Some psychological consequences of striking:  
A six month, longitudinal study

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SUMMARY

The literature available on organizational psychology has largely neglected the issue of industrial conflict, and little is known about individual psychological effects of industrial conflict such as labour disputes and strikes. Psychological consequences of involvement in a strike were assessed in this research. Data were collected from 117 full-time, white collar union members immediately following a 22 day strike, and again two and six months later. Negatively perceived industrial relations events (e.g. 'strike or lockout', 'being involved in negotiations') were associated with marital adjustment, psychosomatic symptoms and a lack of psychological well-being on completion of the strike, and predicted unfavourable changes in psychological well-being over the next two and six months. A framework for understanding the negative effects of labour disputes and strikes is proposed, and the role of the organizational psychologist when such conflicts occur is considered.

INTRODUCTION

Until recently, organizational psychologists and trade unionists have expressed a mutual lack of interest in, if not strong distrust of, each other (Gordon and Burt, 1981; Huszczko, Wiggins and Currie, 1984). Industrial relations (IR) issues are often seen as irrelevant to organizational functioning (Hartley, 1984). For example, there is considerable theorizing and research on the leadership of managers and supervisors, yet little on union office-bearers and shop stewards. Also, studies on organizational 'climate' focus on the work place and avoid the union environment. Furthermore, while work stress remains one of the most frequently researched topics in organizational psychology (Staw, 1984), there is virtually no research on the stressful elements of IR (Bluen and Barling, 1985).

Possibly the most observable manifestation of industrial conflict is a breakdown in collective bargaining resulting in strike action (Hartley, 1984). Strike action is sometimes the only effective means of achieving organizational change and solving long-standing grievances (Nicholson and Kelly, 1980). During a strike, important psychological processes (e.g. inter- and intragroup conflict; Stagner and Eflal, 1982) and stressors occur (such as sudden changes in financial and employment status, the uncertainty and unpredictability of the outcome of the dispute or strike; Hyman, 1984), and a continuous shifting of central issues and relationships between the actors (Nicholson and Kelly, 1980) necessitates major and rapid role changes of those involved. Yet, with very few exceptions (e.g. Hartley, Kelly and Nicholson, 1983;...
Shirom, 1982; Stagner and Eflal, 1982), most of the research on strike activity is still conducted by non-psychologists (Nicholson and Kelly, 1980). Since work stress is still one of the most commonly researched areas in organizational psychology (Staw, 1984), it is surprising that organizational psychologists largely ignore the stress inherent in labour disputes and strikes.

MacBride, Lancee and Freeman (1981) assessed the psychosocial impact of a labour dispute involving Canadian air traffic controllers in 1976. The air traffic controllers had taken a majority vote (85 per cent) to strike, but were prohibited from doing so by legislation passed before the strike commenced. As part of MacBride et al.'s (1981) on-going study, these controllers were already completing questionnaires on job-related stress, social support, psychological and physical health. Data were available for this group during the labour dispute, and again four and ten months later. During the dispute, 48 per cent of the sample obtained scores greater than five on the 30-item General Health Questionnaire which indicate non-psychotic psychiatric disturbance (Goldberg, 1972). Four and ten months later, 27 per cent and 31 per cent of the respondents still obtained scores indicative of psychiatric disturbance. However, whether these levels of psychiatric disturbance were attributable directly to the labour dispute remains questionable: Air traffic controllers in general suffer considerable day-to-day job stress (Cobb and Rose, 1973), and no comparative data were available either from a control group or a predispute measure. Moreover, although the air traffic controllers rated bilingualism (the central issue in the dispute) as the major stressor they experienced during the dispute, no analyses were reported assessing whether there was a statistical relationship between this stressor and subsequent psychological functioning.

