Stress in 1st-Year Women Teachers: The Context of Social Support and Coping

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ABSTRACT. The effects of adverse work environments were examined in the context of other risk/protective factors in this extension of a short-term longitudinal study involving 184 newly appointed women teachers. Regression analyses revealed that—adjusting for preemployment levels of the outcomes and negative affectivity—social support and adversity in the fall work environment were among the factors that affected spring depressive symptoms, self-esteem, job satisfaction, and motivation to teach. Support from nonwork sources was directly related to future improved symptom levels and self-esteem; supervisor and colleague support were directly related to future job satisfaction. Effects of occupational coping, professional efficacy, locus of control, and school factors (e.g., special vs. regular education) were largely nonsignificant. Structural equation analyses indicated that adverse working conditions began to seriously affect the women soon after they started teaching.

Key words: coping, social support, stress, teachers

I loved the teaching profession but because of my experience at P.S. xxx I doubt I'll ever teach again. If I do, it will not be for the New York City Board of Education. My present job requires me to work many more hours and much harder but I am a much happier person. The stress caused by teaching a rough class is incredible. I used to come home crying every night.

—A public elementary school teacher who participated in this study

IN THIS ARTICLE, I have extended research (Schonfeld, 2000) on the effects that teachers’ working conditions exert on depressive symptoms, self-esteem, and job-related morale by examining those effects in the context of other potentially influential factors. These factors include social (e.g., social support) and psychological resources (e.g., coping behaviors).

Teaching provides an apt context in which to examine the relation of occupational stressors to psychological distress and work-related morale because there are differences among schools in exposures to problems such as student disruption (Schonfeld, 1990b; Schonfeld & Santiago, 1994). Cross-sectional
findings suggest that, compared with samples from the general population, teachers are at risk for high levels of psychological distress (Finlay-Jones, 1986; Hammen & deMayo, 1982; Schonfeld, 1990b) and low levels of job satisfaction (Schonfeld, 1990b).

At least two types of explanations link teachers’ working conditions to psychological distress. The first explanation holds that some environments are too uncontrollable to nurture in the individual a sense of domain-specific self-efficacy (Bandura, 1982, 1989). According to Cherniss (1993), unresponsive work environments block the development of a professional’s sense of work-related mastery, which, in turn, contributes to burnout. Thwarted goals, along with little opportunity for the development of a sense of mastery and professional accomplishment, are thought to increase the teacher’s risk for burnout, psychological distress, and depression (cf. Cooper & Marshall, 1976; Friedman, 1996; Seligman, 1975). Attaining a sense of competence is an overriding concern for novice professionals (Cherniss, 1993) such as the teachers in the present study.

The second explanation relates to mobbing. In the context of children’s social interactions, mobbing refers to bullying and other aggressive social behaviors some children direct at others (Schuster, 1996). According to Zapf, Knorz, and Kulla (1996), mobbing, in the adult organizational context, is an extreme form of work stress in which some individuals purposefully victimize others. Mobbing involves more than the absence of social support (Zapf, Knorz, & Kulla). The individual is the active target of hostile behavior on the part of coworkers, supervisors, or both. Although clients’ aggressive behavior is also a variety of mobbing, it has not been extensively studied (Zapf, Dormann, & Frese, 1996). Among teachers, the “mobbers” tend to be students. There is agreement that tense student–teacher relationships and serious student misbehavior are concurrently (Blase, 1986; Dunham, 1984; Finlay-Jones, 1986; Friedman, 1991; Harris, Kagay, & Leichenko, 1986; Kyriacou & Sutcliffe, 1978; Leach, 1984; Needle, Griffen, & Svendsen, 1981; Phillips & Lee, 1980; Schonfeld, 1990a) and prospectively (Brenner, Sörbom, & Wallius, 1985) related to distress in teachers.

To assess the stressfulness of working conditions, I used neutrally worded items (Kasl, 1987) that indexed the frequency with which each teacher was exposed to specific, work-related events (e.g., how often a student directed abusive language toward the teacher or how often the teacher witnessed episodes of student fighting). To minimize the problem of circularity in the definitions of the in-
dependent and dependent variables found in the stress literature, Kasl (1987) and Dohrenwend and Shrout (1985) advanced the view that instruments that assess stressors should make minimal reference to the psychological distress with which the stressors are thought to be linked.

Lazarus, DeLongis, Folkman, and Gruen (1985) argued that definitional problems in the stress literature are overstated; they promoted the idea that stress is a relational concept that should be operationalized in terms of individual appraisal. Such appraisal depends on both personal (e.g., efficacy beliefs) and situational (e.g., social support) factors. A great deal is integrated in that appraisal.

Neutral self-reports minimize respondent appraisal. Dohrenwend and Shrout (1985) suggested that when stress researchers develop measures to assess the occurrence of environmental events, such instruments ought to be minimally contaminated by appraisals. In this way, investigators can examine events (potential stressors) in the context of personal and social factors that not only influence the events’ appraisal but affect the impact of the events on outcomes such as psychopathology. Although subjective appraisals can provide clues to individuals’ vulnerability to stressors, especially when researchers can compare individuals who appraise the same objectively measured event differently (Dohrenwend, Link, Kern, Shrout, & Markowitz, 1987), objective information on the occurrence of workplace events is critical to public-health-oriented prevention efforts. Prevention efforts require knowledge of objectively identifiable working conditions that give rise to mental and physical health problems in individuals (Kasl, 1987).

Other Factors Affecting Outcomes

The vast literature on stress suggests that a number of factors other than the work environment can affect psychological outcomes. These factors include social support, coping behaviors and professional efficacy, locus of control, and negative affectivity. They may affect outcomes independently of, or in interaction with, work stressors.

Social support. Evidence demonstrates the beneficial physical-health effects of social support (House, Landis, & Umberson, 1980; Kaplan et al., 1988). Research results also indicate that social support reduces psychological distress (Cohen & Wills, 1985; Kessler & McLeod, 1985) by either (a) buffering the impact of stressors or (b) exerting direct effects in either the presence or absence of the stressors. House and Kahn (1985) advanced the view that work-related sources of support are more important in buffering the effects of occupational stressors than are nonwork sources. Cross-sectional evidence (Buunk, Janssen, & Vanyperen, 1998) suggests that support from supervisors is more important than support from colleagues. For the present study, I assessed the specificity of direct and interactive effects of social support from three sources: friends and relatives outside of work, co-workers, and supervisors.
For some populations "support will fluctuate as people are socialized into a new environment" (Cohen & Syme, 1985, p. 16), making it important for longitudinal studies to avoid predicting outcomes years after support in new work environments first takes shape. In the present study I (a) used a longitudinal interval that is appropriate to research on support in a new work environment and (b) excluded teachers who changed schools during the interval and, thus, changed colleagues and supervisors between data collection periods. I used measures of perceived support. A body of research suggests that perceived support is more important for well-being than support transactions (Turner & Mariano, 1994) and that received support is too confounded with stressor occurrence (Schonfeld, 1991).

Coping and professional efficacy. For this study I examined a variety of occupational coping strategies that are commonly used by teachers, such as discipline, selective ignoring, optimism, positive comparisons, and advice seeking as well as direct action efficacy (Kyriacou, 1980; Schonfeld, 1990b). I tested a number of hypotheses, both cross-sectional and longitudinal, regarding occupational coping and efficacy.

I expected that coping behaviors such as discipline use and selective ignoring would be concurrently related to work-related adversity, because problems such as student disruption motivate such coping behaviors, regardless of whether these behaviors affect well-being. By contrast, I expected cognitive coping behaviors such as optimism and making positive comparisons to be inversely related to concurrently measured workplace adversity. A relatively benign work environment is likely to engender optimism and affirmative comparisons.

Although an endorsement of the efficacy of direct action in the classroom is needed in managing classes in chaotic, poorly run schools, such an endorsement is more compatible with safe, well-run school environments because such environments provide fewer impediments to initiating action and demonstrating mastery. Therefore, I expected direct action efficacy to be inversely related to current work-related adversity (cf. Latack, 1986). I expected advice seeking to be related to contemporaneous levels of support from colleagues and supervisors.

