

JOB SATISFACTION, STRESS AND COPING STRATEGIES AMONG MOROCCAN HIGH SCHOOL TEACHERS

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Abstract – *Using a self-report questionnaire, a picture of stress, job satisfaction and coping strategies among a sample of 153 Moroccan high school teachers is established. Results of the study showed that 45% of teachers were satisfied with their job. When specific facets of job satisfaction were examined, teachers were most satisfied with the relationship they established with students and colleagues and were least satisfied with their social status. Results also revealed that over half of teachers reported high levels of stress and that stress and job satisfaction were negatively correlated. When teachers rated the intensity and frequency of 18 stress items, the two measures produced similar results. A principal components analysis was carried out on the stress items, and four factors were extracted: curriculum-related problems, student-related problems, classroom-related problems and work overload. A factor analysis of the 16 coping strategies produced four factors, labelled direct action, mental action, emotional action and physical action.*

Introduction

There has been widespread concern about occupational stress and low job satisfaction among teachers in various educational settings throughout the world (see Kyriacou, 1987, 1996). Numerous studies have investigated various aspects of teacher stress, namely its prevalence (e.g. Kyriacou and Sutcliffe, 1978), its causes, (e.g. Borg and Falzon, 1989; Chaplain, 1995) its effects and the strategies used by teachers to cope with stressful situations (e.g. Cockburn, 1996; Dewe, 1984; Kyriacou, 1980; Wilkinson, 1988). Results typically indicate that a considerable proportion of teachers report relatively high levels of stress. Around a quarter of the teachers surveyed generally rate their job as either very stressful or extremely stressful (see Borg, 1990; Kyriacou, 1987).

The vast number of studies which attempted to identify the main causes of stress facing teachers suggest that the sources of stress are many and varied and that they tend to change from one context to another (e.g. Kyriacou and Harriman, 1993; Manso-Pinto, 1989; Manthei and Gilmore, 1996; Okebukola and Jegede, 1989; Wilkinson, 1988). However, a number of stressors seem to

recur in most of the reported studies, such as pupil misbehaviour, work overload, time pressure, poor working conditions and role conflict/ambiguity (see Kyriacou, 1987, 1989).

The question of how teachers actually attempt to cope with stress has been addressed by a number of researchers (e.g., Cockburn, 1996; Dewe, 1984; Kyriacou, 1980; Wilkinson, 1988). Two main ways in which a teacher can deal with stress have been identified: (a) direct action techniques, by which one tries to deal with the source of stress and (b) palliative techniques by which one tries to alleviate the feeling of stress. Examples of some of the most frequently reported coping strategies involve seeking social support, the expression of feelings, trying to keep things in perspective, and trying to relax after work.

Investigating the level of job satisfaction among teachers has also attracted considerable attention. Kyriacou and Sutcliffe (1979) reported that 21.% and 51.% of the teachers surveyed were 'very satisfied' and 'fairly satisfied', respectively. Borg and Falzon (1989) in a study of 844 primary schools in Malta found that three out of every four teachers were either 'very satisfied' or 'fairly satisfied' with their job. Chaplain (1995) in a survey of 267 primary school teachers in England, reported that 37% of the subjects were satisfied with their job ('yes' or 'yes definitely'), with a further 47% having mixed feelings (yes and no).

Despite the proliferation of such studies, there has been as yet no parallel research interest about stress or job satisfaction among Moroccan teachers. Therefore, one of the major concerns of the present study was to explore job satisfaction, stress and coping strategies among a sample of Moroccan high school teachers.

Attempts to estimate the extent of teacher stress and job satisfaction have been plagued with problems of measurement (see Chaplain, 1995; Kyriacou, 1987). In this respect, two points relating to the methodology used to measure stress and job satisfaction are of particular interest to the present study. First, in attempting to measure teacher stress, numerous studies recorded teacher stress by asking teachers to rate the degree to which they experienced stressful aspects of their jobs (see Borg, 1990; Borg and Falzon, 1989; Okebukola and Jegede, 1989). Few researchers have emphasised the frequency of experience of such stressors. Chaplain (1995) made the point that the introduction of a frequency dimension into the enquiry might yield different results. Another concern of the present study was to estimate both the intensity and the frequency of potential stressors among teachers in order to better assess the severity of teacher stress.

