

TEACHER STRESS: PREVALENCE, SOURCES, AND SYMPTOMS

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SUMMARY. A questionnaire survey was used to investigate the prevalence, sources, and symptoms of stress among 257 schoolteachers in 16 medium-sized, mixed comprehensive schools in England. About one-fifth of the teachers rated being a teacher as either very stressful or extremely stressful. There appeared to be little association between self-reported teacher stress and the biographical characteristics of the teachers. Sources of stress with relatively high mean stress ratings included 'pupils' poor attitudes to work', 'trying to uphold/maintain values and standards', and 'covering lessons for absent teachers'. A principal components analysis of the sources of stress revealed four factors labelled 'pupil misbehaviour', 'poor working conditions', 'time pressures', and 'poor school ethos'. The most frequent symptoms of stress reported were 'exhaustion' and feeling 'frustrated'. A principal components analysis of the symptoms of stress revealed one factor labelled 'awareness of stress symptoms' which appeared to be largely defined by reported frequency of feeling 'very tense'.

INTRODUCTION

DUNHAM (1976) has drawn attention to the prevalence of stress among schoolteachers. In a survey that included reports from 658 infant, junior, and secondary schoolteachers, he concluded that more teachers are experiencing stress, and that severe stress is being experienced by more teachers.

Kyriacou and Sutcliffe (1978) have defined 'teacher stress' as a response syndrome of negative affects (such as anger or depression) resulting from the teacher's job. In a review of teacher stress, Kyriacou and Sutcliffe (1977) found that little research conducted in the United Kingdom has been reported that attempted to measure the extent to which teachers feel they are experiencing stress or to identify the aspects of the teacher's job which teachers regard as the major sources of stress.

The present study was designed to answer four questions concerning teacher stress:

- (i) to what extent do teachers feel they are experiencing stress?
- (ii) what do teachers feel are the main sources of stress?
- (iii) what are the most frequent symptoms experienced?
- (iv) are there differences in the answers to questions (i) to (iii) for different biographical subgroups?

The present study took the form of a questionnaire survey and was confined to a sample of teachers in medium-sized, mixed comprehensive schools in England.

Implicit in the design of this study was the assumption that teachers are able to provide valid reports of the sources of experienced stress. This approach places emphasis on the teacher's report of his subjective appraisal of his circumstances and has been discussed fully elsewhere (Kyriacou and Sutcliffe, 1978).

METHOD

Questionnaire

The questionnaire consisted of four sections. The first section requested biographical information regarding sex, qualification, age, length of teaching experience, and position held in the school. The format of this section consisted of multiple-choice class divisions. The second section consisted of 51 items regarding sources of stress (see Table 2) which the teacher was asked to rate in response to the question "As a teacher, how great a source of stress are these factors to you?" on a

five-point scale labelled 'no stress', 'mild stress', 'moderate stress', 'much stress', and 'extreme stress'. The third section asked teachers to rate their response to the question "In general, how stressful do you find being a teacher?" on a five-point scale labelled 'not at all stressful', 'mildly stressful', 'moderately stressful', 'very stressful', and 'extremely stressful'. The response to this question was used as a measure of self-reported teacher stress. Finally, the fourth section consisted of 17 items regarding symptoms of stress (see Table 5) which teachers were asked to rate in response to the question "Please estimate how frequently during the school term you feel in these ways" on a five-point scale labelled 'never', 'rarely', 'about once a week', 'about once a day', and 'many times a day'.

The items used and the format of the questionnaire were developed following a review of the research literature, interviews with teachers, and two pilot studies. In particular, it should be noted that the sources and symptoms of stress employed as items in the questionnaire were largely those that have been spontaneously reported by teachers themselves. All three five-point response scales were scored 0 to 4.

Sample and procedure

16 schools in England were randomly selected from the *Education Authorities Directory*, 1977, with the constraints that they should be mixed comprehensive schools with between 900 and 1,100 pupils (as indicated by the directory), and that the proportion of the schools situated in a city, in each of three geographical subdivisions of England, and whose pupils normally ranged up to 16 or 18 years of age, should conform to the national pattern (DES, 1976, 1977). Information from the schools revealed that the size of the schools in the sample in fact ranged from 900 to 1,205 pupils with a mean of 1,002.

