Well-Being and the Workplace: What Roles for Unions and Gender?

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1. Introduction

This is an extension of our recent research into the well-being consequences of life in the workplace. We place special attention here to the effects of different forms of labour relations, especially on the role of unions, and of gender differences. This ties closely to Paul Weiler's long standing research and policy interests in labour relations issues in both Canada and the United States (especially as summarized in Weiler 2000).

2. Well-being and the Workplace: Setting the Stage

Much of the recent empirical and theoretical analysis of social capital (e.g. Putnam 2000, Helliwell and Putnam 2005) has concentrated on interactions in families and communities, with only limited attention paid to the nature and consequences of social capital in the workplace. Since that earlier research showed the great importance of social capital to subjective well-being, it seems likely that it would also be worthwhile to collect evidence about social capital in the workplace, given the large fraction of waking hours spent there. Hence we devoted a fresh section of the second wave of the Canadian ESC survey to evaluating life on the job, and Putnam has a new survey with life in the workplace as its focus.

In two earlier papers (Helliwell and Huang 2005, Helliwell, Huang and Putnam 2007), we presented results from the second wave of the Canadian ESC survey, along with more limited workplace results based on the larger Canadian General Social Survey (GSS) of 2002, and Robert Putnam's US Benchmark survey. In those papers, and in the results reported in this paper, we base our analysis on those who held paid jobs at the time of the survey. There are roughly 2400, 10,500 and 16,500 employed respondents included in

our results for the ESC, GSS and Benchmark samples, respectively. Appendix 1 shows the sample means and standard deviations for the key variables used.

The earlier papers provided estimates of the values of various aspects of life on the job, measured as 'compensating differentials'. The methodology is described fully in Helliwell and Huang (2005). The basic idea is fairly simple. Measures of life satisfaction (or of happiness in the case of the Benchmark survey) are used as dependent variables, with the independent variables including those variables thought to have important implications for life satisfaction. If the influence of income on life satisfaction is significant, then the income-equivalent values of other significant determinants can be measured as the size of the change in income that would have the same well-being effect as a given change in the other variable of interest.

The estimates of compensating differentials for non-financial job characteristics, and especially of workplace trust, are strikingly large. For example, results from the ESC survey suggest that having a job in a workplace where trust in management is ranked 1 point higher on a 10-point scale has the equivalent effect on life satisfaction as a 40% change in income (Helliwell. Huang and Putnam 2007). We also explored there some reasons why both workers and managements might not have been sufficiently aware of these effects to induce them to pay more effective attention to building and maintaining workplace trust.

In that paper we also attempted to explain some of the possible determinants of workplace trust. One of the more striking findings was that union workers tend to rate trust in management in their workplaces lower than do non-union workers, by 1.2 points on a ten-point scale (t=12.5). However, despite the fact that workplace trust is very important for life satisfaction, and trust in management (although not trust in co-workers) is substantially lower for union workers, union workers do not, on average, have lower levels of life satisfaction.

In this paper we extend our earlier work in two dimensions. First we attempt to explain why union workers are as satisfied with life as non-union workers, despite working in environments where they judge management to be less trustworthy. Second, we look for, and find, interesting gender differences in the ways in which male and female workers choose and evaluate their workplaces. We were inspired to do this by Nicole Fortin's recent analysis (Fortin 2005, based on World Values Survey data) suggesting that some important part of the male-female earning gap might be based on deliberate choices by female workers favouring jobs with lower income and better working conditions. If her conjectures are more generally applicable, they might suggest that female workers would attach higher life-satisfaction value to non-financial job characteristics than do males, and that they might therefore take jobs with higher values of trust and other non-financial job characteristics, but with lower earnings. In the ESC data there is at least some initial support for this interpretation, as female employees rate trust in management at their workplaces .2 points higher, on a 10-point scale, than do men, with the gender difference being the same whether the employees are union members or not. This is not simply due to women being more trusting than men, as there is no significant gender difference in social trust, trust in police, or trust in neighbours[1]. If we find significant male/female differences in relative preferences for income and non-financial job characteristics, then this might help to explain, following Fortin's conjectures, some part of the remaining earnings gap between the genders.

3. What Role for Unions?

We base our main analysis on the second-wave (2002-03) ESC survey, since only it has measures of trust in management, and it is this measure of trust that varies so dramatically between union and non-union workers. We use results from the other

[1] If the 10-point trust-in-management responses are regressed on gender and union status, the coefficients are -1.21 for union membership and -.22 for males. Repeating the same regression for general social trust shows social trust slightly higher for union members (+.035, on a 0 to 1 scale, t=1.7), but the same for males and females. There are no gender or union differences to the ESC answers to questions asking respondents to estimate the likelihood of their lost wallets being returned if found, alternatively, by a neighbour or by a police officer.

surveys mainly to confirm that trust in colleagues at work appears to be similar for union and non-union employees, and similar for men and women.

