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Short research paper

An updated look at depressive symptoms and job satisfaction in first-year women teachers

Irvin Sam Schonfeld*

*City College of the City University of New York and Department of Psychiatry,
Columbia University, USA*

This report updates a longitudinal study (Schonfeld, 1992) of the effects of working conditions on newly appointed women teachers. The update included a later graduating cohort and additional outcome measures. Moreover, women who were not fully exposed to work stressors (e.g. part-time work, change of schools) were now excluded from the analyses. Among the 184 teachers, work environment measures were more highly correlated with future depressive symptoms, self-esteem, job satisfaction, and motivation to teach than with pre-employment counterparts of the outcomes. Regression analyses underlined the effects of the work environment on each outcome. Serious problems with depressive symptoms and job satisfaction among teachers exposed to the most adverse work environments were found.

The aim of this brief report is to update, as well as to extend to other outcomes, longitudinal analyses that link work-related stressors to depressive symptoms in first-year women teachers. The original analyses (Schonfeld, 1992) were presented before all relevant data were collected and processed and exclusion criteria developed. The updated study remedies a number of limitations in the original publication. First, the original study was confined to women from three graduating classes. The updated study includes women from four graduating classes. Second, the original study included a mix of full- and part-time teachers. Because there are differences in the exposures of full- and part-time teachers, the updated study confines itself to teachers who worked full-time during both the fall (autumn) and spring terms.

Third, the original study included women who changed schools between the fall and the spring. The updated report is confined to women who taught in the same school both terms, a revision that is in keeping with analyses that assume persistence in working conditions between the fall and spring terms. Fourth, an intensive record check conducted after the publication of the original study identified women who held teaching jobs prior to their completing college. A

*Requests for reprints should be addressed to Irvin Schonfeld, EDFN, City College of New York, New York, NY 10031, USA (e-mail: SCHCC@CUNYVM.CUNY.EDU).

number of those jobs were continuous with the jobs the women held in the fall term (e.g. a woman who taught in a local parochial school before obtaining her bachelor's degree continued to teach there in the fall). These women were excluded from the updated analyses because they could not be considered *new* teachers. Finally, the original study was confined to one outcome measure, depressive symptoms; the updated study includes additional outcomes: self-esteem, job satisfaction, and motivation to teach.

In contrast to measures of 'appraised' work stressors, the study employs neutrally worded (Kasl, 1987) items that assess the frequency of exposure to specific, concrete work-related events (cf. Handy, 1988) that (a) are not easily ascertained from objective data (e.g. how often a teacher encountered episodes of student fighting) and (b) minimize confounding with prior distress (Schonfeld, 1996; Schonfeld, Rhee, & Xia, 1995). The study follows newly appointed women teachers. Occupational stress research has been overly reliant on both veteran-worker (Schonfeld *et al.*, 1995) and male samples (Kasl & Wells, 1985).

Method

Sample

Participants were recruited during spring semesters from 1987 to 1990 while attending their last courses at New York City colleges. Recruitment took place in final-year education courses (where students had a relatively high probability of entering the teaching profession) and final-year psychology courses (where students had a high probability of finding different kinds of work or entering graduate school full-time). More than 90% of the students who attended the education and psychology classes and identified themselves as graduating seniors or graduates signed letters of informed consent and 86% of those who signed such letters participated in the summer, pre-employment round of data collection.

The study sample comprised 184 women who participated in the summer pre-employment data collection period, became full-time teachers in the fall semester, and continued to work full-time in the *same* schools the following spring. The teachers came from mostly middle-class families (Hollingshead, 1974), 22% were nonwhite (22 Blacks, 15 Hispanics, 3 Asians), their average age was 27, and 35% had been married by the spring term. A total of 58% of the women taught in elementary school; 21%, in preschool or kindergarten; and 20%, in junior or senior high schools. Most (69%) taught in public schools; 14%, in Catholic schools; 17%, in a variety of other schools including nondenominational private schools; 14% predominantly taught children in special education. The majority (95%) of schools were located in New York City; most of the remaining schools were in the metropolitan area.