The field is divided on the important issue of the effects of occupational coping on well-being. Parkes (1994) advanced the view that, compared with dispositional factors, coping ought to be a stronger predictor of outcomes because coping strategies pertain to the ways in which individuals manage stress. By contrast, Pearlin and Schooler (1978) suggested that, compared with more personal roles such as that of parent or spouse, the more impersonal work role is relatively impervious to ameliorating effects of coping. Schonfeld (1990a) suggested that, because of the more personal nature of the role of teacher (teachers having personal contact with children every day), teaching may be one job in which occupational coping behaviors reduce psychological distress. In this study I used lagged data to assess the hypothesis that occupational coping behaviors and
occupational efficacy either directly help abate unfavorable outcomes or buffer the impact of job-related stressors on those outcomes.

It is also possible that coping behaviors mediate the relation between job-related adversity and outcomes. Work stressors are likely to provoke occupational coping behaviors (e.g., aggressive behaviors in students provoke disciplinary responses from teachers) that in turn affect outcomes. The data provide an opportunity to test mediational hypotheses in the context of the regression of depressive symptoms, self-esteem, and morale on the work-stressor variable. If coping mediates the influence of work stressors on outcomes, one would expect a reduction in the effect size of the work-stressor variable after a coping response is added to the appropriate regression equation.

Locus of control (LOC). Cross-sectional evidence suggests that control beliefs are related to psychological distress (Kasl, 1989; Pearlin & Schooler, 1978). Among teachers, an external LOC is concurrently related to stress and burnout (Kyriacou & Sutcliffe, 1979; McIntyre, 1984). Concurrent associations, however, may be explained by third factors such as negative affectivity. The literature on the effects of LOC, particularly in occupational stress research, has largely been cross-sectional (e.g., Kasl, 1989).

There is, however, some longitudinal evidence that LOC may moderate the impact of work-related stressors on mental health outcomes (Parkes, 1991). In a student–teacher sample, Parkes (1991) found that an internal LOC buffers the impact of workplace stress. In the present study I examined the independent and interactive influences of LOC on later outcomes.

Negative affectivity (NA). NA is a mood dispositional trait that gives rise to dysphoric feelings that can affect an individual’s attitudes and behavior (Watson & Clark, 1984; Watson & Pennebaker, 1989). Moyle (1995) identified four ways in which NA can affect the stress process at work. First, NA can independently contribute to outcomes such as psychological symptoms. This is expected to occur for outcomes that reflect dysphoric feelings such as depressive symptoms. Second, correlations between stressor and outcome measures may be inflated by virtue of their confounding with NA. Third, NA may indirectly affect outcomes by influencing perceived work stressors. In other words, the effect of NA on outcomes may be mediated by perceived stressors. Fourth, NA may interact with work stressors to affect outcomes. In addition, (a) the dysphoria associated with NA may lead individuals to create their own work stressors, (b) “mobbers” (i.e., verbally or physically assaultive students) may be more likely to victimize high-than low-NA individuals, and (c) individuals high in NA may be more likely selected by administrative gatekeepers into more stressful work roles.

Parkes (1990) found that NA biased the relation of self-reported work stress to psychological distress. Social support (Monroe & Steiner, 1986) and coping (McCrae & Costa, 1984, 1994; Nelson & Sutton, 1990) are also subject to the in-
fluence of NA. In analyses reported here, I examine the influence of negative affectivity in assessing the lagged effects of work stressors, support, and coping on study outcomes.

*Teachers' roles.* Finally, I examined the effects of different teacher roles, such as elementary compared with secondary teaching, teaching regular compared with special education classes, and teaching in public compared with private schools. Longitudinal research in these areas has been rare (Guglielmi & Tatrow, 1998).

**Method**

**Sample**

I recruited the participants as part of a larger study involving both education and psychology students. Recruitment occurred during spring terms in 1987, 1988, 1989, and 1990 while the students were attending their last courses at New York City liberal arts colleges having large teacher-training divisions. I recruited mainly from final-year education courses (in which there was a relatively high probability that these students would enter the teaching profession) and psychology courses. In excess of 90% of the students who attended the education and psychology classes and identified themselves as either graduating seniors or graduates signed letters of informed consent; 86% of those who signed such letters participated in the summer preemployment round of data collection.

A total of 184 women who contributed summer preemployment data were first-time full-time teachers in the following fall term and continued to teach full-time in the same schools the following spring. The teachers were from predominantly middle-class families. The mean social class of origin rating, using Hollingshead's (1974) 5-point scale, was 2.7; 22% were non-White (22 Black, 15 Hispanic, and 3 Asian), their average age was 27, and 35% had been married by the spring.

A total of 58% of the women taught in elementary school, 21% in preschool or kindergarten, and 20% in junior or senior high schools (these data were missing in 1% of the cases). A total of 69% of the women taught in public schools, 14% taught in Catholic schools, 17% taught in a variety of other schools including nondenominational private schools. The majority (95%) of schools in which the women taught were located in New York City; most of the remaining schools were in the metropolitan area.

Some women who participated in the summer preemployment data collection and taught full-time in the fall were excluded: (a) 35 women for whom spring data were missing; (b) 14 women who, between the fall and the spring terms, either shifted to part-time work or left teaching; and (c) 17 full-time teachers who changed schools between the fall and spring semesters. The lagged regression analyses presented later assume that measures of the fall term school en-
environment and supervisor and colleague support were continuous with spring term working conditions.

Tests assessing differences between the included and excluded women indicated that none of the three excluded groups differed significantly from the study sample on any of the following control variables: social class of origin; marital status; race; age; and preemployment measures of depressive and psychophysio-

logic symptoms, self-esteem, expected job satisfaction, and motivation to teach. One woman who participated at each data collection period was excluded because she obtained a job late and had taught only 1 week by the time the fall period of data collection was under way.

Women who worked part-time in the fall were also excluded because the exposures are different for full- and part-time teachers. In addition, women whose entry into the teaching profession was delayed were not considered here because they began teaching outside the time frame of this study. Women who had had prior jobs as teachers that were continuous with the jobs they had in the fall were also excluded because they could not be considered new teachers (e.g., one woman who taught in a local parochial school before obtaining her degree continued to teach there in the fall; many local Catholic schools hire teachers without bachelor’s degrees).

There were, however, exceptions to the exclusion rule for prior teaching. Nine women who had prior teaching experiences that were judged to be discontinuous with the jobs they obtained in the fall were considered to be new teachers (e.g., a woman who taught without a degree in a foreign country prior to emigrating to the United States and who obtained a job in the fall in a New York City public school). For this study, I did not consider men or women who held nonteaching jobs (e.g., social work), attended graduate or professional school full-time, or were not employed. Women who held jobs of paraprofessional rank, a term for a teacher’s assistant in New York City public schools, were also excluded.

The sample described in an early, preliminary report (Schonfeld, 1992a) differed from the current sample in five ways. The prior report did not

1. include teachers from all 4 entering years;
2. exclude part-timers;
3. exclude women who changed schools between the fall and spring terms;
4. exclude teachers with prior experience that was continuous with their fall term job; or
5. examine the effects of potential resources such as social support and coping.

Thus, the focal interest of this study was on women from one geographic area who, within 3 to 4 months of completing a course of study, became teachers and worked full-time continuously in a single school for an academic year, the modal route of entry into the profession.
Measures

I used two measures to assess mental health and two measures to assess the job-related demoralization during each of the three data-collection periods.

I used the Center for Epidemiologic Studies-Depression Scale (CES-D; Radloff, 1977) to assess depressive symptoms ($M_{\text{summer}} = 11.97$, $SD_{\text{summer}} = 9.77$, $M_{\text{fall}} = 12.88$, $SD_{\text{fall}} = 9.86$, $M_{\text{spring}} = 12.07$, $SD_{\text{spring}} = 9.48$, $\alpha = .91$). The CES-D is a summed 20-item measure (e.g., “I was bothered by things that usually don’t bother me”) developed by the National Institute of Mental Health for use in general population samples. The response alternatives referred to frequency of symptoms over the past week and ranged from less than 1 day per week (0), 1–2 days per week (1), 3–4 days per week (2), to 5–7 days per week (3). Four items that were worded positively (e.g., “I felt hopeful about the future”) were reverse scored for the twofold purpose of breaking response sets and assessing positive affect.