Second, studies of job satisfaction among teachers have mainly used single-item instruments which measure teachers' overall job satisfaction. Little research has been done on teachers' satisfaction regarding various facets of their work, which is one of the major concerns of the present study.

While teacher stress has been defined in various ways, a widely accepted definition that fits the purpose of the present study is that proposed by Kyriacou (1989): 'Teacher stress refers to the experience by teachers of unpleasant emotions such as anger, tension, frustration, anxiety, depression and nervousness, resulting from aspects of their work as teachers' (p. 27). This definition conceptualises teacher stress as an unpleasant state manifested by various negative emotional responses.

A number of models of stress have been elaborated in an attempt to gain a better understanding of the nature of occupational stress. Of particular interest are the following three approaches to stress proposed by Travers and Cooper (1996):

- (1) *Stress as a stimulus*. In this approach, stress is viewed as a condition of the environment, extraneous to the individual and impinging on him/her in a disruptive way. The individual's perceptions of the stimulus are not taken into account in this approach.
- (2) *Stress as a response*. Stress here is described in terms of the person's response to some threatening or disturbing stimuli. Fisher, cited in Travers and Cooper (1996), suggests: that: 'A person can be deduced to have been exposed to stressful conditions if signs of strain are present.' (p.14). Of most interest in this approach is the manifestation of stress.\
- (3) *Stress as an interaction*. In this approach, stress is not viewed as an environmental demand or as a response, but rather as an interaction or transaction between the person and the environment. Travers and Cooper (1996) pointed out that 'it is not the environment *per se* that is stressful, but the relationship between the person and the environment which may result in the experience of stress' (p. 17). In other words, it is the individual's perceptions of the stress stimulus, rather than the existence of the stimulus, which is important.

This last approach is in line with the model developed by Kyriacou and Sutcliffe (1978a), who suggested that the experience of stress is the result of the teacher's perception that demands are being made on him/her, that he/she is unable to or has difficulty in meeting these demands and that failure to do so threatens his/her mental and or physical well-being. The key element in this model is the teacher's *perception of threat*.

In brief, the present study sought to answer the following questions:

- What were the overall levels of stress and job satisfaction in a sample of Moroccan high school teachers?
- What were the major sources of job satisfaction reported by high school teachers?

- What were the major sources of stress reported by high school teachers, in terms of (a) perceived intensity and (b) perceived frequency.
- What were the coping strategies that teachers reported using most frequently to deal with occupational stress?

Method

Subjects

The questionnaire was distributed to 215 teachers drawn from 13 randomly selected high schools in the city of Rabat, including single-sex, co-educational, city centre and suburban schools. Care was taken to include in the sample teachers in disciplines as various as maths, sciences, languages, philosophy, technology and social studies in order to represent a cross section of the population. The questionnaire was to be answered in complete anonymity and returned to the author. A total of 153 teachers (49 males and 104 females) completed the questionnaire, accounting for a return rate of 71%.

Instruments

The questionnaire items were mostly derived from semi-structured interviews conducted individually with 20 high school teachers drawn from six high schools in Rabat. The questionnaire was written entirely in French, the first foreign language that is widely used by teachers. The questionnaire was subdivided as follows:

- (1) *Biographical information.* regarding sex, age, and length of teaching experience.
- (2) *Job satisfaction.* Respondents were asked to rate on a five-point scale ranging from 'very satisfied' (score 5) to 'not satisfied at all' (score 1) their level of satisfaction with sixteen aspects of their profession, such as the curriculum, the teaching resources, and the communication and contact with the students. In addition they were asked a general question, rated in the same way, about how satisfied they were generally with teaching as a profession.
- (3) *Stress.* The stress scale comprised 18 potential sources of stress relating to students' misbehaviour, work overload, curriculum-related problems and working conditions. Teachers were asked to rate how stressful they found each item: from 'extremely stressful' (score 5) to 'not stressful at all' (score 1). They were then invited to indicate the frequency of occurrence of

each item on a scale ranging from always (score 5) to never (score 1). In addition, a general stress item was included which asked them to rate the degree to which they considered teaching stressful.

- (4) *Coping strategies.* A total of 12 coping strategies were listed. Teachers were asked to indicate how frequently they used such strategies to cope with stress at work. A five-point scale was used, ranging from 'always' (score 5) to 'never' (score 1).

