

Organizational Stress Among Teachers

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Even though the concept of stress has received much attention in the popular press, in research, and in teacher workshops, the actual sources of work-related stress among Canadian teachers remain far from clearly established. The major purpose of this study was to obtain from teachers their perceptions of major sources of work-related stress and to assess the degree to which these stressors accounted for the overall stress on the job. This was achieved by controlling for the selected background variables of sex, age, level of education, grade level taught, years of teaching experience, size of the school, and perceived personal-life stress. Major findings showed that four identifiable job-related factors accounted for a significant part of teacher work-related stress, and that the selected background variables failed to account for significant variation in job-related stress levels. The four factors which made the most substantial contribution to overall job-related stress of teachers were Role Overload, Relationships with Students, Work Load, and Relationships with Colleagues.

Quoique le concept de "stress" ait été longuement étudié dans la presse populaire, en recherche et en ateliers regroupant des enseignants, on n'a pas encore réussi à établir clairement les sources réelles du stress en milieu de travail parmi les enseignants canadiens. Le but principal de cette étude était d'obtenir des enseignants eux-mêmes leurs idées sur les sources du stress en milieu de travail et d'évaluer jusqu'à quel point ces sources étaient responsables de l'impression globale du stress dont souffrent les enseignants au travail. On a pu réussir cette étude en contrôlant certaines variables telles que le sexe, l'âge, le niveau d'instruction, la classe enseignée, le nombre d'années d'expérience dans l'enseignement et le niveau de stress perçu dans la vie non-professionnelle. Parmi les résultats importants, on a trouvé quatre facteurs reliés à l'emploi qui contribuent en grande partie au stress dont souffrent les enseignants. On a aussi remarqué que les variables n'avaient que peu d'influence sur les niveaux de stress en milieu enseignant. Les quatre facteurs les plus importants dans l'étude du stress étaient les suivants: importance du rôle, relations avec les étudiants, surcharge de travail, relations avec les collègues.

Stress, the phenomenon perhaps better described as excessive distress, has become a topic of considerable interest in recent years. A number of researchers after studying members of various organizations have concluded that organizational life experiences may carry a burden that can be debilitating to both the individual and the organization. French and Caplan (1972) illustrate this position when they say:

The large, bureaucratic organization, like other settings, exerts its own set of unique forces on the individual. Through the application of these forces, the

organization is able to channel the individual's behavior toward certain goals and to direct his interactions toward certain people and away from others. This conformity to organizational norms is, of course, purchased at a price most often thought of in terms of salary or wages. But there are often other prices which the organization incurs ... they are costs in the form of job-related pathologies of the people who make the organization run. Thus, both mental and physical health may be affected by the continual pressures of the job over a period of years. (p. 30)

That teacher stress is a subject of increasing importance is substantiated by the many articles on teacher stress and "burnout" published recently in the popular press and in educational journals. Adams (1980) suggests:

An understanding of the sources of stress in one's life is an important prelude to developing a plan for effective stress management. Furthermore, understanding the organizational sources of stress is basic to developing processes for reducing or removing unnecessary stress A complete approach must consider altering stressful organizational norms and management practices. (p. 165)

The view of Adams, as related to teachers, is supported by Kratzmann, Byrne and Worth (1980) in a government fact-finding commission report, when they state:

We begin by maintaining that "work-induced stress is generally dysfunctional." A logical extension of this assumption leads us to believe that, should teaching today be particularly stressful, then factors causing that stress should be either eliminated or alleviated, or failing that, conditions be provided that will allow accumulated stress to be released in some acceptable way. (p. 34)

If excessive stress is present in educational organizations and if it is dysfunctional for teachers and education, then factors causing stress should be identified and studied, with the view that they be removed, or at least that coping mechanisms, both individual and organizational, be developed to reduce the negative impact of stress on teachers and on education.