I assessed self-esteem with Pearlin and Schooler’s (1978) 6-item adaptation of Rosenberg’s (1965) Likert-type Self-Esteem Scale ($M_{\text{summer}} = 1.63$, $SD_{\text{summer}} = 0.58$, $M_{\text{fall}} = 1.66$, $SD_{\text{fall}} = 0.61$, $M_{\text{spring}} = 1.61$, $SD_{\text{spring}} = 0.59$, $.84 \leq \alpha \leq .87$). A self-esteem score consisted of the mean response to the six items (e.g., “I feel that I have a number of good qualities”) and ranged from strongly agree (1) to strongly disagree (5). The items were coded so that high scores reflected low self-esteem.

In the preemployment period, expected job satisfaction ($M = 4.14$, $SD = 1.02$) was measured with a single 5-level, Likert-type item adapted from Quinn and Staines’s (1979) Quality of Employment Survey (e.g., “Overall, how satisfied do you expect to be in the job you are about to get?”). Responses ranged from very dissatisfied (1) to very satisfied (5). Although a scale consisting of a single item is vulnerable to more unreliability than multi-item scales, it was important to measure preemployment expectations about work. Expectations about work are potentially important to control when assessing the effect of working conditions on postemployment job satisfaction (cf. Louis, 1980; Nelson, 1987). The expected satisfaction item was phrased commensurately with one of the three job satisfaction items described next. The other two items did not easily lend themselves to the creation of parallel items appropriate to the preemployment period.

The Job Satisfaction Scale, which was also adapted from commonly used items described by Quinn and Staines (1979), was administered in the fall ($M = 3.62$, $SD = 0.90$, $\alpha = .77$) and spring ($M = 3.43$, $SD = 0.94$, $\alpha = .73$) terms. The scale consisted of three 5-level, Likert-type items. For the item “Overall, how satisfied are you with your current job?”, responses ranged from very dissatisfied (1) to very satisfied (5). For the item “In general, to what extent does your current job measure up to the sort of job you wanted when you took it?”, responses ranged from very much (1) to very little (5) (reverse scored). For the item “If a good friend says he or she is interested in a job like yours and wants your opin-
ion, what would you tell your friend?”, responses ranged from strongly advise against it (1) to strongly recommend it (5). Each item was coded so that a high score reflected a positive attitude toward work. A job satisfaction score consisted of the mean response to the three items, making the scoring range consistent with the expected satisfaction measure.

The Motivation-To-Be-A-Teacher Scale ($M_{summer} = 4.44$, $SD_{summer} = 0.77$, $M_{fall} = 4.13$, $SD_{fall} = 0.93$, $M_{spring} = 4.06$, $SD_{spring} = 0.96$, $.79 \leq \alpha \leq .87$) consisted of three 5-level, Likert-type items derived from Kyriacou and Sutcliffe (1979) (e.g., “In your estimation, how likely is it that you will be a teacher in 2 (5, 10) years time?”). Responses ranged from very unlikely (1) to very likely (5). A score consisted of the mean response to the three items. High scale scores reflected high levels of work-related morale. Schonfeld (1998) found that the motivation scale predicted job persistence.

**Stressors at Work**

Data on adversity in the school environment were collected using neutrally worded self-report items that assessed the frequency with which the teachers encountered (a) episodically occurring stressors and (b) ongoing stressors. In contrast to traditional stress and burnout items that assess the extent to which the teachers are annoyed, bothered, or otherwise disturbed by working conditions, neutrally worded items are less confounded with prior symptoms (Kasl, 1987; Schonfeld, 1996). A third set of stressor items assessed the frequency with which teachers were victims of crimes in or near school. As few teachers were victims of serious crimes (e.g., assault), I do not report on the scale consisting of the crime items in this study.

The fall term Episodic Stressor Scale ($M = 1.10$, $SD = .49$, $\alpha = .81$) was created by computing the mean score on 20 items assessing the frequency with which the woman encountered episodically occurring stressors since becoming a teacher (e.g., a threat of personal injury, a confrontation initiated by an insolent student, students engaged in fighting). Each item was scored not at all (0), once per month (1), once per week (2), 2–4 times per week (3), or daily (4). The parallel, 20-item spring term Episodic Stressor Scale ($M = 1.18$, $SD = 0.54$, $\alpha = .86$) assessed the frequency with which the woman encountered the same set of episodically occurring stressors since the fall term.

The fall term Ongoing Stressor Scale ($M = 1.12$, $SD = 0.50$, $\alpha = .85$) was created by computing the teacher’s mean score on 30 items assessing the extent to which the woman had encountered ongoing stressors (e.g., overcrowded classroom, classroom in disrepair, lack of safety in or near the school) since becoming a teacher. Each item was scored not at all (0), to a minimal extent (1), to a small extent (2), to a moderate extent (3), or to a great extent (4). Positively worded items (e.g., “Your students are highly motivated”) that were included in this scale and the Episodic Stressor Scale for the purpose of breaking response
sets were reverse scored. High scores on both stressor scales reflected high levels of workplace adversity.

Prior versions of the two workplace stressor scales were pilot tested in a veteran-teacher sample (Schonfeld, 1990b). Both scales showed satisfactory internal consistency reliability (.79 ≤ α ≤ .85). The Ongoing Stressor Scale but not the Episodic Stressor Scale demonstrated significant validity coefficients (predicting symptoms and satisfaction; average r = .32). A later study (Schonfeld, 1994) involving a different veteran-teacher sample showed that the current versions of both work-environment scales had satisfactory 2-week retest reliabilities (.78 ≤ r ≤ .88); both scales were also related to job satisfaction (average r = .38) although they were not significantly related to motivation (psychological symptoms were not measured in that study), and their correlations with criterion measures were unaffected by social desirability bias.

**Disposition Upon Entrance to the Study**

Negative affectivity, the disposition to experience psychological distress, was operationally defined by the women’s scores on two factors that were assessed during the preemployment period—the Psychophysiological (PP) Symptoms Scale and the CES-D.

The PP Symptoms Scale consisted of 17 items assessing the frequency of problems like headaches, stomachaches, and backaches. Items were adapted from Cronkite and Moos (1984) and Dohrenwend, Shrout, Egri, and Mendelsohn (1980). To minimize redundancy with the CES-D, I excluded PP symptom items that may have reflected depression (e.g., sleep problems) from the scale used in this study. The response alternatives, however, were identical to those for the CES-D described earlier. Scores were computed by summing the item responses; high scores reflected high symptom levels (M = 9.33, SD = 6.67, α = .82).

Watson and Pennebaker (1989) found that PP symptom measures like the Somatization Scale in the Hopkins Symptom Checklist (Derogatis, Lipman, Rickels, Uhlenhuth, & Covi, 1974), a measure similar in item makeup and time frame to the scale used in this study, load on NA. In a sample like this one, largely consisting of young college-educated adults, the PP Symptoms Scale is more likely to assess NA-related disturbance than chronic disease. Although the scale measures acute distress, additional evidence adduced by Schonfeld (1996) suggests that the PP Symptoms Scale also taps NA.

Similarly, the CES-D is thought to reflect both acute and dispositional components. The trait component of the CES-D is reflected in its cross-time correlations. To capitalize on their trait components, I used preemployment scores on PP symptoms and the CES-D in lagged regression analyses to control for dispositional carryover of distress across time. Lennon, Dohrenwend, Zautra, and Marbach (1990) used a similar procedure involving a measure of distress to control disposition at study entry.
Social Resources: Three Sources of Social Support

During the summer preemployment period, the women completed a measure of general social support from friends and relatives. In the fall, the women completed two different social support scales, one reflecting support from colleagues and the other from supervisors.

