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## Psychological Distress in a Sample of Teachers

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**ABSTRACT.** This article describes a cross-sectional study of the links between job-related stressors and depressive and psychophysiologic symptoms and morale in 67 New York City teachers. The teachers' mean score on the Center for Epidemiologic Studies Depression Scale (CES-D;  $M = 13.03$ ) was higher than might be expected from average community residents. The teachers also tended to express dissatisfaction with their jobs. The CES-D and the Psychophysiologic Symptom Scale were correlated as highly as their reliabilities would permit, a finding consistent with the view that the CES-D and the Psychophysiologic Symptom Scale measure the same construct, nonspecific psychological distress. The correlational findings suggest that distress is distinct from job-related morale, which was indexed by measures of motivation to continue teaching and job satisfaction. The results of regression analyses, which controlled for sociodemographic factors, indicated that the level of job strain (frequency of ongoing stressors) is more closely related to psychological distress and low morale than episodic stressors, including crimes in which the teacher was victim. The regression analyses also indicated that colleague support was related to lower symptom levels and higher morale.

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**STUDIES IN SOME AREAS OF OCCUPATIONAL STRESS** possess a number of weaknesses that make results difficult to interpret. One occupation in which the weaknesses of stress research are pervasive is that of teaching. Problems in the teacher-stress literature include the operational confounding of stressor with distress, a vulnerability to attribution errors, a lack of construct validity of stress and burnout instruments, and the primitive nature of research designs.

The first problem is that potential job stressors and the distress they are thought to produce are rarely measured independently. Many investigators

treat teacher stress as a gestalt-like entity, which includes both stressor and distress (Dunham, 1984; Farber, 1984; Galloway, Panckhurst, Boswell, Boswell, & Green, 1984; Kyriacou & Sutcliffe, 1978, 1979; Needle, Griffen, & Svendsen, 1981; Pettegrew & Wolf, 1982; Seiler & Pearson, 1984; Zabel & Zabel, 1982). Typically, teachers respond to questionnaire items that identify stressful conditions by their distressing effects. For example, items tend to have a structure such as that used by Kyriacou and Sutcliffe (1978, 1979): "As a teacher, how great a source of stress are these factors to you? Maintaining class discipline; Shortage of equipment. . . ."

Responses to such items also fail to assess the extent to which the teacher is actually confronted by potential stressors. It is possible, given the ambiguity of the item, for a science teacher to respond that he or she would find an equipment shortage highly stressful although equipment shortages occur only rarely, and are, thus, of minor consequence.

By using items that simultaneously assess stressor and distress, the investigator abdicates to the subjects the role of testing hypotheses concerning what constitutes morale- or health-damaging stressors in work settings. More important, a respondent's appraisal of the stressfulness of a working condition may easily reflect preexisting levels of job-related morale or psychopathology (Dohrenwend & Shrout, 1985; Kessler, Price, & Wortman, 1985).

"Burnout" inventories are no better. Burnout has been used to describe a syndrome consisting of emotional exhaustion, depersonalization, and reduced personal accomplishment, resulting from the task of helping unwilling or ungrateful individuals (Farber, 1984; Gold, 1984, 1985; Iwanicki & Schwab, 1981; Johnson, Gold & Knepper, 1984; Malanowski & Wood, 1984; Maslach & Jackson, 1981, 1984; McIntyre, 1984; Pierson-Hubeny & Archambault, 1985). The Maslach Burnout Inventory (MBI: Maslach & Jackson, 1981), a commonly used burnout instrument, is a source of items for other widely used stress questionnaires (Farber, 1984; Fimian, 1983; Fimian & Santoro, 1983). It includes such items as "I feel frustrated by my work" and "Working with people directly puts too much stress on me." The MBI asks each respondent to identify the cause of his or her distress from among a very limited and nonspecific ("my work," "working with people") set of sources.

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The second problem with items commonly found in teacher-stress instruments is their vulnerability to attribution errors. Subjects are susceptible to misattributing their feelings of distress to one source when the distress has a different source (Cohen, Kamarck, & Mermelstein, 1983). A teacher may agree with a questionnaire item asserting that "working with people" is stressful when an authoritarian supervisor is on the teacher's back or when one obnoxious child is frustrating well-planned lessons. The burnout literature generally fails to identify specific factors that increase the risk of psychological distress or ill health in teachers.

