Occupational Stress and Preemployment Measures of Depressive Symptoms: The Case of Teachers

Irvin Sam Schonfeld
Dept. of Social and Psychological Foundations
City College of New York, New York, NY 10031

and

Dunqiu Ruan
Dept. of Sociology, Columbia University, New York, NY 10027

This paper describes difficulties involved in conducting cross-sectional and longitudinal research on the effects of occupational stressors on the mental and physical health of workers. The difficulties include (1) the disappearance, prior to the beginning of the investigation, of the causality of job stress (Kasl, 1983) and (2) selection bias. The paper advances the view that an alternative design, one that (1) follows new workers longitudinally, (2) includes preemployment measures of mental and/or physical health, and (3) controls for nonoccupational stressors, is warranted. The alternative design allows for (a) the assessment of the extent to which the findings are vulnerable to selection bias and event-promiscuity explanations (Dohrenwend and Dohrenwend, 1981) and (b) the estimation of relatively immediate effects of working conditions on health. The paper provides an example of such a design in a study of the effects of adverse working conditions on depressive symptoms in female teachers. Ordinary least squares and LISREL analyses suggest that adverse working conditions exert a relatively immediate effect on depressive symptoms in teachers, controlling for preemployment symptoms and other factors (age, race, social support, nonoccupational stressors, marital status, and social class of origin). Event-promiscuity and selection-based explanations were ruled out. These criteria for the utility of collecting preemployment health data are outlined: differential selection, immediacy of effects, and convenience.

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The purpose of this paper is to examine the link between job conditions and depressive symptoms in newly appointed teachers. In examining this link, the utility of following new workers longitudinally will be described. The paper will show that measurement of preemployment health can be particularly helpful in research on occupational health.

Most of the published literature on occupational stress involves samples of veteran workers. Kasl (1983) forcefully argued that research on veteran workers, including longitudinal studies that follow cohorts of veteran workers over time, is problematic. It is almost impossible to study the causal effects of workplace stress in veteran workers, even with the help of longitudinal designs. Kasl (1983) wrote, "the casualties of inadequate adaptation may have disappeared from observation and the remainder have adapted 'successfully' (e.g., giving up on expecting work to be a meaningful human activity), but the costs of such 'successful' adaptation can no longer be reconstructed through the belated follow-up" (p. 90). Studies of veteran workers are also problematic because they are susceptible to selection-based explanations. Investigators often have little or no knowledge of the physical and mental health of veteran workers before they assumed their current jobs, making it difficult to determine if poor health in members of certain occupational groups is the result of exposure to adverse working conditions or if 'less healthy individuals selected themselves into the occupational groups under study.

Virtually all the published literature on teacher stress, the focal interest of the research presented here, involves samples of veteran teachers. The one paper we could locate is which an investigator examined newly appointed teachers was an unpublished final report for a grant (Kahn, 1982). Thus, in the area of sample selection, the teacher-stress literature is similar to the majority of studies in the occupational stress literature.

A Case Study

In research on psychopathology, case studies have often stimulated investigations in pursuit of links between possible causal variables and mental health outcomes. By itself, a case study can not establish causation; however, it can be helpful in elucidating aspects of the phenomena under study. The case study differentiated here highlights in establishing causal links between job conditions and (mental) health outcomes when studying veteran workers. The heretofore unpublished case material was collected in a study of coping behaviors employed by veteran teachers (Schorrfield, 1990a).

The case study (with identifying characteristics changed to preserve anonymity) of a veteran teacher apparently implicates adverse working conditions as a contributing cause of the teacher's depressive symptoms.

A woman with four years experience as a science teacher in a public school in an affluent suburb of Chicago obtained a position as biology teacher in a Bronx high school. She was an excellent biology student in college and her teaching earned satisfactory ratings for each of the four years she taught in suburban Chi-ago.

