

**THE RELATIONSHIP BETWEEN EMPLOYEE INVOLVEMENT
AND WORKPLACE DISPUTE RESOLUTION**

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This paper examines the relationship between employee involvement programs and workplace dispute resolution using data from the Workplace and Employee Survey (WES) conducted by Statistics Canada. The results provide support for a link between employee involvement and lower grievance rates in unionized workplaces. This link existed for establishments in both the goods and service sectors, but the practices involved differed between industrial sectors. By contrast, in nonunion workplaces, results of the analysis provided support for a link between the adoption of employee involvement programs and formal grievance procedures, but not between employee involvement and lower grievance rates.

This study uses data from the Workplace and Employee Survey (WES) to investigate the relationship between employee involvement programs and workplace dispute resolution. Debates over the impact of employee involvement programs have included contrasting claims as to whether these programs either lead to better relations between management and employees in the workplace and improved organizational performance, or alternatively represent a new form of work intensification that produces greater conflict in the workplace and employee dissatisfaction. Workplace dispute resolution provides a fulcrum upon which many of the questions posed by these debates turn. One of the areas where advocates of employee involvement programs have claimed their strongest effects is in reducing grievance rates and encouraging faster, more informal resolution of grievances to the benefit of both organizations and employees (Kochan, Katz and McKersie 1986; Cutcher-Gershenfeld 1991). In contrast, critics claim that employee involvement programs create new conflicts in the workplace and that use of grievance procedures to protect employee interests is undermined by labour-management cooperation (Parker and Slaughter 1988; Godard and Delaney 2000). This study investigates these contrasting claims using data from the Workplace and Employee Survey (WES) conducted by Statistics Canada. The WES provides a useful dataset to examine these questions by providing workplace level data on grievance procedures and activity from a large number of organizations with varying degrees and types of employee involvement practices in the workplace.

THEORY AND LITERATURE REVIEW

In research investigating the transformation of industrial relations the workplace level, high grievance rates were seen as one of the key characteristics of traditional adversarial patterns of relations in the workplace (Kochan, Katz and McKersie 1986). Conversely, lower grievance rates and faster, more informal resolution of disputes were identified as part of transformed systems or patterns of industrial relations that were associated with improved organizational performance (Katz, Kochan and Weber 1985; Ichniowski 1986; Cutcher-Gershenfeld 1991). If lower grievance rates are part of such transformed patterns of industrial relations, then we would expect grievance rates to vary in conjunction with other practices and behaviours that form part of these workplace industrial relations systems (Katz, Kochan and Weber 1985; Kochan, Katz, and McKersie 1986).

There are three different ways in which high involvement work systems may lead to lower rates of usage of dispute resolution procedures. First, greater trust and cooperation between employees and management under high involvement work systems may lead to a reduction in the overall level of conflict in the workplace (Kochan, Katz, and McKersie 1986). This conflict reduction effect should reduce the number of underlying disputes in the workplace and thereby also reduce the overall rate of usage of dispute resolution procedures. Second, there may be an impact of high involvement work systems on how disputes are resolved in the work place. To the degree that workers are able to resolve more problems disputes informally through these other structures for participation in workplace, we would expect usage of dispute resolution procedures to be reduced (Cutcher-Gershenfeld 1991). This informal resolution effect would predict a reduction in rates of usage of dispute resolution procedures even if the level of underlying conflict is not affected. Finally, the involvement of employees in decision-making in team-based production systems greater labour-management trust resulting from these systems may produce an effect in which decisions are seen as having greater legitimacy to employees. This legitimization effect would also lead to a prediction of a reduction

in grievance rates under high performance work systems, apart from any effect on the underlying level of conflict in the workplace (Colvin 2003b).

Why should these effects of employee involvement on workplace dispute resolution matter for organizations? One direct effect on organizations comes from what Katz, Kochan, and Weber (1985) described as the displacement effect of grievance handling. This is the simple insight that the greater the time devoted by managers and employees to grievance handling, the less will be the time devoted to more productive activities in the workplace. Two more indirect effects are suggested by exit-voice theory and organization justice theory. As applied to the employment context, exit-voice theory suggests that when confronted with problems in the workplace, if employees are able to use 'voice' mechanisms such as grievance procedures to resolve problems, they are less likely to try to use the 'exit' mechanism of quitting to resolve the problem (Freeman and Medoff 1984). More effective voice mechanisms can benefit organizational performance by reducing costly turnover, which is likely to be especially important under high involvement work systems where the reliance on employee commitment and extensive training makes the organization more vulnerable to high turnover rates (Shaw et al. 1998; Batt, Colvin and Keefe 2002). Organizational justice theory suggests that effective voice mechanisms can also benefit organizations by helping induce high levels of job satisfaction and organizational commitment among the workforce (Sheppard, Lewicki and Minton 1992; Folger and Cropanzano 1998). Experimental research results indicate that access to a grievance system enhances the organization commitment of employees (Olson-Buchanan 1996).