Before proceeding to the ESC results, it is worth checking that the ESC sample is reasonably representative of union/non-union differences in the economy as a whole. A natural place to start is the unadjusted wage premium for union over non-union workers, which Card, Lemieux and Riddell (2004, Table 2) report to be .135 for males and .294 for females, according to Canadian Labour Force Survey data for 2001. In the ESC sample, as shown in Appendix 1, the excess of union over non-union incomes is strikingly similar: +.136 for males and +.321 for females. In terms of numbers, union members represent about one-third of the total of employed respondents, both men and women, very similar to the national figures for 2001[2]. Comparing these union coverage ratios to those in the United States, as revealed either in the US Benchmark survey data (Appendix 1) or in the aggregate data reported by Card et al (2004, Table 1) raises the question addressed by Paul Weiler (1983) more than 20 years ago: Why did the unionization rate fall so much more in the United States than in Canada between 1970 and the early 1980s? The two rates were similar 35 years ago, as Craig Riddell showed in his Harvard Canada Seminar in 1993 (since published as Riddell 1993). Riddell (1993) and Riddell and Riddell (2004) show that only a small part of the difference can be explained by differences in the industry, gender and skill mix in the two countries.

Paul Weiler (1983) argued that the biggest reason for the much faster unionization decline in the United States was that under the US NLRA employers have more powerful weapons available to fight the appearance and maintenance of union shops, relative to the tools (and perhaps the motivations) of employers in Canada. Chris Riddell (2004) has recently been able to provide a quasi-experimental test of Weiler's hypothesis, based in changes in the British Columbia laws governing union certification, first creating and then removing provisions similar to those found under the US NLRA. He found fairly

[2] Card, Lemieux and Riddell (2004, Table 2) show the 2001 union share as 33% for males and 31.7% for females, with the corresponding shares in the ESC being 30.8% for males and 37% for females. The Card et al data refer to workers covered by a collective agreement, while the ESC numbers relate to union membership, with the latter usually being slightly less than the former in Canada.

strong support for the Weiler hypothesis. In the years since Weiler 1983 paper was written, unionization rates have dropped by about the same amount in both countries. It has been argued that the relevant institutional differences between Canada and the United States have been narrowing over this period, driven by Canadian changes to voting procedures that have made it harder to achieve and keep certification. That would help to explain the falling Canadian unionization rates, but would not explain why the US rate was falling just as fast. Our cross-sectional survey results can contribute nothing to the explanation of underlying trends in either country, but we can instead probe further into the differences in trust in management between union and non-union workers.

Table 1 shows the key results. The first column of Table 1 shows an equation for the whole sample, while the separate equations for union and non-union workers are shown in the last two columns of the same table. From comparing the union and non-union equations, it can be seen that union workers appear to care less than non-union workers about differences in the extent to which management can be trusted. They appear to care only about half as much, with the difference being statistically significant. This may help to explain two results from our data and earlier research: (a) in our raw data average life satisfaction is the same for union and non-union members and (b) union members have residual life satisfaction higher then non-members in an equation containing trust in management. The differing coefficients on trust in management suggest a possible answer to the paradox: that trust in management matters for both union and non-union members, but by differing amounts, and around a different baseline. This follows from the coefficients reported in Table 1, but can also be seen by looking at Figure 1, which is obtained by a simple graphing of life satisfaction against trust in management, done separately for union and non-union workers.

The data shown in Figure 1 are striking. For both union and non-union workers, average life satisfaction rises substantially with trust in management. Moving from 5-or-below to top assessments of trust in management (on a 10-point scale) is associated with an increase in life satisfaction of 1.2 points for non-union workers, compared to 0.7 points for union workers, with life satisfaction also measured on a 10-point scale.

There is also evidence of job matching, as Canadian union members, who, compared with non-union employees, are on average in jobs with higher pay and lower trust in management, and appear to attach less importance to trust in management and more importance to higher incomes than do other employees. However, even for union members trust in management is as important as income in explaining life satisfaction, while for non members it is twice as important.

There are several possible reasons that might be contributing to these patterns. First, low-trust workplaces are likely to have more dissatisfied workers, and to provide a climate more open to establishment of a bargaining unit. Second, the climate of management-employee relations may be exacerbated in a union environment, since at least some of the company and union representatives have the maintenance of adversarial relations as an essential part of their jobs. To the extent this is true, one might expect to find that the lower trust in management found among union workers is not true of trust among colleagues. Although we do not have surveys asking about both trust in management and trust among colleagues, we do find that in the US Benchmark survey there is no difference between union and non-union workers in the extent to which they feel trust in their fellow workers. This suggests that there is a special link between trust in management and unionization, with the correlation perhaps reflecting causation running in both directions.

Third, the fact that union workers more frequently rate trust in management lower than non-union workers, but are no less happy on average, probably reflects some element of sorting, with those less bothered by a low trust working environment taking union jobs with their related combination of higher pay and lower trust in management.

Fourth, the fact that union workers are happier than non-union workers in environments where trust in management is low (see Figure 2, especially the first column) may also mean that unions are doing their jobs, in the sense that they have negotiated contracts and

grievance procedures to protect their members against at least some of the risks of working where management is not trusted by workers.

Some combination of the third and fourth reasons probably lies behind our finding that the estimated compensating differentials for trust in management are twice as high for non-union as they are for union workers, as shown in the right-hand columns of Table 2.