The third problem is that the construct validity of stress and burnout measures is tenuous. There is evidence to suggest that such instruments do not measure distinct constructs called "stress" or "burnout" but actually measure depressive symptoms or nonspecific psychological distress (Dohrenwend, Shrout, Egri, & Mendelsohn, 1980). Hammen and deMayo (1982) found that, in a sample of Los Angeles high school teachers, the Teacher Stress Inventory (Bruno, 1979) correlated .63 with the Center for Epidemiologic Studies Depression Scale (CES-D; Radloff, 1977; Weissman, Sholomskas, Pottenger, Prusoff, & Locke, 1977), a well-validated measure of depressive symptoms. Meier (1984) found that, among college faculty, the MBI, the Meier Burnout Assessment (MBA), and a self-rating of burnout correlated strongly with measures of depression. For example, the correlation between the MBA and the MMPI Depression scale was .69, close to the ceiling permitted by the reliabilities of the measures.

The fourth problem is the very primitive nature of research designs found in the teacher-stress literature. The typical design relies on a simple, almost ballistic, stimulus-response model. Certain school conditions, such as student disruptiveness, are thought to affect the psychological status of the teacher. By contrast, more complex research designs found in the occupational stress literature (Holt, 1982) examine the health-damaging effects of potential stressors in conjunction with other factors that bear on the stress process.

Social support is a factor that has received considerable scrutiny in many sectors of the occupational and general stress literature; teacher-stress researchers, however, have rarely examined its role. One exception is a study by Brenner, Sorbom, and Wallius (1985), which showed weak stress-buffering effects for colleague support, although methodologic problems, including measures that confound stressor and distress and an almost nonexistent description of the support variable, make it difficult to draw firm conclusions. Evidence from other types of samples suggests that social support either buffers the impact of stressors or exerts a direct effect on health (Cohen & Wills, 1985; Kessler & McLeod, 1985).

In this study, potential stressors and distress were measured independently. The stressor measures were developed to obtain "neutral self-reports of exposure" (Kasl, 1987) to the kinds of conditions teachers encounter on

the job. In an attempt to minimize attribution bias, the items on the stressor scales avoid "distress-laden descriptions" of the school environment. One of the measures of distress used was the CES-D.

There are at least two advantages to using the CES-D. First, it has been carefully studied in unselected community samples. Because its psychometric and distributional statistics are well known, it can provide points of reference with which to contextualize symptom scores obtained by occupational groups in much the same way that data on representative groups provide points of reference on what constitutes above- and below-average student performance on standardized psychoeducational tests (Table 1 provides a summary of findings from research with unselected samples).

I do not argue that normative statistics should replace data obtained from control groups; however, statistics obtained from large community samples may be helpful in a first step toward identifying problems in an occupational group. Moreover, in the absence of clinical depression, there is evidence to indicate that elevated scores on scales like the CES-D may index nonspecific psychological distress (Dohrenwend et al., 1980), which itself constitutes a mental health problem (Link & Dohrenwend, 1980). A second advantage is that the CES-D items make no reference to job conditions.

The only study I could locate in which the CES-D was employed in a teacher sample was conducted by Hammen and deMayo (1982). They found that the mean CES-D score of their sample of 75 Los Angeles teachers was 15.6, a value about twice the mean scores obtained in the community surveys described in Table 1. The mean score for the Los Angeles teachers is also important from another vantage point. Given the mean and standard deviation reported by Hammen and deMayo, it is likely that a little less than half the Los Angeles sample obtained scores of 16 or greater. A score of 16 or greater is considered clinically significant because it is associated with increased risk of clinical depression (Breslau & Davis, 1986; Radloff, 1977; Radloff & Locke, 1986) or chronic disturbance (Schonfeld, 1989).