MODEL OF TEACHER STRESS

The theoretical model of teacher stress that guided the study was that proposed by Kyriacou and Sutcliffe (1978a), a model which incorporates most of the current approaches utilized generally in studies of occupational stress. The model distinguishes between potential stressors and actual stressors depending on the teacher's perception or appraisal as to whether the stressor constitutes a threat to his/her esteem or well-being. The model also suggests that the appraisal process may be affected by

potential non-occupational stressors, by characteristics of the individual, by coping mechanisms the teacher has adopted, and by previous teacher stress. Further, coping mechanisms may also be partly determined by the characteristics of the individual. McGrath (1976), in discussing the stress cycle comments, 'The degree of *experienced stress* ... is, of course, an interaction of person with those (objective) demands.' (p. 1388)

This study investigated a limited number of the possible variables suggested by Kyriacou and Sutcliffe. For example, it did not address the subject of personal coping strategies as they affect overall perceptions of stress, an area requiring further study. Rather, it was concerned with perceived sources of organizational stress, a selected number of individual and personal variables, and teachers' perceptions of overall work-related stress. Additional personality characteristics and coping behaviours have been addressed in other studies by Kyriacou and Sutcliffe (1979a, 1979b) and Jankovic (1983). It should be noted that in the aggregate these studies tend to support the model of teacher work-related stress adopted for this study.

PURPOSE OF THIS STUDY

The study reported in this article had as its major purpose the investigation of work-related stress of school-based teachers in order to determine whether organizational variables contributed to teachers' perceptions of overall stress in their work place.

METHODOLOGY

The Research Instrument

The initial questionnaire for the study was developed following a review of the literature dealing with stress experienced in organizational life mainly in occupations other than teaching. Scales validated in other studies such as those of Lyons (1971), Schuler, Aldag, and Brief (1977), Hackman and Lawler (1971), Zaleznik, De Vries, and Howard (1977), Rizzo, House, and Lirtzman (1970), Friedman and Rosenman (1974) and Kahn, Wolfe, Quinn, Snoeck, and Rosenthal (1964) served as sources for the questionnaire.

The sample groups for which the above named stress scales were used were respectively, 156 registered nurses, 1,573 employees in four different organizations, 208 employees and 62 supervisors in an eastern telephone company, 2,000 high status members in a large Canadian orga-

nization, 199 employees at different organizational levels, 80% having at least a B.A., 3,500 men in an 8½-year study, and 725 persons in 53 focal offices in six industrial locations.

The instrument used for this study was pilot-tested with a sample of 12 principals. Further, 11 half-day workshops involving 559 teachers were held in which teachers in small groups examined the items, improved them and removed redundant ones. The resulting 147 items indicating sources of organizational stress were then checked for wording and overlap by three teachers not previously involved. The resulting 67 items were randomly ordered to overcome what Bouchard (1976, p. 382) terms "an order effect."

Two questions were posed for each item: "How often does this situation occur in your work?" and "How stressful is the situation for you in your work?" A 5-point scale which ranged from Never to Almost Constantly was used to rate the frequency of each organizational item. To determine how stressful the item was, a 5-point scale ranging from No Stress to Very Much Stress was used.

The questionnaire also sought information on the background variables of sex, age, years of education, major grade level, number of teachers in school, years of teaching experience, and personal life stress.

The overall work-related stress was assessed by one item: "On the average, how stressful do you find your work?" with a 5-point rating scale which ranged from No Stress to Very Much Stress. Measurement of overall job-related stress using one question was based on the work of several researchers. Kyriacou (1980a, p. 3), for instance, stated that occupational stress measures which have been used fall into three groups: (1) measures of basic chronic symptoms, (2) observational measures and (3) measures on self-reports. Kyriacou (1980a) asserts that "this third group of measures, in particular, simple single item survey type instruments used in questionnaires, has been the most successful" (p. 4). The strength, according to Kyriacou, is that "The relationship between the measure and what it purports to measure is clear." Kyriacou and Sutcliffe (1977, 1978b, 1979a, 1979b) have conducted four studies on teacher stress and in each study they used the single item with a 5-point scale. Kyriacou (1980b) concluded:

This measure of teacher stress (self-reported teacher stress) appears to have high face validity and on the basis of significant correlations with reported frequency of stress symptoms good concurrent reliability. (p. 115)

Jankovic (1981, p. 142) reported that in his study "all 50 potential sources of stress correlated positively and significantly with the self-report of

principal stress." Consequently, on the basis of previous research findings, one item was used to assess the overall job-related stress experienced by teachers.