With the co-operation of the head teachers 20 envelopes, each containing a questionnaire, a covering letter, and a stamped addressed envelope, were sent to each school with instructions to enable these to be distributed randomly to the teachers via their pigeon holes. All questionnaires were to be filled in anonymously. 259 questionnaires were returned. Two of these were excluded from the analyses, one being filled in by a part-time teacher, the other being returned incomplete. The remaining 257 questionnaires accounted for 80.3 per cent of those distributed. These respondents were all full-time teachers and did not include heads of schools or deputy heads. The biographical characteristics of the respondents are shown in Table 1.

RESULTS

Prevalence

The responses of the 257 teachers to the question "In general, how stressful do you find being a teacher?" are shown in Table 1 for the total sample and for each of the biographical subgroups. Approximately 20 per cent of the respondents rated being a teacher as either very stressful or extremely stressful.

To investigate whether self-reported teacher stress was associated with the biographical characteristics of the teachers, four separate two-way factorial analyses of variance were performed with self-reported teacher stress as the dependent variable, sex as the first independent variable, and each of the remaining four biographical characteristics (qualification, age, length of teaching experience, and position held in the school) as the second independent variable in turn. The categories employed are shown in Table 1. For the variable 'position held in the school' only the categories 'teacher' and 'head of department' were compared; the third category, 'others', consisted of heads of houses and heads of years who were not also heads of departments and contained too few teachers ($N=17$) for adequate comparison. All four analyses revealed no significant differences (for $P < .05$) for all the main effects and interaction terms.

TABLE 1

SELF-REPORTED TEACHER STRESS: DISTRIBUTION OF RESPONSES AND MEANS FOR THE TOTAL SAMPLE AND FOR BIOGRAPHICAL SUBGROUPS

	N	Percentage distribution					Mean
		not at all stressful	mildly stressful	moderately stressful	very stressful	extremely stressful	
Total	257	4.7	37.7	37.7	15.6	4.3	1.77
<i>Sex*</i>							
Male	143	3.5	40.6	37.1	15.4	3.5	1.75
Female	113	6.2	34.5	38.1	15.9	5.3	1.80
<i>Qualification</i>							
University Graduate	107	0.9	39.3	39.3	15.9	4.7	1.84
Others	150	7.4	36.9	36.9	15.4	4.0	1.72
<i>Age*</i>							
Under 30 years	98	3.1	32.7	39.8	19.4	5.1	1.91
30 to 44 years	106	4.7	39.6	35.8	15.1	4.7	1.75
45 years and over	52	7.7	42.3	38.5	9.6	1.9	1.56
<i>Length of teaching experience</i>							
0 to 4 years	73	5.5	32.9	38.4	19.2	4.1	1.84
5 to 10 years	89	3.4	37.1	37.1	19.1	3.4	1.82
Over 10 years	95	5.3	42.1	37.9	9.5	5.3	1.67
<i>Position held in the school</i>							
Teacher	159	4.4	34.6	38.4	17.6	5.0	1.84
Head of Department	81	3.7	44.4	34.6	13.6	3.7	1.69
Others	17	11.8	35.3	47.1	5.9	0	1.47

* One subject failed to give information regarding sex, another regarding age.

Sources of stress

The mean ratings of the responses to the 51 sources of stress are shown in Table 2.

The responses for each item ranged from 'no stress' to 'extreme stress'. For all but one item the distribution of the responses was approximately normal or positively skewed. This skewness ranged from -0.004 to 1.235 ; the standard deviations from 0.924 to 1.385 . The exception was item 32, 'inadequate salary', which a disproportionate number of teachers (12.8 per cent) rated a source of extreme stress, resulting in the underlying distribution appearing to be bimodal.

A correlation matrix of the 51 sources of stress consisted almost entirely of positive correlations (1265 out of 1275). Furthermore, all 51 sources of stress were positively correlated with self-reported teacher stress (r ranging from $.120$ to $.550$; all $P < .05$) (see Table 2).

The 51 sources of stress were subjected to a principal components analysis. The first extracted factor accounted for 32.7 per cent of the total variance, with all 51 items loading positively on this factor. These loadings ranged from $.262$ to $.741$, and are shown in Table 2. Varimax rotation of the first four extracted factors (eigen values 16.7, 4.95, 3.04, and 2.07 respectively) yielded the best rotated factor matrix with an orthogonal solution (i.e. as many items as possible loading highly on only one factor). These four rotated factors accounted for 18.6 per cent, 12.2 per cent, 11.9 per cent, and 9.3 per cent of the total variance respectively. The items with loadings greater than $.40$ are shown in Table 3.

Factor I was labelled 'pupil misbehaviour', factor II 'poor working conditions', factor III 'time pressures', and factor IV 'poor school ethos'.