Obtaining these positive organizational effects depends on the degree to which employee involvement actually produces the predicted improvements in workplace dispute resolution. Some have argued that, in fact, employee involvement programs may have the contrary effect of leading to greater conflict in the workplace and of undermining the effectiveness of traditional employee interest representation through structures such as grievance procedures (Godard and Delaney 2000). Among the criticisms of employee

involvement programs is that they involve an intensification of work in which teams effectively serve as mechanisms for workers to become their own Tayloristic managers, developing new ways to maximize the pace of work (Parker and Slaughter 1988). Another line of criticism of work teams suggests that there is a disciplining effect of teams in which teams establish and monitor norms of behaviour and work performance (Barker 1993). If teams do serve this function of disciplining deviations from behavioural norms by team members, then it may be that implementation of self-managed work teams will lead to an increase in grievances resulting from intra-team conflicts.

Another possibility is that the effect of employee involvement may depend on the nature of the involvement practices used. From this perspective, it may be the case that some employee involvement programs involve empowerment of workers and reduced workplace conflict, whereas other programs are techniques for work intensification that produce heightened conflict. For example, Appelbaum and Batt (1994) argue that involvement programs in North American can be seen as following two contrasting models. Under the joint team production model, employee involvement involves worker empowerment and the use of self-managed teams, and is typically developed and implemented in collaboration between unions and management. By contrast, under the alternative lean production model, employee involvement occurs in a much more management-directed fashion, characteristically using off-line participation groups directed more narrowly at improving quality and productivity. Following this analysis, we might expect the joint team production model with its self-managed teams to lead to a reduction in workplace conflict, whereas the work intensification of lean production would lead to an increase in conflict. The key point here is that employee involvement may not be a unidirectional construct, but rather the effect of involvement can depend on the nature of the program. Therefore, it is important to investigate a number of different features of employee involvement programs in order to understand their effects on workplace conflict.

A complicating factor in understanding the effect of employee involvement on workplace conflict is the major differences that exist between dispute resolution in union and nonunion workplaces. In Canada, as in the United States, unionized workplaces virtually universally feature multi step grievance procedures, generally culminating in binding arbitration. Although there have been some innovations, such as expedited arbitration and grievance mediation, what is striking about grievance procedures in unionized workplaces is the similarity of procedures across workplaces and their stability over time (Eaton and Keefe 1999). Given this relative similarity among union grievance procedures, in research on conflict in unionized workplaces it is possible to use common measures, such as the grievance rate, as a standard basis for comparison of conflict resolution across different workplaces (e.g., Katz, Kochan and Weber 1985; Ichniowski 1986). By contrast, when we turn to the nonunionized workplace, we have to deal with the added layer of complexity resulting from variation in the presence and structure of grievance procedures. In nonunion workplaces, introduction of grievance procedures is at the discretion of management, who may choose to have no procedure, only a simple informal procedure, or to develop a more elaborate formal procedure. Research in the United States has found wide variation in both the adoption and structure of nonunion grievance procedures (Feuille and Chachere 1995; Colvin 2003a) and there is no obvious reason to expect an absence of similar variation in Canada. This raises the possibility that in the nonunion workplace, employee involvement will be related to both the presence and the usage of grievance procedures. In research on the telecommunications industry in United States, Colvin (2003a) found that employee involvement programs in the form of self-managed teams were positively related to the presence of nonunion grievance procedures, in particular procedures involving peer review panels. Subsequent research indicated that among nonunion work places with procedures, those that also had self-managed teams had lower grievance rates (Colvin 2003b). In that research, employee involvement programs had an additional effect in nonunion workplaces on the adoption and structure of grievance procedures, but holding the type of procedure constant, the effect on usage was similar to that for unionized workplaces. Although this study was based on a single industry in the United

States, is plausible that the same relationships may also be present for nonunion workplaces in Canada.

An additional factor to consider is that much of the research on employee involvement has focused on the manufacturing sector. Much less is known about the nature and impact of employee involvement in the service sector. Although there are not strong a priori reasons for expecting specific differences based on industrial sector, it is certainly possible that different types of employee involvement programs may be emphasized with different effects on the workplace in the service sector compared to the manufacturing sector.

In summary, the existing literature and theory suggest contrasting hypotheses that will be tested in this study. If advocates of employee involvement are correct, we would expect to find employee involvement programs to be associated with lower levels of workplace conflict. By contrast, if critics of employee involvement are correct, we would expect to find employee involvement programs to be associated with higher levels of workplace conflict. Alternatively, if those emphasizing variation in the nature of employee involvement are correct, then we would expect the direction of the relationship with workplace conflict to depend on the type of employment involvement program, with joint team based programs being associated with reduced conflict and more individualized lean production approaches being associated with higher conflict levels. Finally, given the variation in the incidence and structure of grievance procedures in nonunion workplaces, if the predictions of advocates of employee involvement are correct, we would expect to find in nonunion workplaces a positive association between employee involvement programs and the presence of formal grievance procedures as well as lower conflict levels, holding the type of procedure constant.