The above rationale also applies in part to the assessment of stress experienced by teachers in their personal lives. The procedure, even though receiving some support in the literature (Coombs, 1964; Runkel and McGrath, 1972, p. 261), may not have been the most appropriate one since stress is generally viewed as a continuous variable. Yet the assumption for this study was that the presence or absence of considerable personal-life stress can be measured in this manner. Consequently, one item was used to assess whether teachers perceived that they had experienced a number of stressful situations in their personal lives during the last two years (Williams, 1981, p. 101).

Validity and Reliability

Reliability is concerned with the consistency of data produced by repeated applications. When writing about the reliability of questionnaires, Hill and Kerber (1967) stated:

The reliability of the questionnaire depends upon the length of the instrument, the subject, the wording of items, the format, and how the instrument motivates the respondent. Pilot studies, trial runs, and precautionary methods of construction based upon factors affecting questionnaire reliability are courses of action available to the researcher who wishes to construct a reliable questionnaire. (p. 64)

The questionnaire was appraised by teachers who participated in the pilot study, by selected experts, and by the researcher to ensure that items and instructions for completion were clear and unambiguous, and that respondents' motivation would be positive.

With regard to validity, on the other hand, Hill and Kerber (1967) state that "the validity of a data-gathering instrument depends upon how effectively the instrument measures what it purports to measure" (p. 65). One method used in this study to increase validity was to gather the organization items that were identified as sources of stress directly from the teachers. Content validity or the representativeness of the content was assessed by the teachers who took part in the pilot study and by selected experts. With respect to internal consistency, Kerlinger (1973) claims that "factor analysis is perhaps the most powerful method of construct validation" (p. 468). The results of the factor analysis performed on the 67 items in the sources of organizational stress part of the questionnaire lend further evidence to the validity of the instrument.

Sample

Table 1 provides the frequency and percentage frequency of the background variables of the teachers who responded to the survey. The entire teaching force of 1,448 of an urban school system were surveyed in June 1980. Of the 1,014 returns, 57 were deleted because they were incomplete and 5 were received too late, leaving 957 usable returns, a return rate of 66%. Of these 957 returns, 198 had at least one item unanswered, and consequently only 759 were used for this analysis. About 59% of the respondents were female teachers and 41% male. Just over 66% of the respondents were under the age of 40 years.

Only 8% of the teachers had less than four years of university education, while 38% had more than four years of university education. Just over half taught in elementary schools, 27% in junior high, and 22% in senior high. All different sizes of schools were represented in this sample.

TABLE 1
Frequency and Percentage Frequency Distribution of Background Variables of Teacher Respondents

<i>Characteristic</i>	<i>f*</i>	<i>%</i>
Sex		
Male	313	(41.3)
Female	444	(58.7)
Age		
20–24	42	(5.5)
25–29	164	(21.7)
30–34	177	(23.4)
35–39	119	(15.7)
40–44	106	(14.0)
45–49	59	(7.8)
50–54	45	(5.9)
55 or over	45	(5.9)
Years of Education		
1	19	(2.5)
2	19	(2.5)
3	22	(2.9)
4	414	(54.6)
5	159	(21.0)
6	125	(16.5)

TABLE 1 (*concluded*)

<i>Characteristic</i>	<i>f*</i>	<i>%</i>
Major Grade Level		
Early Childhood and Elementary	388	(51.2)
Junior High	205	(27.0)
Senior High	165	(21.8)
Number of Teachers in School		
10 or fewer	126	(16.7)
11–20	276	(36.5)
21–30	139	(18.4)
31–40	100	(13.2)
41 or more	115	(15.2)
Years of Teaching Experience		
1	43	(5.7)
2	30	(4.0)
3–5	124	(16.4)
6–10	192	(25.3)
11–15	166	(21.9)
16–20	96	(12.7)
21 or more	107	(14.1)
Personal-life Stress		
Yes†	391	(51.8)
No	364	(48.2)

*Totals will not always add up to 759 because of the occasional no response.

†Yes responses indicate experiencing a number of stressful situations in the teacher's personal life during the past two years.

NOTE: *N* = 759; percentage in parentheses.

The years of teaching experience of the teachers in the sample ranged from one to 21 years or more. More than half of the respondents indicated that they had experienced a number of stressful situations in their personal lives during the previous two years.