Results

Job satisfaction

Overall job satisfaction

In response to the question 'To what extent are you satisfied with your job as a teacher?' 45.7% of the teachers reported being either 'very satisfied' or 'fairly satisfied', and only 7% reported being 'not satisfied at all'. Table 1 displays the mean satisfaction scores for the whole sample and the biographical subgroups. Results show that females scored higher than men on job satisfaction and that satisfaction scores increased with age. Results also suggest a reduction in levels of job satisfaction to mid-career, which then tends to rise as teachers reach the end of their career. However, *t*-test and one-way ANOVA measures showed that the differences within biographical subgroups in respect of job satisfaction did not reach significance levels.

Specific facets of job satisfaction

Table 2 shows the rank order of the 16 aspects of teaching according to the percentage of respondents who reported being either 'very satisfied' or 'fairly satisfied'. The five top satisfying aspects reported by the sample were 'relationship and communication with the school administrative staff', 'contact and communication with colleagues', 'relationship and communication with students', 'the subject taught' and 'the professional experience gained'. By contrast, the five least satisfying aspects comprised 'the curriculum', 'the manuals', 'the resources/facilities', 'the financial situation' and 'the social status'. The remaining aspects of satisfaction such as 'the long holidays', 'the school ambience' and 'the results achieved by students' were perceived as moderately satisfying.

TABLE 1: Job satisfaction scores for whole sample and biographical subgroups

	N	Overall job satisfaction	
		M	SD
Whole sample	153	3.35	1.09
Sex			
Males	49	3.13	1.08
Females	104	3.45	1.08
Age			
<15 years	39	3.24	1.01
35-45 years	104	3.35	1.10
over 45 years	10	3.66	1.32
Experience			
<6 years	11	3.50	.85
6-15 years	82	3.30	1.06
16-25 years	53	3.29	1.20
25 + years	7	4.00	.81

All the facets of job satisfaction were found to correlate positively and significantly ($r = 0.18$ to 0.49 , $p < 0.03$ to 0.001) with reported levels of overall job satisfaction. No significant differences within subgroups were identified for any of the sixteen facets of job satisfaction.

Stress

Occupational stress

A high proportion (58%) of the subjects rated their work as 'very' or 'extremely stressful'. Table 3 shows the mean and standard deviation scores for the whole sample in response to the question 'To what extent are you stressed in teaching?'. It also shows results for the biographical subgroups. The mean stress score for the whole sample was 3.70 (SD = 1.04) out of a maximum score of 5. Female teachers scored higher than their male colleagues in respect of occupational stress, and a t -test indicated that the difference was significant ($t =$

TABLE 2: Rank-order of specific facets of job satisfaction

Item	% of respondents who rated items as 'very/fairly satisfying'
Relationship/communication with the school staff	75%
Contact and communication with colleagues	73%
Relationship and communication with students	73%
Subject matter taught	70%
Professional experience gained	70%
The pedagogical role played / the mission accomplished	65%
The long holidays	61%
The work ambience at school	61%
The progress and the competence I help students achieve	60%
The results achieved by students	47%
The teaching methods I use	43%
The curriculum I teach	29%
The manuals I use	26%
The financial condition of teachers	16%
The existing resources and facilities	13%
The social status of teachers	4%

- 3.31 (133), $p < 0.001$). Figures on Table 3 suggest that occupational stress reached its peak levels in mid-career and middle-age periods. However, using one-way ANOVA these results did not reach significance levels.

Stress scale items

In order to compare the results obtained by the two measures of stress used in the present study, the 18 sources of stress were rank-ordered, first according to the intensity levels and then according to the frequency levels. The two rank-ordered lists with the mean and standard deviation scores are shown in Table 4. Results suggest that the rank-order of stress items in the two lists is similar. The five most intense sources of stress and the five most frequent sources of stress were identical. 'Working under time pressure', 'teaching mainly for exams',

TABLE 3: Occupational stress scores for the whole sample and biographical subgroups

	N	Occupational stress	
		M	SD
Whole sample	153	3.70	1.04
Sex			
Males	49	3.28	1.00
Females	104	3.90	1.00
Age			
<15 years	39	3.60	.97
35-45 years	104	3.73	1.02
over 45 years	10	3.67	1.50
Experience			
<6 years	11	3.55	.88
6-15 years	82	3.63	1.04
16-25 years	53	3.84	.97
25 + years	7	3.57	1.61