DATA AND METHODS

This study analyzes data from the 1999 and 2000 samples of the Workplace and Employee Survey (WES) conducted by Statistics Canada. The WES is a nationally representative survey of establishments in the Canadian private sector that parallels similar government

sponsored surveys conducted in the United Kingdom and Australia, albeit with some differences in methodology and focus (Godard 2001). A key strength of the WES is its breadth of coverage, including all industries except farming, fishing, trapping, and the public sector. An additional strength of the WES is its very high response rate, with over 95% of establishments responding in both 1999 and 2000 (96.5% and 95.8% respectively). Although the WES is designed to provide a broad set of information about the workplace, rather than the testing of specific hypotheses (Godard 2001), it contains a number of questions on employee involvement practices and workplace grievance procedures relevant to the issues being examined in this study.

The sample for analytical purposes was restricted to establishments responding to the survey in both 1999 and 2000. Some questions in the WES are only asked every second year, in this case in the 1999 version of the survey, whereas others are asked each year. As described below, some variables are constructed based on the two-year responses, whereas others, generally structural or policy characteristics of the workplaces, are based on the 1999 responses. For analytical purposes, I also restricted the sample to establishments with at least 20 employees. The reason for doing this is to reduce the influence of high variability in annual grievance rates in small establishments arising from the small denominator in the equation for the grievance rate. For example, one additional grievance in a year in a workplace of only five employees would produce a seemingly very large 20 percentage point jump in the grievance rate.

The primary respondent for the employer portion of the WES is the human resource manager for large establishments and the owner/manager for small establishments. The survey was administered by a computer assisted telephone interview. Although the WES is a particularly carefully designed and administered survey, it is worth noting that these are self-reported measures collected from individual managers with resulting potential biases.

Dependent Variables. The primary dependent variable of interest in this study is the annual grievance rate in the establishment. For purposes of analysis, the grievance rate is measured as the natural log of the annual number of grievances per 100 employees for both union and nonunion establishments. I constructed a two-year average grievance rate using the reported grievances from 1999 and 2000. The advantage of using a two-year time period to create an average annual grievance rate is that it reduces the influence of short-term fluctuations in grievance rates. The logged form is used to normalize the distribution of the dependent variable for analysis. The grievance rate here measures only the total number of grievances filed not the level or speed of settlement. It may be that there are additional or even stronger relationships between employee involvement and the level or speed of settlement (see Cutcher-Gershenfeld 1991); however, the WES establishment level survey does not provide this data. A second dependent variable of interest for nonunion establishments is the presence of a formal grievance procedure. As noted earlier, whereas formal grievance procedures are virtually universal in unionized workplaces, many nonunion workplaces lack formal grievance procedures. As a consequence, a preliminary question to be examined for nonunion workplaces is whether or not they have a *formal grievance procedure*, which is measured by a simple dichotomous variable representing whether (1 = yes) or not (0 = no) the establishment has a formal grievance procedure. This question was only asked on the 1999 version of the WES, not on the 2000 survey, so the variable captures the responses in 1999.

Independent Variables. Variables. Three variables measure the presence of different types of employee involvement programs in the workplace, each captured by a single dichotomous variable indicating the presence (1 = yes) or absence (0 = no) of the program. These questions were only asked in 1999 and the variables are constructed from these responses. The survey questions included an extended description of each type of program for respondents. The first measures whether or not the workplace has self-managed teams (Description in survey: "Self-directed work groups. Semi-autonomous groups or mini-enterprise work groups that have a high level of responsibility for a wide range of decisions/issues."). The second measures whether or not the workplace has problem solving groups (Description in

survey: "Problem-solving teams. Responsibilities of teams are limited to specific areas such as quality or work flow."). The third measures whether or not the workplace has a job rotation program (Description in survey: "Flexible job design. Includes job rotation, job enrichment/redesign (broadened job definitions), job enrichment (increased skills, variety or autonomy of work)"). Although this last practice does not represent direct employee involvement, it is a practice that has been associated in past research with the general set of high involvement or high performance work practices. It is included here for consistency with past research in this area (e.g., Osterman 1994, 2000). Next, a *simple high involvement work organization (HIWO) additive index* sums the responses to these three questions to capture THE overall incidence of employee involvement practices, following a similar approach by Osterman (1994, 2000).

Whereas the first four independent variables capture the simple presence or absence of programs, they do not indicate the intensity with which employee involvement is used in the workplace. Two additional variables provided a measure of the degree to which employees are involved in decision-making in the workplace. The first of these variables captures individual employee involvement through a four-item scale (Cronbach's alpha = 0.790) measuring the degree to which individual employees make decisions with respect to: daily planning of individual work; weekly planning of individual work; follow-up results; quality control; purchase of necessary supplies; and maintenance of machinery and equipment. The second of these variables captures workgroup involvement through a four-item scale (Cronbach's alpha = 0.795) measuring the degree to which work groups make decisions with respect to: daily planning of individual work; weekly planning of individual work; follow-up results; quality control; purchase of necessary supplies; and maintenance of machinery and equipment.