The General Support Scale ($M = 3.62, SD = .39, \alpha = .74$) consisted of eight items (e.g., “When I feel lonely, there are several people I can talk to”; “I don’t get invited to do things with others”) from Cohen, Mermelstein, Kamarck, and Hoberman’s (1985) Interpersonal Support List (ISEL). Although the items tapped a combination of tangible support, belongingness, and availability of a confidant, they could be aggregated into a single scale. Schonfeld (1991) found that although these support functions are separable in theory, they frequently co-occur and are difficult to distinguish in practice. No items from the ISEL’s Self-Esteem subscale were included because they were found to be overly confounded with prior symptoms (Schonfeld, 1991). The general support items’ response alternatives ranged from definitely false to definitely true. I recoded these items so that they ranged from 1 to 4, with higher scores reflecting higher levels of social support, and then I averaged them to yield a general support score.

I averaged two colleague support subscales to create the Colleague Support Scale. The first subscale ($M = 3.08, SD = .55, \alpha = .72$) comprised eight items (e.g., “During free periods or after school, I often meet or talk with colleagues”; “If I showed up in school one day but was not feeling well, I could easily find someone to help me get some odd jobs done”). It, too, tapped a combination of tangible support, belongingness, and the availability of a confidant after Cohen et al. (1985). The response alternatives and scoring were the same as those for the General Support Scale described earlier. An early version of the subscale demonstrated satisfactory internal consistency reliability ($\alpha = .89$) and validity coefficients predicting psychological symptoms and job-related morale (average $r = .26$, corrected for sign) in a pilot study involving veteran teachers (Schonfeld, 1990b). In a second veteran-teacher sample (Schonfeld, 1994), the current version of the scale demonstrated satisfactory 2-week retest reliability ($r = .79$).

A second Colleague Support subscale ($M = 9.03, SD = 2.46, \alpha = .77$) was derived from House (1980). A score consisted of the sum of the responses to three items (e.g., “How much can other teachers at school be relied on when difficulties occur at your school?”). Response alternatives were coded on scales ranging from 0 to 4, not at all to a great extent, or 1 to 4, not at all to very much. The latter items were rescaled to have the same range as the former.

Both subscales were coded so that high scores reflected high levels of support. The subscales were correlated ($r = .61$). They were converted to z scores and then averaged to create the final colleague support scale.

I created the Supervisor Support Scale ($M = 17.74, SD = 5.42, \alpha = .90$) by computing the sum of six items (e.g., “How much can your immediate supervi-
sor be relied on when difficulties occur at your school?” “How helpful is your immediate supervisor to you in getting your job done?”) derived from House (1980). Scaling was similar to that of the second Colleague Support subscale described earlier.

**Psychological Resources: Coping, Professional Efficacy, and Locus of Control**

In the fall, the women completed occupational coping and efficacy items yielding six scales: Selective Ignoring, Positive Comparisons, Advice Seeking, Discipline Use, Optimism, and the Efficacy of Direct Action. Many of the items were adapted from items used by Pearlin and Schooler (1978) to assess occupational as well as parental coping. The scales, however, were tailored to assess the types of occupational coping and efficacy beliefs commonly found among teachers (Kyriacou, 1980). High scores reflected more of the coping response. During the preemployment period, participants completed Rotter’s (1966) measure of locus of control.

I created the Selective Ignoring Scale \( M = 2.09, SD = .70, \alpha = .70 \) by computing the mean response to five items that assess the frequency with which the respondent diverts her attention from disagreeable aspects of the job (e.g., “Since school began, how often have you reminded yourself that, in teaching, things could be worse?” or “Since school began, how often have you tried to notice only the good things in your work?” The response alternatives ranged from never (0) to very often (4).

The Positive Comparisons Scale \( M = 2.06, SD = .71, \alpha = .60 \) comprised two items. The items assess the respondent’s propensity to find that her work situation contrasts favorably to that of others: “Since school began, when you compared yourself to other teachers as experienced as you are, you have many more (0) . . . many fewer (4) problems”; “Since school began, how often have you noticed people who have more difficulties on their jobs than you have?” Responses ranged from never (0) to very often (4). A positive comparison score consisted of the mean of the responses to the two items.

The Optimism Scale \( M = 2.82, SD = .70, \alpha = .55 \) consisted of two items. One reflects the incumbent’s level of optimism with regard to her current job: “Since school began, being a teacher has become much easier (0) . . . much harder (4).” The other item reflects the incumbent’s level of optimism with regard to her future job situation: “It is your estimate that by this time next year being a teacher will have become much easier (0) . . . much harder (4).” The items were reverse scored, then averaged.

I created the Advice Seeking Scale \( M = 2.24, SD = .62, \alpha = .70 \) by computing the mean response to seven items: “Since school began, how likely were you to ask any of these people for advice in response to a difficulty you encountered . . . a relative, friend, paraprofessional, another teacher, guidance counselor or school psychologist, supervisor, doctor or psychologist? . . . very unlikely (0)
... very likely (4)." The items assess the teacher's inclination to seek advice in response to a problem rather than the amount of actual advice seeking. The actual frequency of advice seeking is more likely to be confounded with stressors and distress and, consequently, need to seek advice.

I created the Discipline Use Scale ($M = 2.63$, $SD = .76$, $\alpha = .70$) by computing the mean response to six items: For example, "Considering your teaching since school began, when a student seriously misbehaved, how likely were you to ... take away a privilege, reprimand him/her, contact his/her parents? ... very likely (0) ... very likely (4)." Again, to avoid confounding with need, the Discipline Use Scale assesses the teacher's inclination to use discipline in response of serious misbehavior rather than amount of actual discipline used. The relatively low reliability of the Discipline Use and Advice Seeking scales, given their item totals, reflects the fact that using some disciplinary measures or consulting some advisors obviates the need for others (see Parkes, 1994).

The Direct Action Efficacy Scale ($M = 2.44$, $SD = .62$, $\alpha = .70$) comprised four items (e.g., "When a student neglects his/her responsibilities, I can steer the student back to his/her school work"; "The way my students turn out depends upon their home lives and personal resources, and there is little I can do about that"). Responses ranged from strongly agree (0) to strongly disagree (4). The items reflect the teacher's sense of the efficacy of her "considered actions" (Kyriacou, 1981) to affect educational goals. An efficacy score consisted of the mean response to the four items (corrected for item direction).

Participants completed Rotter's (1966) 29-item Forced-Choice Scale ($M = 11.56$, $SD = 4.04$, $\alpha = .73$; six filler items were not included in the total score) (e.g., "Many of the unhappy things in people's lives are partly due to bad luck"; "People's misfortunes result from the mistakes they make"). An LOC score consists of "the total number of external choices" (Rotter, 1966, p. 10). The scale measures the generalized expectancy regarding "how reinforcement is controlled." Low scores reflect an internal expectation that reinforcement is controlled by individuals. High scores reflect an external expectation that individuals do not exert control and that chance, luck, and larger forces control events.

Nonoccupational Stressors

I used a checklist derived from instruments developed by Dohrenwend, Krasnoff, Askenasy, and Dohrenwend (1982) and Paykel (1978) to ascertain the number of undesirable life events that were judged to be independent of the respondent's control (e.g., death of a loved one).

Data Analytic Considerations

In a series of ordinary least squares (OLS) regression analyses, each spring term outcome was regressed on the fall term Episodic Stressor Scale as well as
several other variables. Every regression equation included a number of control variables: the preemployment counterpart of the spring outcome; preemployment PP symptoms as a control for NA; age; race; social class of origin; marital status; and the number of undesirable, fateful life events occurring outside the workplace.

The preemployment counterpoint, rather than the fall counterpart, of the spring outcome was controlled because there was evidence that the fall measures had already been affected by job conditions (Schonfeld, 1996; Schonfeld, Rhee, & Xia, 1995). By controlling for the preemployment counterpart of each spring outcome, the regression weight for the Episodic Stressor Scale represented the average amount of change from preemployment baseline levels per unit change in the risk factor. The three social support measures, general support (from friends and relatives), colleague support, and supervisor support, were also included in each regression equation.