'emphasising quantity over quality', 'a curriculum which crams students more than it educates or trains them', and 'students who cheat in order to get good marks' were perceived by teachers as the most intense and also as the most frequent sources of stress. Similarly, five out of the six items which appeared at the bottom of both lists were the same. 'Student misbehaviour', 'students who cannot follow in class', 'difficulty in adapting pedagogical guidelines to the classroom reality', 'poor working conditions' and 'emphasis of theory over practice' were rated as the least intense and as the least frequent sources of stress.

Overall, there seemed to be much agreement between the measures of intensity and the measures of frequency of stress used in this study, in the sense that sources of stress which were perceived as the most intense were also reported as the most frequent, and vice versa. However, a closer examination of Table 4 reveals some mismatches between the perceived intensity and frequency of certain stress items. For example, 'discipline problems' and 'pupil misbehaviour' which appeared to be moderately intense, were rated as the two

least frequent sources of stress. Conversely, 'too much preparation and marking', which was perceived as the least stressful item in terms of intensity, was shown to hold a relatively moderate position with respect to frequency. Likewise, 'lack of pedagogical equipment' and 'lack of resources/facilities' were shown to be ranked substantially higher by the frequency measure than by the intensity measure.

TABLE 4: Rank-order of the sources of stress according to (1) intensity and (2) frequency

SOURCES OF STRESS			
Reported intensity	<i>M</i>	Reported frequency	<i>M</i>
Working under time pressure	4.45	Working under time pressure	4.24
Teaching mainly for exams	4.21	Teaching mainly for exams	4.22
Emphasising quantity over quality	4.38		
The curriculum crams students more than it gives them a good education or training	4.37	The curriculum crams students more than it gives them a good education or training	4.04
Students who cheat to get good marks	4.36	Emphasising quantity over quality	4.01
Students' lack of motivation	4.15	Students who cheat to get good marks	3.93
An overloaded curriculum	4.14	An overloaded curriculum	3.89
Discipline problems	4.04	Lack of resources or facilities	3.82
Lack of autonomy/initiative in teaching	4.04	Lack of pedagogical equipment	3.75
Lack of pedagogical equipment	3.96	Students' lack of motivation	3.69
Lack of resources or facilities	3.95	Lack of autonomy in teaching	3.68
Students' misbehaviour	3.94	Students who do not take their studies seriously	3.65
Students who cannot follow in class	3.80	Too much preparation/marking	3.60
Difficulty in adapting pedagogical guidelines to classroom reality	3.78	Difficulty in adapting pedagogical guidelines to classroom reality	3.54
Poor working conditions	3.69	Emphasis of theory over practice	3.48
Emphasis of theory over practice	3.65	Poor working conditions	3.36
Too much preparation and marking	3.50	Students who cannot follow in class	3.35
		Discipline problems	3.12
		Students' misbehaviour	3.09

The measures of perceived intensity and frequency of stress used in the present study produced similar results, with the exception of a few items for which the results were relatively different such as 'discipline problems' which received moderately high rating on intensity ($M = 4.04$) but the lowest rating on frequency ($M = 3.12$). Intensity and frequency are two distinct dimensions which can usefully be used to look at stress from different perspectives. For the remaining analysis of sources of stress, only the intensity measures of stress were used.

To determine any underlying factor structure, the eighteen stress items were subjected to a principal components analysis, using a Varimax rotation. Four factors were extracted, accounting for 40.0%, 11.1%, 7.5% and 6.4% of the total variance respectively. Items with significant factor loadings ($> .4$) were used as a basis for explaining the factors and are shown in Table V.

As can be seen, factor 1 receives quite heavy loadings from five variables concerned with having to teach a curriculum which is exam-oriented, which crams students more than it educates them, emphasises quantity over quality, theory over practice and limits teachers' autonomy or initiative. This factor could therefore be labelled *curriculum-oriented problems*.