Three variables capture human resource (HR) practices supportive of employee involvement. *Team training* measures whether or not (1 = yes, 0 = no), the establishment provided its employees in 1999 or 2000 with classroom or on-the-job training in either "group decision-making or problem-solving" or "team-building, leadership, communication".

Gainsharing measures whether or not (1 = yes, 0 = no) the establishment's compensation system in 1999 had a gainsharing program, which rewards employees based on "group output or performance". *Profitsharing* measures whether or not (1 = yes, 0 = no) the establishment's compensation system in 1999 had a profit sharing plan.

Additional independent variables were included to account for workplace characteristics likely to affect grievance rates. *Workforce size* was measured in hundreds of people employed at the location, calculated as a two-year average for 1999 and 2000. Workforce stability was measured by the *proportion full-time and permanent* of the workforce (e.g., if 75% of the workforce is full-time and permanent, the proportion full-time and permanent is 0.75). A dichotomous variable (1 = yes, 0 = no) captured whether there was one or *more specialized human resource (HR) personnel* in the workplace, measured in 1999. *Average pay* of employees was measured in thousands of dollars, constructed as a two-year average for 1999 and 2000. A single dichotomous variable captured whether the establishment was in the *service sector* or in the goods/manufacturing sector (1 = service sector, 0 = goods sector).

Two variables were included to control for grievance procedure characteristics that might affect grievance rates: whether the procedure included a *labour-management committee* (1 = yes, 0 = no); and whether the procedure included an *outside arbitrator* (1 = yes, 0 = no). Although the WES uses the common term "labour-management committee" in the question for both unionized and nonunion establishments, it is worth noting that this term may capture somewhat different types of procedures in these two contexts. In the unionized context, there may simply be a labour-management committee that jointly addresses grievance issues. By contrast, in the nonunion context, this question may be capturing the presence of peer review procedures, where both managers and employees who are peers of the grievant sit on a panel that decides grievances. Peer review procedures are used by a number of companies in the United States (Colvin 2003a, 2003b), but little is known about their presence or use in Canada. Finally, two variables were included to capture episodes of industrial conflict that often lead to temporary upsurges in grievance rates in unionized workplaces: whether the establishment had

a *strike or lockout* in 1999 or 2000 (1 = yes, 0 = no); and whether the establishment had some type of *other work action*, including work-to-rule, work slowdowns and other labour actions, in 1999 or 2000 (1 = yes, 0 = no).

RESULTS

Descriptive statistics for the variables are reported in Table 1. Means and standard deviations are reported separately for union and nonunion establishments. As expected, average annual grievance rates are much higher in unionized establishments, 7.64 per hundred employees, than in nonunion establishments, 1.50 per hundred establishments. Overall, employee involvement programs are more common in nonunion than in unionized establishments. However, it is interesting to note that individual employee involvement in decision-making is higher in unionized establishments than in nonunion establishments.

Estimation equations for the dependent variables are reported in Tables 2-4. The first dependent variable, the logged grievance rate, has a distribution that is approximately normal (after the log transformation), but is truncated below at zero since grievance rates cannot be less than zero. As a result, tobit regressions are used for estimating this variable. The second dependent variable estimated, the presence of a formal grievance procedure in nonunion establishments, is dichotomous (1-0). Logit regressions are used for estimating this variable. All regressions are weighted based on the sampling design of the WES survey. Estimations for the grievance rate are conducted separately for nonunion and unionized establishments, given that the institutional structure and role of the grievance procedure in unionized workplaces may produce different dynamics and predictors of grievance rates than is the case in nonunion workplaces. In addition, separate regressions are estimated for unionized establishments in the goods and service sectors to see if relationships differed by industrial sector.

TABLE 1

Means and S.D. for Grievance Rate Estimation Sub-Samples of Union and Nonunion Establishments with Formal Grievance Procedures

<i>Variable</i>	<i>Unionized</i>		<i>Nonunion</i>	
	<i>Establishments</i>	<i>Establishments</i>	<i>Establishments</i>	<i>Establishments</i>
	Mean	S.D.	Mean	S.D.
	(% yes)		(% yes)	
Average pay (\$'000s)	35.972	19.501	30.435	17.194
Proportion full-time and permanent (0-1)	0.755	0.268	0.723	0.297
Workforce size ('00s)	1.47	2.93	0.81	1.63
Service sector (yes = 1, no = 0)	67.6%		80.0%	
Strike or lockout (yes = 1, no = 0)	2.8%		<i>n.a.</i>	
Other work action (yes = 1, no = 0)	5.7%		<i>n.a.</i>	
HR practices supporting EI:				
Team training (yes = 1, no = 0)	52.2%		76.3%	
Gainsharing (yes = 1, no = 0)	21.6%		32.2%	
Profitsharing (yes = 1, no = 0)	17.9%		23.0%	
Employee involvement programs:				
Self-directed teams (yes = 1, no = 0)	10.7%		22.4%	
Problem solving groups (yes = 1, no = 0)	35.0%		43.7%	
Job rotation (yes = 1, no = 0)	54.6%		75.7%	
HIWO additive index (0-3)	1.002	0.970	1.418	1.001
Involvement in decision-making:				
Individual employee involvement (0-6)	1.732	1.935	1.420	1.591
Workgroup involvement (0-6)	0.548	1.044	0.742	1.197
Grievance procedures:				
Labour-management committee (yes = 1, no = 0)	13.6%		9.7%	
Outside arbitrator (yes = 1, no = 0)	60.3%		5.2%	
Grievance rate (annual per 100 e'ees)	7.638	21.757	1.503	9.448