One aim of the present study was to ascertain whether teachers in another geographic area obtained similarly high scores on the CES-D. In line with the first aim, the relation of the CES-D to another symptom scale was examined to demonstrate the link between the CES-D and nonspecific psychological distress. Convergence with different symptom scales would suggest that the CES-D is measuring nonspecific distress rather than depression in particular. A second aim was to investigate the relation between school-related stressors and psychological symptoms and job-related morale. The stressors studied were either episodic (e.g., an act of student violence) or ongoing (e.g., unmotivated students attending class). Indices of motivation to continue in teaching and job satisfaction constitute the morale measures. The third aim was to examine the relation of social support from colleagues to symptom levels and job-related morale. Support from coworkers has been hypothesized

to exert direct effects on health or to buffer the impact of stressors (LaRocco, House, & French, 1980; Payne & Jones, 1987).

## Method

### *Subjects*

New York City schoolteachers ( $N = 67$ ), 29 men and 38 women, completed questionnaires. The teachers were recruited from graduate classes at City College or through contacts made by key teacher informants. Thirty-eight taught in secondary school, 20 in elementary school, and 5 in early childhood centers (4 did not report on their school). Thirty-eight teachers completed questionnaires in the fall, and 29 in the spring.

### *Instrument*

Data were collected on a questionnaire consisting of the following sections: demographic; health/morale; stressor; and colleague support. Another section assessed the teachers' coping strategies; however, results of that assessment are reported elsewhere (Schonfeld, in press). Items in the demographic section assessed age, sex, marital status, parents' work and educational history, and race.

*Health/morale.* This section included a set of items measuring psychophysiologic symptoms (the frequency of headaches, stomachaches, constipation, etc.; Cronkite & Moos, 1984; Dohrenwend et al., 1980) and the CES-D (Radloff, 1977). The response alternatives for the psychophysiologic symptom and CES-D items refer to incidents during the previous week: *less than one day per week* (0); *1–2 days per week* (1); *3–4 days per week* (2); *5–7 days per week* (3). A subset of the psychophysiologic and CES-D items was worded in a positive direction in order to break any tendency toward response set (e.g., "I felt hopeful about the future.").

Based on the work of Quinn and Staines (1979) and House (1980), one Likert-type questionnaire item assessed job satisfaction ("Overall, how satisfied are you with your job?"). Response alternatives ranged from *very dissatisfied* (1) to *very satisfied* (5). Based on the work of Kyriacou and Sutcliffe (1978), three Likert-type questionnaire items were developed to measure motivation to remain in teaching ("How likely is it that you will still be a teacher in two [five, ten] years time?"). Response alternatives ranged from *very unlikely* (1) to *very likely* (5).

*Stressors.* Items were developed on the basis of a review of literature on teacher stress and with the help of teacher informants. The section included

**TABLE 1**  
**Studies in Which the CES-D Was Administered to Unselected Samples**

Study	Sample	Statistics
Radloff (1977)	2,514 White Kansas City, MO residents 1,060 White Washington City, MD residents 70 psychiatric inpatients	$M = 9.25$ ; 19% $\geq 16$ $M = 8.17$ ; 15% $\geq 16$ $M = 24.42$ ; 70% $\geq 16$
Boyd et al. (1982)	482 New Haven residents 440 residents free of major depression 42 residents with major depression	8.7% $\geq 16$ 1.8% $\geq 16$ 33.3% $\geq 16$
Husaini et al. (1982)	965 White married residents of rural Tennessee, Oklahoma, & Ohio	$M = 6.52$
Dean & Ensel (1982)	814 residents of Albany, Troy, and Schenectady, NY	$M = 8.64$
Clark & Yokopenic (1982)	740 Los Angeles residents, personal and telephone interviews	$M = 8.5$ $M = 8.0$
Aneshensel & Stone (1982)	1,003 Los Angeles residents Same sample as Yokopenic et al.	19% $\geq 16$