The interaction of the Episodic Stressor Scale with each support measure was assessed, especially for the presence of buffering type interactions, that is, interactions in which the adverse effects of work stressors are weaker in the presence of high rather than low support. The interaction of the Episodic Stressor Scale with NA was also assessed. In an additional set of regression analyses that used the previously described predictor variables, I examined each personal resource measure (each coping scale, efficacy, and LOC) to assess main effects and interactions with episodic stressors.

Finally, I used structural equation modeling (SEM) procedures (Jöreskog & Sörbom, 1989). The purpose of the SEM was to better establish the timing of effects. The SEM analyses can help ascertain whether working conditions affect outcomes almost upon entry into the work environment or if the flow of effects from working conditions to outcomes is best represented as time lagged.

The models involving depressive symptoms, which had 20 items, and self-esteem, which had 6, used subscale indicators made up of the odd- and even-numbered items to create parallel observable indicators of each underlying construct. The remaining variables in the SEM analyses, with the exception of life events, were also represented by indicators created from odd–even splits of the measured variables. The loading of a latent construct’s indicator at one time period was constrained to equal the loading of that indicator at a later time to maintain the integrity of construct meaning over time. Because the Job Satisfaction and Motivation scales had only 3 items and the preemployment expected job satisfaction measure consisted of a single item, SEM analyses were not extended to those two outcomes. I used the suggestion of Cohen, Cohen, Teresi, Marchi, and Velez (1990) and selected the variables to be included in the models on the basis of their significant effects in the regression analyses.

The purpose of the SEM analyses was to ascertain the sequence of effects culminating in spring term depressive symptoms and low self-esteem. Contemporaneous- and lagged-effects models were developed. Fall term ongoing stres-
sors and preemployment analogues of the outcomes served as instrumental variables helping to identify reciprocal effects in the contemporaneous model. Each contemporaneous-effects model included an effect from working conditions to the outcomes as well as a "halo" representing the reverse effect from outcome to stressor (or the extent to which affected individuals distorted their reporting on the work environment). Each lagged model included a path from the fall term work environment to the spring term outcome as well as a comparable path from fall term outcome to spring term work environment.

Results

Zero-Order Correlations

Table 1 contains the correlations among the pre- and postemployment measures. The table shows the cross-time stability of the CES-D, self-esteem, expected job satisfaction, and motivation and reveals the traitlike features of the CES-D and self-esteem. Moreover, preemployment PP symptoms, as expected, were moderately correlated with future depressive symptoms and self-esteem. Table 1 also indicates substantial fall-to-spring continuity in adverse working conditions and the association of the work-environment scales with current and future depressive symptoms, self-esteem, job satisfaction, and motivation to teach. The work-environment scales were weakly related to preemployment levels of depressive and PP symptoms, which is consistent with the view that the neutral self-report items minimize confounding with NA.

The relation of the support variables to the other factors is also shown in Table 1. Both colleague and supervisor support were significantly related to concurrent and future depressive symptoms and to job satisfaction. Colleague support was significantly related to future motivation. Supervisor support was significantly related to concurrent and future self-esteem and motivation. The two work-support measures were significantly, albeit more weakly, related to some preemployment measures: CES-D, motivation, and PP symptoms. The two work-support measures were concurrently, and inversely, related to episodic and ongoing work stress; that is, more adversity in the work environment was related to less support from colleagues and supervisors. Preemployment general support significantly predicted both work-support measures.

The correlations among the measures of coping, efficacy, and LOC were generally weak and nonsignificant; four, however, were significant (positive comparisons and optimism, \( r = .30, p < .001 \); positive comparisons and direct action efficacy, \( r = .33, p < .001 \); optimism and direct action efficacy, \( r = .38, p < .001 \); selective ignoring and discipline, \( r = .21, p < .01 \)).

Table 2 contains the correlations of the coping scales, direct action efficacy, and LOC with the outcome measures, the preemployment counterparts of the outcomes, work stressors, and social support. Few coping scales were significantly
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<td>.18a</td>
<td>.29c</td>
<td>-.15a</td>
<td>.06</td>
<td>-.19a</td>
<td>-.33c</td>
<td>.16a</td>
<td>.28c</td>
<td>-.19a</td>
<td>-.12†</td>
<td>.23b</td>
<td>.51c</td>
<td>-.25c</td>
<td>-.22b</td>
<td>-.13†</td>
<td>.43c</td>
</tr>
</tbody>
</table>

*Note.* 179 ≤ n ≤ 184. A portion of this table includes correlations reported in Schonfeld (2000). PP = psychophysiologic. CES-D = Center for Epidemiologic Studies-Depression Scale.

†p < .10, *p < .05, †p < .01, †p < .001 (two-tailed).
TABLE 2
Correlations of the Coping Scales and Locus of Control With Various Pre- and Postemployment Measures

<table>
<thead>
<tr>
<th>Measure</th>
<th>Preemployment</th>
<th>Fall term coping</th>
<th>Preemployment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Positive</td>
<td>Optimism</td>
<td>Discipline</td>
</tr>
<tr>
<td></td>
<td>comparisons</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Preemployment</td>
<td>-0.06</td>
<td>-0.05</td>
<td>-0.20(b)</td>
</tr>
<tr>
<td>CES-D</td>
<td>-0.07</td>
<td>-0.03</td>
<td>-0.14(†)</td>
</tr>
<tr>
<td>Self-esteem</td>
<td>0.03</td>
<td>0.11</td>
<td>0.01</td>
</tr>
<tr>
<td>Expected job satisfaction</td>
<td>-0.01</td>
<td>0.08</td>
<td>0.14(†)</td>
</tr>
<tr>
<td>Motivation</td>
<td>0.01</td>
<td>-0.22(b)</td>
<td>-0.14(†)</td>
</tr>
<tr>
<td>PP symptoms</td>
<td>0.21(b)</td>
<td>0.12</td>
<td>0.10</td>
</tr>
<tr>
<td>General support</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fall</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Episodic stress</td>
<td>-0.22(b)</td>
<td>-0.37(c)</td>
<td>0.11</td>
</tr>
<tr>
<td>Ongoing stress</td>
<td>-0.15(a)</td>
<td>-0.40(c)</td>
<td>0.10</td>
</tr>
<tr>
<td>Colleague support</td>
<td>0.17(a)</td>
<td>0.14(†)</td>
<td>0.25(c)</td>
</tr>
<tr>
<td>Supervisor support</td>
<td>0.12</td>
<td>0.10</td>
<td>0.15(a)</td>
</tr>
<tr>
<td>Spring</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CES-D</td>
<td>-0.19(b)</td>
<td>-0.27(c)</td>
<td>-0.11</td>
</tr>
<tr>
<td>Self-esteem</td>
<td>-0.18(a)</td>
<td>-0.09</td>
<td>-0.10</td>
</tr>
<tr>
<td>Job satisfaction</td>
<td>0.16(a)</td>
<td>0.27(c)</td>
<td>0.06</td>
</tr>
<tr>
<td>Motivation</td>
<td>0.04</td>
<td>0.12(†)</td>
<td>0.07</td>
</tr>
</tbody>
</table>

Note. 173 ≤ n ≤ 184. PP = psychophysiological. CES-D = Center for Epidemiologic Studies–Depression Scale.
\(†p < .10\). \(\ast p < .05\). \(\ast\ast p < .01\). \(\ast\ast\ast p < .001\) (two-tailed).
related to the preemployment measures (see Table 2, top panel). An external LOC was related to preemployment depressive symptoms, low self-esteem, and PP symptoms. The episodic and ongoing stressor scales were concurrently related to fewer positive comparisons, less optimism, a greater inclination to use discipline, and less endorsement of direct action as a way to stimulate student attainments (see Table 2, middle panel). Colleague support was related to more positive comparisons, optimism, advice seeking, and direct action efficacy. Supervisor support was more weakly related to coping. Positive comparisons, optimism, direct action efficacy, and, to a much lesser extent, advice seeking were the scales most related to better spring outcomes (see Table 2, bottom panel).