Note: For dichotomous (yes = 1, no = 0) variables, the percentage of yes responses is reported under the "mean" column.

Results for three prediction equations for grievance rates for unionized establishments are reported in Table 2. In the first equation, employee involvement is represented by the three variables representing different types of employee involvement programs, i.e. self-directed teams, problem solving groups, and job rotation. Among the three types of EI program, problem solving groups have a statistically significant ($p < .05$) negative association with

grievance rates. The coefficients for both self-directed teams and job rotation are negative, but neither is statistically significant. In the second equation, employee involvement is represented by the HIWO additive index, which also has a statistically significant ($p < .001$) negative association with grievance rates. The results for the first two estimation equations provide support for the conflict reducing effect of employee involvement. By contrast, the picture is a bit more complicated when we look at employee involvement as captured by the individual employee and workgroup involvement decision-making indexes. Workgroup involvement in decision-making has a statistically significant ($p < .001$) negative association with grievance rates, in accord with the prediction of a conflict reducing effect of employee involvement. However, individual employee involvement in decision-making was not significantly associated with grievance rates.

There are a few interesting results for other variables in the equations in Table 2. As expected, there are statistically significant positive associations in all three equations between grievance rates and the occurrence of strikes or lockouts ($p < .05$) and other work actions ($p < .001$). These results confirm traditional industrial relations wisdom that unions often use the filing of increased numbers of grievances as a technique to put pressure on management in conjunction with other types of labour action such as work slowdowns, work-to-rule, and strikes. More surprisingly, amongst the HR practices thought of as supportive of employee involvement, only team training has a statistically significant ($p < .001$) association with grievance rates, but in a positive direction rather than the negative direction predicted.

TABLE 2

Predictors of Grievance Rates: Unionized Establishments
Tobit estimates for Natural Log of Annual Grievances per 100 employees

	(1)	(2)	(3)
Average pay	-0.009*** (0.002)	-0.009*** (0.002)	-0.008** (0.003)
Proportion full-time and permanent	0.808*** (0.186)	0.798*** (0.186)	1.061*** (0.193)
Workforce size	0.015 (0.014)	0.014 (0.014)	0.008 (0.014)
Service sector	-0.083 (0.097)	-0.080 (0.097)	0.007 (0.099)
Strike or lockout	0.561* (0.232)	0.540* (0.231)	0.531* (0.232)
Other work action	0.895*** (0.165)	0.897*** (0.165)	0.840*** (0.165)
Labour-management committee	-0.024 (0.158)	-0.052 (0.156)	-0.307 (0.162)
Outside arbitrator	0.194 (0.108)	0.186 (0.108)	0.067 (0.115)
HR practices supporting EI:			
Team training	0.477*** (0.097)	0.462*** (0.096)	0.426*** (0.092)
Gainsharing	0.101 (0.109)	0.127 (0.106)	0.061 (0.109)
Profitsharing	-0.071 (0.105)	-0.068 (0.105)	-0.126 (0.107)
Employee involvement programs:			
Self-directed teams	-0.132 (0.141)		
Problem solving groups	-0.262* (0.104)		
Job rotation	-0.085 (0.096)		
HIWO additive index		-1.64*** (0.046)	
Involvement in decision-making:			
Individual employee involvement			0.070 (0.041)
Workgroup involvement			-0.099*** (0.025)
Constant	0.574*** (0.206)	0.598*** (0.204)	0.508*** (0.211)
Model Chi-Sq	103.75***	102.57***	113.71***
N	1141	1141	1010

Standard errors in parentheses; * p < .05, ** p < .01, *** p < .001.