Yokopenc et al. (1983)	1,000 Los Angeles residents 557 report no personal problems 175 report a problem with depression 268 report other emotional or family problems	$M = 6.68$ ; $9.9\% \geq 16$ $M = 15.50$ ; $42.2\% \geq 16$ $M = 10.44$ ; $23.1\% \geq 16$
Roberts & Vernon (1983)	524 Alameda County CA residents	$17.4\% \geq 16$
Noll & Dubinsky (1985)	936 suburban Illinois residents	$M = 3.91$ ; $5\% \geq 16$
Folkman & Lazarus (1986)	85 Northern California women	$M = 8.98$
Phifer & Murrell (1986)	1,233 healthy adults older than 55	$M = 5.44$
Linn & Husaini (1987)	134 rural Tennessee farm respondents	$19.4\% \geq 16$
	75 rural Tennessee non-farm respondents	$17.2\% \geq 16$
Neff & Husaini (1987)	554 rural Tennessee Whites	$M = 8.34$
	1,024 urban Tennessee Blacks & Whites	$M = 7.09$
Brown et al. (1988)	34 normal mother controls,	$M = 7.77$
	31 normal father controls	$M = 6.39$

Note. The statistics column provides the sample means and the percentage of subjects with scores greater than or equal to 16, a clinical cutoff. Most studies provided only the sample mean or the percentage of subjects with scores greater than or equal to 16.



items assessing the frequency of three types of school-related stressors: episodic events except crimes against the respondent, crimes, and ongoing types of stressors. The episodic events included finding out that a student used illegal drugs, a confrontation with an insolent student, an episode of vandalism, and so forth. The response alternatives were: *not at all* (0); *happened once per month* (1); *once per week* (2); *2-4 times per week* (3); *daily* (4). The crime items assessed the occurrence of the following events: the teacher was assaulted by an intruder; assaulted by a member of a student's family; suffered property damage, and so forth.

The ongoing stressors included an overcrowded classroom, jeopardy of involuntary transfer, underprepared students attending the class, excessive noise, excessive dirt, and so forth. The response alternatives were: *not at all* (0); *to a minimal extent* (1); *small extent* (2); *moderate extent* (3); *great extent* (4). A small number of items in the stressor section were worded in the positive direction in order to break any tendency toward response set (e.g., "Your students are highly motivated."). To be consistent with the pioneering research on stress conducted by Pearlin and Schooler (1978), the ongoing stressors will henceforth be labeled *strains*.

*Colleague support.* This section included items such as: There are several colleagues that I trust to help to solve any school related problems; If I need help in rearranging heavy furniture in my classroom, there is a teacher who could help me; There is no teacher with whom I feel comfortable talking about the most difficult school-related problems; During free periods or after school, I often meet or talk with colleagues. The response alternatives were: *definitely true* (1); *probably true* (2); *definitely false* (3); *probably false* (4). Based on the work of S. Cohen (Cohen et al., 1983; Cohen & Wills, 1985) the items were designed to assess the availability of confidants, companions, and individuals who provide more tangible kinds of support.

## Results

The psychophysiological symptom items that did not overlap with depressive symptoms were aggregated to form the Psychophysiological Symptom Scale. The three items used to measure motivation to continue in teaching were aggregated to form the Motivation Scale. The alpha coefficients for the CES-D, Psychophysiological Symptom Scale, and Motivation Scale were satisfactory and are reported in Table 2.

Items measuring the frequency of episodic stressors in which the teacher was not a crime victim were aggregated to form the Episodic Stressor Scale. The number of different types of crimes in which the teacher was a victim constituted the Crime Scale. Items measuring the frequency of ongoing types

**TABLE 2**  
**The Alpha Coefficients, Means, and Standard Deviations of the Scales**

Scale	Alpha coefficient	<i>M</i>	<i>SD</i>
CES-D	.92	13.03	11.03
Psychophysiological Symptoms	.84	5.30	6.52
Motivation to Continue Teaching	.86	9.95	3.97
Job Satisfaction	na	3.23	1.23
Episodic Stressors	.79	1.40	.65
Job Strain	.85	1.80	.54
Colleague Support	.89	3.21	.42

of stressors were aggregated to form the Strain Scale. As shown in Table 2, the alpha coefficients for the Episodic Stressor, Strain, and Colleague Support Scales were satisfactory. Before they were aggregated, colleague support items were recoded so that higher scores reflected higher levels of available support. Because the Crime Scale reflected a simple count of the different types of school-related crimes in which the teacher-respondent was a victim, it would be inappropriate to compute an alpha coefficient (P. Cohen, Velez, Marchi, J. Cohen, & Teresi, 1989).