Factor 2 evidences substantial loadings from five items concerned with students who cheat to get good marks, who do not take their studies seriously, who have difficulty following in class, together with a lack of pedagogical equipment and resources/facilities likely to enhance students' motivation and learning. So this factor can be given the label *student-related problems*. At first sight, it does not appear to be clear why the two items having to do with lack of pedagogical equipment and lack of resources loaded on this factor. One reason might be that, in teachers' minds, stress caused by weak, disaffected or helpless students is compounded by the lack of teaching facilities and resources. These are thought to be essential for meeting students' special needs, making learning and teaching more enjoyable and effective, and easing teachers of part of the tension and frustration they may face when teaching learners in difficulty.

Factor 3 exhibits appreciable loadings from five variables having to do with poor working conditions, discipline problems, student misbehaviour, poor motivation, and difficulty in adapting the pedagogical guidelines to the reality of the classroom. This factor can therefore be labelled *classroom-related problems*.

Factor 4 is defined by variables concerned with too much preparation and marking, curriculum overload and working under time pressure. It is then labelled *work overload*.

TABLE 5: Stress scale items rotated solution (varimax) showing significant factor loadings

Item No.	Item	Curriculum problems	Student problems	Classroom problems	Work overload
10	The curriculum crams students more than it gives them a good education or training	.83			
9	Teaching mainly for exams	.81			
16	Emphasis of quantity over quality	.74			
14	Lack of autonomy or initiative in teaching	.73			
8	Emphasis of theory over practice	.58			
15	Students who cheat to get good marks		.78		
18	Students do not take their studies seriously		.74		
17	Lack of pedagogical equipment		.69		
7	Students who cannot follow in class		.58		
13	Lack of facilities and resources	.40	.51		
4	Poor working conditions			.74	
2	Discipline problems			.72	
1	Students' lack of motivation			.61	
11	Students' misbehaviour		.59	.60	
5	Difficulty in applying the pedagogical guidelines to classroom reality	.44		.50	
3	Too much preparation and marking				.79
6	Teaching an overloaded curriculum				.73
12	Working under time pressure	.55			.60

The overall scale proved internally reliable (Cronbach's alpha = 0.91), as did each subscale with alpha coefficients of 0.87, 0.80, 0.67, and 0.76 respectively.

The mean score for each factor was computed by taking the average score (minimum = 1; maximum = 5) for those items shown to load on each factor. Items that cross-loaded onto two factors were included in the index of the factor that they defined most highly. *Curriculum-oriented problems* had the highest score ($M = 4.13$, $SD = .75$) followed by *student-related problems* ($M = 4.06$, $SD = .71$), *work overload* ($M = 4.06$, $SD = .82$) and *classroom-related problems* ($M = 3.91$, $SD = .74$).

Differences between males and females in respect of stress factors reached significance in the case of *curriculum-*, *student-* and *classroom-*related problems, where males indicated less stress than females. The *t*-values were: 3.10 ($p < 0.003$), 2.02 ($p < 0.05$) and 3.45 ($p < 0.008$) respectively. No significant differences based on age or experience were found, using one-way ANOVA.

Coping strategies

Table 6 exhibits the rank order of the 12 coping strategies according to teachers' perceived frequency. Results show that the four most frequently used coping strategies reported by teachers were: 'plan/organise lessons in advance', 'suggest guidelines/strategies to improve students' performance', 'try to be more realistic and adapt to circumstances', and 'make double efforts'. These strategies seem to be concerned with taking direct action and putting things into perspective. The four least frequently used coping strategies reported by teachers were: 'relax after work', 'talk about the problems during the meetings', 'forget about the problems after work' and 'do sport'. These strategies appear to be concerned with minimising the effect of stress.

TABLE 6: Rank-order of reported coping strategies

Item	M	SD
Plan/organise lessons in advance	4.47	.77
Suggest strategies/working procedures to improve students' performance	4.39	.79
Try to be more realistic and adapt to the circumstances	4.20	.89
Make double efforts	4.15	.85
Use more motivating methods in class	4.02	.93
Get used and adapt to the problems	3.98	1.07
Talk about the problems with colleagues or friends	3.84	1.19
Try not to exaggerate the importance of the problems	3.82	.94
Relax after work	3.66	1.13
Talk about the problems during the meetings.	3.04	1.30
Forget the problems after work	2.93	1.38
Do sport	2.73	1.48