Exclusions. A number of women who taught full-time in the fall were not included: (a) 35 on whom spring data were missing; (b) 14 who became part-time teachers or left teaching between the fall and the spring; (c) 17 who remained full-time teachers in the spring but changed schools between the fall and spring semesters. In addition, 55 women whose fall teaching jobs were part-time and nine who held prior jobs as teachers that were continuous with the jobs they had in the fall were excluded.

Measures

Outcome measures. Two measures assessed mental health and two assessed the job-related demoralization during the summer pre-employment period and the spring term.

Depressive symptoms. Depressive symptoms ($\alpha = .91$ in both the summer and spring) were assessed with the Center for Epidemiologic Studies-Depression Scale (CES-D) (Radloff, 1977; Weissman,

Sholomskas, Pottenger, Prusoff, & Locke, 1977), a 20-item measure developed by the National Institute of Mental Health for use in general population samples. Means and standard deviations for this scale and the other outcome measures are found in Table 1 below.

Self-esteem. The self-esteem scale consisted of Pearlin and Schooler's (1978) 6-item adaptation of Rosenberg's (1965) Likert-type self-esteem scale ($.84 \leq \alpha \leq .87$). The self-esteem scale was computed by assigning each subject the mean of the 6 items. The items were coded such that high scores reflected *low* self-esteem.

Job satisfaction. In the pre-employment period, expected job satisfaction was measured with a single 5-level, Likert-type item adapted from Quinn and Staines (1979): 'Overall, how satisfied do you expect to be in the job you are about to get? Very satisfied . . . Very dissatisfied.' A scale consisting of a single item is vulnerable to more unreliability than multi-item scales. It was, however, important to measure pre-employment expectations about work because such expectations constitute a potentially important control variable when assessing the impact of working conditions on post-employment job satisfaction (cf. Louis, 1980; Nelson, 1987). The expected satisfaction item was the only item that could be worded commensurately with any of the 3 job satisfaction items described next.

The job satisfaction scale, which was also adapted from commonly used items described by Quinn and Staines (1979), was administered in the spring after the women obtained teaching positions ($\alpha = .73$). The scale consisted of three 5-level, Likert-type items: (1) 'Overall, how satisfied are you with your current job? Very dissatisfied . . . Very satisfied'; (2) 'In general, to what extent does your current job measure up to the sort of job you wanted when you took it? Very much . . . Very little' (but recoded such that a high score reflected a positive attitude toward work); and (3) 'If a good friend says he or she is interested in a job like yours, and wants your opinion, what would you tell your friend? Strongly advise against it . . . Strongly recommend it.' A job satisfaction score consisted of the mean of the 3 items, making the scoring range consistent with the expected satisfaction measure.

Motivation. The motivation-to-be-a-teacher scale ($\alpha = .79$ in the summer, $.85$ for the spring) consisted of three 5-level, Likert-type items derived from Kyriacou and Sutcliffe (1979): 'In your estimation, how likely is it that you will be a teacher in 2 [5, 10] years time?' A score consisted of the mean of the 3 items. High scores on both the satisfaction and motivation scales reflected high levels of work-related morale. Schonfeld (1998) found that the motivation scale predicted job persistence.

Stressors at work

During the fall, neutrally worded self-report items assessed the frequency with which the teachers encountered (a) episodically occurring stressors and (b) ongoing stressors. A third set of items assessed the frequency with which teachers were victims of crimes in or near school. Since few teachers were victims of serious crimes (e.g. assault), the crime scale is not reported.

Episodic stressors. The episodic stressor (ES) scale ($M = 1.10$, $SD = .49$, $\alpha = .81$) was created by computing the mean score on the 20 items assessing the frequency, since becoming a teacher, with which the women encountered episodically occurring stressors (e.g. a threat of personal injury, a confrontation initiated by an insolent student, students engaged in fighting). Each item was scored: 0 (not at all), 1 (once per month), 2 (once per week), 3 (2-4 times per week), and 4 (daily).

