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Partnership, high performance work systems and quality of working life

Andy Danford, Mike Richardson,
Paul Stewart, Stephanie Tailby and
Martin Upchurch

The paper measures the effects of workplace partnership and selected high performance work practices on four different dimensions of employee experience. Whilst the partnership-high performance work systems nexus seems to have little impact on employees' job satisfaction or sense of attachment, it does, however, have a negative impact on both workplace stress and employee evaluations of union performance. The analysis thus questions common assumptions about the inevitability of 'mutual gain' and the necessity of employer/union partnership.

Introduction and research questions

Current debates governing the 'modernisation' of industrial relations in the UK have centred on the use of different management techniques associated with both partnership and high performance work systems (HPWS). Advocates of the modernisation project (particularly government and employer organisations) have tended to adopt a unitarist rhetoric in emphasising the potential of the high performance workplace to reconcile conflicts of interest in the capitalist employment relationship. This is a

□ Andy Danford (andrew.danford@uwe.ac.uk) is a professor of Employment Relations at the Centre for Employment Studies Research, University of the West of England, Bristol, UK. Mike Richardson (michael2.richardson@uwe.ac.uk) is a senior lecturer in Industrial Relations at UWE. Stephanie Tailby (stephanie.tailby@uwe.ac.uk) is a professor of Employment Relations at UWE. Paul Stewart (Paul.Stewart.100@strath.ac.uk) is a professor of Work and Employment in the Department of Human Resource Management, University of Strathclyde, Glasgow, UK. Martin Upchurch (M.Upchurch@mdx.ac.uk) is a professor of International Employment Relations at the Middlesex University Business School, London, UK.

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rhetoric based on the idea of 'mutual gain'; that high performance management techniques used in environments of co-operative industrial relations are likely to generate greater productivity and profitability via processes of improving employees' job satisfaction and organisational commitment (CIPD, 2004; Department of Trade and Industry, 2002).

The new interest in HPWS can be attributed, in part, to employer responses to contemporary changes in market and technological conditions. For example, the intensity of global market competition; consumer demand for a broad range of high quality products and services; and continuing developments in information and communications technologies that facilitate more flexible manufacturing and service systems (Ashton and Sung, 2002; White *et al.*, 2004). It is argued that these conditions demand more flexible, skilled and committed labour, which, in turn, requires more indirect and subtle management control strategies if the mass of tacit knowledge held by workers is to be fully exploited for the benefit of capitalist enterprise. The concept of HPWS may be seen to embody the different sets of management techniques that provide such control. Rather than drive labour harder through the practices of direct supervisory control or assembly line techniques, the potential of HPWS is supposed to lie in their emphasis on worker participation, skill development and high job satisfaction. With these conditions in place, it is believed that employee commitment and greater discretionary effort may ensue with potentially positive outcomes for firm performance (Appelbaum *et al.*, 2000). The types of practices that generate these conditions are assumed to operate in a 'synergistic' way as coherent 'bundles' or 'clusters'. Typically, they include participatory teams and job rotation, high commitment practices such as problem-solving groups and extensive employee consultation, and complementary HRM policies such as generous training provision and job security measures. They also rely on co-operative industrial relations systems based on partnership between management and unions.

As Ramsay *et al.* (2000) have noted, the putative link between HPWS, employee motivation and organisational performance seems to have become self-evident for many researchers of this subject. As a result, there are now many studies that merely seek to demonstrate evidence of association between the use of HPWS and firm performance measures (for example, Black and Lynch, 2000; Freeman *et al.*, 2000; Guest *et al.*, 2003). The problem with many of these studies, however, is that apart from the lack of an employee focus, they are too often marked by a failure to operationalise HPWS sufficiently (for instance, by relying on the measurement of the effects of too few practices), or they lack evidence governing processes within the firm, or evidence governing direction of causation, or they display a failure to take into account broader market context and other structural factors (Godard, 2004; Harley, 2005).

There exists a small number of survey studies that provide a more comprehensive analysis of employee experience as a mediating factor in the HPWS-firm performance equation. The best known of these is the Appelbaum *et al.* (2000) study of HPWS in the US steel, apparel and medical electronic instruments sectors. This did seem to show positive links between a small number of HPWS practices, employee satisfaction, employee welfare and organisational performance. However, a closer reading of this extensive work finds that these effects do not obtain in every sector, whilst the impact of the core HPWS techniques based in new work organisation (teamworking and *kaizen*-style problem-solving) is decidedly limited (Danford, 2003; Harley, 2005). In the UK, Ramsay *et al.*'s (2000) study of Workplace Employment Relations Survey (WERS98) data measured the relationship between the use of HPWS and organisational performance along with employee outcomes of commitment, job discretion and job strain. It included such mediators as employees' perception of management relations, pay satisfaction and job security. This did confirm an expected link between the use of HPWS practices, as measured by WERS, and managers' reports of improved workplace performance. Nevertheless, the analysis of employee questionnaire data found that HPWS generally had a zero or negative effect on such outcomes as satisfaction, commitment and security. It also suggested that whilst organisational performance gains were linked to labour intensification, this was not necessarily associated with job strain.

One limitation of this research was that it was not possible to establish whether the WERS employee respondents were those who were actually experiencing the practices cited by management respondents. A more recent British study (Kinnie *et al.*, 2005) was able to measure this. It surveyed employees and managers in 18 organisations, each of which had implemented relatively high numbers of HRM practices associated with HPWS. This analysed employee experience of the way HPWS practices are implemented by line managers and team leaders and found differences in patterns of satisfaction and commitment between employee groups. Interestingly, the link between HPWS and commitment and satisfaction was lowest for production and service workers, reflecting a more general trend identified by Harley (2001).