The teachers' mean score on the CES-D was 13.03 ( $SD = 11.03$ ). To understand the context of the teachers' mean score, I compared it with an "average" score. The teacher mean was significantly greater than each point estimate found in Table 1. In the most conservative test, the mean in the teacher sample was significantly higher than the point estimate derived from the community survey with the highest mean score,  $t(66) = 2.78, p < .01$ . In the community surveys, between 5% and 19% of the respondents had scores of 16 or higher. Among the teachers, 32% obtained scores in that range. The mean for the entire teacher sample was well below the mean that Radloff (1977) reported for a sample of psychiatric patients ( $M = 24.42$ ); however, 11% of the teacher sample obtained scores of 24 or greater.

The teachers' mean response to the Job Satisfaction item was 3.23, a value close to the middle of the range (the response alternative "neither satisfied nor dissatisfied" with the respondent's current job). A total of 40.2% of the respondents expressed indifference or dissatisfaction with their jobs, although 43.3% of the teachers indicated that they were "fairly satisfied" with their jobs. Only 13.4% of the teachers indicated that they were "very satisfied" with their jobs. This contrasts with the findings of Quinn and Staines (1979) who found that 46.7% of a large representative sample of American workers indicated that they were very satisfied with their jobs.

The CES-D and the Psychophysiologic Symptom Scale correlated with each other about as strongly as their reliabilities would permit ( $r = .76$ ,  $p < .001$ ). The CES-D and the Psychophysiologic Symptom Scale correlated significantly but less strongly with Job Satisfaction ( $r = -.38$ ,  $p < .01$ ;  $r = -.40$ ,  $p < .001$ , respectively) and with Motivation ( $r = -.31$ ,  $p < .05$ ;  $r = -.30$ ,  $p < .05$ ). By contrast, Job Satisfaction and Motivation were more strongly correlated with each other ( $r = .55$ ,  $p < .001$ ). In view of the evidence adduced by Dohrenwend and his colleagues (Dohrenwend, Levav, & Shrout, 1986, Dohrenwend et al., 1980), the CES-D and the Psychophysiologic Symptom Scale probably measured the same construct, namely nonspecific psychological distress.

Table 3 shows the zero-order correlations between each of the predictor variables—five social demographic factors with known links to elevated scores on mental health symptom measures (Dohrenwend & Dohrenwend, 1974; Gove, 1972; Radloff & Locke, 1986), type of school, the stressor scales, and colleague support—with the measures of symptoms and job-related morale. The social demographic variables included age, sex (coded 0 = female, 1 = male), marital status (coded 0 = not currently married, 1 = married), race (coded 0 = nonWhite, 1 = White), and social class (coded from 1, indicating professional or managerial, to 5, indicating unskilled laborers), following Hollingshead (1974). None of the social demographic variables was significantly related to symptoms or morale; however, the correlations were in the expected directions. The pattern of correlations indicates that the measure of strains was more consistently related to the symptom and

**TABLE 3**  
**Zero-Order Correlations Between Predictor and Symptom/Morale Variables**

Predictor	Symptom and morale variable			
	CES-D	Psychophysiologic symptoms	Motivation	Job satisfaction
Age	-.03	.05	-.13	-.01
Sex	-.18	-.16	.02	.17
Marital status	-.04	-.04	-.04	-.17
Race	-.19	-.19	.11	.08
Social class of origin	.15	.11	-.11	-.20
School	-.07	-.03	-.18*	.11
Episodic stressors	.09	.16	.11	.08
Crimes	.33***	.23*	-.04	-.13
Job strain	.38***	.29**	-.15	-.30**
Colleague support	-.22**	-.27**	.19*	.34****

\* $p < .10$ . \*\* $p < .05$ . \*\*\* $p < .01$ . \*\*\*\* $p < .001$ .

morale variables than the stressor scales measuring crimes and episodic stressors. The Episodic Stressor Scale was not significantly related to any of the symptom or morale variables. By contrast, with an increasing level of ongoing stressors (strains), symptoms tended to increase and morale decreased.