Regression Analyses

OLS regression analyses (see Table 3) indicated that the Episodic Stressor Scale was significantly related to pre-to-postemployment change in each outcome, adversely affecting the CES-D, self-esteem, job satisfaction, and motivation, adjusting for the control factors. General support was significantly related

| TABLE 3 |
| The Regression of Each Spring Outcome Measure on Earlier Measured Predictors |
| Predictor | Depressive symptoms | | Self-esteem | | Job satisfaction | | Motivation to teach |
| | $\beta$ | Unique $R^2$ | $\beta$ | Unique $R^2$ | $\beta$ | Unique $R^2$ | $\beta$ | Unique $R^2$ |
| Preemployment | | | | | | | | |
| Counterpart of outcome | .29c | .05 | .61c | .31 | .14a | .02 | .22b | .04 |
| PP symptoms | .13 | .01 | -.03 | .00 | .04 | .00 | -.04 | .00 |
| General support | -.27c | .06 | -.21c | .03 | -.05 | .00 | -.04 | .00 |
| Fall | | | | | | | | |
| Episodic stressors | .26c | .06 | .14a | .02 | -.34c | .10 | -.15a | .02 |
| Colleague support | .05 | .00 | .10 | .01 | .18a | .02 | .01 | .00 |
| Supervisor support | -.07 | .00 | -.11† | .01 | .23b | .04 | .21a | .03 |
| Total adjusted $R^2$ | .35 | .49 | .30 | .14 |

Note. 181 ≤ $n$ ≤ 183. The table contains standardized regression coefficients. Each regression equation also controlled for age, social class of origin, race, current marital status, and undesirable fateful life events occurring outside the workplace regardless of their significance levels. The unique $R^2$ column represents the unique contribution of each risk/protective factor when the factor was entered into the regression equation last. PP = psychophysologic.

†$p < .10$, ‡$p < .05$, †$p < .01$, ‡$p < .001$ (two-tailed).
to reduced depressive symptoms and improved self-esteem but not to the two work-morale variables. By contrast, supervisor support was related to higher levels of job satisfaction and motivation but not to the CES-D and self-esteem. Colleague support was significantly related to improved satisfaction.

In a more conservative test with enlarged control for the disposition to experience psychological distress, the regressions predicting spring term self-esteem, job satisfaction, and motivation were repeated with the preemployment CES-D added to each equation as an additional control for NA (the equation described earlier predicting the spring term CES-D already contained both preemployment symptom scales). The results were virtually unchanged. Except for the next set of regressions, in all the remaining OLS analyses, only PP symptoms served as a dispositional control.

Other OLS analyses examined the possibility that the relation of NA to each outcome was mediated by either the work environment or social support. The aforementioned regression equations were rewritten so that either the work environment scale or the three support scales were deliberately excluded. The two preemployment measures of NA (i.e., PP symptoms and the CES-D) were included in each equation. Then, 95% confidence intervals were constructed around the unstandardized regression weights of both preemployment symptom scales. In the next step, either the work-environment or the support scales were added to the equation. In no case did any regression weight for either preemployment symptom measure change in such a way as to exceed the bounds of the confidence intervals. These findings are incompatible with the view that the relation of NA to each outcome is mediated by either the work-environment or support.

The OLS analyses were extended to examine five sets of interactions: the interaction of the Episodic Stresor Scale with each of the three support variables, the preemployment counterpart of the outcome (to assess an interaction with prior distress/prior expectations), and PP symptoms (to assess an NA interaction). Two of the 20 interaction terms were statistically significant: the interaction of episodic stressors with (a) supervisor support and (b) preemployment PP symptoms, each affecting motivation \(p < .05\). Neither interaction was a buffering type; for example, under low supervisor support, motivation was uniformly low regardless of work-stressor level, but under high supervisor support motivation declined as work environments became more stressful. By contrast, in a buffering interaction, stressors would exert weaker effects on outcomes under high, in comparison to low, support. Because they were the only significant interactions, they may reflect Type I errors.

Each of a series of equations included the social demographic variables, life events, episodic stressors, the three support measures, PP symptoms, and the preemployment counterpart of the outcome. In a next step, exactly one scale—one of the coping scales, efficacy, or LOC—was added to the equation. None of these measures was significantly \(p < .05\) related to any outcome. Subsequently, a single interaction term, the product of the coping, efficacy, or LOC measures and
the Episodic Stressor Scale, was added to the appropriate equation. No interaction was significant.

The analyses involving LOC were rerun using a slightly different version of Rotter’s scale: Any items alluding to teachers or students were deleted (e.g., “The idea that teachers are unfair to students is nonsense”; “Most students don’t realize the extent to which their grades are influenced by accidental happenings”). The pattern of results remained the same. The regressions involving LOC were repeated, this time with the nine Rotter (1966) items that more purely reflect personal control (Mirels, 1970; Sandler & Lakey, 1982), without changing the pattern of results.

I performed other exploratory regression analyses in which the positive comparison and optimism items were combined to form an Optimistic Comparison Scale after Menaghan and Merves (1984). The new scale was then entered into the series of regression equations (with controls for social demographic factors, stressors, etc.). Neither the new scale nor its interaction with the Episodic Stressor Scale significantly predicted any of the outcomes. Next, I constructed each of a series of coping variety scales (Parkes, 1994) by either (a) summing the z scores associated with the four coping/efficacy measures—positive comparisons, optimism, advice seeking, and direct action—having the highest zero-order relations with the spring term outcomes or (b) counting the number of times a woman’s raw scores exceeded prechosen cutoffs. None of the coping variety scales nor any of their interactions with episodic stressors significantly predicted outcomes controlling for social/demographic and other factors.

In another series of regression equations, one of three dummy-coded school factors—special versus regular education, elementary versus secondary (junior and senior high school) education, and public versus private education—was entered into each regression equation in a final step. Of the 12 equations, only one school factor was significantly \( p < .05 \) related to an outcome. Compared with teachers in regular education, individuals having jobs in special education were significantly less satisfied with teaching. The addition of the special education dummy variable to the equation left the coefficients of the predictors in Table 3 virtually unchanged. Only one of 12 interactions attained statistical significance \( p < .05 \): Public school teachers’ motivation to teach tended to be uniformly low but the motivation of private school teachers declined with workplace adversity. The main and interaction effects should be interpreted cautiously because they were consistent with the Type I error rate.

All regressions were redone with the Ongoing Stressor Scale replacing the Episodic Stressor Scale. The pattern of results was largely unchanged.

**Structural Equation Modeling**

In SEM analyses, I examined more closely the link between work stressors and depressive symptoms. Additional predictors were selected on the basis of
their significant findings in the regression analyses (Cohen et al., 1990) and included general support and life events. Alternative contemporaneous- and lagged-effects models were constructed.

In all SEM analyses, each latent variable was constructed so that it took the same scale units as the variables used in the regressions. Given the reliance on odd–even splits to create subscales and the relatively brief interval over which the repeated measures were obtained, seven pairs of error terms were allowed to covary. Ongoing stressors and preemployment symptoms served as instrumental variables in the model of reciprocal effects between episodic stressors and postemployment symptoms (see Figure 1).

Summer symptoms were considered causally prior to fall symptoms by virtue of the time lag; ongoing stress was considered causally prior to episodic stress because ongoing conditions such as overcrowded classrooms and unsafe

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**FIGURE 1. SEM contemporaneous-effects model (N = 180). The term Symps represents depressive symptoms. SocSup represents social support. Unstandardized path coefficients are adjacent to the causal paths they represent. Beneath each unstandardized coefficient in parentheses is the corresponding standardized coefficient.**

*p < .05. **p < .01. ***p < .001.
neighborhoods set the stage for episodic stressors such as student fighting. The contemporaneous effects model fit the data satisfactorily, $\chi^2(71, N = 180) = 75.77, p = .33$; AGFI = .91; the lagged-effects model (see Figure 2) had a poorer fit, $\chi^2(73, N = 180) = 137.66, p < .001$; AGFI = .86.

The contemporaneous effects model was largely compatible with the OLS results. Tracing the standardized coefficients (in parentheses in Figure 1) from fall work stressors to spring depressive symptoms revealed two routes by which fall stressors affected spring symptoms: (a) fall episodic stressors affected fall symptoms ($\beta = .58$), which, in turn, affected spring symptoms ($\beta = .31$); (b) fall episodic stressors affected spring episodic stressors ($\beta = .57$) which, in turn, affected spring symptoms ($\beta = .22$).