As a teacher with low seniority in her new school, she was assigned classes with students having very weak academic skills. It is no surprise that children who are weak academically also have many conduct difficulties (Kolvin, Miller, Fleeting, & Kolvin, 1988; Schoenfeldt, Shaffer, O'Conner, & Pemoy, 1988). She encountered childhood who by her standards were extremely unruly and given to fighting. She reported that the children frequently used vulgar language to express their contempt for her and, no less, for each other. With a great deal of energy, she tried to maintain order and a semblance of learning in her classes, but often she felt she was a failure. Her first year in the school was marked by episodes of depression that were severe enough to prompt her to seek help from a psychiatrist who would then treat her with an anti-depressant medication.

Although this case study appears to support the conclusion that her depressive symptoms resulted from difficult school-related circumstances, such a conclusion, for a number of reasons, would probably be unwarranted. First, the teacher had experienced the loss of her father the year before she started teaching in the Bronx. Second, she had recently moved to a new city. It is possible that both the loss of her father and the move could have led to a depressive episode, or that the combination of the loss, the move, and the daily interaction with unruly students brought about an episode. The teacher, however, had several depressive episodes prior to her father's death while she lived in the Chicago area and was prescribed anti-depressant medication to treat those episodes.

The issue of linking work-related stressors to psychological health is far from straightforward. The case study suggests that self-selection of selection via administrative pathways may mislead investigators into believing that situations commonly held to be aversive cause depressive symptoms. The case study illustrates the viability of what Dohrenwend and Dohrenwend (1981) described as an event process model. In the model, individuals with preexisting psychopathology are at increased risk for experiencing undesirable life events. Given the framework of the model, it is plausible that the teacher's classroom management skills were handicapped by preexisting psychopathology. Inadequate classroom management can contribute to the unruliness of students. The case study, thus, underscores the importance of controlling for preexisting health.

The case study also highlights the desirability of obtaining information on stressors occurring outside of occupational roles. The experience of a
A problem of ongoing longitudinal study that begins just after the job is lost is the dislocation and disturbance of the social world. A teacher who has lost their job and is reintegrating into the social world, finds themselves in a new environment. The teacher must learn the rules and norms of their new environment, which can be challenging and stressful. The process of reintegration into the social world can also affect the teacher's mental health and well-being.

Another issue is the stress of finding a new job. Teachers who are unemployed face significant stress as theysearch for new employment. The uncertainty of finding a new job can lead to anxiety, depression, and feelings of helplessness. Teachers may also experience financial stress, as they struggle to make ends meet while they are unemployed.

The study also highlighted the importance of support systems in helping teachers to cope with unemployment. Teachers who were able to maintain social connections and access to support networks were able to better manage the stress of unemployment. Support systems can provide emotional support, practical assistance, and a sense of community that can help teachers to feel less isolated and more supported.

In conclusion, the study found that unemployment can have significant impacts on teachers, including stress, dislocation, and struggle to find new employment. The study also emphasized the importance of support systems in helping teachers to cope with unemployment. Teachers who had access to support networks were better able to manage the stress of unemployment and find new employment.

A Sample of Newly Appointed Teachers

In the study, teachers who had recently completed their training and were in the early stages of their careers were included. These teachers were found to be experiencing significant stress, as they were navigating the challenges of starting their new jobs. The study highlighted the importance of support systems in helping these teachers to cope with the stress of their new roles.

Some of the strategies that were found to be helpful for these teachers included seeking support from colleagues, seeking guidance from experienced teachers, and seeking professional development opportunities. The study also emphasized the importance of creating a supportive environment in schools, where teachers feel valued and supported.

In conclusion, the study found that newly appointed teachers experience significant stress, as they navigate the challenges of starting their new jobs. The study highlighted the importance of support systems in helping these teachers to cope with the stress of their new roles. Teachers who had access to support networks were better able to manage the stress of their new roles and were more likely to feel supported.