To investigate whether there were any differences in responses to the sources of stress for the different biographical subgroups, the means of the responses were

TABLE 2

SOURCES OF STRESS: MEANS, CORRELATIONS WITH SELF-REPORTED TEACHER STRESS
AND LOADINGS ON THE FIRST (UNROTATED) FACTOR

Item no.	Source of stress	Mean	Correlation with self-reported stress	Loading on first (unrotated) factor
16	pupils' poor attitudes to work	1.965	.436	.708
12	trying to uphold/maintain values and standards	1.930	.471	.694
10	poorly motivated pupils	1.910	.365	.619
38	covering lessons for absent teachers	1.868	.296	.551
5	too much work to do	1.820	.550	.523
37	lack of time to spend with individual pupils	1.777	.291	.563
35	individual pupils who continually misbehave	1.738	.463	.676
39	pupils who show a lack of interest	1.691	.369	.685
7	not enough time to do the work	1.664	.456	.491
8	lack of time for marking	1.609	.392	.441
19	attitudes and behaviour of some other teachers	1.600	.211	.385
15	inadequate disciplinary policy of school	1.587	.385	.626
11	difficult classes	1.572	.361	.563
20	pupils' non-acceptance of teacher's authority	1.565	.517	.681
4	constant monitoring of pupils' behaviour	1.547	.510	.614
45	generally high noise level	1.539	.454	.632
29	noisy pupils	1.532	.426	.627
44	large classes	1.514	.372	.559
42	pupils' impolite behaviour or cheek	1.490	.423	.652
23	inadequate disciplinary sanctions available	1.486	.408	.718
41	difficult behaviour problems	1.467	.472	.669
26	pupils' general misbehaviour	1.438	.500	.741
28	groups of too wide an ability	1.410	.240	.551
36	too much paperwork	1.382	.289	.429
2	lack of time to prepare lessons	1.370	.433	.521
34	poor promotion opportunities	1.344	.243	.600
32	inadequate salary	1.331	.120	.434
9	lack of recognition for extra work	1.327	.293	.546
48	attitudes and behaviour of the headmaster	1.310	.341	.513
25	non-exam final year pupils	1.302	.303	.560
18	lack of consensus on minimum standards	1.300	.295	.595
13	school too large	1.282	.373	.502
40	demands on after school time	1.246	.346	.376
14	responsibility for pupils (e.g. exam success)	1.241	.398	.478
33	no time to relax between lessons	1.238	.411	.521
49	too many periods actually teaching	1.230	.450	.618
21	lack of time for further study	1.230	.357	.570
3	punishing pupils	1.226	.366	.444
50	poor career structure	1.205	.206	.624
47	mixed ability groups	1.203	.208	.523
24	lack of effective consultation	1.198	.320	.642
1	administrative work	1.197	.308	.262
46	supervisory duties (e.g. playground, school meals)	1.195	.427	.585
17	low status of the teaching profession	1.156	.210	.541
43	lack of participation in decision-making	1.098	.318	.612
6	pace of school day is too fast	1.093	.451	.417
51	pupils' general low ability	1.082	.284	.662
30	maintaining class discipline	1.063	.514	.531
27	lack of recognition for good teaching	1.043	.279	.618
22	shortage of equipment	1.043	.237	.543
31	poor facilities	0.953	.250	.489