A number of multiple linear regression equations were developed to test hypotheses concerning the relation between the stressor scales and the symptom and morale measures. To maximize power, means were substituted for missing values for the few subjects for whom scorable values were absent (no more than four subjects lacked values on any predictor). Tests for systematic differences revealed no bias in the occurrence of missing values (J. Cohen & P. Cohen, 1983). The two health variables, CES-D and Psychophysiological Symptoms, and the two morale variables, Motivation and Job Satisfaction, were regressed on predictors in three steps.

In each regression equation, six social demographic control variables (age, sex, marital status, race, social class of origin, and type of school) were entered first. Years in teaching was not included because it was redundant with age. In the second step, the Episodic Stressor, Crime, Strain, and Colleague Support Scales were entered. Only the Strain and Support Scales attained conventional levels of significance. The Episodic Stressor and Crime Scales failed to approach conventional levels of significance in each regression equation and were deleted from the equations employed in Step 3. To assess buffering effects, I entered a multiplicative term representing the interaction of Strain and Colleague Support in the third step. To minimize the problem of multicollinearity, constants were subtracted from each multiplier in the interaction term according to a procedure described by Winnubst, Marcelissen, and Kleber (1982). The interaction term failed to approach conventional levels of significance in each equation and was deleted from the final set of regression equations.

To be conservative, the social demographic factors entered in Step 1 were retained in the equation whether or not their regression coefficients attained conventional significance levels (Kleinbaum, Kupper, & Morgenstern, 1982). Table 4 presents the standardized regression coefficients for the six social demographic variables and the best Step 2 predictors, the strain and support measures. The table also includes the multiple correlation coefficients.

Table 4 suggests that Job Strain was more closely related to performance on the CES-D and the Psychophysiological Symptom Scale than any of the other factors. In terms of effect size, a standard deviation increase on the Strain Scale was related to approximately half a standard deviation elevation in depressive symptoms. The Strain Scale was significantly related to decreased job satisfaction and marginally related to decreased motivation to remain in the profession. Colleague support was related to lower levels of psychophysiological symptoms and higher levels of job satisfaction.

**TABLE 4**  
**Standardized Regression Coefficients in Predicting Symptoms and**  
**Morale Variables**

Predictor	Symptom and morale variable			
	CES-D	Psychophysiologic symptoms	Motivation	Job satisfaction
Age	.11	.19	-.14	-.01
Sex	-.19	-.17	.08	.17
Marital status	-.01	-.02	-.04	-.28**
Race	-.26**	-.27**	.17	.21*
Social class of origin	.12	.06	-.12	-.13
School	.06	.05	-.22	-.03
Job strain	.46****	.38***	-.22*	-.30**
Colleague support	-.17	-.24**	.20	.35***
<i>R</i>	.55***	.52**	.40	.57***

\* $p < .10$ . \*\* $p < .05$ . \*\*\* $p < .01$ . \*\*\*\* $p < .001$ .

### Discussion

An examination of the mean CES-D score indicated that the level of depressive symptoms in the sample was higher than might be expected from average community residents. In addition, a considerable number of teachers expressed dissatisfaction with or indifference to their jobs. Performance on the CES-D and the Psychophysiologic Symptom Scale correlated as highly as their reliabilities permitted. The pattern of correlational findings is consistent with the view that the CES-D and the Psychophysiologic Symptom Scale measure the same construct, nonspecific psychological distress (Dohrenwend et al., 1980), which is, in turn, distinct from job-related morale, a construct that was indexed by measures of motivation to continue teaching and job satisfaction. The results of regression analyses controlling for sociodemographic variables indicated that level of job strain was more closely related to the symptom measures and low morale than episodic stressors and crimes in which the teacher was a victim. The regression analyses also indicated that colleague support was related to lower levels of symptoms and higher morale; however, the findings did not support the view that colleague support buffers the impact of strains on symptoms and job-related morale.

A number of alternative explanations can account for the results. The first explanation suggests that the elevations on the CES-D were a reflection of life in and around New York City rather than employment in the teaching profession. Two sets of observations make this hypothesis doubtful. First, Hammen and deMayo (1982) found similar elevations on the CES-D in Los

Angeles teachers. Second, findings from the Midtown Study and its follow-ups suggest that residence in New York City is not a cause of deteriorating mental health (Srole & Fischer, 1986).