The study also emphasized the importance of creating a supportive environment in schools, where teachers feel valued and supported.
## TABLE 1

<table>
<thead>
<tr>
<th>Gender</th>
<th>Teachers</th>
<th>Non-Teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>27.14</td>
<td>28.50</td>
</tr>
<tr>
<td>Female</td>
<td>27.70</td>
<td>2.25</td>
</tr>
<tr>
<td>% Married</td>
<td>32.0</td>
<td>3.14</td>
</tr>
<tr>
<td>% White</td>
<td>69.8</td>
<td>60.7</td>
</tr>
</tbody>
</table>

Note: Class of Origin was measured by cohort graduation (1979-1983) or by current age (in California). The data presented are in the form of two-way tables of data collection.
measured with the Center for Epidemiologic Studies—Depression Scale (CES-D; Radloff, 1977), a depressive symptom scale, widely used in epidemiologic surveys (Schoenfeld, 1990b), with satisfactory reliability and validity. In the present sample, the alpha coefficients for the summer, fall, and spring CES-Ds exceeded .89.

Social support was measured in the summer with an 8-item version of Cohens’s (Cohen, Kamarck, & Mermelstein, 1983; Cohen & Wills, 1988) Likert-type version of the Interpersonal Support Evaluation List (alpha = .79). The items assessed the availability of companionship (e.g., If I decide one afternoon that I would like to go to a movie that evening, I could easily find someone to go with me) and confidants (e.g., There is at least one person I know whose advice I really trust). The demographic section of the questionnaire provided information on age, marital status, social class of origin (Hollingshead, 1974), and race.

Two measures of the adversity of the school environment were developed: (1) the Episodic Stressor Scale; and (2) the Strain Scale. The Episodic Stressor and Strain Scales reflect a distinction made in the stress literature between eventful experience and chronically occurring conditions (Pearlin & Schooler, 1978). Both scales employed neutral worded self-report items assessing the frequency with which the teachers encountered different types of stressors. In contrast to traditional stress and burnout items that assess the extent to which the teachers are annoyed, bothered, or otherwise disturbed by the stressors, neutral worded items are less likely to be confounded with symptoms (Kasl, 1987; Schoenfeld, 1990b, 1990c).

The Episodic Stressor Scale was calculated by computing the teacher’s mean score on items assessing the frequency with which she encountered episodically occurring stressors (e.g., threat of personal injury, confrontation initiated by an insolent student, episode of vandalism). 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. The Strain Scale, a name that is consistent with Pearlins and Schoolers’s (1978) terminology, was calculated by computing the teacher’s mean score on the items assessing ongoing stressors (e.g., overcrowded classrooms, unmotivated students, tendency of administrator to enforce rules against disruptive pupils). 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. Both the Episodic Stressor and Strain Scales included positively worded items (e.g., “a parent praised you”) in order to break any tendencies toward response set. These items were reverse-scored. Alpha coefficients for the environmental stressor scales are presented in Table 2.

| TABLE 2 | Means, Standard Deviations, and Alpha Coefficients for the Fall and Spring Stressor Scales |
|---|---|---|---|
| Stressor scales | M | SD | Alpha |
| Fall (Time 1) | | | |
| Episodic Stressors | 1.06 | .56 | .83 |
| Strains | 1.25 | .58 | .84 |
| Spring (Time 2) | | | |
| Episodic Stressors | 1.16 | .58 | .84 |
| Strains | 1.38 | .60 | .85 |

RESULTS

The findings are presented in three sections. Findings bearing on the preemployment differences in depressive symptoms in teachers and nonteachers are presented first. The second and third sections present the results of within-teachers analyses. The second set of results consists of ordinary least squares (OLS) regression analyses in which fall symptom levels are predicted by the school environment with preexisting symptoms and other factors controlled. Finally, structural equation analyses capitalizing on three waves of data collection are presented.