4. Exploring Gender Differences

The difference between union and non-union workers is to a lesser extent mirrored by that between male and female workers, with females, like non-union workers, being more likely to be working in jobs where trust in management is rated higher, and apparently gaining more (in terms of higher life satisfaction) from working in a high-trust environment. This is not simply the same phenomenon with a different name, as in the ESC sample, as in the Canadian economy as a whole, the percent of females working in union jobs is almost exactly the same as for males. The lack of interaction effects suggests that the two situations are sufficiently independent to be analyzed separately. However, estimation of additional equations with interaction terms suggests that female employees benefit more than do males from having union status in low-trust workplaces. This can be seen by comparing regressions split by gender when the regression includes the interactive terms of union*trust and union*income. In these two regressions (not shown), female workers have negative coefficient on union*trust (-0.179[0.061]**) that is much more significant than the same coefficient for male workers(-0.043[0.069]). On the other hand, male workers appear to have a higher coefficient on union*income. Thus females gain most from the union's protective role in dealing with management in low trust situations, while males attach more importance to the union's ability to bargain for higher wages. This appears to be consistent with the more general finding that workplace trusts matters more for females than males, while income matters more for males than for females.

The magnitudes of the male/female and the union/non-union differences in the estimated values attached to trust in management are strikingly similar. Table 2 shows female

workers to attach income-equivalent life satisfaction values for trust in management that are twice as high as for male workers. This is exactly as was found when we compared non-union and union workers. In both cases the differences in compensating differentials result from females, and non-union workers, attaching a lower value to income and a higher value to trust in management than do male or union workers. For women, as compared to non-union workers, more of the effect flows through the income coefficients, and less through trust in management, but these differences are too small to be significant.

As noted in the first section of the paper, Nicole Fortin (2005) has already found some evidence in OECD countries that women are more likely to value jobs that have lower pay and more flexible working conditions. This appears to be entirely consistent with our evidence, as workplaces where trust in management is high are workplaces where flexible working arrangements are more likely to be in place and working smoothly. Informal interviews with female workers in high trust jobs, many of which offered lower pay but higher trust than previous jobs, showed that a large part of the value of the high-trust environment lay in the ease with which flexible working arrangements, including several features of child-rearing, could be obtained without fear or hassle. It is also possible that there are more basic gender differences in the values attached to working in jobs with high levels of trust. Our current results do not allow us to distinguish the relative importance of gender-based personality differences and gender-based differences in life circumstances.

In the meantime, our results do suggest that at least some part of the male/female gap in money wages is offset for females by working in high-trust jobs. Thus we find, as shown in Appendix 1, that although female workers in our sample earn less per hour worked, they have equal or greater satisfaction with their jobs and their lives, and are in jobs where the trustworthiness of management is rated more highly. It is possible to use our coefficient estimates to calculate what fraction of the hourly earnings difference between males and females might be compensated for by the difference in trust in management. Using the compensating differentials in Table 2, as seen from a female perspective, the

higher average assessments of trust in management in the jobs held by females have a life satisfaction effect almost two-fifths as large as those attributable to the higher average hourly earnings of males compared to females in our ESC sample[3].

5. Correlates of Workplace Trust

Because workplace trust is such an important correlate of life satisfaction, a natural next question is to ask why some workplaces have higher levels of trust than others. Since our surveys are limited in the amount of workplace-based information they contain, we cannot get very far in explaining the range of values for workplace trust. Table 3 shows what we can do with the information available. Several job characteristics are significantly correlated with trust in management: variety of tasks, time available, freedom from conflicting demands, making one's own decisions, and a sense of job security. These effects are in general similar for union and non-union workers, and for male and female workers. The main gender differences are in the cases of job variety and security, both of which are more important for females than for males. The main differences between union and non-union workers relate to job variety and sufficient time available, both of which are more positively related to trust in management for non-union than for union workers.

For the total sample, as well as for all sub-groups, those with higher incomes have lower trust in management, holding job characteristics constant. As expected, in the equation covering the whole sample, the coefficient on the variable for union status says that even after accounting for individual and job characteristics union members have trust in management that is 0.5 (on a ten-point scale) lower than do non-union workers. It might have been expected that having changed jobs repeatedly in the previous twelve months

[3] In the fourth column of Table 1, which has the regression result for female workers, the coefficient on the standardized trust in management is 1.31 times of the coefficient on log of personal income. This implies that we can multiply the difference in standardized trust by 1.31 to turn it into income-equivalent units. The gender difference in the average assessment of trust in management is 0.13, with females being higher. The difference amounts to 0.057 standardized unit. Its income equivalent unit is therefore 0.057*1.31=0.075. The gender difference personal income per hour of work is 0.19, with females being lower. Therefore the difference in workplace trust contributes almost two-fifths (0.075/0.19=0.39) of the gender difference in hourly earnings.

would have been associated with lower trust in management, but this does not appear in the data.

6. Conclusion

Our estimates in Helliwell and Huang (2005) were the first we know of to provide income-equivalent values for workplace trust. The estimated values of trust in the workplace are very large, and remain so even when we make a number of adjustments designed to remove risks of over-estimation. Our workplace trust results presented in that paper are independently estimated from two Canadian and one US survey using different samples and different question wordings. That all three surveys should show such consistently large effects convinces us of the robustness of our results. In this paper we have built on subsequent extensions by Helliwell, Huang and Putnam (2007) to disaggregate and report results by gender and union status.