Ongoing stressors. The ongoing stressor (OS) scale ($M = 1.12$, $SD = .50$, $\alpha = .85$) was created by computing the teacher's mean score on 30 items assessing the extent to which the woman 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: 0 (not at all), 1 (to a minimal extent), 2 (to a small extent), 3 (to a moderate extent), and 4 (to a great extent). Positively worded items (e.g. 'Your students are highly motivated') included in this scale and the ES scale for the purpose of breaking response sets were reverse scored. High scores on both stressor scales reflected high levels of workplace adversity.

Previous research on the scales. Earlier versions of the two stressor scales were first assessed in a veteran-teacher sample (Schonfeld, 1990). They showed satisfactory alpha coefficients (ranging from

Table 1. The means and standard deviations of the scales

Fall term ES scale	CES-D		Self-esteem		Job satisfaction		Motivation	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Summer pre-employment period								
Low	12.3	9.0	1.6	.5	4.2	.9	4.5	.7
Medium	11.2	9.9	1.6	.6	4.1	1.1	4.4	.8
High	12.5	10.4	1.7	.6	4.1	1.0	4.4	.8
d.f.	2,181		2,180		2,181		2,181	
<i>F</i>	.31		.26		.53		.13	
<i>p</i>	n.s.		n.s.		n.s.		n.s.	
Spring term of the academic year								
Low	9.1	7.4	1.5	.5	3.8	.8	4.2	.9
Medium	11.5	9.2	1.6	.6	3.6	.9	4.1	.8
High	15.8	10.6	1.8	.7	2.9	.9	3.9	1.1
d.f.	2,181		2,179		2,181		2,181	
<i>F</i>	8.41		2.47		17.98		2.57	
<i>p</i>	.001		.10		.001		.10	

Note. High scores on the CES-D reflect high levels of depressive symptoms. High scores on the self-esteem scale reflect poorer self-esteem. High scores on the job satisfaction and motivation scales reflect high levels of satisfaction and motivation, respectively. In the summer, expected job satisfaction was measured.

.79 to .85); the validity coefficients for the OS scale were satisfactory (predicting symptoms and satisfaction the average r was .32); the ES scale, which would be revised, was nonsignificantly related to criterion measures. A second study (Schonfeld, 1994) involving a different veteran-teacher sample showed that the current versions of the two scales (a) had satisfactory 2-week retest reliabilities (r s ranging from .78 to .88) with time-1 and -2 alphas ranging from .79 to .87 and (b) were related to job satisfaction (average $r = .38$) but not motivation (symptoms were not measured). The correlations were not affected by social desirability bias.