In a recent comprehensive review of much of the HPWS research, Godard (2004: 363) suggests that this pattern of mixed results partly reflects methodological weaknesses, in that many studies merely attempt to analyse the average effects of practices broadly associated with HPWS across all workplaces or workers. He also argues that the uneven outcomes of HPWS for both employers and workers can be attributed to a more fundamental problem of institutional failure. That is, 'fundamental institutional failure arising out of the nature of the employment relationship itself in liberal market economies' (p. 366). By this reasoning, the social relations of capitalist production and ensuing labour subordination will always be problematic for new management strategies aimed at generating co-operation, trust and commitment. In providing a number of hypotheses that arise from this structural condition, Godard contends that, *inter alia*, underlying problems of inconsistent managerial decisions, employee distrust, job insecurity, effort intensification and workplace stress may, in the absence of institutional reform, render HPWS harmful to union and worker interests. From this perspective, and in the case of the UK, the type of institutional reform that is required to diminish these problems is the provision of greater 'employee voice'. This is based on partnership relations with trade unions (or other employee representation bodies) and more systematic employee consultation measures. The assumption here is that when employers adopt works councils within co-operative partnership environments, then workers' interests can be incorporated into decision-making processes, and thus some of the negative consequences of the subordination of labour can be reduced (Godard, 2004: 370).

A core question that arises from this argument, therefore, and one that this paper explicitly addresses, is what impact do HPWS have on workers' job satisfaction and commitment in environments where indirect consultation is well-embedded and managers have been attempting to develop partnership relations? Or to put it another way, because it is a question that has yet to be addressed by current HPWS research, does partnership make a difference?

A second question governs the implications for workers of the roots of HPWS. The predominant managerial conceptualisations link their development to organisational responses to structural shifts in capitalist markets and technologies. But there is an alternative, or at least an additional explanation for the current interest in HPWS. There are many similarities between the work reforms associated with HPWS and lean production. For example, the use of production teams and of *kaizen* (or problem-solving groups for the purpose of 'continuous improvement'), each core techniques in both systems. There is also now a substantial literature that provides a sustained labour process critique of the inherent contradictions of the lean production model (for example, Rinehart *et al.*, 1997; Mehri, 2005; Nichols and Cam, 2005). Rather than generate conditions for so-called 'empowerment' of workers, in many cases, lean production has resulted in a deterioration of workers' quality of working life in the form of job strain, work intensification, job insecurity and stress. As we have already argued in Danford *et al.* (2005: 8–10) the current interest in the high performance workplace is based partly on its proponents' claim that the more 'holistic' approach to work reform (the adoption of clusters of synergistic practices) overcomes the contradictions of lean production, and in particular, the problems of deteriorating quality of working life. What is effectively proposed is a virtuous circle of 'mutual gain' (*viz.*: HPWS practices > employee satisfaction > employee commitment > improved organisational perfor-

mance). In this formulation, compared to lean production, HPWS are supposed to provide more favourable conditions for employee autonomy, employee participation, skill development and trade union rights at the workplace. The research question that arises from this is whether the high performance workplace has, indeed, overcome the contradictions of lean production and generated a different relationship between HPWS, partnership and employees' quality of working life. Our specific lines of analysis are: (1) In high performance work environments, what impact, if any, do such quality of working life drivers such as working hours and patterns of changing job responsibilities, flexibility and work rates have on employees' job satisfaction and commitment? (2) What is the impact of the high performance work regime on stress at the workplace?

Our final concern is with the impact of partnership on union effectiveness in the high performance workplace. If partnership constitutes an essential dimension of the required 'institutional design of the employment relationship' in high performance work settings (Godard, 2004), then how employees evaluate union performance in these settings becomes a core labour-centred question. It is by no means straightforward, as Godard assumes, that the existence of partnership environments will inevitably enhance union effectiveness in the eyes of the rank and file. For example, on the one hand, as Heery (2002) has observed, there may well exist a positive partnership agenda for workers and unions in that, in theory at least, the scope of union influence and representation may be increased to include questions of employment security, worker participation and skill development. On the other hand, Kelly's (2004) analysis of UK firms that have adopted partnership agreements suggests that the material outcomes for workers have been mostly negative or at best neutral (partnership is associated with labour-shedding whilst it has had no real impact on wages and conditions or on union density levels). Therefore, our final question is, compared to non-partnership environments, what impact, if any, does the presence of partnership have on worker evaluation of union representation and influence in the high performance workplace?

Methods and data

This paper draws on research from an ESRC Future of Work project that investigated patterns and prospects for partnership in UK workplaces. For this project, employee interviews and questionnaire surveys were carried out at six workplaces in the private and public sectors between 2001 and 2003. The analysis is based on the questionnaire survey data set.

The six organisations comprised two large aerospace manufacturing plants, two medium-sized headquarters of a finance company and a UK subsidiary of a European insurance company, one large local authority employer and one NHS hospital trust. In the first aerospace firm, (*AerospaceA*), 604 questionnaires were returned from a sample of design and production departments (a response rate of 62 per cent). In the second, (*AerospaceB*), we received 878 responses from a similar departmental sample (80 per cent response rate). In the finance company (*Finance*), 128 responses were received from a sample of departments employing managers, finance specialists and administrators (a 32 per cent response rate), in the insurance company (*Insurance*), 127 responses were received from a similar departmental sample (25 per cent response rate). In the local authority (*Local Authority*), 386 responses were received from a sample of departments employing managers, professional staff, administrators and manual workers (52 per cent response rate), and in the NHS trust (*NHS Trust*), 452 responses were received from a sample of departments employing managers, health professionals, technicians and manual workers (a 38 per cent response rate). Although the response rates from the finance and insurance companies were lower than we would have liked, the number of returns did reflect the smaller size of the workplaces. Individual workplace control variables were used in our multivariate analysis.