As noted earlier, most of the existing research on employee involvement and on grievance procedures has focused on the manufacturing or goods sector. To investigate whether there are differences in the relationships involved based on industrial sector, separate equations are estimated for the goods and service sectors in Table 3. The results suggest that differences do exist based on industrial sector. The first and third columns in Table 3 report estimation equations for unionized establishments, in the goods and service sectors respectively, with employee involvement represented by the three variables capturing the presence of individual types of programs. Whereas in equation one for the goods sector, self-directed teams are the only type of program with a statistically significant ($p < .001$) negative association with grievance rates, in equation three for the service sector, problem solving groups are the only type of program with a statistically significant ($p < .001$) negative association with grievance rates. There is a similar contrast in equations two and four which report estimation equations for unionized establishments in the goods and service sectors, respectively, with employee involvement captured by the two employee involvement in decision-making indexes. In the goods sector, in equation two, individual employee involvement in decision-making has a statistically significant ($p < .01$) positive association with grievance rates, whereas workgroup involvement is not significant. By contrast, in the service sector, in equation four, workgroup involvement in decision-making has a statistically significant ($p < .001$) negative association with grievance rates, whereas individual employee involvement is not significant. Overall, these results indicate that employee involvement programs are associated with lower grievance rates in unionized establishments, but that the type of involvement program that has this effect differs between goods and service sector establishments.

TABLE 3

Predictors of Grievance Rates for Goods and Service Sectors, Union Establishments
Tobit estimates for Natural Log of Annual Grievances per 100 employees

	<i>Goods sector</i>	<i>Goods sector</i>	<i>Service sector</i>	<i>Service sector</i>
	(1)	(2)	(3)	(4)
Average pay	0.001 (0.002)	-0.001 (0.002)	-0.023*** (0.005)	-0.016** (0.005)
Proportion full-time and permanent	1.855*** (0.326)	2.232*** (0.362)	0.954*** (0.283)	0.113*** (0.291)
Workforce size	0.022 (0.014)	0.010 (0.015)	-0.015 (0.026)	-0.009 (0.026)
Strike or lockout	0.384 (0.270)	0.382 (0.287)	0.877** (0.360)	0.916** (0.353)
Other work action	0.634*** (0.170)	0.626*** (0.177)	1.183*** (0.290)	1.206*** (0.288)
Labour-management committee	-0.014 (0.199)	0.069 (0.208)	0.026 (0.240)	-0.469* (0.255)
Outside arbitrator	0.136 (0.156)	0.183 (0.166)	0.180 (0.150)	0.013 (0.158)
HR practices supporting EI:				
Team training	0.624*** (0.133)	0.563*** (0.129)	0.351** (0.204)	0.233* (0.131)
Gainsharing	0.523*** (0.142)	0.499*** (0.145)	-0.125 (0.163)	-0.253 (0.163)
Profitsharing	-0.005 (0.136)	0.036 (0.145)	-0.051 (0.160)	0.000 (0.160)
Employee involvement programs:				
Self-directed teams	-0.878*** (0.180)		0.173 (0.141)	
Problem solving groups	0.111 (0.134)		-0.474*** (0.152)	
Job rotation	0.094 (0.128)		-0.191 (0.140)	
Involvement in decision-making:				
Individual employee involvement		0.102** (0.049)		0.002 (0.683)
Workgroup involvement		-0.001 (0.035)		-0.145*** (0.036)
Constant	-1.054*** (0.348)	1.370*** (0.388)	1.040*** (0.229)	1.009*** (0.224)
Model chi-square	128.61***	111.92***	67.96***	71.54***
N	597	551	544	459

Standard errors in parentheses; * $p < .05$, ** $p < .01$, *** $p < .001$.

Next we turn to the estimation equations for nonunion establishments, reported in Table 4. For nonunion establishments, there are two dependent variables of interest: first, whether the establishment has a formal grievance procedure; and second, for those nonunion establishments with a procedure, the grievance rate. Employee involvement is predicted to be associated with the presence of formal grievance procedures, but also with lower grievance rates for those establishments with procedures. The first two columns in Table 4 report logit regression estimates for the predictors of the presence of a formal grievance procedure in nonunion establishments. Supporting the predicted relationship, in the first equation there is a statistically significant positive association between the presence of formal grievance procedures and both self-directed teams ($p < .001$) and job rotation ($p < .001$). Having self-directed teams increases the odds of also having formal grievance procedures by 101% and having job rotation increases the odds of having procedures by 124%. Similarly, there is a statistically significant positive association in the second equation between the presence of formal grievance procedures and the HIWO additive index ($p < .001$). Among the supportive HR practices, formal grievance procedures have statistically significant positive associations with both gainsharing ($p < .001$) and profitsharing ($p < .01$). Gainsharing increases the odds of having a formal grievance procedure by 137% and profitsharing increases the odds by 50%. These results provide good support for the prediction that formal grievance procedures in nonunion establishments will be more likely where the establishments also have employee involvement programs and related supporting HR practices.

Results for two estimation equations for grievance rates for nonunion establishments with formal procedures are presented in the last two columns of Table 4. The results here did not show evidence of a relationship between employee involvement programs and the usage of nonunion grievance procedures. In the third equation in Table 4, none of the three types of employee involvement program examined had statistically significant associations with grievance rates. Neither of the variables measuring employee involvement in decision-making, tested in the fourth equation in Table 4, has a statistically significant association with grievance rates for nonunion establishments. Similarly, none of the supporting HR practices have sta-

tistically significant associations with grievance rates in either the third or fourth equations in Table 4. Overall, whereas there is strong evidence for a link between employee involvement and the presence of formal grievance procedures in nonunion establishments, there is a lack of evidence for an association between employee involvement and usage of these procedures for nonunion establishments.