As yet, there is no empirical evidence directly linking the stress associated with labour disputes and strikes with unfavourable changes in psychological functioning. To redress this, the present study assesses the psychosocial impact of involvement in a strike on psychological well-being, psychosomatic health and marital functioning. Specifically, the present study (a) assesses specific IR stressors and psychological functioning longitudinally, i.e. as the strikers were legislated back to work and again two and six months later, (b) uses an appropriate assessment of change in psychological functioning (Jackson, Stafford, Banks and Warr, 1983), and (c) controls confounding and extraneous variables statistically. Thus, any predictions about the stressful nature of strikes assume greater importance. Within this non-experimental, longitudinal design, it is predicted that initially high levels of IR stress will be associated with problems in concurrent psychological functioning, and will predict negative changes in subsequent psychological and psychosocial functioning.

METHOD

Background

Prior to this study, the union representing the participants had been involved in negotiations with the Board of Regents for Colleges of Applied Arts and Technology in Ontario for ten months. The central issue was economic, namely work load (the number of formal hours of teaching required was deemed excessive by the employees), and its presumed effect on the quality of education (McNenly, 1984). Failure to
negotiate a contract settlement resulted in 7600 white collar employees in 22 colleges across the province going out on a legal strike on October 17th, 1984. Agreement on the conditions for a new contract could not be reached and the provincial Minister of Education legislated all striking employees back to work without a contract settlement on November 9th, 1984 (Cruickshank, McMonagle and Taylor, 1984). The Provincial Minister for Education legislated full-time professionals and counsellors back to work, ostensibly because continuation of the strike would jeopardize successful completion of courses by the students. The teaching faculty was then given the responsibility of completing all duties missed during the period of the strike. All employees did return to work. Given the specific onset, time-bound nature, and short-term duration of the strike, it constitutes an acute stressor (Pratt and Barling, 1986).

Subjects

As the strike was terminated, questionnaires were mailed to all members of OPSEU local 417, which represented all 312 full-time teaching staff and counsellors at three geographically separate community colleges. Eleven questionnaires were subsequently returned by the post office as undeliverable. Of the remaining 301, 117 questionnaires were completed and returned, a response rate of 38.9 per cent. Two months later, the same questionnaires were sent to these 117 respondents. Seventy-five were completed fully and returned, a response rate of 64.1 per cent. The mean age of these 75 respondents was 43.1 years (S.D. = 8.1), they had been with the college for an average of 10.3 years (S.D. = 4.8) and members of the union for an average of 8 years (S.D. = 4.2). Four months later, identical questionnaires were again mailed to these 75 respondents; and 49 respondents (65.3 per cent) returned completed questionnaires. The mean age of this final sample was 44.3 years (S.D. = 8.3), and their average employment and union tenure was 10.6 years (S.D. = 4.6) and 8.2 years (S.D. = 4.3) respectively.

It is not possible to ascertain conclusively whether the respondents at the three different testing periods were representative of the total teaching and counsellor population at the three colleges. However, the male:female ratio (expressed as a percentage) for the sample responding at the end of the strike (53:47), and again two and six months later (52:48 and 49:51) was not statistically different ($p > 0.05$) from the total population at the three colleges (59:41).

Procedure

A letter from the local union president expressing support for the research and encouraging voluntary participation, together with the authors' covering letter, the questionnaires, and reply-paid, self-addressed envelopes were distributed by mail. A subject number was assigned to each questionnaire and respondents received the guarantee that these numbers would be detached from the questionnaires at the completion of the study to ensure anonymity. After completion of the research, a report was sent to the local union president and made available for any interested union member. Both the procedure and questionnaires at the post-strike testings were the same as for the initial testing.
Questionnaire material

The 63-item Industrial Relations Event Scale (Bluen, 1986; Bluen and Barling, 1985) measures stressful events specifically associated with IR (e.g. 'strike or lockout', 'resolving issues or disputes', 'being involved in negotiations'). The occurrence of each stressful event is recorded, and its perceived positive (0 to +3) or negative (0 to −3) impact is measured. The Industrial Relations Events Scale yielded high internal reliability (alpha = 0.95) and test–retest stability over seven weeks (r = 0.89) in the initial research generating and assessing its psychometric properties (Bluen, 1986; Bluen and Barling, 1985). Concurrent validity was acceptable in that the three IRES indices correlated significantly and in the appropriate direction with measures of work and supervisory satisfaction, and role stress. Contrasted groups validity was also acceptable: Shop stewards and union officials experienced far higher scores on all IRES subscales than management or supervisors (Bluen, 1986; Bluen and Barling, 1985).