The six organisations had adopted a relatively high number of HPWS practices. A summary of the incidence of these is shown in Table 1. Every organisation had adopted

Table 1: Incidence of HPWS and partnership in six organisations

	AerospaceA	AerospaceB	Finance	Insurance	Local authority	NHS trust
Self-directed teams	Yes	Yes	Yes	Yes	Yes	Yes
Integrated project teams	Yes	Yes	Yes	Yes	No	Yes
Problem-solving groups	Yes	Yes	Yes	Yes	Yes	Yes
Job rotation within teams	Yes	Yes	Yes	Yes	Yes	Yes
Job rotation between teams	No	No	Yes	Yes	Yes	Yes
Team briefing	Yes	Yes	Yes	Yes	Yes	Yes
Formal consultation practices	Yes	Yes	Yes	Yes	Yes	Yes
Works Council/Cons Committee	Yes	Yes	Yes	Yes	Yes	Yes
Attitude surveys	Yes	Yes	Yes	Yes	Yes	Yes
Employee appraisals	Yes	Yes	Yes	Yes	Yes	Yes
Off-the-job training	Yes	Yes	Yes	Yes	Yes	Yes
On-the-job training	Yes	Yes	Yes	Yes	Yes	Yes
Merit/incentive pay	Yes	No	Yes	Yes	No	No
Share ownership scheme	Yes	Yes	No	No	No	No
Profit-sharing scheme	No	Yes	Yes	Yes	No	No
Harmonised conditions	Yes	Yes	Yes	Yes	Yes	Yes
Partnership	Only non-manuals	Only manuals	Yes	Yes	No	Yes

some form of teamworking, team flexibility and employee involvement in problem-solving groups in both manual and non-manual areas. However, not every employee worked in self-directed teams or problem-solving groups (see Table 2).

The provision of 'employee voice' mechanisms was more uniform. All employees in every organisation received regular team briefings and communication cascades from their supervisors. They were also subject to other direct consultation techniques such as regular attitude surveys and group meetings with directors. All were represented by elected employees or union stewards on company councils (in the case of the aerospace and finance and insurance firms) or on corporate-level joint consultative committees (in the case of the public sector organisations). As far as complementary HRM practices are concerned—training and development in particular—all six organisations operated appraisal systems for all employees, and all offered formal skills training (although the more expensive training packages of longer duration tended to be skewed towards managers and graduates). As for remuneration, all six organisations offered competitive pay rates within their own sectors; three out of the four private sector organisations included merit pay and profit-related bonuses in their remuneration packages and two provided employee share ownership schemes.

In addition, in five out of six organisations, management had developed partnership relationships with employee representatives (although these did not, in every case, cover all union and staff groups). In two cases, partnership framework agreements were in place that covered all employees. In *Finance* (the only non-union firm in the sample), partnership working was embodied in the operation of a Partners Council, a joint consultative committee of elected staff representatives including a full-time representative. In *Insurance*, an agreement emphasising co-operative union-management relationships existed. This offered union involvement in different management forums in return for commitment to organisational goals. In a third case, *NHS Hospital Trust*, management, with union support, had developed a new partnership environment that covered all bargaining groups. Although not covered by formal agreement, management policy was to explicitly promote joint-working and more extensive union involvement

Table 2: Worker characteristics and other descriptive data, $n = 2,577$

	<i>n</i>	%		<i>n</i>	%
AerospaceA	604	23	Age: 24 years or less	177	7
AerospaceB	878	34	Age: 25 to 29 years	285	11
NHS Trust	452	18	Age: 30 to 39 years	692	27
Local Authority	386	15	Age: 40 to 49 years	775	30
Finance	128	5	Age: 50 years or more	634	25
Insurance	129	5	Length of service: less than 2 years	275	11
Union members	1,681	65	Length of service: 2 to <5 years	641	25
Women	883	34	Length of service: 5 to <10 years	380	15
Men	1,688	66	Length of service: 10 years or more	1,265	49
Permanent	2,452	96	Work in partnership environment	1,374	53
Temporary/agency	108	4	Workers who felt jobs were secure	1,359	53
Teamleaders/Supervisors	390	15	Workers in self-directed teams	1,156	45
Graduates	241	9	Member of problem-solving group	899	35
Non-graduate technical/ specialists	697	27	Job responsibilities increased	1,661	65
Administrative & clerical	395	15	Job flexibility increased	1,687	66
Skilled manuals	634	25	Amount of work increased	1,522	59
Semi-skilled/unskilled manuals	205	8	Working hours increased	524	20

in strategic plans and operational matters via existing bargaining and consultative machinery. In the two aerospace firms, partnership arrangements were effectively demarcated to cover approximately half the workforce because some union bargaining groups had rejected partnership and retained a more adversarial position. At *AerospaceA*, a formal partnership agreement was restricted to the non-manual bargaining group. This ensured union involvement in joint working parties and other management committees. At *AerospaceB*, a partnership environment similar in type to the *NHS Hospital Trust* case had taken hold in the manual bargaining areas. This was bolstered by very strong support from the workplace union leadership. In the remaining cases (all employees at *Local Authority*, manual workers in *AerospaceA* and non-manual workers in *AerospaceB*), traditional bargaining relations obtained. In *Local Authority*, apart from local pilot initiatives in a few departments, the management had made no attempt to introduce partnership as a corporate policy. In the aerospace firms, the two remaining bargaining groups had rejected management overtures to partnership and had adopted conventional—and at times militant—organising strategies. In sum, therefore, coverage of the partnership agreements/environments was not complete and a significant proportion of employees were subject to more conventional union representation processes. This was reflected in our survey samples: across the six organisations, 1,374 survey respondents worked in a partnership environment whilst 1,202 did not.