The sum of the products of the weights reflecting the two pathways (.30; .29 adjusting for reverse paths), taking into account attenuation due to measurement

![Diagram](image)

**FIGURE 2.** SEM lagged-effects model ($N = 180$). The term *Symps* represents depressive symptoms. *SocSup* represents social support. Unstandardized path coefficients are adjacent to the causal paths they represent. Beneath each unstandardized coefficient in parentheses is the corresponding standardized coefficient.

* $p < .05$. ** $p < .01$. *** $p < .001$. 
error, approximated the standardized regression coefficient (.26) for the Episodic Stressor Scale in the OLS equation predicting the spring term CES-D. Support and life events affected spring but not fall symptoms. The SEM effects of general support (-.29 vs. -.27) and life events (.13 vs. .13) on spring depressive symptoms were also compatible with the effect sizes obtained in the OLS analyses.

Contemporaneous- and lagged-effects models were constructed to help account for the effects of working conditions on self-esteem. Six pairs of error terms were allowed to covary. Ongoing stressors and preemployment self-esteem served as instrumental variables in the model of reciprocal effects between episodic stressors and postemployment self-esteem (Figure 3). The contemporaneous-effects model fit the data somewhat better, \( \chi^2(61, N = 178) = 49.17, p = .86; \) AGFI = .94, than the lagged-effects model (Figure 4), \( \chi^2(63, N = 178) = 67.01, p < .41; \) AGFI = .92.

Using tracing procedures similar to those described earlier, I discovered that

![Diagram](https://example.com/diagram.png)

**FIGURE 3.** SEM contemporaneous-effects model (N = 178). The term S-E represents self-esteem. Unstandardized path coefficients are adjacent to the causal paths they represent. Beneath each unstandardized coefficient in parentheses is the corresponding standardized coefficient. 

\(^{1}p < .10. \ast p < .05. \ast\ast p < .01. \ast\ast\ast p < .001.\)
the links from fall working conditions to spring self-esteem found in the contemporaneous effects model were compatible with the effect size found in the OLS regression (a total effect of .16 in the SEM analysis vs. .14 in the OLS analysis). The effect of general support on spring term self-esteem was also compatible with the OLS results (a total effect of -.26 in the SEM analysis vs. -.21 in the OLS analysis) adjusted for the attenuation due to measurement error.

**Discussion**

The pattern of correlational findings indicated that the work environment and some variety of support predicted each outcome. In a previous report, Schonfeld (2000) corroborated the finding that the fall term work-stressor measures were more closely related to later, spring term depressive symptoms, self-esteem, job satisfaction and motivation than to earlier, preemployment counterparts of
those outcomes. Fall term colleague and supervisor support was more closely related to spring term satisfaction than to preemployment expected satisfaction.

The coping and efficacy variables largely behaved, at least concurrently, as expected. Discipline use was directly related to adversity in the school environment. Direct action efficacy, optimism, and positive comparisons were inversely related to workplace adversity. Advice seeking was related to having supportive supervisors and colleagues. Selective ignoring, however, was not related to the work environment measures.

Regression analyses, adjusting for a set of control variables including the preemployment counterpart of each outcome, indicated that the Episodic Stressor Scale predicted later depressive symptoms, self-esteem, job satisfaction, and motivation to teach, with the largest effect size for job satisfaction. The regression analyses also revealed specific effects for different types of social support: General support from friends and family was related to reduced depressive symptoms and increased self-esteem but was unrelated to workplace demoralization. Supervisor and colleague support, by contrast, was related to job satisfaction but not to depressive symptoms and self-esteem; supervisor support was also related to motivation to teach.

To better underline the regression findings regarding depressive symptoms, consider what happens if one divides the sample into three approximately equal groups: women with the lowest (Group A), middlemost (Group B), and highest (Group C) scores on the fall stressor scale. During the preemployment period the mean CES-D scores of Groups A, B, and C were indistinguishable: 12.3, 11.2, and 12.5, respectively, $F(2, 181) = .31, ns$. During the spring term, the mean scores of Groups A, B, and C sharply differed: 9.1, 11.5, and 15.8, respectively, $F(2, 181) = 8.41, p < .01$.

The regression analyses also indicated that the effects of coping, efficacy, and LOC largely failed to reach conventional levels of significance, providing no evidence for direct effects or effects that mediated the impact of work stressors. There was also little evidence that these factors interacted with workplace stressors to affect outcomes. After accounting for working conditions, school factors such as grade level, public compared with private sectors, and regular compared with special education were statistically significant predictors too infrequently to provide confidence that they reflected more than Type I errors.

The SEM analyses underlined the immediacy of the effects of adverse working conditions. Teachers exposed to the most adverse conditions were affected from the term they began teaching. The fact that the constructs in the SEM analyses were constrained to take on the same scale units as the variables in the regressions further elucidates the effect of adverse working conditions. The unstandardized structural coefficient representing the effect of fall term episodic stressors on contemporaneous depressive symptoms was large ($\gamma = 8.92, SE = 1.28$, in the model depicted in Figure 1), given what is known about the CES-D, and is therefore a public health concern.
A review of epidemiologic studies in which the CES-D was administered to general population samples revealed that a variety of samples of community residents averaged at most 9 or, usually, less on the instrument (Schonfeld, 1990b); a score of 16 is a marker of increased risk for affective illness (Radloff, 1977) as well as considerable psychological distress in the absence of mental disorder. The structural coefficient reflects the average magnitude of effect on the CES-D per unit increase on the Work Stressor Scale. A unit increase on the Episodic Stressor Scale is the difference between a work environment in which adverse events such as student fighting occur on average once per month (scale score of 1) and an environment in which such events occur about once per week (scale score of 2). Such a difference is linked to an almost 9-point average increment on the CES-D, an effect that can equal more than the difference between the scores of average community residents and scores in the clinical range.

In the SEM analyses, social support and life events affected spring but not fall symptoms, suggesting that the effects of fall work stressors on fall depressive symptoms simply swamped the individual. The effects of work stressors and support on spring symptoms in the SEM analyses approximated their effects in the regression analyses. The impact of working conditions on self-esteem mirrored the impact on depressive symptoms, although the effect size in the case of self-esteem was smaller.

In an earlier study, Schonfeld (1996) suggested that race may buffer the impact of adverse school environments on job morale (but not depressive symptoms). Adversity in the school environment, at least concurrently, was more closely related to dissatisfaction and lowered motivation among Whites than among non-Whites. In view of the earlier findings, I used regression procedures to assess the interaction of race and fall episodic stressors in predicting spring outcomes. No significant interactions were detected.

Limitations

The data are limited to new women teachers from the New York City metropolitan area. Replication research with male and veteran teachers from other areas is needed for purposes of generalizability. It should, however, be borne in mind that most of the women taught in a highly populous metropolitan area with stubbornly persistent school problems that are similar to the problems of other regions.

A second limitation concerns the study's use of self-report data. Such data could have inflated relations among factors because of carryover in preexisting response tendencies. It should, however, be noted that objective measures are not without problems. There is evidence that, compared with coping measures derived from observations by others (e.g., supervisors), self-report instruments are better suited for assessing a job incumbent's intrapsychic occupational coping behaviors (Latack, 1986).

Objective measures of the stressfulness of teachers' working conditions have
proved to be defective because of severe underreporting by administrators (see Schonfeld et al., 1995). I constructed the self-report measures of working conditions in this study to minimize confounding with preexisting psychological distress. The regression and SEM analyses controlled for preemployment baselines of the outcome measures, reducing the likelihood that the results simply reflected the influence of preexisting response tendencies.

**Negative Affectivity**

It is possible that the relation of the work environment measures to the outcomes is artifactual, reflecting a common relation to NA (Brief, Burke, George, Robinson, & Webster, 1988). Correlational analyses indicate that the work stress variables were at best weakly related to preexisting psychological distress. Regression analyses that controlled for both preemployment depressive and PP symptoms, two factors that together account for considerable variance in trait dysphoria, indicated that the work environment significantly predicted future outcomes.