In the present study, test–retest reliability for all three subscales across the first two-month period was assessed (occurrence index: r(73) = 0.64, p < 0.001; negative index: r(73) = 0.58, p < 0.01; positive index: r(73) = 0.28, p < 0.01). However, neither the occurrence nor the positive IR stress index were considered further. Negative IR events were chosen as the predictor in all analyses because (a) they reflect a subjective measure of stress (unlike the occurrence index), (b) the perception of positive IR events is consistently less predictive of subsequent strain than general negative (Vinokur and Selzer, 1975) or IR specific (Bluen and Barling, 1985) events, and (c) there is a problem of multicollinearity between the occurrence and negative IR stress indices (r(115) = 0.87, p < 0.001).

Three separate self-report questionnaires assessed possible consequences of IR stress. Locke and Wallace’s (1959) 15-item Short Marital Adjustment Test assesses spouses’ accommodation to each other. This scale is internally and temporally reliable (MacEwen and Barling, 1986), consistently differentiates between clinically distressed and non-distressed relationships (Barling and Rosenbaum, 1986) and remains the most widely used measure of marital adjustment (O’Leary and Turkewitz, 1978). The General Health Questionnaire was used to assess psychological well-being. It comprises 12 items measuring the individual’s personal effectiveness, success and satisfaction, and is appropriate for studies conducted in occupational health settings (Banks, Clegg, Jackson, Kemp, Stafford and Wall, 1980). Finally, Gurin, Veroff and Feld’s (1960) 20-item checklist assessed four aspects of psychosomatic disorders: Psychological anxiety and immobilization, physical anxiety and physical health. In the present study, test–retest reliabilities for all three of these measures over the first two months was very satisfactory (Short Marital Adjustment Test: r(74) = 0.81, p < 0.01; General Health Questionnaire: r(74) = 0.77, p < 0.01; and the Psychosomatic Symptom Checklist: r(74) = 0.80, p < 0.01). Internal consistency at the time of the strike was also satisfactory (General Health Questionnaire: alpha = 0.88; Psychosomatic Symptom Checklist: alpha = 0.73).

RESULTS

To assess whether there was a self-selection bias operating amongst those who responded only at the end of the strike, t-tests were computed comparing the group
who only completed the questionnaires at the end of the strike with those who responded subsequently (i.e. time 1 versus time 2; time 1 versus time 3). No significant differences emerged between these groups in their perception of IR stressors or level of psychological functioning (all \( p \)'s > 0.05).

The first set of analyses concerned the zero-order correlations between IR stressors and the three indices of psychological functioning at the end of the strike. Negatively-perceived IR events were associated with psychological well-being \( (r(115) = -0.43, p < 0.001) \), psychosomatic symptomatology \( (r(115) = 0.38, p < 0.01) \) and marital adjustment \( (r(94) = 0.17, p < 0.05) \) (see Table 1).