Our multivariate analysis adopted OLS regression techniques using six summative scales [obtained by aggregating the responses of several questions and then computing standardised scores (*z* scores) for each scale]. The scales measured different dimensions of employee experience (Appendix 1 lists the questions used for each scale):

1. *Fair Treatment of Employees* is an explanatory variable for each of our four regression models. This scale aggregated employee evaluations of how well their managers performed across a range of 'managing people' items. Three of the six questions were also used in the WERS98 survey. This was adopted as a core intermediary variable in the high performance work equation, because the necessary employee investment in skill development and work participation, along with higher performance and commitment, is assumed to be partly contingent on employee evaluation of managerial behaviours and the degree of trust employees have in management.

2. *Consultation* is also an explanatory variable for each model. Extensive communication between managers and workers is regarded as a core feature of the characteristic participatory work organisation of HPWS. Adopting five WERS98 questions, the scale aggregated employee evaluations of the extent to which their managers consulted them on different facets of employer strategy and policy.
3. *Job Satisfaction* is a dependent variable for an investigation of associations with HPWS and partnership, and an explanatory variable for the three regressions of Employee Commitment, Workplace Stress and Union Performance. The scale aggregated scores from four variables used in the WERS98/04 surveys. Many advocates of the high performance workplace assume that HPWS will have a positive effect on job satisfaction (by providing higher intrinsic and material rewards), whilst job satisfaction is also regarded as a core intermediary factor in the HPWS mutual gain equation. That is, hypothetically at least, HPWS may generate higher job satisfaction, and this may lead to enhanced employee commitment and organisational performance.
4. *Employee Commitment* is a dependent variable for an investigation of associations with HPWS and partnership, and an explanatory variable for the two regressions of Workplace Stress and Union Performance. The scale bore close similarities to the measure used by Gallie *et al.* (2001: 1086). It also used three WERS98/04 questions. Commitment was conceptualised as the extent to which employees identified with their employer and accepted its goals and values. It is regarded as an important outcome of HPWS and job satisfaction. High employee commitment is assumed to generate enhanced discretionary effort from employees, and through this, improved organisational performance.
5. *Workplace Stress* is a dependent variable for an investigation of associations with HPWS and partnership. Two of the three questions were used in the WERS98/04 surveys. The Appelbaum *et al.* (2000) model of the high performance workplace makes explicit the assumption that the adoption of HPWS is unlikely to generate any degradation of employment conditions. It also assumes that HPWS will result in low stress levels for workers. Each of our regression models explored the impact of working hours and changes in the typical working week, job responsibilities, flexibility and work rates alongside our HPWS measures. With these in place, we then explored hypothetical associations between stress, HPWS and partnership.
6. *Union Performance* is a dependent variable for an investigation of associations with HPWS and partnership. Union performance scores were aggregated from six variables. Three of these were used by the WERS98/04 surveys. Our objective was to explore the impact of the presence of partnership environments on employees' assessment of the performance of their workplace unions once potentially intervening variables were included in the analysis. For this analysis, only a subset of union members was used.

Means and standard deviations for these six scale variables are presented in Table 3.

Table 3: Means and standard deviations for scale variables

	Mean	Standard deviation
Fair treatment (0–18)	8.47	3.72
Consultation (0–15)	5.73	3.56
Job satisfaction (0–12)	6.22	2.18
Commitment (0–18)	9.28	3.28
Stress (0–9)	4.67	1.90
Union performance (0–18)	10.09	2.89

There were two additional interval scale explanatory variables. *Days of Training* measured the days of formal 'off the job' training respondents received in the last 12 months and *Hours* measured average weekly working hours including overtime.

A range of explanatory variables were entered into the regression models as dummy variables. These were: *Partnership* (employees located in partnership environment); *Job Security* (employees who agreed with the statement that, 'I feel my job is secure in this workplace'); *Self-Directed Team* (employees who indicated that, 'my team jointly decides how work is to be done'); *Problem-Solving Group* [employees who indicated that, 'I am a member of a problem-solving group at work (e.g. quality circle or continuous improvement group)']; *Increase in Job Responsibilities* (employees who indicated an increase compared to 3 years ago); *Increase in Job Flexibility*; *Increase in Amount of Work Completed Each Week*; and *Increase in Working Hours*.

Additional control dummy variables were entered to capture workplace effects along with any intermediary effects of employee characteristics. These were: *Union Member*; *Gender* (ref. group Men); *Permanent Contract*; five different occupational group variables (*Supervisors/Teamleaders, Graduates, Non-graduate Technical/Specialists, Administrative & Clerical, Skilled Manual, Semi/Unskilled Manual* (ref. group Teamleaders/Supervisors)); *Age group* (*Age 24 years or less, Age 25–29 years, Age 30–39 years, Age 40–49 years, Age 50 and above* (ref. group)); *Length of service* (*Service less than 2 years, Service 2 to less than 5 years, Service 5 to less than 10 years; Service 10 years and above* (ref. group)); and *Workplace* (*AerospaceA, AerospaceB, NHS Trust, Local Authority, Finance, Insurance* (ref. group AerospaceB)).

Table 2 presents summaries of these categorical variables.

Results

To assess the interaction effects of the partnership and high performance work variables on the three outcomes of job satisfaction, employee commitment and stress, three regression models were estimated (Table 4). We then ran an additional set of models using a subset of union members to investigate the interaction effects of partnership and the high performance work variables on members' assessment of union performance (Table 5). Workplace and employee characteristics were included as control variables in each of these regression models.