Differences Between the Teachers and Nonteachers

As shown in Table 3, the preemployment mean CES-D of women who became teachers was significantly lower than that of the women who did not become teachers. Teachers, however, did not differ significantly from nonteachers in either the fall or the spring. These findings suggest that selection may not account for variance in symptoms among teachers. The nonteachers, however, may not have constituted a suitable comparison group. Excluding full-time graduate students, about 28% of the nonteachers were not employed and 65% of the nonteachers who went to work obtained lower status jobs, according to the Hollingshead (1974) rating scheme, than the teachers.

Adverse School Conditions and Fall Depressive Symptoms

The correlations among the variables employed in the regression analyses are shown in Table 4. In order to examine the influence of school conditions on depressive symptoms, the fall CES-D was regressed on a number of control vari-
TABLE 3  Mean Differences Between Teachers and Nonteachers on the CES-D

<table>
<thead>
<tr>
<th>Time of year</th>
<th>n</th>
<th>M</th>
<th>SE</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Summer (Time 0)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teachers</td>
<td>169</td>
<td>10.67</td>
<td>8.98</td>
<td>2.63</td>
<td>.01</td>
</tr>
<tr>
<td>Nonteachers</td>
<td>84</td>
<td>13.93</td>
<td>8.98</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fall (Time 1)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teachers</td>
<td>163</td>
<td>12.37</td>
<td>9.03</td>
<td>1.59</td>
<td>ns</td>
</tr>
<tr>
<td>Nonteachers</td>
<td>84</td>
<td>14.36</td>
<td>9.81</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spring (Time 2)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teachers</td>
<td>141</td>
<td>12.75</td>
<td>9.39</td>
<td>.63</td>
<td>ns</td>
</tr>
<tr>
<td>Nonteachers</td>
<td>73</td>
<td>15.64</td>
<td>10.31</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Thes, including the preemployment CES-D, and the Episodic Stresor Scale (see Table 5). The other control variables included social class of origin, life events, marital status, race, social support, and age. Only the preemployment depression measure and the Episodic Stresor Scale were significantly related to outcome. It was expected that the other control variables would not be strongly related to postemployment CES-D when the preemployment CES-D was controlled. Cohen and Cohen (1983) wrote that "whatever relationship to [the postvariable] these other candidates may have is likely to already be represented (and to an even greater degree) in their relationship to [the prevariable]." (p. 423). The R² for the equation containing the control variables but not the Episodic Stresor Scale was .34; the R² increase when the Episodic Stresor Scale was entered into the regression equation last was .11.

To put the OLS analyses in context, consider that a unit difference on the Episodic Stresor Scale was associated with a 5-point adjusted (for preemployment symptoms, etc.) increase in postemployment symptoms based on the unstandardized regression weight found in Table 5 (as in the difference between classrooms in which epipdic stressors occur at a rate of about once per month [an Episodic Stresor Scale score of 1]) and classrooms in which stressors occur at a rate of about once per week (scale score of 2]). Given the normative landmarks of the symptom measure (Schoenfeld, 1990b) as well as the R² increase, such an effect is important from a public health standpoint.

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Age</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Social support</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Life events</td>
<td></td>
<td>10</td>
<td>2.25*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Soc. class of origin</td>
<td></td>
<td>14</td>
<td>0.26</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Married</td>
<td></td>
<td>6.05*</td>
<td>-0.01</td>
<td>0.96</td>
<td>0.11</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. White v. Nonwhite</td>
<td></td>
<td>2.74*</td>
<td>0.15</td>
<td>0.29**</td>
<td>0.04</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Summer CES-D</td>
<td></td>
<td>2.74</td>
<td>-0.06</td>
<td>-0.15</td>
<td>-0.39*</td>
<td>0.04</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Episodic Stressors</td>
<td></td>
<td>3.74</td>
<td>0.34</td>
<td>0.63</td>
<td>0.10</td>
<td>0.05</td>
<td>0.11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Strain</td>
<td></td>
<td>1.10</td>
<td>-0.11</td>
<td>-0.05</td>
<td>0.14</td>
<td>0.04</td>
<td>-0.14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Post CES-D</td>
<td></td>
<td>-2.34*</td>
<td>0.02</td>
<td>0.14</td>
<td>-0.14</td>
<td>-0.01</td>
<td>0.14</td>
<td>-0.14</td>
<td></td>
</tr>
</tbody>
</table>