TABLE 4
**Nonunion Establishments: Predictors of Procedure Presence
and Grievance Rates**

	<i>Procedure Presence (1)</i>	<i>Procedure Presence (2)</i>	<i>Grievance Rate (3)</i>	<i>Grievance Rate (4)</i>
Average pay	0.006 (0.004) [1.006]	0.006 (0.004) [1.006]	-0.014 (0.008)	-0.011 (0.008)
Proportion full-time and permanent	-0.694** (0.278) [0.500]	-0.690* (0.275) [0.502]	0.040 (0.485)	0.141 (0.493)
Workforce size	0.298*** (0.094) [1.347]	0.293** (0.094) [1.340]	-0.178** (0.075)	-0.160 (0.083)
Service sector	0.523** (0.203) [1.687]	0.585** (0.202) [1.795]	-0.110 (0.301)	-0.044 (0.304)
Specialized HR personnel	0.379** (0.165) [1.461]	0.434** (0.164) [1.543]		
Labour-management committee			-0.092 (0.385)	-0.036 (0.402)
Outside arbitrator			-0.654 (0.486)	-0.395 (0.595)
HR practices supporting EI:				
Team training	0.244 (0.154) [1.276]	0.175 (0.153) [1.191]	-0.287 (0.273)	-0.265 (0.267)
Gainsharing	0.865*** (0.157) [2.375]	0.857*** (0.155) [2.356]	0.161 (0.248)	-0.040 (0.251)
Profitsharing	0.406** (0.166) [1.501]	0.484** (0.162) [1.623]	-0.238 (0.256)	-0.271 (0.260)
Employee involvement programs:				
Self-directed teams	0.698*** (0.183) [2.010]		0.460 (0.277)	
Problem solving groups	0.056 (0.160) [1.058]		-0.367 (0.267)	
Job rotation	0.807*** (0.162) [2.241]		0.142 (0.281)	
HIWO additive index		0.510*** (0.076) [1.665]		
Involvement in decision-making:				
Individual employee involvement				-0.043 (0.073)
Workgroup involvement				-0.157 (0.102)
Constant	-3.267*** (0.306)	-3.250*** (0.300)	0.465 (0.518)	0.549 (0.497)
Model Chi-Sq	214.70***	204.14***	22.41*	15.77
Pseudo R-squared	0.1274	0.1211		
N	2237	2237	368	319

Notes: Models (1) and (2) are logit regressions, models (3) and (4) are tobit regressions; for models (1) and (2), odds ratios are in square parentheses; standard errors are in round parentheses; * p < .05, ** p < .01, *** p < .001.

The results for the different measures of employee involvement are summarized in Table 5. Looking across the different results, there is reasonably good support in unionized workplaces for a negative relationship between grievance rates and employee involvement in the form of self directed work teams, problem solving groups, an additive high involvement index and greater workgroup autonomy. These relationships are not present for grievance rates in nonunion workplaces, but greater employee involvement is associated with a greater likelihood of formal nonunion grievance procedures existing in the workplace. Lastly, similar relationships were not found for greater individual autonomy in workplace decision-making, suggesting that group level involvement is a key factor in the effects found.

DISCUSSIONS AND CONCLUSIONS

This study set out to examine the relationship between employee involvement and workplace dispute resolution. Research supporting high involvement work systems has suggested that greater employee involvement should be associated with reduced workplace conflict and lower grievance rates. By contrast, critics of employee involvement have argued that these programs often involve the intensification of work, rather than empowerment of employees and reduction of conflict. In general, the results of this study provide more support for the former view than the latter; however, they also suggest that the dynamics involved in the relationship between employee involvement and workplace dispute resolution are more complex than just a simple, generally applicable effect.

The results found in this study for unionized establishments generally support a link between employee involvement programs and lower grievance rates. Higher involvement practices, as represented by the high involvement work practice index, use of problem solving groups, and greater workgroup involvement in decision-making, were all found to be associated with lower grievance rates. These relationships support the predictions of advocates of employee involvement, that greater involvement will be associated with reduced workplace conflict.

TABLE 5
Summary of Relationships between Employee Involvement and Grievance Rates

<i>Type of Employee Involvement</i>	<i>All Industries (unionized)</i>	<i>Goods Sector (unionized)</i>	<i>Service Sector (unionized)</i>	<i>Nonunion Grievance Rates</i>	<i>Presence of Nonunion Procedures</i>
Self-directed teams	Not significant	Negative	Not significant	Not significant	Positive
Problem-solving groups	Negative	Not significant	Negative	Not significant	Not significant
Job rotation	Not significant	Not significant	Not significant	Not significant	Positive
HIWO additive index	Negative	Not significant*	Negative*	Not significant*	Positive
Individual employee autonomy	Not significant	Positive	Not significant	Not significant	Not significant*
Workgroup autonomy	Negative	Not significant	Negative	Not significant	Not significant*

Note: Predicted direction of relationship with employee involvement is negative for grievance rates, but positive for presence of nonunion procedures. Results marked * are from additional regression results not reported in tables 2-4.