The first regression of job satisfaction highlights a number of interesting relationships. The model does not entirely support the hypothesis that the adoption of HPWS techniques and co-operative management–employee relations enhances job satisfaction in these high performance work regimes. Perhaps predictably, employee experience of fairer treatment by management and greater consultation over different facets of employer policy were both positively related to job satisfaction, as was employees' feelings of job security. However, the existence of a partnership environment was not associated with job satisfaction. Of the three specific indicators of skill development and task discretion/participation—skills training, working in problem-solving groups and working in self-directed teams—only the last one had a significant positive association.

Our measures of job change and work intensification did, mostly, have an impact upon job satisfaction. An increase in job responsibilities was positively associated with job satisfaction; however, increases in the amount of work employees were expected to complete each week and increases in working hours were both negatively associated. An increase in the degree of job flexibility expected of employees was not associated with job satisfaction (or indeed, with commitment, or stress).

Our control measures raised a number of issues that are rarely considered in the HPWS literature. Men were more likely than women to experience lower job satisfaction in these high performance work environments. There were also differences based on occupational class and age. Using teamleaders/supervisors as the reference group, non-graduate technical/specialists and skilled manual workers experienced lower levels of job satisfaction. Interestingly, younger workers were also more likely to experience lower job satisfaction (compared to the reference group of those aged 50 or

Table 4: OLS Regressions of job satisfaction, employee commitment and stress (unstandardised coefficients)

	Job satisfaction scale (z scores)	Employee commitment scale (z scores)	Stress scale (z scores)
Constant	0.055 (0.320)	0.184 (0.980)	-0.878 (-4.511)**
Partnership environment	0.056 (1.194)	0.100 (1.948)*	0.142 (2.656)**
Employee commitment scale	—	—	0.066 (2.771)**
Job satisfaction scale	—	0.314 (12.462)**	-0.151 (-5.550)**
Fair treatment scale	0.463 (20.725)**	0.217 (8.015)**	-0.111 (-3.871)**
Consultation scale	0.067 (3.052)**	0.040 (1.665)	0.081 (3.258)**
Job security	0.305 (7.309)**	0.071 (1.539)	-0.014 (-0.300)
Team jointly decides tasks	0.152 (4.037)**	-0.078 (-1.892)	0.105 (2.447)*
Problem-solving groups	0.078 (1.940)	0.156 (3.557)**	0.014 (0.306)
Days of formal training	0.017 (1.450)	-0.016 (-1.306)	-0.027 (-2.080)*
Work hours	0.000 (0.064)	0.000 (3.557)	0.013 (3.845)**
Job responsibilities increased	0.199 (4.610)**	0.016 (0.330)	0.277 (5.636)**
Job flexibility increased	0.039 (0.909)	-0.020 (-0.426)	0.076 (1.548)
Amount of work increased	-0.182 (-4.373)**	0.110 (2.414)*	0.312 (6.557)**
Working hours increased	-0.133 (-2.825)**	0.042 (0.820)	0.342 (6.410)**
Union member	-0.021 (-0.452)	-0.009 (-0.185)	0.043 (0.822)
Gender	-0.116 (-2.155)*	-0.078 (-1.317)	-0.178 (-2.913)**
Permanent contract	-0.140 (-1.283)	0.066 (0.550)	0.148 (1.195)
Graduates	-0.104 (-1.390)	-0.179 (-2.183)*	-0.127 (-1.496)
Non-graduate technical/ specialists	-0.159 (-2.595)**	-0.139 (-2.072)*	-0.083 (-1.192)
Administrative & clerical	-0.123 (-1.693)	0.077 (0.971)	-0.380 (-4.621)**
Skilled manuals	-0.022 (-0.342)*	0.125 (1.753)	-0.485 (-6.566)**
Semi/unskilled manuals	-0.018 (-0.198)	0.224 (2.200)*	-0.209 (-1.976)*
Aged 24 years or less	-0.281 (-3.090)**	-0.311 (-3.125)**	-0.192 (-1.859)
Aged 25–29 years	-0.239 (-3.494)**	-0.147 (-1.962)*	-0.106 (-1.366)
Aged 30–39 years	-0.065 (-1.274)	-0.147 (-2.640)**	-0.045 (-0.783)
Aged 40–49 years	-0.050 (-1.015)	-0.035 (-0.645)	0.024 (0.439)
Less than 2 years service	0.010 (0.119)	0.210 (2.291)*	-0.097 (-1.016)
2–5 years service	0.043 (0.883)	-0.039 (-0.732)	-0.124 (-2.272)*
5–10 years service	0.050 (0.887)	-0.025 (-0.397)	-0.061 (-0.946)
AerospaceA	-0.085 (-1.729)	-0.030 (-0.561)	-0.034 (-0.617)
Local authority	-0.103 (-1.568)*	-0.540 (-7.536)**	0.497 (6.583)
NHS trust	-0.359 (-4.691)**	-0.709 (-8.425)**	0.249 (2.799)
Finance	-0.033 (-0.333)	-0.588 (-5.376)**	-0.058 (-0.505)
Insurance	-0.003 (-0.029)	-0.373 (-3.479)**	0.061 (0.550)
	R ² = 0.414	R ² = 0.318	R ² = 0.271
	n = 1,888	n = 1,879	n = 1,874

Notes: *t*-statistics are in parentheses.

*Significant at 95% confidence level, **significant at 99% confidence level or above.

more). This contrasts with the *U* curve relationship found by the Clark *et al.*'s (1996) analysis of BHPS data, where satisfaction was higher for younger and older age groups. Finally, employees in our two public sector establishments were more likely to express lower job satisfaction.