<table>
<thead>
<tr>
<th>Variable</th>
<th>( M )</th>
<th>S.D.</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Age</td>
<td>43.1</td>
<td>8.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>2. Union tenure</td>
<td>7.9</td>
<td>4.2</td>
<td>0.31†</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Company tenure</td>
<td>10.3</td>
<td>4.8</td>
<td>0.47†</td>
<td>0.50‡</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. IR events: Negative</td>
<td>39.0</td>
<td>27.4</td>
<td>-0.11</td>
<td>0.04</td>
<td>-0.14</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Psychological well-being</td>
<td>11.6</td>
<td>5.4</td>
<td>-0.24†</td>
<td>-0.06</td>
<td>-0.09</td>
<td>0.43‡</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Marital adjustment</td>
<td>112.5</td>
<td>24.2</td>
<td>-0.03</td>
<td>-0.07</td>
<td>-0.15</td>
<td>0.17§</td>
<td>-0.13</td>
<td></td>
</tr>
<tr>
<td>7. Psychosomatic symptomatology</td>
<td>33.6</td>
<td>4.6</td>
<td>-0.01</td>
<td>0.10</td>
<td>-0.07</td>
<td>0.38‡</td>
<td>-0.15</td>
<td>-0.14</td>
</tr>
</tbody>
</table>

*For age, union and company tenure, \( n = 75 \); for marital adjustment, \( n = 97 \); for all other variables, \( n = 117 \).
†Decimal points omitted in correlation matrix.
‡ \( p < 0.01 \); § \( p < 0.05 \).

The central focus of this study, concerns the amount of unfavourable change in marital adjustment, psychological well-being and psychosomatic symptomatology attributable to IR stress experienced two and six months after the end of the strike. To address this issue, separate change scores (i.e. psychological functioning two or six months post strike minus the score on the same dependent variable as the strike ended) were operationalized as the dependent variables in each of the three analyses two months and six months following the end of the strike. These change scores were then regressed on the predictor variable while controlling for relevant covariates. Change scores eliminate pretest–posttest covariation when the pretest measure is statistically controlled (Jackson et al., 1983), and the power of probability tests using change scores as the dependent variables is not reduced even if reliability of the change score is low (Overall and Woodward, 1975). The three change scores operationalized are independent of one another both two and six months following the end of the strike \( (M \ r = 0.06, \text{range: } 0.04 - 0.08) \).

In computing the separate hierarchical regression analyses on the change scores two and six months following the end of the strike, the following variables were
controlled statistically before the influence of initial negatively-perceived IR stress was assessed: (a) The initial level (i.e. obtained immediately as the strike ended) of the relevant change scores (i.e. marital adjustment, psychological well-being and psychosomatic complaints) (Jackson et al., 1983), and (b) post-strike negative IR stress (i.e. IR stress measured two and six months after the strike). This is important, as pre- and posttest scores are invariably correlated (Huck and McLean, 1975). Not controlling for the influence of IR stress two and six months after the strike, therefore, would mean that the alternative hypothesis that psychological functioning two and six months post-strike is a function of concurrent IR stress could not be excluded. (c) The influence of age was also controlled statistically, as age was correlated with change in both psychological well-being and marital adjustment two months after the strike.

After the influence of age, initial psychological well-being and subsequent IR stress were controlled, initial levels of negatively-perceived IR stress significantly predicted changes in psychological well-being two months after the end of strike ($F(1,68) = 4.08$, $p < 0.05$; beta = -0.30) (see Table 2). Initial levels of negatively-perceived IR stress accounted for 12 per cent of the unfavourable change in psychological well-being. This phenomenon also occurred six months after the end of the strike. After entering the covariates, initial levels of negatively perceived IR stress again predicted significant decreases in psychological well-being ($F(1,46) = 6.84$, $p < 0.01$; beta = -0.38), accounting for 10 per cent of the variance (see Table 3). Initial levels of negatively perceived IR stress did not account for any significant change in marital adjustment or psychosomatic symptomatology either two or six months following the end of the strike.

One rival hypothesis is that initially high levels of psychological distress, marital dissatisfaction or psychosomatic symptoms might predict subsequent reports of stressful events at two or six months following completion of the strike. To assess the plausibility of this hypothesis, reports of negative industrial relations stress two and six months after the end of the strike were regressed on initial levels of psychosomatic symptoms, psychological and marital distress after partialling out the influence of pretest levels of the respective criterion variable and post-test levels of the predictor variable. No significant relationships emerged in the three separate regression analyses at either one of the two time periods, thereby excluding rival directional hypotheses.