TABLE 7: Varimax rotated factor matrix for the coping strategies items

Item No.	Item	1	2	3	4
5	Make double efforts	.78			
4	Use more motivating methods in the classroom	.72			
2	Plan and organise lessons in advance	.66			
9	Suggest guidelines/strategies to improve students' performance	.60			
6	Try to be more realistic and adapt to the circumstances		.74		
3	Try not to exaggerate the importance of the problems		.74		
8	Get used and adapt to the problems		.69		
10	Do sport			.81	
7	Relax after work			.59	
12	Try to forget the problems after work		.41	.48	
1	Talk about the problems to friends or colleagues			.86	
11	Talk about the problems during the meetings		.50	.60	

Factor 1 = Direct action

Factor 3 = Physical action

Factor 2 = Mental action

Factor 4 = Emotional action

To determine any underlying factor structure, the twelve coping strategies were subjected to a principal components analysis, using a Varimax rotation. Four factors were extracted accounting for 25.2%, 12.9%, 11.8% and 10.8% of the total variance respectively. Items with significant factor loadings (> 0.40) were used as a basis for explaining the factors and are displayed in Table 7.

Factor 1 was dominated by items having to do with 'making double efforts', 'planning/organising lessons in advance', 'using more motivating methods in class' and 'suggesting strategies/guidelines to improve students' performance'. This factor was labelled *direct action* because it involves taking direct actions to deal with the source of stress, e.g., meeting the demands the curriculum.

Factor 2 was characterised by items concerned with 'trying to be more realistic and adapt to circumstances', 'not exaggerating the importance of the problems' and 'getting used and adapting to the problems'. It was therefore labelled *mental action* because it involves altering how the teacher sees the situation.

Factor 3 was mainly defined by physical actions such as 'doing sport' and 'relaxing after work'. It was therefore labelled *physical action*.

Factor 4 was characterised by items concerned with 'talking about the problems with friends or colleagues' and 'talking about the problems during the meetings'. This factor was given the label *emotional action* because it involves expressing feelings to relieve stress.

Whilst the first factor involves direct-action techniques which deal with the source of stress, the three other factors involve palliative techniques which minimise the teacher's experience of the feeling of stress.

The Cronbach's alphas for the four factors were generally moderate: .67 for factor 1, .66 for factor 2, .49 for factor 3 and .51 for factor 4.

The mean score for each factor was computed by taking the average score (minimum = 1; maximum = 5) for those items shown to load on each factor. Items that cross-loaded onto two factors were included in the index of the factor that they defined most highly. Direct action had the highest score ($M = 4.25$, $SD = .60$) followed by mental action ($M = 4.00$, $SD = .75$), emotional action ($M = 3.45$, $SD = 1.02$) and physical action ($M = 3.10$, $SD = .94$).

Differences between males and females in respect of coping strategies reached significance only in the case of *direct* and *emotional* actions. Females scored significantly higher than males on *direct action* ($t = 2.33$, $p < 0.03$) and on *emotional action* ($t = 2.13$, $p < 0.04$). No significant differences were observed for age or experience subgroups.

Relationship between overall job satisfaction, occupational stress, stress factors and coping strategies

As shown in Table 8, job satisfaction correlated negatively and significantly with occupational stress and three stress factors, namely *curriculum-*, *classroom-* and *student-related problems*. Job satisfaction also correlated positively and significantly with three coping actions: *direct*, *mental* and *physical*. Overall, results indicate that job satisfaction related negatively to occupational stress and positively to all coping actions except the *emotional* one.

TABLE 8: The Pearson product moment correlation coefficients between overall job satisfaction, occupational stress, stress factors and coping actions

	Overall job satisfaction	Occupational stress
Occupational stress	-0.29***	
Curriculum-related problems	-.20**	0.35****
Classroom-related problems	-0.20**	0.43****
Student-related problems	-0.19*	0.21*
Work overload	-0.15	0.55****
Direct-action	-.30****	-0.10
Emotional action	0.03	0.13
Mental action	0.19**	-0.13
Physical action	0.25***	-0.29***

* $p < 0.05$; ** $p < 0.03$; *** $p < 0.0004$, **** $p < 0.001$

Occupational stress correlated positively and significantly with the four factors of stress, but correlated negatively and significantly with just one coping technique: *physical action*.