DATA ANALYSIS

Two basic analyses were performed on the data collected for the study. The first was the factor analysis designed to reveal the nature of the major sources of perceived organizational stress. The aim was to isolate the dominant factors which are seen as sources of organizational stress for teachers. The varimax rotation assured that the obtained factors would be orthogonal, i.e., uncorrelated.

The second operation was that of a regression analysis using Overall Stress as the dependent variable with the sources of stress (factor scores) as independent variables. The factors were entered in a stepwise manner. This allowed the predictor which accounted for the highest percentage of variance in Overall Stress to be entered first. The other factors entered in the order that they accounted for the variance in Overall Stress. An *F*-ratio was used to determine if each entering predictor accounted for a significant increase in the variance of Overall Stress.

However, because the literature generally emphasizes the teacher background variables as sources of stress, selected background variables were controlled in the regression analysis used. The background variables included sex, age, level of education, grade level taught, years of teaching experience, and the size of school where the teacher taught. Finally the variable Personal Life Stress, the degree of stress experienced outside of work, was entered because the literature suggests the important impact that personal stress has on stress experienced on the job. In conducting the regression analysis, the background variables, Sex, and Personal Life Stress, were coded 1 or 2. All the other background variables were coded as continuous.

This scoring of 1 for yes and 2 for no on the Personal Life Stress item indicates that the higher the mean score the less personal stress experienced by the teachers as a group. The actual mean score for the whole sample was 1.49. Just over one-half of the teachers indicated experiencing personal stressful situations during the previous two years.

FINDINGS

Factor Analysis

The factor analysis of the 67 items of organizational stress (intensity only) yielded five factors with Eigenvalues above 1.00. The items included in each factor were those with loadings over .35 on that factor. As indicated in Table 2 four items had loadings of over .35 on two factors. Five items did not load at the .35 level on any of the first five factors of the solution accepted in the study. Just over 43% of the variance was accounted for by the five factors obtained in the analysis.

Table 2 provides the 5-factor solution based on the data collected for this study. This part of the analysis dealt only with the degree of stress felt by the teachers. Recall that the teachers were asked to rank each situation on a 5-point scale from No Stress to Very Much Stress. The five factors emerging from the analysis thus indicate five sources of stress for teachers. These five factors were named on the basis of the items with

TABLE 2
Varimax Factor Solution for 67 Organizational Stress Variables Using Five Factors

Organization Stress Variable	Factors* and Factor Loadings (÷ 100)					$h^2\ddagger$ (÷ 100)
	1	2	3	4	5	
41 Student evaluation procedures	67	16	14	21	06	54
38 Diagnosing student needs	60	17	05	27	01	46
42 Program evaluation procedures	59	26	16	07	02	45
39 Preparing material	58	05	26	21	04	46
44 Completing forms, surveys and paperwork	57	17	25	03	10	43
43 Helping students with personal problems	54	26	09	20	-01	41
49 Being required to make frequent role changes	54	22	13	30	04	45
65 Lack of sufficient planning time during the day	54	07	42	20	13	53
51 Dealing with individual differences	53	30	05	32	-06	47
35 Attending after-school inservice activities	50	11	26	02	23	39
29 Parent-teacher interviews	50	14	05	16	20	34
55 Trying to set priorities	49	33	12	14	-01	38
36 Supervising students outside the classroom	48	05	31	15	20	39
46 Conducting field trips	48	16	05	12	25	34
15 Serving as a role model	48	18	17	17	00	32

TABLE 2 (continued)

Organization Stress Variable	Factors* and Factor Loadings (÷ 100)					h^2+ (÷ 100)
	1	2	3	4	5	
45 Experiencing rapid curriculum change	47	21	17	07	23	35
22 Meeting deadlines	44	23	25	20	15	37
40 Working with volunteers/aides	42	20	02	-07	30	31
52 Providing help to colleagues	40	37	13	-02	02	32
60 Lack of public appreciation for work teachers do	40	31	26	28	03	40
64 Conducting fund-raising activities	37	28	20	01	20	30
37 Managing extra-curricular activities	37	26	27	09	17	27
67 Lack of proper placement for students with special needs	35	30	24	30	08	36
50 Experiencing poor relationships with a colleague	13	64	03	13	11	46
62 Lack of communication among staff	15	64	18	11	02	47
34 Lack of cooperation of other staff members	12	62	17	07	06	43
57 Working with associates I feel are incompetent	12	61	11	02	03	40
54 Disagreeing with a supervisor	20	58	06	11	23	44