When we break down the results by industrial sector, additional complexity in the relationship between employee involvement and workplace dispute resolution becomes evident. The type of employee involvement program that is most important varies by industrial sector. Whereas in the goods sector, where most past research has focused, self-directed teams had the larger effect, and in the service sector, problem solving groups had the greater effect. Research in the manufacturing setting has particularly emphasized the significance of self-directed teams as an employee involvement mechanism transforming the organization of work. However, the results here suggest that in the service sector, problem solving groups may be having a bigger impact in the workplace. Similarly, there are differences in the effect of different types of employee involvement in decision-making between sectors. Individual involvement in decision-making had an effect in the goods sector in increasing grievance rates, perhaps representing the situation of individualized workplaces in manufacturing. By contrast, workgroup rather than individual involvement in decision-making was important in the service sector, but in the opposite direction of lower grievance rates, which accords with the predictions of advocates of employee involvement.

Further layers of complexity are added to the picture when we turn from the more familiar setting of unionized grievance procedures to examine the findings for nonunion establishments. Before looking at grievance rates, an initial question to be examined for nonunion establishments was whether there was an association between the presence of employee involvement programs and the presence of formal grievance procedures. Whereas formal grievance procedures are virtually universal in unionized workplaces, many nonunion workplaces lack any formal procedures for employees to make complaints or grievances, or simply rely on informal or ad hoc handling of complaints by individual managers. If the hypothesized link between employee involvement and more effective workplace dispute resolution is true, then we might expect to find establishments that adopted employee involvement programs to have also adopted formal procedures to handle employee complaints and grievances. The results provided strong support for this proposed link, with nonunion

workplaces having self-directed teams, job rotation, and higher scores on the high involvement additive index also being more likely to have adopted formal grievance procedures.

By contrast, when we turn to the usage of nonunion grievance procedures, there is a lack of evidence for a link with the presence of employee involvement programs. One explanation for the absence of findings for nonunion grievance rates may be that there are two opposing effects at work. Employee involvement programs could be exerting a negative effect on grievance rates for the reasons described for union procedures. However, there may be an opposing effect due to variations in the accessibility of nonunion procedures. Past research on nonunion grievance procedures has found that employees are more likely to use procedures that have stronger due process protections, such as procedures with more independent decision-makers (Colvin 2003b). Conversely, research has suggested that employees are likely to be discouraged from using procedures for fear of subsequent retaliation by supervisors, which appears often to be a well-founded fear (Boroff and Lewin, 1996; Lewin and Peterson, 1999; Lewin, 1999). If establishments with employee involvement programs also tend to have grievance procedures with stronger due process features and less retaliation for using them, then we would expect higher usage rates for these procedures. These unobserved characteristics of grievance procedures in high involvement workplaces could be producing an increase in grievance rates that offsets the decrease from reduced workplace conflict with employee involvement. Although the ability to address this possibility in the present study is limited by the data in the WES survey, future research could address this possibility by examining in greater detail the nature and structure of the nonunion grievance procedures and the dynamics of their usage by employees.

Overall, a limitation of this study is the restrictions in the set of questions posed in the WES survey. Although the WES does provide some useful information on grievance procedures and rates, as Godard (2001) has noted, it lacks information in certain areas, such as on the texture and processes of workplace relations. This may be a limitation inherent in large scale, publicly conducted national surveys, requiring supplement by more narrowly targeted studies

to explore specific issues. At the same time, this data does give us a broad picture of what is going on in workplace dispute resolution across the Canadian economy, something that has not been available in the past. It is also worth recognizing that alternative interpretations of the reduction in grievance rates associated with employee involvement programs in unionized workplaces are possible. A critic of employee involvement could argue that the reduction in grievance rates really reflects the cooptation of unions and suppression of conflict under management driven lean production forms of employee involvement, which individualize employees and reduce the ability of workers to protect their interests collectively through using the grievance system. The data examined here do not allow a definitive exclusion of this alternative explanation. However, future research addressing this question could profitably address this possibility by examining in greater depth the quality of labour-management relations in these workplaces from the perspective of both management and workers.

Overall the results of this study indicate a need to move beyond a simple picture of a single, universal relationship between employee involvement and workplace conflict. The effects of employee involvement depend on the type of program that is used, and how and in what context it is implemented. There are important differences between union and nonunion workplaces in effects on workplace dispute resolution and between the goods and service sectors. Future research needs to recognize and explore these differences. It is also important to focus on the implementation of employee involvement in terms of how it affects decision-making in the workplace, rather than simply on the adoption of procedures. It would be useful, in addition, to examining overall grievance rates to look at the nature of the grievances being filed. Hopefully this type of future research could help increase our understanding of the range of different ways in which employee involvement can affect dispute resolution in the workplace, building on the findings that have been reported in this study.

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