Discussion of results and conclusion

The main objectives of the present study were to identify: (1) the overall levels of stress and job satisfaction in a sample of Moroccan high school teachers, (2) the major facets of job satisfaction and the major sources of stress reported by teachers and (3) the coping strategies that teachers reported using to alleviate stress.

Results indicate that under half (45.7%) of the sample reported being very/fairly satisfied with teaching as a profession. This compares with Chaplain's study in England (1995) which found that over one-third (37%) of primary teachers were satisfied with their job ('yes' or 'yes definitely'). However the figures appear somewhat lower than those found in the studies reported by Kyriacou and Sutcliffe (1979) and Borg *et al.* (1991), who found that around 70% of their samples found teaching 'very' or 'fairly' satisfying. In contrast with other studies (e.g. Borg and

Falzon, 1989; Chaplain, 1995), the present study found no significant differences within subgroups in respect of job satisfaction.

Turning to specific facets of job satisfaction, teachers were found to be more satisfied with the communication and the relationship they established with students, colleagues and administrative staff, the subject they taught and the professional experience they acquired. This suggests that their professional career in itself, together with the human communicative dimension involved in their profession were the major sources of the satisfaction they derived from teaching. The teachers interviewed consistently pointed out that these aspects of their profession allowed them to grow and develop both as teachers and as human beings. On the other hand, the curriculum, the manuals, the lack of facilities/resources, the financial situation and particularly the social status were reported as the major obstructions to teachers' job satisfaction. These results give weight to Chaplain's (1995) suggestion that the use of single-item measures may obscure differences in the sources of teachers' overall satisfaction. Teachers' different responses to the different facets of their profession was encapsulated in a comment from a female biology teacher who argued:

'Being a teacher is no longer a socially worthwhile job. Yet I like this job and I would do it even if I were not paid for it. I am really satisfied when students understand in class. It is wonderful to be liked and appreciated as a teacher and as a person.'

The present study offered evidence that over half of the teachers (58%) found their job very/extremely stressful. This figure is approximately twice as high as results reported in other parts of the world. Studies conducted in England (e.g. Chaplain, 1995), Malta (e.g. Borg and Falzon, 1989) and New Zealand (e.g. Manthei and Gilmore, 1996) reported that 23%, 30% and 25% of teachers respectively felt that teaching was very/extremely stressful. Females in the present study reported significantly higher levels of stress. This contrasts with other studies in which no significant differences between the sexes were observed in respect of occupational stress (e.g. Kyriacou and Sutcliffe, 1979). Consistent with the findings of other researchers (see Borg and Falzon, 1989; Chaplain, 1995) stress and job satisfaction were found to be negatively correlated ($r = -0.29$, $p < 0.001$). High reports of occupational stress were related to low levels of job satisfaction.

The present study suggested that there was much agreement between the measures of intensity and the measures of frequency of stress. Overall and apart from a few exceptions, the sources of stress which were reported as the most intense were also perceived as the most frequent, and vice versa.

The principal components analysis used in this study identified four factors: *curriculum-oriented problems*, *student-related problems*, *classroom-related problems* and *work overload*. *Curriculum-related problems* were identified as the major source of stress to teachers.

The Moroccan high school curriculum has been subjected to major changes and attempts at improvement in recent years. Yet results show that it is perceived as the least satisfying and the most stressful facet of teaching. During the interviews, teachers asserted that the decisions and the changes about the curriculum were imposed on them from above and that they had hardly any influence on what to teach, how to teach and how much time to spend on teaching it.

The baccalaureate exam system appears to be largely responsible for the pressure put on high school teachers. The exams extend over the three-year period of high school and involves two types of assessment: (1) formal examinations set twice a year by the academy and (2) continuous assessment set by the teacher. Given that the students in a particular academy have to take the same formal examinations, some kind of uniformity is thought to be necessary in the implementation of the curriculum. Accordingly, teachers are required to cover a specific number of units or chapters to be completed within specific time limits and to allocate a specific number of hours for each lesson.

All the teachers interviewed argued that passing examinations appears to be the focus of what education is all about. As a male physics teacher put it:

'Everything is determined by exams, the curriculum, the teaching methods and even the future of students. Access to many higher education institutions is dependent upon grades. This is why students and their parents become obsessed with grades.'