48	Implementing policies with which I disagree	24	58	16	18	17	48
63	Lack of communication between the school and central office	21	56	31	10	03	47
47	Receiving incompatible requests from two or more people	28	55	10	12	30	49
56	Not knowing what is expected of me	20	54	04	15	18	39
33	Lack of participation in making decisions that affect my work	10	51	32	16	24	45
61	Being accountable for the work of others	28	51	11	11	09	37
58	Unrealistic expectations of others about what can be accomplished	31	50	05	15	12	39
53	Conflicting needs of students	47	49	09	20	10	52
66	Lack of clearly-defined school policies	18	48	25	25	11	41
30	Lack of administrative support	06	48	29	20	27	43
11	Lack of well-defined goals and objectives	23	35	29	28	10	35
13	Lack of time during school day to get work done	47	03	52	20	08	54

TABLE 2 (concluded)

Organization Stress Variable	Factors* and Factor Loadings (÷ 100)					h^2_+ (÷ 100)
	1	2	3	4	5	
31 Lack of 'breaks'	32	20	47	17	18	42
7 Lack of opportunity to interact with peers	15	23	47	23	01	37
8 Lack of resources	20	20	47	17	21	35
21 Lack of staff facilities	23	23	44	09	20	25
14 Frequent interruptions in work	35	17	44	17	07	39
16 Insufficient salary for work done	27	15	42	14	06	30
27 Lack of clerical help	31	22	40	05	27	38
12 Lack of opportunity for promotion	03	30	35	05	09	23
24 Disruptive students	32	05	12	62	22	55
25 Unmotivated students	31	16	15	60	01	50
7 Verbal abuse by students	11	14	20	57	33	51
59 Personality conflicts with students	29	33	-03	47	11	43
9 Lack of parental support	24	26	21	44	22	41
26 Lack of positive feedback	21	36	28	41	10	43
23 Student absenteeism	23	18	15	39	03	26
6 Student vandalism	07	18	23	39	25	30
3 Involuntary transfer to another school	-02	06	06	13	58	36

19	Open-area classrooms	13	15	08	04	49	29
4	Lack of feeling of job security	02	03	14	20	47	28
32	Travelling between schools	05	12	-01	-01	42	20
5	Theft or damage to personal property	03	11	19	31	39	30
2	Split grades	32	02	06	06	38	26
<i>No Loadings over 35</i>							
1	Over-sized classes	30	02	28	29	27	32
10	Lack of available consultative help	19	23	31	26	17	28
18	Job assignment outside area of expertise	13	24	22	28	34	32
20	Windowless classrooms	08	11	23	04	28	15
28	Staff evaluation procedures	24	25	15	08	32	25
	Eigenvalues	18.55	2.58	2.08	1.36	1.19	
	Percentage of Total Variance	28.6	4.7	4.0	3.0	2.7	
	Percentage of Common Variance	72.0	10.0	8.1	5.3	4.6	

*Factor 1 Role Overload
 Factor 2 Relationships with Colleagues
 Factor 3 Work Load
 Factor 4 Relationships with Students
 Factor 5 Control of the Work Environment
 †h²: Communality
 NOTE: N = 759

highest loadings. For further analysis the factor scales were obtained using the weighted factor scores on each factor. The factors are discussed briefly below.

Role Overload

Sales (1970, pp. 592–593) describes Role Overload as a social condition in which the focal persons are faced with obligations which, *taken as a set*, require them to do more than they are able to do in the time available. The 23 items that loaded on this factor illustrate the teachers' perceptions of what was expected in their work.

This factor, Role Overload, illustrates clearly what teachers perceive others to expect of them in their positions. The teachers indicated by their responses that Role Overload is a major factor in producing stress.

Relationships with Colleagues

The 16 items in factor 2 describe the problems teachers face in their relationships with colleagues. In indicating that relationships, communication, supervision, participation, and administration can be stressful, the teachers have identified the second major factor that is a source of stress for them.

Work Load

The nine items loading on factor 3 suggest problems with the work load of teachers, and it has thus been named Work Load. The essential items deal with insufficient time for the work to be done, the lack of breaks from work, the lack of time to meet peers, the frequent interruptions, and the insufficiency of clerical help.