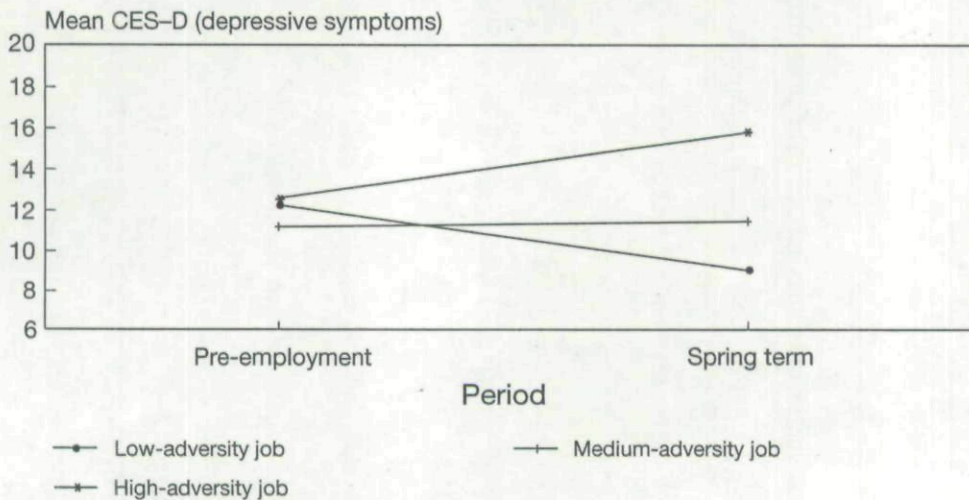
Results

Preliminary analyses of work-related change in the outcomes

As a prelude to the regression analyses, preliminary analyses were conducted to outline the trajectory of change in the four outcome measures (see Table 1). The women were divided into three, about equal-sized, groups consisting of the lowest, middle, and highest scorers on the ES scale. Repeated measures (RM) analyses of variance (ANOVAs) were conducted by means of multivariate ANOVAs (Morrison, 1976) in order to evaluate stressor group by time interactions on each of the outcomes. An interaction would indicate time-related change as a function of job conditions. The results of within-occasion one-way ANOVAs are presented in Table 1.

The interaction effects were tested by means of Wilks lambda which yielded approximate F statistics. Significant interactions were detected for the CES-D, $F(4,358) = 8.81$, $p < .001$ and job satisfaction, $F(4,358) = 4.24$, $p < .01$. The shape of the interaction reveals a time-related divergence in depressive symptoms (see

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Significant group effects were found for the spring term ($p < .001$) but not the pre-employment period.

Figure 1. Mean pre-employment and spring-term CES-D scores of the women teachers having low-, medium-, and high-adversity jobs.

Fig. 1) and satisfaction, from the pre-employment period, when the three adversity groups differed little, to the spring, when differences to the disadvantage of teachers in the high-adversity workplaces emerged.

Zero-order correlations

Table 2 indicates that the CES-D and self-esteem were, concurrently, more closely correlated with each other than with expected job satisfaction and motivation. Motivation was, concurrently, more closely related to satisfaction than to any other scale. The CES-D and self-esteem showed moderate summer-to-spring stability. The two fall work-environment measures were moderately related to each other.

If the relation of the work measures to the spring outcomes was a product of the work measures' relation to pre-existing dispositions, the correlations of the two fall stressor scales with the spring outcomes would approximate the correlations of the stressor scales with the pre-employment counterparts of the outcomes. Table 2, however, shows that both work-environment measures were more strongly related to the four spring outcome measures (average $r = .32$, corrected for direction) than they were to the pre-employment counterparts of the outcomes (average corrected

Table 2. Correlations among the pre- and post-employment measures of psychological outcomes and the risk/protective factors

	Pre-employment				Fall			Spring	
	1.	2.	3.	4.	5.	6.	7.	8.	9.
Pre-employment									
1. CES-D	—								
2. Self-esteem	.46 ^c	—							
3. Expected job satisfaction	-.13 ^t	-.05	—						
4. Motivation	-.18 ^a	-.11	.30 ^c	—					
Fall									
5. Episodic stressors	-.01	.06	-.09	-.06	—				
6. Ongoing stressors	.13 ^t	.16 ^a	-.16 ^a	-.13 ^t	.65 ^c	—			
Spring									
7. CES-D	.46 ^c	.36 ^c	-.19 ^b	-.15 ^a	.31 ^c	.35 ^c	—		
8. Self-esteem	.34 ^c	.65 ^c	-.15 ^a	-.17 ^a	.20 ^b	.27 ^c	.55 ^c	—	
9. Job satisfaction	-.01	-.05	.18 ^a	.08	-.44 ^c	-.48 ^c	-.40 ^c	-.23 ^b	—
10. Motivation	-.19 ^b	-.09	.18 ^a	.29 ^c	-.19 ^b	-.33 ^c	-.22 ^b	-.13 ^t	.43 ^c

Note. 179 ≤ N ≤ 184. ^tp < .10; ^ap < .05; ^bp < .01; ^cp < .001 (two-tail).