The second regression of employee commitment analysed the impact of these variables with the job satisfaction scale included. The results did establish some links between management practice and commitment. Job satisfaction and employee experience of fair treatment by their managers were positively associated, although the

Table 5: OLS regressions of union performance (unstandardised coefficients)

	Model one: Union performance scale (z scores)	Model two: Union performance scale (z scores)	Model three: Union performance scale (z scores)
Constant	0.101 (3.002)**	0.224 (0.779)	0.298 (0.997)
Partnership environment	-0.215 (-4.630)**	-0.115 (-1.969)*	-0.140 (-2.373)*
Job satisfaction scale			0.097 (3.062)**
Employee commitment scale			0.104 (3.532)**
Fair treatment scale			0.043 (1.256)
Consultation scale			0.097 (3.201)**
Job security			0.033 (0.560)
Frequent contact with union rep			0.325 (5.721)**
Team jointly decides tasks		0.093 (1.886)	-0.010 (-0.199)
Problem-solving groups		0.065 (1.245)	0.013 (0.249)
Days of formal training		0.016 (1.025)	-0.017 (-1.060)
Work hours		-0.004 (-0.910)	-0.004 (-1.058)
Job responsibilities increased		-0.066 (-1.158)	-0.165 (-2.827)*
Job flexibility increased		-0.040 (-0.675)	-0.010 (-0.164)
Amount of work increased		-0.028 (-0.496)	0.021 (-0.366)
Working hours increased		0.081 (1.262)	0.105 (1.607)
Gender		0.054 (0.647)	0.056 (0.664)
Permanent contract		0.056 (0.277)	0.005 (0.026)
Graduates		-0.041 (-0.360)	0.048 (0.414)
Non-graduate technical/ specialists		0.125 (1.447)	0.194 (2.189)
Administrative & clerical		-0.060 (-0.513)	0.045 (0.371)
Skilled manuals		0.045 (0.517)	0.068 (0.757)
Semi/unskilled manuals		0.042 (0.334)	0.113 (0.870)
Aged 24 years or less		0.121 (0.942)	0.164 (1.208)
Aged 25–29 years		-0.105 (-1.091)	-0.060 (-0.614)
Aged 30–39 years		-0.153 (-2.268)*	-0.088 (-1.287)
Aged 40–49 years		-0.107 (-1.667)	-0.046 (-0.712)
Less than 2 years service		-0.065 (0.455)	-0.024 (-0.172)
2–5 years service		-0.045 (-0.704)	-0.017 (-0.260)
5–10 years service		-0.070 (-0.864)	-0.021 (-0.251)
AerospaceA		0.012 (0.191)	0.080 (1.291)
Local Authority		-0.163 (-1.823)	-0.071 (-0.756)
NHS Trust		-0.583 (-5.649)**	-0.459 (-4.216)**
Insurance		0.363 (2.385)	0.390 (2.455)
** $p \leq 0.01$	$R^2 = 0.013$	$R^2 = 0.089$	$R^2 = 0.171$
* $p \leq 0.05$	$N = 1,681$	$N = 1,444$	$N = 1,232$

Notes: *t*-statistics are in parentheses.

*Significant at 95% confidence level, **significant at 99% confidence level or above.

extent to which managers consult with employees had no significant effect. There was, however, a positive association between working in a partnership environment and employee commitment. The impact of task discretion/participation and skill development was more limited. Only participation in problem-solving groups was positively associated with employee commitment. Once all the potentially intervening variables were controlled for, an increase in the amount of work employees are expected to complete each week was positively associated with commitment, suggesting a pattern of greater discretionary effort.

Of the control variables, it is notable that in these case studies, age was again related to commitment. Younger workers were significantly more likely to express lower

commitment than those aged over 50 (although commitment was higher for workers of less than 2 years service). In addition, whilst advocates of the high performance workplace might expect to find greater levels of commitment amongst highly skilled workers, our results showed that commitment was, in fact, significantly lower amongst the most qualified groups in our sample, graduates and technical/specialists. These results suggest that high performance work environments do not necessarily contain the conditions for creating more satisfied and committed skilled or younger workers.

The third regression model measured the impact on the stress scale of employee commitment, job satisfaction and all other intervening variables. The results show that employees with lower levels of both job satisfaction and perceptions of fair treatment by the management tended to experience higher levels of stress. What was more notable, however, was that working in a partnership environment, more extensive consultation, employee commitment and working in self-directed teams were all associated with higher stress levels. Our case study interview data highlighted how the high commitment/high involvement model generates considerable work pressure and job strain that for some workers inevitably result in greater stress, a point we return to in the concluding discussion. The regression model shows that work hours (the average hours worked in a typical week), increases in work hours, increases in job responsibilities and increases in workloads are all positively associated with stress.

Analysis of the control variables shows a significant gender effect: in these case studies, women were more likely than men to experience stress at work. Apart from job-related stressors that are compounded by manifestations of gender inequality in the private sphere, this result was also a function of the relatively large proportion of women workers in our two public sector establishments where stress levels were also relatively higher. The occupational reference group, teamleaders and supervisors, were also more likely than other groups to experience stress (such a pattern has been reported by a number of other surveys, for example, Gallie *et al.*, 1998; Smith, 2000).

Our final set of regression models investigated the factors that contributed to union members' assessment of the performance of their own workplace unions in these work contexts, where partnership and HPWS techniques were key variables (presented in Table 5). As the potential 'partnership effect' was of most interest to us in this case, we ran three models to test firstly for a 'raw' partnership effect (Model One), secondly for a partnership effect with the 'background' variables comprising work characteristics and controls (Model Two) and lastly with all variables included (Model Three). For this analysis, the subset of union members was analysed (*Finance*, the only non-union workplace, was eliminated). For Model Three, we included an additional variable—frequency of contact with workplace representative—based on a scale of 'frequently', 'occasionally' and 'never'. A dummy variable (1 = frequent contact with union representative) was created from this. As a proxy for the quality of workplace union organisation, this constituted an important intermediary variable in measuring the impact on union performance of partnership and other factors.