Relationships with Students

Eight items dealing with teacher-student relationships loaded on factor 4. Clearly this identifies a source of stress different from the others, in that all items but two deal directly with students, and the two exceptions relate to parental support and positive feedback.

Control of the Work Environment

Six items loaded on the fifth factor. They deal with activities or situations in the teacher's workplace over which the teacher has only minimal

control. Consequently, this factor was named Control of the Work environment.

Intensity and Frequency of Experiences

Pearson product moment correlation coefficients were obtained between the intensity of stress on each item and the frequency of occurrence of such stress. The r of 0.72 statistically significant at the .001 level indicates a high degree of correlation between the frequency and intensity of the 67 sources of stress identified in the questionnaire.

The high correlation between the frequency and intensity of the items suggested that the multiplication of the items would yield factors similar to those obtained by using the intensity data alone. In fact, a factor analysis of the frequency times intensity scores yielded a factor structure similar to that produced when using the degree of stress by itself. As a consequence these findings were used to support the factor analysis consulting only the responses of the teachers to the degree of stress experienced through the events named in questionnaire items.

Regression Analysis

The major objective of this study was to examine which factors identified in the factor analysis contributed most to Overall Stress among teachers. As previously noted, the method chosen for this study was the regression analysis in which Overall Stress was seen as the dependent variable and the five stress factors the independent variables. In addition the selected background variables and Personal Life Stress were entered first, because of their frequent mention in the literature *as sources* of stress. The results of the regression analysis shown in Table 3 provide support for at least four important propositions relating to the source of Overall Stress among teachers.

First, the background variable of sex, age, years of education, grade level taught, size of school and years of teaching experience did not account for any significant variance in Overall Stress. Collectively they accounted for less than 1% of the variance.

Second, Personal Life Stress, though a statistically significant predictor of Overall Stress ($p < .001$), accounted for only 1% of the variance in the criterion variable.

Third, four of the five factors identified in the factor analysis were significant predictors of the variance in Overall Stress. Only the factor Control of the Work Environment appeared unrelated to Overall Stress.

TABLE 3
*Regression Analysis: Stress Factor Scores as Predictors of Overall Stress When
 Controlling for Background Variables*

<i>Variable Step Entered as Predictor</i>	<i>Overall Stress (Dependent Variable)</i>			
	<i>R²</i>	<i>Increase in R²</i>	<i>r</i>	<i>F</i>
Background variables	.008			0.97
Personal Life Stress	.019	.011	.106*	4.43†
Role Overload	.239	.220	.451†	201.28†
Relationships with Students	.324	.085	.331†	95.33†
Work Load	.400	.076	.348†	101.40†
Relationships with Colleagues	.453	.053	.289†	70.27†
Control over Work Environment	.454	.001	.068	0.71

* $p < .05$

† $p < .001$

NOTE: $N = 759$

The total amount of the variance accounted for by all the predictors was 45.4%.

Finally, the best predictor of Overall Stress was the factor named Role Overload, which accounted for 22% of the variance of the criterion variable. Relationships with Students was the next best predictor accounting for 8.5% of the variance. This was followed closely by work load at 7.6% and Relationships with Colleagues at 5.3%. Taking into account that the factors were orthogonal, the results indicate that Overall Stress of teachers is a function of four factors: Role Overload, Relationships with Students, Work Load and Relationships with Colleagues. Each factor accounted for a significant amount of variance in overall stress. However, the greatest contributor was Role Overload.

DISCUSSION

The discussion that follows must be interpreted with caution, and generalizations should be viewed primarily as questions for further research. The discussion is based entirely on the findings of one study and hence is speculative and tentative in nature. Much more research is needed to examine the findings that lead to the propositions coming out of this

study. It is worth noting that the study is based primarily on teacher perceptions of their job-related stressors as communicated through a survey questionnaire.

One of the assumptions made for this study was that part of the stress related to a job situation comes from the work setting. Stress is viewed as a stimulus event, that is, something occurring in the environment that may cause stress in an individual. Cooper (1981, p. 3), in a study on executive stress, supports this assumption by indicating that major stressors acting on managers at work come from the environment. Some stressors mentioned include lack of job security, lack of trust throughout the organization, pressure of too much work, and poor industrial climate.