There is much more to be done, in collecting fresh samples of data and especially in developing survey sources that will provide data linking individual subjective assessments of workplace quality and life satisfaction with workplace-based information about the structure of specific places of employment. We think that the strength and consistency of our results to date is sufficient to support more research in these directions. Perhaps it may already be enough to convince workers and managers to pay more attention to workplace trust[4], since it seems central to life satisfaction, and may otherwise be inadvertently risked by workplace changes undertaken for other reasons.

References

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[4] There has been increasing interest in the topic within the human resources research community. For example, a 2003 special issue of the International Journal of Human Resource Management was devoted to workplace trust. See Ziffane and Connell (2003).For a survey of some of the related research in psychology, see Kramer (1999).

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Figure-1: Life Satisfaction at different levels of trust in management; Paid workers in the Canadian 2nd-wave ESC

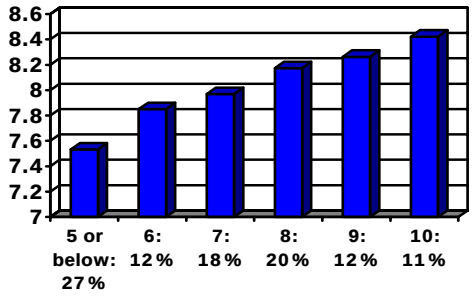


Figure 2: Life Satisfaction at difference level of trust in management, by union status, from the Canadian 2nd-wave ESC

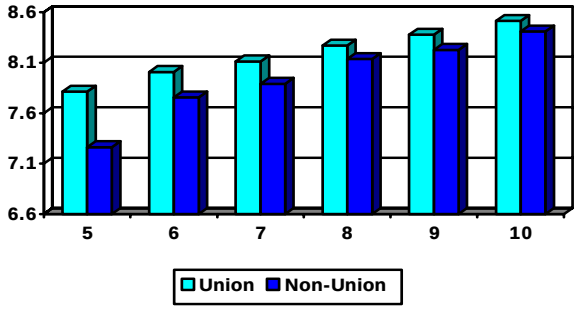


Figure 3: Life Satisfaction at difference level of trust in management, by gender, from the Canadian 2nd wave ESC

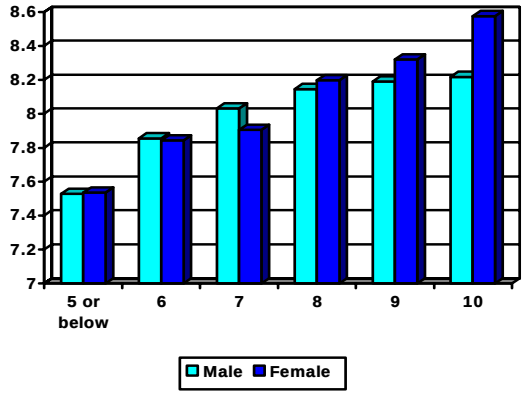


Figure 4: Union members are less trusting only in management, evidence from ESC (first 4 double columns) and GSS

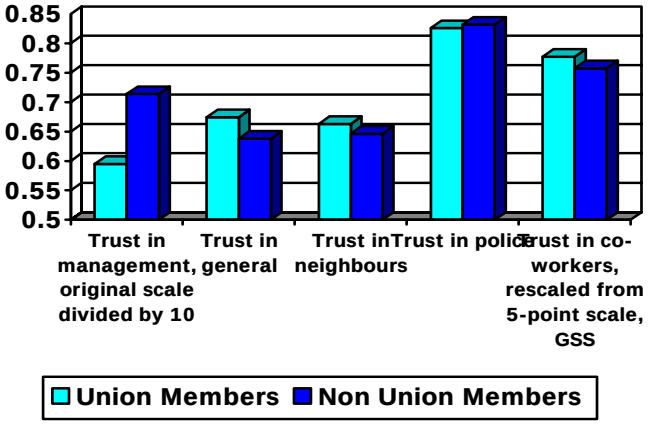


Figure 5: Percentage distribution of trust in management, Union and non-union workers Canadian 2nd-wave ESC

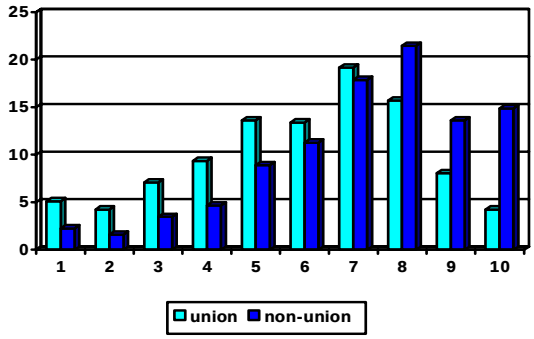
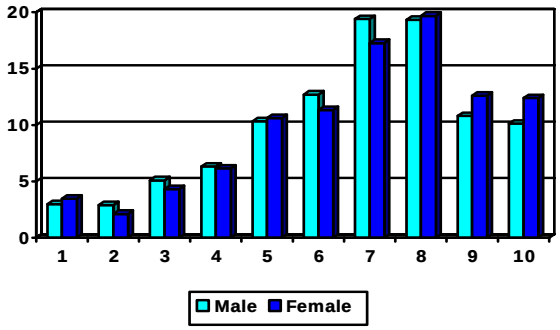


Figure 6: Percentage distribution of trust in management, male & female paid workers Canadian 2nd-wave ESC