The most notable result from the analysis is that working in a partnership environment was negatively associated with employees' assessment of union performance. This relationship is established in Model One and it persists and is consistently significant for Models Two and Three. We return to this result in the concluding discussion section.

Ostensibly, the third model also suggests that more satisfied workers are more likely to rate their union's performance higher, perhaps a manifestation of employees' 'dual allegiance' to their employer and union. This is evidenced by the positive associations between union performance and job satisfaction, commitment and consultation. However, a more nuanced interpretation is that stronger unions (evidenced by higher performance ratings) are more likely to generate improved employer performance in the management of employees, and higher satisfaction as a result. In addition, and as might be predicted, union members who were in frequent contact with their local union representatives were more likely to positively rate their union's performance.

Discussion and conclusion

The results highlight a number of important questions governing assumptions that underpin the concepts of partnership and the high performance workplace. The first is that the supposedly self-evident line of causation between the adoption of HPWS techniques, increases in employees' job satisfaction and increases in employees' organisational commitment is problematic. A number of reviews of large scale surveys of firms have shown this to be the case. That is, there may well be an association between the use of some HPWS techniques and firm performance, but there exists very little robust evidence in the UK of employee gains from this (Ramsay *et al.*, 2000; Godard, 2004; Harley, 2005). The data presented here tend to confirm this. However, the significance of our results stems from the specific nature of the data set. Many of the firms and work establishments in the national surveys are not 'authentic' high performance organisations, in that few can be shown to operate clusters of core HPWS practices (Godard, 2004; Harley, 2005). By contrast, although the size and representativeness of our case study-based survey means that the findings are indicative rather than conclusive, their significance is based on the proximity of the six private and public sector establishments to the high performance work model. Each had adopted a relatively high mass of HPWS techniques and conditions. For example, different types of self-directed teams, job flexibility measures and problem-solving activity were present, direct and indirect employee consultation measures were widespread and management had been developing partnership environments in a number of these workplaces. The fact that some of these processes had not been established uniformly throughout each workplace (for example, teamworking, problem-solving groups and partnership) reflected the complex reality of job reform and workplace relations in most contemporary work establishments of any size. But it was also useful for our research in that the survey instruments were able to measure employee experiences of those who were—and were not—affected by the reforms enabling the impact of HPWS and partnership measures to be assessed.

The results showed that relationships between different facets of the high performance workplace and employees' job satisfaction and commitment were by no means straightforward. As the high performance work model would predict, there were positive relationships between employee assessments of fair treatment by management and both job satisfaction and employee commitment, whilst job satisfaction itself was associated with commitment. There was little evidence to suggest, however, that these relationships resulted from the existence of partnership environments or clusters of HPWS techniques. Indeed, the partnership–HPWS nexus had only a limited impact on employees' sense of attachment to their work or employer. The introduction of the partnership variable was significant for commitment only whilst employee consultation was significant for job satisfaction. Even here, our basic statistics showed that despite the presence of a wide array of direct and indirect consultation practices in each workplace, the number of employees who positively evaluated the consultation process was still relatively low. For instance, 58 per cent of all respondents felt that they were never or hardly ever consulted about future plans for the workplace, and 75 per cent felt the same about consultation on staffing levels and redundancy. In other words, where consultation was seen to be better, then employees' job satisfaction improved; however, those workers in these high performance workplaces who actually experienced this were a minority. Our case study interview data generated many comments that articulated a sense of frustration about this, particularly manual and non-manual workers who were lower down the organisational hierarchy. Despite the breadth of consultation in each organisation, workers felt that management decision-making over key issues affecting job security and quality of working life rarely took their concerns into account. As one design engineer typically put it, 'Plenty of communication, but absolutely no say in the matter'. (For our more in-depth case study analysis of these patterns, see Danford *et al.*, 2005; Richardson *et al.*, 2005; Tailby *et al.*, 2004; Upchurch *et al.*, 2006).

According to the literature, working in self-directed teams and problem-solving groups is central to the high performance model (Rothschild, 2000; Godard, 2004), and

in analysing job satisfaction and commitment, we would expect to find a positive, synergistic relationship with these two practices. In fact, there was scant evidence for this. The results mostly reflected patterns established by large scale national surveys. Working in self-directed teams was associated with higher job satisfaction but it had no significant impact upon commitment. It was, however, associated with higher stress levels. This was because, as Harley (2001) argues, the link between team-based job reform and high performance is one based mostly on managerially driven labour deployment practices rather than experimentation with ideas of 'employee autonomy' or 'empowerment'. Our case study interview data confirmed this. For example, many workers in the aerospace firms explained how, in the interests of management control over budgets and labour, the introduction of teamworking was aimed at labour rationalisation by demarcating fewer polyvalent craft workers into production cells responsible for a narrower range of tasks.

Employees who participated in problem-solving groups (around one-third of all respondents) were more likely to report greater organisational commitment, and this could be based on feelings of influence over work organisation. The point to be made, however, is that the HPWS-job satisfaction-employee commitment link was tenuous. Compared to national surveys of the effects of different management techniques in workplaces across the economy, there was nothing distinctive about the effect of core 'clusters' of such practices as teamworking and problem-solving (and skills training) in specific high performance-partnership work environments. This also suggests that despite the overwhelming focus in the management literature on the qualitative and relational facets of job reform, it may still be the case that traditional employee concerns with material rewards—pay and conditions—have greater influence over their sense of satisfaction and attachment to work (Rose, 2003).