Note: (a) All correlations are Pearson's r. (b) *p < .01. (c) **p < .001. (d) Z-scores reflect linear scores.
TABLE 5 Regression of the Fall CES-D on the Episodic Stressor Scale and Control Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>Beta</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>-1.14</td>
<td>-1.12</td>
<td>ns</td>
</tr>
<tr>
<td>Social support*</td>
<td>-0.67</td>
<td>-0.65</td>
<td>ns</td>
</tr>
<tr>
<td>Life events</td>
<td>0.26</td>
<td>0.26</td>
<td>ns</td>
</tr>
<tr>
<td>Social class of origin*</td>
<td>0.19</td>
<td>0.20</td>
<td>ns</td>
</tr>
<tr>
<td>Not married*</td>
<td>0.89</td>
<td>0.85</td>
<td>ns</td>
</tr>
<tr>
<td>White v. Nonwhite*</td>
<td>0.75</td>
<td>0.24</td>
<td>ns</td>
</tr>
<tr>
<td>Summer CES-D</td>
<td>0.53</td>
<td>0.53</td>
<td>0.0001</td>
</tr>
<tr>
<td>Episodic stressors</td>
<td>6.00</td>
<td>0.35</td>
<td>0.0001</td>
</tr>
</tbody>
</table>

Note: With pairwise deletion of missing values n = 158.
*Higher scores reflect increased support.
*Higher scores on the Hollingshead (1975) reflect lower social status.
# = Not currently married; 1 = Married.
* = Nonwhite, 1 = White.

A parallel set of regression analyses in which the Strain Scale replaced the Episodic Stressor Scale showed no substantive change in the findings. The Strain Scale was significantly (B = 5.40; Beta = 0.34, p < 0.0001) related to postemployment symptoms controlling for all other factors. The R² increase associated with the Strain Scale was .11.

The issue of the timing of the measures bears on this analysis. The test of the relation of fall school conditions to fall symptoms constitutes a concurrent analysis. The analysis leaves open the possibility that depressive symptoms "cause" the occurrence of so-called environmental stressors (e.g., depressed teachers promote classroom environments conducive to student rule-breaking, a version of the "event proneness" model described by Dobrenwend and Dobrenwend [1981]). In order to assess the viability of this alternative hypothesis, the zero-order correlations between summer symptoms and the two fall measures of the school environment were examined. The correlations between summer symptoms and the fall Episodic Stressor and Strain Scales were nonsignificant (see Table 4). The two occasions at which the factors were measured were sufficiently close in time to cast doubt on an event-proneness explanation of the findings.

LISREL Models

 Provisional models of causal pathways were developed from the same covariance matrix with the help of the LISREL (Joreskog & Sorbom, 1989) computer program. According to Hayduk (1987), sample size (n = 128) was sufficiently large for model building. To simplify model building all control variables except the summer CES-D were excluded. This was justified in view of the results of OLS analyses that failed to show significant effects for the other control variables with summer CES-D in the regression equation. Different variables, however, were brought into the LISREL models. In order to construct a latent fall (Time 1) school environment variable (Env1 in Figures 1 and 2), both the fall Episodic Stressor (Evl1 for School Events Time 1) and Strain (Str1) Scales served as indicators. Similarly, the spring Episodic Stressor (Evl2) and Strain (Str2) scales served as indicators of the Time 2 school environment (Env2). Env1 and Env2 were forced to be in same units as the Episodic Stressor Scale. Spring (preemployment), fall, and spring CES-Ds were used to construct the Time 0, 1, and 2 Symptoms measures, respectively. Each Time 0, 1, and 2 Symptoms factor was forced to have the same scale as its indicator.