TABLE 3

SOURCES OF STRESS: LOADINGS GREATER THAN .40 ON VARIMAX ROTATED FACTORS

Factor I 'Pupil misbehaviour'		
Loading	Item no.	Source of stress
.819	29	noisy pupils
.810	11	difficult classes
.789	41	difficult behaviour problems
.775	42	pupils' impolite behaviour or cheek
.759	35	individual pupils who continually misbehave
.750	26	pupils' general misbehaviour
.750	20	pupils' non-acceptance of teacher's authority
.746	30	maintaining class discipline
.724	45	generally high noise level
.616	16	pupils' poor attitudes to work
.590	39	pupils who show a lack of interest
.574	10	poorly motivated pupils
.562	4	constant monitoring of pupils' behaviour
.536	3	punishing pupils
.528	12	trying to uphold/maintain values and standards
.523	51	pupils' general low ability
.513	23	inadequate disciplinary sanctions available
.500	28	groups of too wide an ability
.450	47	mixed ability groups
.423	25	non-exam final year pupils
Factor II 'Poor working conditions'		
Loading	Item no.	Source of stress
.737	50	poor career structure
.707	34	poor promotion opportunities
.679	32	inadequate salary
.644	22	shortage of equipment
.615	27	lack of recognition for good teaching
.584	43	lack of participation in decision-making
.579	44	large classes
.542	9	lack of recognition for extra work
.530	31	poor facilities
.511	49	too many periods actually teaching
.508	17	low status of the teaching profession
.444	38	covering lessons for absent teachers
.436	46	supervisory duties (e.g. playground, school meals)
.423	40	demands on after school time
.409	24	lack of effective consultation
.404	47	mixed ability groups
Factor III 'Time pressures'		
Loading	Item no.	Source of stress
.793	7	not enough time to do the work
.777	5	too much work to do
.728	1	administrative work
.684	36	too much paperwork
.660	2	lack of time to prepare lessons
.603	6	pace of school day is too fast
.592	8	lack of time for marking
.511	14	responsibility for pupils (e.g. exam success)
.511	40	demands on after school time
.491	37	lack of time to spend with individual pupils
.456	49	too many periods actually teaching
.455	33	no time to relax between lessons
.434	21	lack of time for further study

TABLE 3 (cont.)

Factor IV 'Poor school ethos'		
Loading	Item no.	Source of stress
.675	15	inadequate disciplinary policy of school
.614	18	lack of consensus on minimum standards
.572	48	attitudes and behaviour of the headmaster
.558	23	inadequate disciplinary sanctions available
.543	24	lack of effective consultation
.534	19	attitudes and behaviour of some other teachers
.486	16	pupils' poor attitudes to work
.452	10	poorly motivated pupils
.448	9	lack of recognition for extra work
.418	12	trying to uphold/maintain values and standards

compared for each biographical subgroup in turn. T-tests were employed to compare differences for sex, qualification, and position held in the school (again only the categories 'teacher' and 'head of department' were compared for this variable); one-way analyses of variance followed by a Student-Newman-Keuls test were employed for age and length of teaching experience. The items for which significant differences were obtained are shown in Table 4.

Female teachers appeared to find several items regarding pupil misbehaviour greater sources of stress than their male colleagues, whereas the latter reported greater stress for administrative and paperwork. University graduates reported less stress than their colleagues on a mixture of items in the main to do with poor working conditions and poor school ethos. Younger and less experienced teachers differed from their colleagues on a range of items which included reporting greater stress on 'punishing pupils', 'difficult classes', 'maintaining class discipline', 'poor promotion opportunities', 'lack of participation in decision-making', and 'attitudes and behaviour of the headmaster'. Well over half the items were rated greater sources of stress by 'teachers' as compared with 'heads of departments', the only reversals being for administrative and paperwork.

To examine whether any interactions between sex and each of the other four biographical characteristics may have occurred, the means of the biographical subgroups were inspected. Where inspection of the tables indicated the possibility of such an interaction, a two-way factorial analysis of variance was performed. These analyses revealed seven significant two-way interactions. These are also shown in Table 4. A sex by qualification interaction for item 40 indicated that male non-university graduates found demands on after school time more stressful than their colleagues; sex by age for item 17 indicated that female teachers aged 45 or more found low status of the teaching profession less stressful than their colleagues; sex by length of teaching experience for items 9, 20 and 37 indicated that less experienced male teachers and more experienced female teachers found lack of recognition for extra work, pupils' non-acceptance of teacher's authority, and lack of time to spend with individual pupils a greater source of stress than their colleagues; finally, sex by position held in the school for items 9 and 43, indicated that male heads of departments found lack of recognition for extra work and lack of participation in decision-making less a source of stress than their colleagues.

Symptoms of stress

The mean ratings of the responses to the 17 symptoms of stress are shown in Table 5.

For each item the distribution of the responses was positively skewed. This skewness ranged from .300 to 2.882; the standard deviations from 0.464 to 1.122.