The second explanation is methodological. It is possible that, as in previous studies of stress in teachers, the stressor measures used in the present study were too subjective. In other words, the stressor measures relied too much on respondent appraisal, making the correlations between the stressor and distress measures artifactual. Two conditions are incompatible with this explanation. First, although it is virtually impossible to construct self-report measures that index the magnitude of environmental conditions without these measures being at least partly contaminated by the respondent's mental state, the stressor scales used here were constructed with a minimum of reference to the effects they have been hypothesized to exert. Second, the CES-D and Psychophysiologic Symptom items make no reference to the teaching job. By contrast, the morale (Motivation and Job Satisfaction) items make reference to the job. If the relation between the stressor and outcome scales were artifactual, one would expect stronger correlation coefficients between the stressor scales and the morale measures than between the stressor and symptom scales. Principally, this was not the case. Table 3 indicates that the Crime and Strain Scales tended to be more highly correlated to the symptom scales than to the morale scales.

At least three hypotheses account for the association between strains and distress/morale. The first is that some third factor accounts for the association. The most prominent is selection. Given the cross-sectional nature of the study, it is impossible to rule out definitively the hypothesis that sample selection accounts for the association. There are, however, a number of factors that weaken the argument for the selection hypothesis.

First, the zero-order correlations between age and years teaching were not significantly related to either the symptom or morale measures. If selection were an adequate explanation of the association between strains and symptoms or morale, one would expect age and seniority to be negatively correlated to the outcome measures, since younger and less senior teachers tend to get more difficult assignments. Second, the sample consisted mainly of teachers with an average of 12.3 years experience and a mean age of 41.3 years. Studies of the health-damaging effects of job conditions in experienced workers often miss casualties of stress because the casualties have left their jobs before the stress researcher arrives on the scene (Kasl, 1983). It therefore might be expected that the present study has under- rather than overestimated the distress experienced by teachers, thereby attenuating the associations found. Nonetheless, scores on the CES-D tended to be high.

Third, recent dropout data on beginning New York City teachers indicate that 70% of those entering in September 1985 held positions in June 1987 (Esrig, 1987). The New York teacher "survival" data are compatible with

survival data obtained from other parts of the United States (Mark & Anderson, 1985). Although it is not clear that New York City teachers who drop out of the profession are highly distressed or demoralized, evidence compiled by Harris, Kagay, and Leichenko (1986) indicates that teachers who leave the profession often cite the stressful nature of the job as a factor affecting their longevity.

The second hypothesis is that the association between stressors and distress in teachers is the result of distressed teachers creating the aversive school environments that are often identified as stressors. The second hypothesis is important to examine because the cause-effect relation described is opposite in direction to the causal pathways to which teacher-stress researchers usually subscribe. This hypothesis, which is a version of the "event proneness model" described by Dohrenwend and Dohrenwend (1981), is plausible because the classroom management procedures of a distressed teacher might promote student disruption and rebelliousness, which are suspected stressors. Although longitudinal data are needed to test this hypothesis, one finding suggests that it may not fully explain the link between symptoms and strain. The Strain Scale was more closely associated with distress and low morale than the Episodic Stressor and Crime Scales. The Strain Scale captures more or less enduring types of stressors that are beyond the teacher's control.

The third hypothesis is that the occupational stressors the teacher encounters somehow cause distress and low morale. Although this hypothesis has intuitive appeal, much more evidence is needed to adjudicate it. A longitudinal study is required. New teachers need to be followed to assess rival hypotheses including the event proneness model and to identify the casualties of job stress as they occur. Control for the symptom levels of individuals before they enter the profession would be important in assessing the effects of job stressors on the teachers' health and morale once they are on the job and to assess the viability of the selection hypotheses. I am currently working on just such a longitudinal study.

The results of the present study also indicate that support from colleagues is related to lower symptom levels and higher job-related morale; however, a Stressor  $\times$  Support interaction was not detected. These results should be taken with caution because of the cross-sectional nature of the study. Longitudinal research is needed to disentangle colleague support from prior symptom levels and low morale.

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