The second issue the data address concerns the relationships between HPWS, partnership and employees' health and welfare. The dominant picture that emerges from the regression models is that the high performance work model has not resolved the problems of work intensity and stress that are associated with lean production. Instead, the 'high performance' in the high performance workplace rubric seems mostly based on a process of driving labour harder through a combination of compulsory and discretionary means. As Table 2 shows, large proportions of employees reported that job responsibilities, job flexibility and the amount of work that they were required to complete each week had increased over the previous 3 years; a fifth reported an increase in working hours. The regression models show that these patterns had mostly negative effects on job satisfaction and workplace stress, a relationship that corresponds with other national and case study-based survey work (e.g. Green, 2001). Again, our interview data highlighted the underlying reasons for this. Different managers and workers in each of the six organisations explained how their work routines and supervisory relationships had shifted in the context of different forms of organisational restructuring that shared certain characteristics. These included the emergence of new, financially driven management styles, tighter budgetary controls, greater transparency and accountability of employee performance and more widespread communication and consultation that lacked any significant element of employee influence over core management decisions. For many workers, these factors generated job stressors in the form of task enlargement, working at higher speed, worrying about work outside working hours and resentment about the nature and pace of organisational change.

The positive relationships between increases in workloads and employee commitment also suggest that more discretionary effort has been generated. However, the link between commitment and stress tends to refute the argument that increases in discretionary effort—the core process for high performance outcomes—should generate lower stress levels in the workplace (Appelbaum *et al.*, 2000: 167).

The other salient point to emerge from this component of the analysis is that working in a partnership environment did not decrease stress levels (which a model emphasising greater union influence over managerial decisions governing work organisation might expect). Instead, working in a partnership environment was associated with greater workplace stress (a result that corresponds with recent WERS98 findings, see

Robinson and Smallman, 2006). This raised the possibility that partnership might be associated with weaker union influence over changes to work practices and conditions. It is to this third issue that we now turn.

The regression model of union performance showed that workers who experienced greater job satisfaction, commitment and consultation were also more likely to rate their union's performance higher. The theories of mutuality associated with partnership and the high performance workplace model would expect these associations to incorporate a positive partnership effect. That is, co-operative bargaining relationships are often seen to constitute the most effective (and for some, the sole remaining) means of securing 'mutual gains' for workers during management attempts to improve organisational performance (Haynes and Allen, 2001; Oxenbridge and Brown, 2004). In fact, our three union performance models showed that partnership had a negative effect on worker evaluation of union performance (as it did on workplace stress). Indeed, the reality was that notwithstanding the general decline in union influence at work, most union members in our survey tended to believe that conventional oppositional stances were more effective for placing constraints on managerial prerogatives and securing a degree of protection from the work-intensifying pressures of HPWS. One reason for this, as our interview data showed, was that partnership was not used by management as a tool for enhancing organisational democracy, but instead aimed to reshape employee attitudes in order to legitimise the imposition of change. A second reason is that partnership involved an inevitable distancing of union stewards from their rank and file members, both in terms of the incorporation of stewards in management-led discussions and a drift of priorities away from member concerns. As one NHS steward described corporate-level partnership agenda items: 'really highly political stuff' that 'really isn't much interest to a workforce that can't get paid correctly'.

In conclusion, our evidence questions two key assumptions associated with the high performance workplace. The first is that the adoption by management of high commitment, high performance work practices will inevitably result in 'mutual gains' for workers and employers. Our data suggest that the argument that the high performance work model can somehow transcend the limitations of lean production by generating improvements to employees' quality of working life (via more autonomy, participation and partnership-based union involvement) may not be sustainable. The second is that partnership-based organising strategies constitute the only viable means by which unions can secure gains for their members in high performance work settings. Our data suggest that the rank and file's direct experience of the nature and consequences of union influence over management actions in these settings leads to preferences for more independent and oppositional union forms.

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Appendix 1

Scale variables used in regression analysis

1) Fair Treatment of Employees (Cronbach's Alpha = 0.8840)

How good would you say managers here are at:

- Involving employees in decision-making
- Keeping everyone up to date about proposed changes at work
- Responding to suggestions from employees
- Dealing with work problems you or others may have

- Treating employees fairly
 - Striving to maximise the job security of employees
- Responses coded: very good (3), good (2), poor (1), very poor (0)

2) Consultation (Cronbach's Alpha = 0.8294)

How often are you asked by managers for your views on:

- Future plans for the workplace
- Staffing issues, including redundancy
- Changes to work practices
- Pay issues
- Health and Safety at work

Responses coded: frequently (3), sometimes (2), hardly ever (1), never (0)

3) Job Satisfaction (Cronbach's Alpha = 0.6822)

How satisfied are you with the following:

- The amount of influence you have over your job
- The amount of pay you receive
- The sense of achievement you get from your work
- The respect you get from supervisors/line managers

Responses coded: very satisfied (3), satisfied (2), dissatisfied (1), very dissatisfied (0)

4) Employee Commitment (Cronbach's Alpha = 0.7975)

Do you agree or disagree, with the following:

- I share many of the values of my employer
- I feel loyal to my employer
- I am proud to tell people who I work for
- I am willing to work harder than I have to in order to help this organisation succeed
- I will take almost any job to keep working for this organisation
- I would turn down another job with more pay in order to stay with this organisation

Responses coded: strongly agree (3), agree (2), disagree (1), strongly disagree (0)

5) Workplace Stress (Cronbach's Alpha = 0.6842)

Do you agree or disagree, with the following:

- I never seem to have enough time to get my job done
- I worry a lot about my work outside working hours
- I feel very tired at the end of a workday

Responses coded: strongly agree (3), agree (2), disagree (1), strongly disagree (0)

6) Union Performance (Cronbach's Alpha = 0.8244)

Do you agree or disagree, with the following:

- Unions here take notice of members' problems and complaints
- Unions here are taken seriously by management
- Unions here make a difference to what it is like to work here
- Unions here are good at communicating with members
- Unions here have a lot of influence over pay
- Unions here have a lot of influence over working conditions

Responses coded: strongly agree (3), agree (2), disagree (1), strongly disagree (0)