>	
Dealing with friends as patients	0.83
Dealing with relatives as patients	0.77
Worrying about patients' complaints	0.70
Dealing with the terminally ill and their relatives	0.69
No appreciation of your work by patients	0.57
Increased demands for a second opinion from hospital specialists	0.56
Daily contact with dying and chronically ill patients	0.55
Examining patients of the opposite sex	0.41
(Eigenvalue 2.97; variance 9.3%)	
<i>Factor 3: administrative workload and work/home interface</i>	
Hospital referrals and paperwork	0.65
Dividing time between spouse and patients	0.61
Taking work home	0.59
Practice administration	0.56
Lack of emotional support at home	0.57
Working environment	0.55
Demands of job on family life	0.53
Conflict with partners in a group practice	0.45
(Eigenvalue 2.76; variance 8.6%)	
<i>Factor 4: routine medical work</i>	
Home visits	0.84
Conducting surgery	0.73
Arranging admissions	0.57
24 hour responsibility for patients	0.54
Night calls	0.52
Hospital referrals and paper work	0.44
(Eigenvalue 2.28; variance 7.1%)	

that explained by factor 1. The variables with the highest loading for factor 2 concern emotional involvement and the two items with the highest loading involve medical relationships where there is also likely to be a strong affective attachment.

The variables loading heavily on factor 3 divide fairly evenly between those of routine paperwork and reconciling the demands of home and patients. For factor 4 the variables that load heavily are those medically related tasks that general practitioners take for granted.

### Job satisfaction and stress

Results of the multiple regression of sources of stress on job satisfaction are shown in Table 4. Three of the four factors extracted in the factor analysis contributed significantly to the regression equation, giving a multiple *R* of 0.46. Examination of the  $r^2$  change reveals that the three sources of stress contributed approximately equally to the predictive power of the equation. Therefore, the overall job satisfaction of the general

**Table 4.** Multiple regression of sources of stress on overall job satisfaction.

Variable	<i>F</i> to enter	Significance	Multiple <i>R</i>	<i>B</i>
Interruption	6.00	0.017	0.27	-2.60
Emotional involvement	5.84	0.005	0.39	-2.37
Administrative workload and work/home interface	5.69	0.002	0.46	-2.18
Constant	50.12			

practitioners appears to be dependent upon few interruptions, no situations with a high potential for emotional involvement and a low administrative workload.

### Discussion

The results presented here must be treated with caution but they appear to confirm what has been felt by many general practitioners. In general, the general practitioner's job is the source of considerable satisfaction. On the basis of factor analysis, Warr and colleagues suggest that four dimensions — freedom, responsibility, variety and ability — constitute 'intrinsic' job satisfaction.<sup>13</sup> As has been demonstrated, general practitioners showed high levels of satisfaction with three of these dimensions. In addition, two of the lowest levels of satisfaction are with obviously 'extrinsic' factors — pay and hours of work. It would appear, therefore, that general practitioners obtain most satisfaction from the inherent characteristics of the job, while putting up with poor pay and hours of work. One aspect of the job that is not 'extrinsic' but with which general practitioners have a low level of satisfaction is recognition for good work. It would appear that most general practitioners feel they lack recognition and praise, whether from colleagues or patients.

This study suggests that the main sources of stress are not medical, but social. In particular, unpredictable interruptions, especially outside 'normal' working hours, are the greatest source of stress. In this respect general practitioners are different from comparable groups. For many groups, the main sources of stress are overwork, both in terms of quantity and quality, role conflict and ambiguity.<sup>15</sup> These factors do not appear to be particularly important for general practitioners. The causes of stress among general practitioners are the unplanned, and largely unpredictable, events. This finding is also reflected in the job satisfaction scales. Hours of work resulted in the lowest level of satisfaction, but this was not significantly different for airline pilots. Perhaps it is not the actual hours that cause dissatisfaction, but the unpredictability, with its inevitable disruption of family life.

What can be done to alleviate stress? One way is to remove the source of stress, the other to learn to cope. It has recently been suggested that general practitioners could reduce interruptions by better planning. Although interruptions are irritating, they could be accommodated in a realistic time management plan.<sup>12</sup>

Reducing the stress caused by problem patients cannot be achieved by improved planning. Rankin and colleagues have suggested that general practitioners derive pleasure from the exercise of their technical skills,<sup>12</sup> but what may make a particular patient a problem is often not their medical condition, but the doctor's lack of social skills. Skills to cope with such patients can be learnt and perhaps they should be included in the general practitioner's formal training.

A larger study is now being conducted by the authors in order to investigate these findings further.

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## Address for correspondence

Dr P.J. Makin, School of Management, University of Manchester Institute of Science and Technology, PO Box 88, Manchester M60 1QD.

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