Footnote: In the first three figures, the vertical axis is the average life satisfaction, the horizontal axis is the scale of trust in management.
The horizontal axis of Figure 1 also indicates the percentage of workers in each of the categories in the second wave ESC survey

Table 1: Well-being models in ESC-2, by population groups
Regression method: Survey Ordered Probit

Survey	Canadian ESC-2, year 2002-3					
Sample	Paid workers					
Dependent Variable	Life satisfaction; 1-10 point scale					
Sub-sample	Whole sample		Male	Female	Union	Non-Union
Special note		with other job attributes on RHS				
Log of personal income	0.199	0.158	0.238	0.174	0.22	0.185
	[0.041]**	[0.042]**	[0.055]**	[0.059]**	[0.073]**	[0.046]**
Trust in management	0.185	0.16	0.152	0.217	0.134	0.241
Standardized score,	[0.025]**	[0.026]**	[0.036]**	[0.031]**	[0.036]**	[0.034]**
Self-perceived health status	0.284	0.282	0.292	0.271	0.283	0.283
Scaled 1 to 5	[0.029]**	[0.029]**	[0.044]**	[0.039]**	[0.054]**	[0.034]**
male	-0.134	-0.138			-0.104	-0.139
	[0.039]**	[0.039]**			[0.074]	[0.050]**
Age Group: 25~34	-0.277	-0.266	-0.473	-0.071	-0.609	-0.211
	[0.100]**	[0.099]**	[0.134]**	[0.138]	[0.236]*	[0.113]
Age Group: 35~44	-0.255	-0.243	-0.363	-0.133	-0.62	-0.189
	[0.107]*	[0.106]*	[0.140]*	[0.151]	[0.238]**	[0.123]
Age Group: 45~54	-0.238	-0.229	-0.423	-0.057	-0.531	-0.233
	[0.110]*	[0.111]*	[0.152]**	[0.154]	[0.248]*	[0.130]
Age Group: 55~64	0.024	0.022	-0.048	0.118	-0.168	-0.029
	[0.121]	[0.120]	[0.174]	[0.181]	[0.273]	[0.138]
Age Group: 65 up	0.12	0.159	-0.148	0.341	0.148	0.108
	[0.271]	[0.278]	[0.466]	[0.327]	[0.545]	[0.314]
Marital Status: Married	0.387	0.377	0.304	0.477	0.427	0.378
	[0.066]**	[0.066]**	[0.086]**	[0.093]**	[0.110]**	[0.081]**
Marital Status: As Married	0.376	0.36	0.429	0.334	0.642	0.234
	[0.084]**	[0.086]**	[0.119]**	[0.112]**	[0.135]**	[0.109]*
Marital Status: Divorced	-0.176	-0.179	-0.233	-0.099	-0.238	-0.119
	[0.102]	[0.102]	[0.141]	[0.141]	[0.164]	[0.123]
Marital Status: Separated	-0.216	-0.219	-0.137	-0.226	-0.16	-0.254
	[0.115]	[0.120]	[0.177]	[0.153]	[0.213]	[0.127]*
Marital Status: Widowed	-0.156	-0.179	-0.193	-0.126	-0.01	-0.225
	[0.200]	[0.197]	[0.468]	[0.221]	[0.321]	[0.270]
Education: High school	-0.123	-0.088	-0.198	-0.028	-0.153	-0.111
	[0.096]	[0.097]	[0.114]	[0.148]	[0.195]	[0.112]
Education: Between	-0.114	-0.095	-0.226	0.023	-0.026	-0.169
	[0.085]	[0.085]	[0.115]	[0.134]	[0.168]	[0.107]
Education: With University Degree	-0.159	-0.122	-0.219	-0.072	-0.015	-0.232
	[0.090]	[0.092]	[0.117]	[0.148]	[0.177]	[0.107]*
Contacts with family member	0.154	0.148	0.113	0.199	0.124	0.154
outside household	[0.072]*	[0.072]*	[0.098]	[0.114]	[0.151]	[0.092]
Contacts with friends	0.425	0.367	0.376	0.492	0.257	0.482
	[0.086]**	[0.086]**	[0.141]**	[0.121]**	[0.161]	[0.117]**
Contacts with neighbours	0.09	0.039	0.005	0.151	0.165	0.051
	[0.074]	[0.073]	[0.103]	[0.113]	[0.136]	[0.087]
Number of membership or	0.007	0.008	0.002	0.017	0.023	-0.006
extent of activity	[0.013]	[0.013]	[0.020]	[0.019]	[0.023]	[0.017]
Trust in general	0.112	0.116	0.157	0.071	0.161	0.099
	[0.048]*	[0.046]*	[0.061]*	[0.073]	[0.087]	[0.057]