Collecting three waves of data was helpful in estimating reciprocal effects. The availability of preemployment (Time 0) symptom data, in this analysis as an "instrumental" variable, made possible the estimation of reciprocal effects (Kenny, 1979). For this purpose, LISREL resembles two-stage least squares analyses. LISREL, however, has the added capability of building measurement error into the model. Based on the reliability (alpha) coefficient of each CES-D indicator, an error term for each indicator was entered into the model. Since both the Time 1 and 2 Environment factors each have two indicators, LISREL was allowed to estimate the error term for each school-stressor indicator. The epsilon terms for the two Strain indicators were the only two error terms that were allowed to be correlated. This was justified on the grounds that the Strain Scales measure ongoing types of stressors.

One of the models that fit (X²/V = 7.83, p = .45) the data is depicted in Figure 1. The model shows reciprocal effects at Time 1 and again at Time 2. The effect from Environment to Symptoms was at each time somewhat greater than the ("halo") effect from Symptoms to Environment (n.s.). The model was improved slightly when the paths representing the halo were dropped; however, the paths representing the halo were retained here in support of the view that the effect of adversities in the school environment on teachers' depressive symptoms is causal controlling for individual differences in the teachers' tendencies to report on their work environments.
The chi-square values of rival models, including a model with crosslagged effects (see Figure 2; X$^2$(10) = 44.80, p < .0001), led to their rejection. In the crosslagged model, however, it should be noted that the effect from Time 1 Environment to Time 2 Symptoms was significant but the effect from Time 1 Symptoms to Time 2 Environment was not. The OLS and LISREL analyses suggest that the effects of the work environment on depressive symptoms in teachers are immediate and begin with the commencement of the first school year.

DISCUSSION

Three sets of findings were outlined. First, t-tests suggested that it was unlikely that highly symptomatic women initially selected themselves into teaching. Of interest is the relatively high level of distress in the nonteacher sample, which may reflect the influence of (1) a high rate of unemployment after college and (2) the relatively low status jobs held by those who were employed; see Warren & Parry, 1982). Second, consistent with the view that the impact of the job environment on distress is relatively immediate, the OLS analyses indicate that there was a substantial effect of adverse job conditions on depressive symptoms as early as November, the third month of the teachers' careers. The correlations of preemployment symptoms with newly-named stress symptoms suggested that the causal path from the school environment to symptoms is substantially stronger than the causal path from symptoms to environment.

Central to each of these analyses was the collection of preemployment data on symptoms. Without such data the selected hypothesis could not have been tested. Moreover, without preemployment symptom data the regression analyses would have been narrowly cross-sectional, offering little opportunity to test the event-promotion model. Preemployment symptoms constituted an instrumental variable that made possible either LISREL or two-stage least squares procedures (the results are similar although the latter procedures are not presented) to assess reciprocal effects.

The study has several limitations. First, only women were examined. Because teaching is a traditional "female" occupation, many more women than men were available to be recruited. In the future, after data from four cohorts have been collected, it is expected that sufficient numbers of male teachers will have been included into the study to supply the power required for statistical analyses. Second, the sample was restricted to new teachers in their first year on the job. The pattern of findings, however, is consistent with results obtained with veteran teacher samples (e.g., Finlay-Jones, 1986; Hammern & deMayo, 1982; Schonfeld, 1990b). Future analyses of some cohorts will extend to later years on the job. Third, the women were older than "traditional" college graduates. Demographic trends, however, reveal that the average age of individuals attending college has been increasing in recent years, a trend that is expected to continue into the 1990s (Brisso, 1990; Gerald, Horn, & Hassard, 1989).

The average age of the women, although not like that of college graduates in the 1960s, was in line with recent trends.