TABLE 4
SOURCES OF STRESS: BIOGRAPHICAL DIFFERENCES IN MEANS

Item no.	Source of stress	Biographical characteristics				
		Sex	Qualification	Age	Experience	Position
1	administrative work	M > F**			L2, L3 > L1*	HD > T*
3	punishing pupils	F > M**		A1 > A2, A3*	L1, L2 > L3*	
4	constant monitoring of pupils' behaviour					T > HD*
9	lack of recognition for extra work		Q2 > Q1**		Int*	Int*
10	poorly motivated pupils					T > HD*
11	difficult classes			A1 > A2, A3*	L1 > L2, L3*	T > HD**
13	school too large				L3 > L1*	
15	inadequate disciplinary policy of school		Q2 > Q1**			T > HD**
16	pupils' poor attitudes to work					T > HD**
17	low status of the teaching profession		Q2 > Q1**	Int*		
18	lack of consensus on minimum standards		Q2 > Q1**			
20	pupils' non-acceptance of teacher's authority	F > M*		A1 > A2, A3*	Int*	T > HD**
22	shortage of equipment		Q2 > Q1*		L1, L2 > L3*	T > HD**
23	inadequate disciplinary sanctions available		Q2 > Q1*	A1 > A2*		T > HD**
24	lack of effective consultation					T > HD*
26	pupils' general misbehaviour	F > M*			L1 > L2, L3*	T > HD**
27	lack of recognition for good teaching		Q2 > Q1**			T > HD**
28	groups of too wide an ability		Q2 > Q1*			T > HD**
29	noisy pupils	F > M**				T > HD**
30	maintaining class discipline			A1 > A2*	L1 > L3*	T > HD*
31	poor facilities				L1, L2 > L3*	T > HD**
32	inadequate salary		Q2 > Q1**		L1, L2 > L3*	T > HD**
34	poor promotion opportunities		Q2 > Q1*	A1 > A2, A3*	L1, L2 > L3*	T > HD**
35	individual pupils who continually misbehave	F > M*				T > HD**
36	too much paperwork	M > F*			L2, L3 > L1*	HD > T*
37	lack of time to spend with individual pupils				Int**	
39	pupils who show a lack of interest					T > HD**
40	demands on after school time		Int*			
41	difficult behaviour problems	F > M*			L1 > L2, L3*	T > HD*
42	pupils' impolite behaviour or cheek	F > M*				T > HD**
43	lack of participation in decision-making			A1 > A2, A3*	L1, L2 > L3*	Int*
44	large classes	F > M*				T > HD**
45	generally high noise level	F > M**				T > HD*
46	supervisory duties (playground, meals)				L2 > L3*	
47	mixed ability groups					T > HD*
48	attitudes and behaviour of headmaster			A1 > A2, A3*	L1, L2 > L3*	T > HD**
50	poor career structure				L1, L2 > L3*	T > HD**
51	pupils' general low ability	F > M*			L1, L2 > L3	T > HD**

Key: Sex: M = Male, F = Female

Qualification: Q1 = University Graduates, Q2 = Others

Age: A1 = Under 30 years, A2 = 30 to 44, A3 = 45 or more

Length of teaching experience: L1 = 0 to 4 years, L2 = 5 to 10, L3 = over 10

Position held in the school: T = Teacher, HD = Head of Department

Int = Interaction with Sex

* $P < .05$, ** $P < .01$

A correlation matrix of the 17 symptoms of stress consisted entirely of positive correlations. Furthermore all 17 symptoms of stress correlated positively with self-reported teacher stress (r ranging from .109 to .610; all $P < .05$) (see Table 5).

The 17 symptoms of stress were subjected to a principal components analysis. The first extracted factor accounted for 34.8 per cent of the total variance, with all 17 items loading positively on this factor. These loadings ranged from .205 to .810 and are shown in Table 5. A varimax rotated factor matrix with an orthogonal solution for two or more extracted factors did not indicate the presence of more than one common factor. It appears that the variance not accounted for by the first extracted

TABLE 5

SYMPTOMS OF STRESS: MEANS, CORRELATIONS WITH SELF-REPORTED TEACHER STRESS AND LOADINGS ON THE FIRST (UNROTATED) FACTOR

Item no.	Symptom of stress	Mean	Correlation with self-reported stress	Loading on first (unrotated) factor
15	exhausted	2.047	.525	.650
5	frustrated	1.841	.610	.661
12	under stress	1.559	.589	.810
17	very angry	1.441	.214	.414
8	very tense	1.244	.600	.807
6	anxious	1.242	.433	.706
13	depressed	1.191	.462	.680
1	nervous	0.969	.339	.603
2	headaches	0.918	.288	.446
9	heart beating fast	0.782	.362	.634
14	unable to cope	0.512	.399	.664
3	loss of voice	0.502	.109	.205
16	increased blood pressure	0.460	.208	.428
7	panicky	0.448	.334	.634
10	acid in stomach	0.425	.208	.478
4	tearful	0.241	.204	.474
11	cold sweat	0.199	.190	.371

factor is largely made up of the unique variance contained in each item, although there did appear to be some common variance between the items 'increased blood pressure', 'heart beating fast', and 'cold sweat' not accounted for by the first extracted factor. Factor I was labelled 'awareness of stress symptoms'.