Table 3. The regression of each spring outcome measure on earlier measured predictors

Predictors	Spring outcome measures							
	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
Pre-employment Counterpart of outcome	.39 ^c	.09	.66 ^c	.38	.14 ^a	.02	.25 ^c	.06
Fall Episodic stressors	.30 ^c	.09	.17 ^b	.03	-.43 ^c	.17	-.20 ^b	.04
Total adjusted R^2	.30		.46		.19		.12	

Note. $181 \leq N \leq 184$. ^a $p < .05$; ^b $p < .01$; ^c $p < .001$.

The table contains the standardized regression coefficients. Each regression equation also controlled for age, social class of origin, race, and current marital status regardless of their significance levels. The unique R^2 column represents the R^2 increment of each factor when the factor was entered into the regression equation last.

$r = .10$): six of eight tests of the difference between dependent correlation coefficients were statistically significant ($p < .05$).

Regression analyses

To maintain the temporal priority of the school environment risk factor *vis-à-vis* the putative outcomes ordinary least squares (OLS) regression analyses were conducted to examine the relation of the fall ES scale to each of the spring outcomes, controlling for potential confounders including social demographic factors (age, race, marital status, and social class of origin) and the pre-employment counterpart of the spring-term outcome (see Table 3). In the OLS analyses, the time lag between the fall and spring terms, particularly with the sample confined to women who remained in the same schools, is brief enough to assess the immediacy of the effects of the work environment soon after the women's entrance into the work role.

Table 3 indicates that the ES scale was significantly related to pre- to post-employment change in each outcome, adversely affecting the CES-D, self-esteem, job satisfaction, and motivation. The regressions were redone with the OS scale replacing the ES scale. The pattern of results was largely similar.

Discussion

Three sets of analyses linked working conditions to the outcomes. First, RM analyses revealed time-related changes in depressive symptoms and job satisfaction

that paralleled work-environment adversity. Second, correlational findings showed that the fall work-environment measures were more closely related to future symptoms, self-esteem, job satisfaction, and motivation than to the pre-employment counterparts of the outcomes despite similar time lags. Finally, OLS analyses indicated that the ES scale predicted later outcomes adjusting for a set of control variables.

A number of limitations should be noted. First, although participants were recruited directly from the main candidate stream that supplies new teachers to New York area schools, the data do not warrant generalization to all teachers. Replication research with male and veteran teachers would be helpful in assessing the generalizability of the findings. It should, however, be borne in mind that most of the women taught in a major US metropolitan area whose school problems (a) are not dissimilar to the problems of other regions and (b) have resisted change over time.

The present study's reliance on self-report instruments is another limitation. The regression analyses controlled for pre-employment baselines of the outcome measures, reducing the likelihood that the results simply reflected artifacts of pre-existing response tendencies. The measures of working conditions, moreover, were constructed to minimize confounding with pre-employment symptoms. Because of reporting bias, objective measures of the stressfulness of New York City teachers' working conditions proved to be defective (see Schonfeld *et al.*, 1995).

Another limitation is the study's focus on acute distress and demoralization. More extensive longitudinal research is required to assess the effects of prolonged exposures to adverse working conditions. The present study hints at such effects. The mean job satisfaction score of teachers in those environments was quite low given findings from normative samples of working Americans (Schonfeld, 1990). Moreover, the mean spring-term CES-D of women exposed to the most adverse work environments (see Table 1) is high, approaching the CES-D's 'clinical cutoff' of 16 (Radloff, 1977; Schonfeld, 1990), which should be a cause for alarm. This latter finding is in keeping with a body of research that indicates that women tend to express psychological distress differently than men. Women, on average, show higher rates of depression and higher levels of depressive symptoms (e.g. Culbertson, 1997; Regier *et al.*, 1988).

A final limitation is that the study does not examine models other than a basic 'exposure' model (Dohrenwend & Dohrenwend, 1981). Other risk and protective factors need to be introduced in order to evaluate more complex models.

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