A further important limitation of this study is that it focuses primarily on job-related stress, i.e., those stressors present in the work situation which presumably can be altered when they appear to pose problems for organization members. The study does not purport to deal with personal stress directly or with coping with stress by individuals. For a thorough analysis of the latter problem see the work of Hiebert (1983, pp. 51–61). However, having specified the important limitations, the study attempted to deal with all identifiable stressors which teachers perceived in their work situations.

This study has demonstrated that identifiable sources of stress exist in the teacher's work environment. The five sources (factors) identified in this study were Role Overload, Relationships with Colleagues, Work Load, Relationships with Students, and Control of the Work Environment. However, the sources thus identified did not necessarily add up to the Overall Stress experienced by teachers. The actual teacher stress was only partially accounted for by these factors.

In planning further studies on teacher stress, it could be useful to incorporate the factors identified in this study with those previously found to be related to stress. Schwab and Iwanicki (1982, pp. 60–73), for example, have demonstrated the importance of Role Conflict and Role Ambiguity in accounting for stress.

Background variables related to the teachers did not contribute appreciably to Overall Stress which they experienced in their work situation. In contrast to the findings in the literature (e.g., Schwab and Iwanicki, 1981) little support exists in this study for the claim that teacher work-related stress is linked to teacher background variables, at least not those selected for this study.

Personal Life Stress, although a statistically significant predictor of Overall Stress, accounted for only a very small part (1%) of the variance in Overall Stress. The significance of this finding needs to be assessed further. Should future studies on stress support this study's finding, ques-

tions could be raised regarding the commonly accepted proposition that stress is cumulative. There may be situations in which stress is not cumulative, particularly if stress comes from different sources.

The best predictors of Overall Stress were Role Overload, Relationships with Students, Work Load, and Relationships with Colleagues. The fact that these four factors accounted for 43.4% of the variance in Overall Stress suggests that they need careful study in further research or in the management of situations where teacher stress levels are high. This is especially true of Role Overload, perhaps the most neglected factor among school teacher stress, and yet possibly the most significant factor.

IMPLICATIONS AND OBSERVATIONS

As already indicated, an isolated study as reported in this paper can at most suggest questions for further study of stressors teachers encounter in their work. On the basis of the findings of this study tentative observations may lead to important research questions and to discussion questions for administrators and the teaching profession. Bearing in mind the need for caution in interpreting the findings, speculative comments have been made regarding implications for practice and implications for further study.

Implications for Practice

With 45% of the variance in overall work-related stress accounted for, educational decision makers could consider which management strategies are appropriate for reducing stress when needed. Similarly, the teaching profession could examine its activities as they relate to the problems associated with the identified teacher stressors. At the same time, both the school administrators and the members of the profession must recognize that over 50% of the variance in stress on the job is unaccounted for and, consequently, that controlling work-related stress will at best be only partially successful.

Relationships with Students was the second most significant factor predicting Overall Stress, followed by Work Load and Relationships with Colleagues. Activities relating to these three factors occur constantly in the work life of teachers. The development of skills related to relationships with students and colleagues are at the core of the preservice preparation program of teachers and in a number of in-service activities as well. However, the finding that "relationship" problems continue as major stressors points to the need for further study and development in these areas, both in the preparation programs and in the practical settings

in school. Courses in classroom management and supervision including work in perception and communication should be expanded. Similarly, administrators and supervisors need to expand teacher inservice programs designed to develop teacher skills in relationships with students and colleagues.

The major finding of the study was that Role Overload was the most significant predictor of Overall Stress among teachers. This points to an inherent characteristic of teaching as a profession. Educators, whether through training or experience, seem to sense numerous expectations for their role as teachers. They cannot fulfill all these expectations and appear constantly under pressure to do things beyond their basic teaching role. This factor has been somewhat neglected by the professional associations, who rather than working toward a reduced Role Overload, have concentrated on reducing the time in which the work of teachers is to be performed. A thorough examination of professional expectations should be considered.