It might be argued that the proper analysis would capitalize on lagged data, but only the data obtained in the fall (Time 1) and spring (Time 2). In each of those two waves both symptoms and the work environment were assessed. In the summer, only (and necessarily) symptom data were collected. Interestingly, this kind of lagged analysis would be prospective, but probably "not prospective enough" because the critical periods of data collection were the summer and November waves. This is reflected in the rejection of the LISREL model that included lagged effects from Time 1 Symptoms to Time 2 Environment and from Time 1 Environment to Time 2 Symptoms (Figure 2) and the satisfactory fit of the simultaneous effects model (Figure 1). It might be further argued that with teachers, data collection at multiple points in time between the September start date and the November might be helpful in better ascertaining the zigs and zags of distress as a function of the school environment. Such a procedure, however, ought to be employed with caution because of the risk of reduced symptom scores owing to a "re-test artefact" (Jorm, Duncan-Jones, & Scott, 1989).

When to Use Preemployment Measures of Health?

It is not clear that preemployment measures of health are required in all studies of the effects of occupational stressors. Three criteria for making decisions on when to obtain preemployment measures of health are suggested. The first criterion involves selection. If there is evidence that individuals differentially select themselves into occupations, plants, schools, wrecksites, etc., there is reason to obtain preemployment measures. A second criterion is immediacy of effects. If there is reason to suspect that the impact of job conditions on health is relatively immediate, which may well be the case for teachers, preemployment data would be helpful in disentangling effects. Without preemployment data the analyses presented here would have been sharply limited to cross-sectional data or less-than-optimally time-lagged data. If the effects of particular occupational conditions on health are relatively slow-acting, preemployment measures would probably not be helpful as long as
longitudinal data collection begins at a point in time that is relatively early in the process in which the suspected stresses exert their effects. A third criterion for collecting preemployment data is convenience. If (1) an investigator is studying an occupation in which the effects of environmental stresses are slow-acting and (2) self-selection for health is unlikely but (3) data on preemployment health can be collected conveniently, there is incentive to obtain such data. By obtaining preemployment health data the investigator can establish a baseline from which to map the trajectory of change in the individual's health. Preemployment medical data can sometimes be conveniently obtained from records at relatively little cost to the investigator because new employees may be required to take a physical examination that includes a few basic health measures like blood pressure and heart rate. In contrast to medical data, preemployment data on depressive symptoms and anxiety are less readily available.

REFERENCES


Workplace and Personal Stresses Antecedent to Employees’ Alcohol Use

Brian D. Steffy
Department of Business Administration
Franklin and Marshall College, Lancaster, PA 17604-3003

Dennis R. Laker
School of Management, Widener University, Chester, PA 19013

There exists little documentation about the influence of work-related variables on employees’ drinking behaviors. This study evaluates the impact of work role stressors (e.g., loud, ambiguity & boredom), employment insecurity and recent life stressors on the level of drinking and the use of alcohol to relax. A large sample of health care workers was surveyed. Findings suggest a relationship between alcohol use and stress associated with recent stressful life changes and employment insecurity, though little evidence exists to suggest that work role stressors affect alcohol use.

It is estimated that five percent of the U.S. workforce is alcoholic (Schramm, Mandell, & Archer, 1978). If we included nonalcoholic problem-drinkers the estimate would probably be much higher. The costs associated with work-related alcohol abuse are difficult to evaluate, yet most of the popular literature acknowledges that the costs associated with alcohol-related accidents, work performance decrements, and social maladjustment are probably severe (Archer, 1977). Borrowing from Patton and Kaufman (1982), we distinguish between alcohol use, alcohol misuse, and dependence. By definition, alcohol use may be motivated by the psychic rewards it provides its users. People drink to momentarily feel good, enhance socialization, improve their self-image, manipulate moods, and manage the transient trauma of personal loss (Caddy, 1978). Alcohol misuse is defined as excessive use, though the individual may be neither chemically nor psychologically dependent. Misuse is construed primarily in terms of the negative consequences of alcohol use, where excessive use leads to retarded psychomotor functioning, aggression, impairment of social roles, and/or marital maladjustment (Caddy, 1978; Hull & Bond, 1986).

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