**DISCUSSION**

At the time of the strike, there was a significant correlation between negatively perceived IR events and marital adjustment, psychological distress and psychosomatic symptomatology. This is consistent with MacBride et al.'s (1981) suggestion that there are negative reactions associated (i.e. psychological distress) with a labour dispute. The results of this study also extend those of MacBride et al. (1981) in showing that negative IR stressors predict change in psychological well-being both two and six months after the strike had ended.

A number of factors enhance the salience of the present findings. First, causal predictions achieve greater prominence where plausible confounds are controlled (Cook and Campbell, 1976). In the present research, negatively-perceived IR stressors during the strike predicted subsequent negative changes in psychological well-being after three plausible confounds, viz. post-strike IR stress, psychological well-being at
Table 2. Results of the regression analysis two months post-strike with change in psychological well-being as the dependent variable (n = 75)

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Change in psychological well-being two months post-strike</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>r</td>
</tr>
<tr>
<td>Age</td>
<td>0.18</td>
</tr>
<tr>
<td>Initial well-being</td>
<td>-0.21</td>
</tr>
<tr>
<td>Negative IR stress 2 months post-strike</td>
<td>-0.05</td>
</tr>
<tr>
<td>Initial negative IR stress (predictor)</td>
<td>0.27</td>
</tr>
</tbody>
</table>

* $p < 0.01$.

Table 3. Results of the regression analysis six months post-strike with change in psychological well-being as the dependent variable (n = 49)

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Change in psychological well-being six months post-strike</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>r</td>
</tr>
<tr>
<td>Initial well-being</td>
<td>-0.47</td>
</tr>
<tr>
<td>Negative IR stress 6 months post-strike</td>
<td>-0.24</td>
</tr>
<tr>
<td>Initial negative IR stress (predictor)</td>
<td>-0.48</td>
</tr>
</tbody>
</table>

* $p < 0.01$.

the end of the strike and age were controlled. Second, generalizations from research in organizational settings are limited when only one setting is sampled (Cook and Campbell, 1976). In this research, the sample was drawn from three geographically separate campuses. Third, whereas MacBride et al. (1981) inferred a link between the stress inherent in a labour dispute and psychological distress, IR stress was not measured specifically, nor was there any report of an association between stress and psychological functioning. The use of a hierarchical multiple regression analysis in this study revealed that it was the initial experience of negatively-perceived IR stress that predicted negative changes in psychological functioning. Fourth, the alternative hypothesis that poor psychological functioning predicts subsequent perceptions of IR stress was disconfirmed statistically. Finally, the proportion of variance accounted for in changes in psychological well-being both two months and six months (10 per cent in both cases) after the strike had ended was statistically significant, after removing the variance associated with plausible confounds. While there is no absolute measure of the applied significance of a particular finding, the percentages of respondents obtaining General Health Questionnaire scores indicative of psychiatric disturbance (i.e. $> 2$ on the 12-item format of the General Health Questionnaire used in this study; Banks et al., 1980) during the strike (95 per cent) and two (85 per cent) and six (81 per
months after the end of the strike suggest that negative IR stress is followed by deleterious changes in psychological well-being of considerable magnitude. An important issue that must be considered is why negative experiences of IR stress produce unfavourable changes in psychological well-being. Processes other than financial loss might be operative during and following a strike, and these processes may be similar to those that account for negative psychological changes during and following unemployment (Warr, 1984). First, employment offers a link with reality (Jahoda, 1982). Going out on strike, especially the first experience of a strike (as it was for the majority of respondents in this study), requires major role changes. Respondents in the present study changed their roles from being employed white-collar workers involved in a labour dispute to individuals on strike and walking the picket line; to being legislated back to work without a settlement, all within 22 days. Changes involving employment role status predict subsequent distress (Jackson et al., 1983). Second, the lack of time structuring associated with unemployment leads to boredom, depression and a poor state of psychological well-being (Feather and Bond, 1983). Furthermore, the feeling of powerlessness during a strike is consistent with the unpredictability of the outcome of the strike (Hyman, 1984), and considerable personal readjustment would be required to cope with the major role changes demanded. Members of white-collar unions, in particular individuals in the ‘helping’ professions (e.g. teachers, nurses), may also experience the interrole conflict engendered by societal expectations to maintain ‘essential’ services on the one hand, and the need to satisfy one’s own needs on the other hand. On a conceptual level, the strike under consideration constituted an acute stressor (Pratt and Barling, 1986). It is possible that daily IR events (e.g. episodic conflicts with a supervisor) or chronic IR stressors (e.g. strikes of a longer duration) exert different effects.