trust in neighbours	0.221	0.211	0.265	0.183	0.046	0.285
	[0.064]**	[0.063]**	[0.089]**	[0.095]	[0.115]	[0.079]**
Trust or confidence in police	0.168	0.17	0.209	0.121	0.121	0.197
	[0.099]	[0.101]	[0.141]	[0.134]	[0.164]	[0.136]
Importance of religion	0.162	0.136	0.119	0.193	0.264	0.125
	[0.088]	[0.089]	[0.140]	[0.122]	[0.152]	[0.114]
Frequency of attending	-0.046	-0.039	-0.046	-0.052	-0.187	0.018
religious services	[0.100]	[0.101]	[0.153]	[0.128]	[0.160]	[0.124]
Dummy, Union Status		0.14				
		[0.049]**				
Job: Requires skill		0.233				
		[0.110]*				
Job: Has variety of tasks		0.393				
		[0.105]**				
Job: Have enough time		0.178				
		[0.080]*				
Job: Free of conflicting demands		0.23				
		[0.068]**				
Job: Makes own decision		-0.025				
		[0.107]				
cut1:Constant	1.203	1.469	1.443	1.274	1.036	1.115
	[0.377]**	[0.380]**	[0.553]**	[0.569]*	[0.714]	[0.447]*
cut2:Constant	1.371	1.638	1.678	1.372	1.228	1.273
	[0.374]**	[0.378]**	[0.541]**	[0.573]*	[0.724]	[0.439]**
cut3:Constant	1.516	1.784	1.82	1.522	1.364	1.424
	[0.376]**	[0.381]**	[0.544]**	[0.571]**	[0.721]	[0.438]**
cut4:Constant	1.793	2.065	2.063	1.838	1.643	1.704
	[0.370]**	[0.377]**	[0.538]**	[0.554]**	[0.713]*	[0.425]**
cut5:Constant	2.258	2.537	2.498	2.335	2.024	2.21
	[0.373]**	[0.382]**	[0.552]**	[0.559]**	[0.724]**	[0.427]**
cut6:Constant	2.59	2.874	2.873	2.629	2.333	2.554
	[0.378]**	[0.387]**	[0.561]**	[0.566]**	[0.726]**	[0.432]**
cut7:Constant	3.304	3.597	3.613	3.324	3.127	3.24
	[0.378]**	[0.387]**	[0.564]**	[0.570]**	[0.730]**	[0.433]**
cut8:Constant	4.223	4.528	4.517	4.266	4.057	4.166
	[0.381]**	[0.389]**	[0.568]**	[0.574]**	[0.732]**	[0.437]**
cut9:Constant	4.821	5.134	5.126	4.861	4.673	4.766
	[0.380]**	[0.389]**	[0.574]**	[0.578]**	[0.734]**	[0.439]**
Observations	2480	2478	1209	1271	845	1635

Standard errors in brackets

* significant at 5%; ** significant at 1%

Note 1: Self-employed is excluded in the two Canadian surveys.

Note 2: The omitted age group in ESC regressions is age18-24

Note 3: Please refer to Appendix Table 1 for descriptive statistics by samples

Table 2: Compensating differentials, derived from estimates in table 2

Sample	**Canadian ESC2, year 2002-3**				
Sub-sample	Paid workers				
Subsubsample	Whole	Male	Female	Union	Non-Union
coefficient of the Log of personal income					
	0.20	0.24	0.17	0.22	0.19
coefficient of the standardized score of trust in management					
	0.19	0.15	0.22	0.13	0.24
Ratio of coefficients*					
	0.93	0.64	1.25	0.61	1.30
Approximated percentage income change associated with one third of a standard deviation, such a movment covers roughly 10% of the sample**					
	31%	21%	42%	20%	43%
Standard error**	7%	6%	14%	8%	10%

* The ratio of coefficients from the ordered probit estimation can be interpreted as the ratio of marginal effects of two variables.
The ratios of coefficients are very similar when OLS estimations are used instead of Ordered Probit.

** It is simply one third of the ratio expressed in percentage term.

**Standard error is calculated from the Delta method from the variance co-variance matrix of the estimated coefficients

Table 3: Formation of trust in workplace
Regression method: Survey Ordered Probit