Sex differences were investigated for the symptoms of stress. A *t*-test was performed for each of the items to compare the mean responses for males and females. These analyses revealed that females reported significantly more frequent symptoms for three items, 'headaches' ($P < .001$), 'tearful' ($P < .001$), and 'exhausted' ($P < .05$).

DISCUSSION

The results of the present study are that about 20 per cent of the 257 teachers in the sample of 16 medium-sized, mixed comprehensive schools in England reported that being a teacher is either very stressful or extremely stressful. To the extent that self-reported teacher stress can be considered an accurate measure of teacher stress these results indicate that about one-fifth of the teachers in this study are experiencing a large amount of stress.

The results also indicate that there is very little association between self-reported teacher stress and the biographical characteristics of sex, qualification, age, length of teaching experience, and position held in the school. As such, it may well be the case that in investigating the relationship between stressors and stress (Warr and Wall, 1975) the personality characteristics rather than the biographical characteristics of the individual may be the more important determinant of individual differences in teacher stress.

The mean ratings of the stressfulness of the 51 sources of stress indicate that the major sources of stress cover a number of diverse aspects of the teacher's job. However, the presentation of the items in descending order of means in Table 2 should be treated only as a crude guide to their relative importance in view of the relative size of the standard deviations in comparison with the size of the differences in means. It should also be noted that not all sources of stress apply to all teachers (e.g. mixed-

ability classes, non-exam final-year pupils). Thus the degree of stressfulness associated with these items is probably greater for those teachers to whom these items apply than is indicated by the mean ratings of stressfulness based on the total sample of teachers.

The principal components analysis of the sources of stress indicated that these may be described largely in terms of four orthogonal factors: 'pupil misbehaviour', 'poor working conditions', 'time pressures', and 'poor school ethos'. This finding supports work elsewhere (e.g. Coburn and Jovaisas, 1975; Rogers, 1977), indicating that sources of stress are multidimensional rather than unidimensional.

The numerous differences for biographical subgroups in the importance of the sources of stress indicate that although there appear to be no significant differences in the overall level of self-reported stress for these subgroups, the major sources of stress that contribute to the overall level may be composed somewhat differently. It should also be noted that a teacher need find only one aspect of his job extremely stressful, perhaps one not considered by most teachers as a source of stress and hence not employed in this study, for him to nevertheless rate his overall level of stress as extreme.

The mean ratings of the 17 symptoms of stress indicate that feeling 'exhausted' and 'frustrated' are the most common symptoms experienced. The loadings on the first (unrotated) factor, however, indicate that the symptom (other than feeling 'under stress') contributing most to the 'awareness of stress symptoms' is feeling 'very tense'. This finding supports the formulation of Frankenhaeuser and Gardell (1976) who argued that the higher levels of arousal associated with stress reactions will be experienced primarily as excessive tension.

Finally, the single-item measure of self-reported teacher stress appears to have a high degree of validity within the context of the questionnaire employed, since the ratings of all 51 sources of stress and 17 symptoms of stress correlated significantly and positively with this measure. Nevertheless, there is a need for further research to establish its empirical validity, particularly in relation to the response correlates of teacher stress that have been outlined by Kyriacou and Sutcliffe (1978).

REFERENCES

- COBURN, D., and JOVAISAS, A. V. (1975). Perceived sources of stress among first-year medical students. *J. med. Educ.* 50, 589-595.
- DES (1976). *Statistics of Education, 1975, Vol. 1, Schools*. London: HMSO.
- DES (1977). The growth of comprehensive education. *Report on Education*, No. 87.
- DUNHAM, J. (1976). Stress situations and responses. In *Stress in Schools*. Hemel Hempstead: National Association of Schoolmasters.
- FRANKENHAEUSER, M., and GARDELL, B. (1976). Underload and overload in working life: outline of a multidisciplinary approach. *J. human Stress*, 2, 35-46.
- KYRIACOU, C., and SUTCLIFFE, J. (1977). Teacher stress: a review. *Educ. Rev.*, 29, 299-306.
- KYRIACOU, C., and SUTCLIFFE, J. (1978). A model of teacher stress. *Educ. Studies*, 4, 1-6.
- ROGERS, R. E. (1977). Components of organizational stress among Canadian managers. *J. Psychol.* 95, 265-273.
- WARR, P., and WALL, T. (1975). *Work and Well-being*. Harmondsworth: Penguin.

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