The issue of why negative IR stressors did not predict change in marital adjustment and psychosomatic symptomatology must be considered. Although variables that may reduce the negative effects of a strike, such as family and coworker support, were not measured in the present study, future research should investigate such moderating processes. The fact that negative IR stress did not predict psychosomatic symptomatology is consistent with the findings of MacBride et al. (1981). They showed that there were no increases in the extent to which their respondents made use of medical practitioners following their labour dispute.

Some issues remain unresolved. (a) Deleterious changes in psychological well-being amongst the present respondents were associated with negatively-perceived IR events. It is possible that the negative changes in psychological well-being were a function of the negative outcome of the strike. As noted previously, union members were legislated back to work without a contract settlement. The generalizability of the present findings may be limited accordingly, and this should be assessed in future research. (b) The assessment of involvement in the strike occurred immediately following its termination. Despite considerable practical difficulties involved, future research should obtain prestrike and poststrike measures of stress and outcome. (c) It has been hypothesized that strikes reduce frustration and tension, and that the use of strike action is a positive strategy for coping with unresolved grievances (Nicholson and Kelly, 1980). A prestrike measurement would have been instrumental in resolving this issue. (d) A recent trend within stress research in general is the focus on variables that moderate the stress/strain relationship. Future research should focus on personality (e.g. hardness), social (e.g. support) and demographic (e.g. financial
status) variables that buffer or exacerbate the negative effects or outcome of a strike. (e) It is possible that the results obtained are specific to short-term strikes as acute stressors (i.e. approximately three weeks) and the type of union studied (i.e. white-collar). Future research should assess whether the present findings can be replicated with blue-collar workers and strikes of varying duration (long-term strikes as chronic stressors) where the personal outcomes may be different. (f) Even though the sex ratio did not differ across the three testing periods or differ from that of the population, additional comparative data (e.g. age, union and company tenure) would be required to ensure that the sample obtained truly represents the population from which it is drawn. (g) As with much survey research (Etzel and Walker, 1974), the response rate (i.e. 38.9 per cent) obtained in this study is of some concern, and response rates in union-related research are usually low (Fullagar, 1986). This complicates the issue of the generalizability of the present findings.

Finally, the role of the organizational psychologist in labour disputes and strikes must be considered. Even though the results of the present study suggest that negatively-perceived IR events during a strike are followed by unfavourable changes in psychological well-being, it is not the role of the organizational psychologist to devise ways of avoiding or breaking strikes. Strike activity in most cases remains a legitimate technique for obtaining organizational change (Nicholson and Kelly, 1980). In addition, in the same way that unions offer their members an alternative to exit behaviours (e.g. withdrawal) through collective negotiations with management (Hirschman, 1970), strikes may provide an additional alternative to withdrawal when all other attempts at organizational change have failed. Thus, organizational psychologists must accept the inevitability, legitimacy and even the positive function of strikes (e.g. Hartley et al., 1983; Shirom, 1982; Stagner and Effal, 1982). This might involve ideological and attitudinal changes for some organizational psychologists, who must redirect their focus to psychological processes that mitigate the harmful effects of being involved in a strike.

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