Survey	Canadian ESC-2,				
Sample	working population, excluding self-employed				
Dependent Variable	Trust in management, 1-10 scale				
Sub-sample	Whole sample	Union member	Non Union	Male	Female
Log of personal income	-0.207	-0.276	-0.168	-0.204	-0.203
	[0.041]**	[0.094]**	[0.049]**	[0.059]**	[0.057]**
Dummy, Union Status	-0.533			-0.564	-0.511
	[0.049]**			[0.073]**	[0.062]**
Self-perceived health status	0.116	0.066	0.146	0.079	0.146
Scaled 1 to 5	[0.027]**	[0.051]	[0.033]**	[0.045]	[0.041]**
male	-0.106	-0.082	-0.105		
	[0.043]*	[0.085]	[0.054]*		
Age Group: 25~34	0.05	-0.017	0.085	0.055	0.025
	[0.103]	[0.226]	[0.111]	[0.150]	[0.144]
Age Group: 35~44	0.058	0.083	0.048	0.021	0.081
	[0.103]	[0.246]	[0.110]	[0.161]	[0.152]
Age Group: 45~54	0.101	0.038	0.154	-0.041	0.228
	[0.105]	[0.238]	[0.113]	[0.161]	[0.155]
Age Group: 55~64	0.2	0.228	0.198	0.194	0.231
	[0.121]	[0.260]	[0.134]	[0.183]	[0.189]
Age Group: 65 up	0.172	0.283	0.039	-0.304	0.574
	[0.338]	[0.797]	[0.358]	[0.486]	[0.449]
Marital Status: Married	-0.04	-0.03	-0.049	-0.135	0.032
	[0.062]	[0.107]	[0.075]	[0.088]	[0.089]
Marital Status: As Married	-0.038	0.016	-0.059	-0.177	0.124
	[0.091]	[0.149]	[0.113]	[0.120]	[0.127]
Marital Status: Divorced	-0.172	-0.035	-0.267	-0.175	-0.179
	[0.097]	[0.156]	[0.128]*	[0.151]	[0.122]
Marital Status: Separated	-0.029	-0.116	0.005	0.021	-0.078
	[0.092]	[0.176]	[0.119]	[0.154]	[0.129]
Marital Status: Widowed	0.027	-0.257	0.21	-0.457	0.04
	[0.193]	[0.353]	[0.243]	[0.615]	[0.200]
Education: High school	-0.233	-0.367	-0.181	-0.338	-0.141
	[0.104]*	[0.158]*	[0.121]	[0.131]**	[0.134]
Education: Between	-0.315	-0.371	-0.275	-0.374	-0.237
	[0.100]**	[0.141]**	[0.119]*	[0.135]**	[0.130]
Education: With University Degree	-0.207	-0.151	-0.247	-0.224	-0.149
	[0.104]*	[0.156]	[0.118]*	[0.145]	[0.132]
Contacts with family member	0.174	0.13	0.172	0.365	-0.021
outside household	[0.065]**	[0.129]	[0.083]*	[0.096]**	[0.096]
Contacts with friends	-0.163	-0.339	-0.086	-0.232	-0.087
	[0.099]	[0.160]*	[0.114]	[0.128]	[0.141]
Contacts with neighbours	0.062	0.086	0.046	0.111	0.049
	[0.071]	[0.129]	[0.087]	[0.116]	[0.101]
Number of membership or extent of activity	0.003	0.006	-0.005	0.026	-0.019
	[0.015]	[0.026]	[0.019]	[0.021]	[0.020]
Trust in general	0.185	0.223	0.182	0.189	0.173
	[0.053]**	[0.102]*	[0.057]**	[0.069]**	[0.075]*
trust in neighbours	0.06	0.075	0.057	0.097	0.026

	[0.078]	[0.127]	[0.092]	[0.105]	[0.110]
Trust or confidence in police	0.154	0.265	0.116	0.138	0.189
	[0.088]	[0.164]	[0.106]	[0.126]	[0.127]
Importance of religion	-0.186	-0.17	-0.222	-0.324	-0.064
	[0.086]*	[0.168]	[0.108]*	[0.136]*	[0.121]
Frequency of attending religious services	0.283	0.298	0.295	0.356	0.218
	[0.092]**	[0.176]	[0.111]**	[0.151]*	[0.120]
Job: Requires skill	0.202	0.268	0.161	0.48	-0.044
	[0.103]	[0.193]	[0.123]	[0.134]**	[0.150]
Job: Has variety of tasks	0.321	0.162	0.362	0.181	0.496
	[0.099]**	[0.180]	[0.116]**	[0.153]	[0.144]**
Job: Have enough time	0.365	0.17	0.51	0.382	0.363
	[0.086]**	[0.130]	[0.106]**	[0.112]**	[0.114]**
Job: Free of conflicting demands	0.596	0.576	0.622	0.52	0.659
	[0.074]**	[0.136]**	[0.086]**	[0.102]**	[0.110]**
Job: Makes own decision	0.561	0.65	0.51	0.503	0.593
	[0.087]**	[0.138]**	[0.113]**	[0.142]**	[0.114]**
Job: Sense of security	0.174	0.178	0.161	0.122	0.212
	[0.024]**	[0.046]**	[0.030]**	[0.034]**	[0.037]**
Job: Number of employers in past 12 months	0.093	0.258	0.026	0.094	0.12
	[0.049]	[0.101]*	[0.053]	[0.073]	[0.075]
cut1:Constant	-1.845	-2.308	-1.27	-2.179	-1.354
	[0.401]**	[1.002]*	[0.477]**	[0.603]**	[0.580]*
cut2:Constant	-1.542	-1.923	-1.042	-1.807	-1.108
	[0.396]**	[0.995]	[0.472]*	[0.596]**	[0.573]
cut3:Constant	-1.172	-1.535	-0.684	-1.397	-0.77
	[0.394]**	[0.987]	[0.468]	[0.596]*	[0.566]
cut4:Constant	-0.844	-1.167	-0.386	-1.076	-0.426
	[0.394]*	[0.988]	[0.470]	[0.598]	[0.566]
cut5:Constant	-0.426	-0.742	0.034	-0.679	0.022
	[0.397]	[0.991]	[0.475]	[0.600]	[0.570]
cut6:Constant	-0.027	-0.358	0.45	-0.264	0.411
	[0.397]	[0.985]	[0.475]	[0.604]	[0.570]
cut7:Constant	0.494	0.195	0.959	0.287	0.909
	[0.397]	[0.985]	[0.475]*	[0.602]	[0.573]
cut8:Constant	1.145	0.847	1.617	0.945	1.565
	[0.398]**	[0.986]	[0.477]**	[0.605]	[0.572]**
cut9:Constant	1.706	1.473	2.167	1.471	2.171
	[0.395]**	[0.968]	[0.476]**	[0.602]*	[0.574]**
Observations	2443	835	1608	1192	1251

Standard errors in brackets

* significant at 5%; ** significant at 1%

Note 1: Self-employed is excluded in the Canadian surveys.