Other regression analyses indicated that the effect of preemployment symptoms on any outcome did not change much with either the work environment or social support measures in or out of the regression equations. These findings are inconsistent with the mediational hypothesis (see Moyle, 1995) that NA affects intermediate variables such as the work environment or social support, which, in turn, affect the outcomes. Nonetheless, as expected, results indicated that NA exerts an independent effect on one outcome—depressive symptoms.

Correlational findings indicate that the work environment scales are at best weakly related to the preemployment indicators of NA. These findings are incompatible with hypotheses that (a) individuals high in NA largely create their own work stressors or greatly exaggerate their perceptions of stressors or (b) verbally or physically assaultive students are more likely to single out high-than low-NA women for victimization.

**Alternative Explanations**

One explanation of the link between working conditions and psychological functioning involves self-selection or selection by administrative gatekeepers. In a different context, Kornhauser (1965) observed that “the impact of industrial jobs may be due to variations in personal make-up among men who go into different kinds of work” (p. 15) as well as to differences on the shop floor. A plausible argument can be made that classroom difficulties can sometimes result from preexisting depression (or high levels of NA) in a teacher (Schonfeld & Ruan, 1991).

In the present study, the findings are generally incompatible with selection-based and reverse-causal explanations. Differences in preemployment depressive symptoms did not account for much variation on the work scales. Work stressors
were much more closely related to future than to preexposure depressive symptoms, satisfaction, and motivation. SEM analyses support the view that the flow of effect from the work environment to depressive symptoms and lower self-esteem is considerably greater than the flow of effect from symptoms and self-esteem to the work environment.

Zapf, Dormann, and Frese (1996) suggested that occasion factors can partly account for the links between stressors and psychological outcomes. Occasion factors include transitory conditions, such as the weather or an individual's mood, anything that can affect the measurement of variables of interest. Occasion factors themselves often go unmeasured. One source of evidence for the presence of the operation of occasion factors, according to Dormann, Zapf, and Speier (1996), would be correlated structural disturbance terms in the SEM analyses of the contemporary reciprocal effects. The structural disturbance terms, however, were not significantly correlated. Moreover, it is unlikely that in the present study occasion factors largely explained the relation of working conditions and outcomes because the occasion factors would have had to repeat themselves more or less exactly to explain reciprocal links in both the fall and the spring terms.

**Working Conditions**

The results support the view that adverse school conditions provoke psychological distress and poor morale in new teachers relatively soon after their employment. One hypothesized link between adverse working conditions and distress is the low sense of professional efficacy that poor working conditions engender. Despite significant concurrent relations between fall working conditions and professional efficacy (shown in Table 2), the regression analyses revealed that fall term direct action efficacy did not affect the relation of fall working conditions to spring outcomes, either as a mediator or a buffer.

The results suggest that the often verbally assaultive, or mobbing, nature of many school environments adversely affects teachers, particularly with regard to depressive symptoms and job satisfaction. Qualitative data collected on the teachers (Schonfeld & Santiago, 1994) illustrate the shock of encounters with aggressive students. Kasl (1983) emphasized the stressfulness of unanticipated events. Few individuals entering a profession after academic training anticipate disrespect and insult as well as client-on-client insult and violence as everyday working conditions. Louis (1980) underscored the dispiriting nature of unrealistic expectations among new workers.

In the case of the women teachers entering the most chaotic schools, realistic expectations regarding workplace respect are not met. The dispiriting character of the worst schools is echoed in the SEM analyses, which showed that adversity in the work environment exerts sizable and immediate effects on depressive symptoms and self-esteem. Schonfeld (1995) found that qualitative data on teachers who work in the most poorly run schools reveal the applicability to
teaching of Dohrenwend’s (1979) triadic theory of stress. Threatening events that many teachers encounter are often unanticipated or outside their control as well as physically draining; interpersonal relationships among the faculty and administrators in the most poorly run schools are frequently unsupportive and often frightened with tension and hostility. Such environments are toxic to well-adjusted individuals.

The findings are consistent with two important studies (Friedman, 1991; Mäkinen & Kinnunen, 1986). Friedman (1991), in a study of Israeli teachers, found that school environment factors played a larger role in burnout than personal factors. Schonfeld (in press) adduced evidence for the view that burnout can be better conceptualized as depressive symptoms that develop in response to adverse working conditions.

Mäkinen and Kinnunen (1986), in a longitudinal study of Finnish teachers, found that student motivation and conduct were related to concurrent and lagged depressive and anxiety symptoms. Their results paralleled those from the present study. Mäkinen (personal communication, 1994) found that Eysenckian neuroticism, or NA, did not explain how teachers describe student behavior. Neuroticism also failed to explain the relation of student motivation and conduct to concurrent and later symptoms.

Social and Psychological Resources

Two sets of findings bear on social support. First, the occurrence of workplace stressors is concurrently related to the presence of unsupportive colleagues and supervisors (see Table 1). Thus, teachers who are exposed to problems such as excessive student disruption are likely to have less support from co-workers than teachers with less exposure. Second, social support showed evidence of specificity. The influence of support from nonwork sources was limited to psychological distress as reflected in the CES-D and self-esteem. The influence of supervisor support was limited to job satisfaction and motivation to teach. The latter finding is intuitively appealing because supervisors have more power, compared with supporters outside of work, to help fashion a workplace that is sufficiently hospitable to induce a newcomer to pursue a career in teaching.

LOC was not related to future distress—either independently or interactively—when other factors were controlled. These lagged findings contrast with those of Parkes (1991) who, in a 6-month longitudinal study of student teachers, found that externals, but not internals, whose jobs were perceived to combine many demands with little discretion showed elevated anxiety symptoms.

Three differences between Parkes’s (1991) study and the present study may account for the inconsistent findings. First, the studies used different work environment measures. Second, Parkes’s (1991) English sample consisted of student teachers; the women in the present study were employed, 1st-year teachers. More is at stake when one is employed, making problems like student disruption more
unconditionally stressful. In addition, U.S. schools may be more chaotic than U.K. schools. Third, depressive symptoms and satisfaction were the principal outcomes in the present study. Parkes’s (1991) findings suggest that the LOC interaction did not apply to depression and satisfaction.

The coping findings are consistent with Pearlin and Schooler’s (1978) views regarding occupational coping. It is of course possible that some unspecified occupational coping behavior or, if they were more reliably measured, the coping behaviors studied here, may play a role in mitigating distress or work-related demoralization. The coping behaviors identified for this study were based on a detailed review of existing instruments that apply to work in general as well as roles that involve supervising children. The results of the present study suggest that the influence of coping on psychological outcomes is largely overpowered by job conditions although future longitudinal research in this area is clearly warranted.

Conditions affecting the well-being of teachers often transcend the classroom and characterize whole schools. These factors are generally impervious to personal coping behaviors. Consider the example of a high school teacher who was inadvertently shot by a student. The student, in a surprise attack, was taking aim at another student (Schonfeld, 1992b). No amount of personal coping would have protected the teacher. If students engage in violent or chronically disruptive behavior, those behaviors echo throughout the school and touch most of the staff. Such behaviors are normatively stressful to teachers.

The findings bearing on coping, and on direct action efficacy in particular, as well as LOC suggest that the solution to the problem of dangerous and chaotic urban schools is not in training each teacher to cope more effectively or in changing his or her personality, as if that were possible. The solution lies in changing the organization of the school. In contrast to the coping-related findings, the quality of supervision, a school factor, affected job satisfaction and motivation to be a teacher. Organized schoolwide efforts to reduce student violence and disruption would prevent the dispiriting effects many urban schools exert on teachers.

How to bring about workplace change is an important issue. Deutsch (1988) advanced the view that worker participation should be a required element in stress reduction. Friedman (1991) demonstrated the importance of organizational factors in teacher distress. Future prevention trials based on these ideas are warranted. Prevention trials involving large public institutions like schools need not be viewed as a visionary enterprise, too impractical to undertake. Such trials can capitalize on “natural” differences already existing in schools (cf. Rutter, Maughan, Mortimore, & Ouston, 1979).

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