This backwash effect on teaching appears to put great demands and responsibility on teachers. They have to work under pressure to cover all the curriculum for fear that examination questions might fall on something not treated in class. Very often, at the end of the semester, teachers have to arrange for extra hours in order to complete the syllabus. All teachers interviewed expressed their frustration at 'having no time to do what education is really about'. A female teacher of French observed:

'We have no time left for teaching students how to express themselves correctly, to use their critical thinking and their creativity or to engage in cultural activities inside or outside the school.'

Similar frustrations concerning the curriculum were expressed by a male teacher of social studies:

'Moroccan society and the media have tremendously progressed in recent years, yet the curriculum of history and geography is still stagnating. I have no time to explore with students some of the topical issues that may be of interest to them. There is also a lack of co-ordination between social studies and other disciplines.'

In a similar vein, a male teacher of chemistry argued:

'According to the curriculum, teaching consists of giving the students a packet of knowledge, just like a packet of sweets. As a result, we feel guilty and frustrated because our role as teachers does not serve good purposes, just helping students pass exams and cramming their heads with knowledge. For example, we have no time to make the link in science teaching between the school and the outside world or to organise research projects.'

Working under pressure and teaching for exams seems to have undermined teachers' self-esteem and perception of their role. The teachers interviewed consistently argued that their authority as teachers had been dramatically reduced. In this respect, a female biology teacher observed:

'The teacher has no weight. He is just like a robot working for the implementation of the curriculum.'

Teachers advocated a number of reasons for their perceived loss of authority. They claimed that they had less control over students who were becoming generally more assertive. Another reason was that all the grades given by the teacher during the whole year accounted for only 25% of students' global grades.

The interview comments quoted above lend support to the findings that the curriculum was perceived as the least satisfying and the most stressful aspect of teaching.

As concerns coping strategies, the results revealed that some strategies were used more frequently than others. For example, the three most widely reported strategies were: 'planning/organising lessons in advance', 'suggesting strategies to improve students' performance' and 'trying to be more realistic and adapt to the circumstances'. The three least frequently reported strategies were: 'talking

about the problems during the meetings', 'forgetting about the problems after work' and 'doing sport'.

The principal components analysis of coping strategies employed in this study identified four types of coping strategies: one direct-action technique which involves taking some initiative or action to deal directly with the source of stress and three palliative techniques – mental, emotional and physical – which are concerned with reducing the emotional discomfort rather than altering the source of that discomfort. Teachers seem to have more palliative than direct strategies in their repertoire of coping. As Dewe (1984) observed 'there are situations, particularly in schools, where the teacher finds it difficult if not impossible to deal directly with the source of stress and thus the most effective strategy is one which attempts to regulate or dissipate the emotional discomfort' (p.38). Teachers in the present study seemed to concentrate on direct and mental actions more than they did on the emotional and the physical ones.

Female teachers were shown to be using the direct and the emotional actions more frequently than their male colleagues. This implies that women would use strategies such as planning, organising and talking about their problems more frequently than men. There seemed to be no significant differences for age and experience concerning the use of coping strategies.

Job satisfaction was found to correlate positively and significantly with three coping actions: direct, mental and physical. This implies that teachers with higher levels of job satisfaction were more likely to be using these coping strategies. By contrast, occupational stress showed a significant and negative correlation with physical action techniques. This suggests that teachers with higher levels of stress would use physical coping strategies less frequently. Interestingly, physical action techniques seem to relate positively to job satisfaction and negatively to occupational stress. This may imply that teachers who relaxed after work or practised some sport were more likely to feel satisfied about their job and less likely to be stressed.

If the issue of reducing the level of stress on teachers is to be considered, it would appear that the school curriculum which was reported as the main source of dissatisfaction and stress to the teachers needs to be re-examined. The aims and objectives which are more conducive to the growth and development of individual learners and a society entering the new millennium need to be highlighted and effectively implemented. In particular, knowledge-oriented teaching and testing need to be replaced by an educational approach which emphasises the attainment of skills and competencies and engages the learner in more active learning.

The findings of this study need to be verified by studies carried out in other parts of the country and compared with other research on stress and job

satisfaction conducted in neighbouring African or Mediterranean countries in order to make the link between teachers in this part of the world and enable them to share their concerns. The present study indicates that there is a need for further research on the impact of the type and frequency of coping strategies used by teachers on their levels of stress and job satisfaction.

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