Note 2: The omitted age group in ESC regressions is age18-24

Note 3: Please refer to Appendix Table 1 for descriptive statistics by samples

Appendix Table 1: Descriptive Statistics:
ESC-2, year 2002-3:

Sample: Canadian ESC	Paid workers			Paid workers Union Members			Paid workers Non Union Members		
Variable	Obs	Mean	Std. Dev.	Obs	Mean	Stdev	Obs	Mean	Stdev
Life satisfaction, 1-10 point scale	2523	7.95	1.63	858	8.05	1.58	1665	7.90	1.65
Job satisfaction, 1-10 point scale	2523	7.26	1.88	858	6.95	1.94	1665	7.42	1.83
Log of personal income	2523	10.45	0.70	858	10.59	0.55	1665	10.38	0.76
Log of personal income per work hour	2427	6.84	0.65	827	7.00	0.54	1600	6.75	0.68
Working part time	2523	0.13	0.33	858	0.13	0.33	1665	0.12	0.33
Work hours	2427	38.60	9.32	827	37.64	8.70	1600	39.10	9.60
Age	2484	40.49	10.57	847	42.70	9.90	1637	39.35	10.73
Male	2523	0.48	0.50	858	0.44	0.50	1665	0.51	0.50
Married	2523	0.52	0.50	858	0.55	0.50	1665	0.51	0.50
Education: With University Degree	2523	0.34	0.47	858	0.37	0.48	1665	0.32	0.47
Trust in management, 1-10 point	2523	6.73	2.28	858	5.95	2.30	1665	7.14	2.16
Trust in general, 0-1 scale	2523	0.65	0.47	858	0.67	0.46	1665	0.64	0.48
Confidence that neighbor will return the wallet, 0-1	2523	0.65	0.34	858	0.66	0.33	1665	0.65	0.35
Confidence that police will return the wallet, 0-1	2523	0.83	0.28	858	0.83	0.28	1665	0.83	0.28
Job: Requires skill, 0-1 scale	2522	0.78	0.27	857	0.81	0.25	1665	0.76	0.27
Job: Has variety of tasks, 0-1 scale	2523	0.86	0.23	858	0.87	0.21	1665	0.85	0.24
Job: Have enough time, 0-1 scale	2523	0.65	0.32	858	0.59	0.34	1665	0.69	0.31
Job: Free of conflicting demands, 0-1 scale	2522	0.51	0.33	858	0.47	0.33	1664	0.53	0.33
Job: Makes own decision, 0-1 scale	2523	0.77	0.29	858	0.74	0.29	1665	0.78	0.28
Sense of job security, 1-4 scale	2487	3.25	0.86	849	3.30	0.86	1638	3.22	0.87
Dummy: Union member	2523	0.34	0.47	858	1.00	0.00	1665		
Dummy: immigrant	2523	0.21	0.41	858	0.18	0.38	1665	0.23	0.42
Dummy: Visible Minority	2523	0.13	0.33	858	0.09	0.29	1665	0.15	0.35

Sample: Canadian ESC	Paid workers Male			Paid workers Female		
Variable	Obs	Mean	Std. Dev.	Obs	Meantd. Dev.	
Life satisfaction, 1-10 point scale	1220	7.91	1.63	1303	7.99	1.62
Job satisfaction, 1-10 point scale	1220	7.25	1.85	1303	7.27	1.91
Log of personal income	1220	10.64	0.68	1303	10.27	0.67
Log of personal income per work hour	1169	6.94	0.66	1258	6.74	0.63
Working part time	1220	0.06	0.24	1303	0.19	0.39
Work hours	1169	41.53	8.34	1258	35.88	9.37
Age	1211	40.07	10.58	1273	40.90	10.56
Male	1220	1.00	0.00	1303	0.00	0.00
Married	1220	0.51	0.50	1303	0.53	0.50
Education: With University Degree	1220	0.34	0.48	1303	0.33	0.47
Trust in management, 1-10 point	1220	6.67	2.26	1303	6.80	2.30
Trust in general, 0-1 scale	1220	0.64	0.47	1303	0.66	0.47
Confidence that neighbor will return the wallet, 0-1	1220	0.65	0.34	1303	0.66	0.34
Confidence that police will return the wallet, 0-1	1220	0.83	0.29	1303	0.83	0.27
Job: Requires skill, 0-1 scale	1220	0.80	0.26	1302	0.76	0.27
Job: Has variety of tasks, 0-1 scale	1220	0.86	0.23	1303	0.86	0.23
Job: Have enough time, 0-1 scale	1220	0.68	0.31	1303	0.63	0.33
Job: Free of conflicting demands, 0-1 scale	1219	0.53	0.33	1303	0.49	0.33
Job: Makes own decision, 0-1 scale	1220	0.79	0.27	1303	0.74	0.29
Sense of job security, 1-4 scale	1203	3.24	0.85	1284	3.26	0.88
Dummy: Union member	1220	0.31	0.46	1303	0.37	0.48
Dummy: immigrant	1220	0.25	0.43	1303	0.18	0.39
Dummy: Visible Minority	1220	0.14	0.35	1303	0.12	0.32