In a different manner, the Faculties of Education have, perhaps without looking at the consequences, supported the "explosion" in the Role Overload of teachers. Thus teachers are led to see themselves as programmers, evaluators, counsellors, helpers, planners, learners, school representatives, supervisors, role models, builders of a social conscience, etc. Added to the "professional" expectations they are to serve as managers, reporters, surveyors, custodians – they have to be on time. They are expected to be disciplinarians and helpers of students. It is not difficult to comprehend some of this teacher stress when viewing the many expectations of teachers, many of whom are fully engaged with their basic role of teaching. Role Overload of teachers needs study at a number of levels – the school, the profession, and the university. It appears a significant source of work-related stress among teachers.

Implications for Research

Further research using a conceptualization in which stress is seen to result from stimuli present in the work situation in organizations is suggested by the findings. Qualitative studies could add richness to the understanding of the nature of the stressors that exist in schools, as this study indicates. Such studies could also pursue the question of the controllability of the identified stressors.

This study has barely touched on the impact of personal life stress on stress in the work place. The findings, however, suggest that additional studies in this area could help to resolve part of the complexity of variables related to job stress.

Additional theoretical and empirical work is needed on the matter of job related stress of teachers. The present study used an approach that appeared to work, but additional variables and different questionnaire strategies could have strengthened the study. Perhaps the single most important finding of the study is that there appears to be a link between teacher work-related stress and organizational variables. The coupling of psychological and organizational theories will be difficult. Yet Calder and Schurr (1981) may be correct when they say: "What is needed are studies that link organizational processes to individual attitudinal processes" (p. 292). This study suggests that job-related stress among teachers is related to at least four organizational variables: Role Overload, Relationships with Students, Work Load, and Relationships with Colleagues.

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Obwohl das Streß-Konzept viel Aufmerksamkeit in der populären Presse erhalten hat, sind die wirklichen Ursachen des mit Arbeit verbundenen Stresses unter kanadischen Lehrern bei den Forschern und in Lehrerarbeitskreisen noch lange nicht klargelegt. Es lag dieser Arbeit die Hauptaufgabe zugrunde, die Auffassungen der bedeutenden Gründen des mit Arbeit verbundenen Stresses von den Lehrern selbst zu erfahren und zu beurteilen, bis zu welchem Punkt diese Streßverursacher für den von Lehrern bei der Arbeit empfundenen allgemeinen Streß verantwortlich sind. Dies wurde dadurch erreicht, indem man zur Kontrolle folgende ausgewählte Grundfaktoren festlegte: Geschlecht, Alter, Ausbildungsstufe, Unterrichtsstufe, Jahre der Berufstätigkeit, Größe der Schule und Auffassung des vom Privatleben ausgeübten Stresses. Hauptfeststellungen zeigten, daß vier identifizierbare

mit Arbeit verbundene Faktoren für einen bedeutenden Teil des von der Arbeit hervorgerufenen Lehrerstress verantwortlich sind und daß die ausgewählten Grundfaktoren nicht für bedeutende Variationen in von Arbeit hervorgerufenen Stressstufen verantwortlich sind. Die vier Faktoren, die am meisten zu dem allgemeinen mit Arbeit verbundenen Stress der Lehrer beigetragen haben, waren Rollenüberbelastung, Verhältnis zu den Schülern, Arbeitsbelastung und Verhältnis zu den Kollegen.

Si bien el stress es un concepto que ha recibido mucha atención en la prensa popular, en la investigación y en las discusiones de los talleres de los maestros, el origen real del stress relacionado al trabajo entre maestros canadienses no se ha establecido aún. El objeto principal de este estudio fue el de obtener las percepciones de los maestros en cuanto a las fuentes principales del stress relacionado al trabajo, y de evaluar el grado en que estos factores intervenían en el stress total que los maestros sentían en su trabajo. Esto se obtuvo por medio del control, para el ambiente seleccionado, de variables tales como sexo, edad, nivel de educación, grado que se enseña, años de experiencia enseñando, tamaño de la escuela, y nivel de stress percibido de origen personal. Los resultados principales fueron que se encontraron cuatro factores relacionados al trabajo que daban cuenta de una parte significativa del stress relacionado al trabajo, y que las variables de los antecedentes seleccionadas no influyeron mayormente sobre los niveles de stress relacionados al trabajo. Los cuatro factores que contribuyeron de forma importante al stress total relacionado al trabajo de los maestros fueron: carga excesiva del papel, relaciones con los estudiantes, carga de trabajo, y relaciones con colegas.

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