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**Value of Intangible Job Characteristics in Workers' Job and Life
Satisfaction: How much are they worth?**

by

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DOCUMENTO DE TRABAJO 2007-10

Mayo 2007

**SERIE Nuevos consumidores
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Abstract: Using the data from the Spanish survey on life quality at work, we examine the importance of intangible job characteristics in workers' job and life satisfaction. Our analysis shows that on both job and life satisfaction, the combined monetary value of intangible job characteristics such as flexibility, independence, social usefulness, pleasant work environment, pride, stress and the perception of receiving an adequate wage, is several times more worthy than that of objective job characteristics such as wage, sector and hours of work. Furthermore, we find that some intangible job characteristics such as flexibility, work environment and stress affect directly workers' life satisfaction rather than indirectly through their effects on job satisfaction.

Key words: job and life satisfaction, income, wage, hours of work, intangible job characteristics.

Resumen: Examinamos la importancia de las características intangibles del trabajo sobre la satisfacción laboral y vital de los trabajadores españoles utilizando datos de la Encuesta de Calidad de Vida en el Trabajo. Nuestro análisis muestra que, en la satisfacción tanto laboral como vital, el valor monetario del conjunto de las características intangibles del puesto de trabajo, como la flexibilidad, la independencia, el orgullo en el trabajo, su utilidad social, el entorno laboral y la percepción de un salario adecuado es varias veces más grande que el efecto de las características objetivas como el salario y horas de trabajo. Observamos también que algunas características, como la flexibilidad, el entorno laboral y el estrés afectan directamente a la satisfacción vital del trabajador en lugar de indirectamente a través de la satisfacción laboral.

1. Introduction

Although it is well known that employment is an important factor in happiness among the working-age population (Clark and Oswald 1994, Winkelmann and Winkelmann 1998 and Ahn et al. 2004), it is not so much studied how various job characteristics affect workers' well-being. Studies on workers' life satisfaction mostly examined the effect of wage (See for example, Warr 1999; Frey and Stutzer 2002). Some have examined the effect on job satisfaction of some important job characteristics, such as occupation, hours of work, job security, trade union affiliation and commuting time to work (for example, Oswald 2002). However, there are no studies which examine the effect of intangible subjective job characteristics, such as flexibility, work environment, independence, social usefulness, stress, relationships and trust in workplace, pride, job match quality, etc on overall happiness or job satisfaction of workers.

In this paper, we highlight the effect of subjective as well as objective job characteristics on both job and life satisfaction relative to that of wage and income. We also examine whether job characteristics affect life satisfaction directly or only indirectly through job satisfaction. Furthermore, we compute the money value in both job satisfaction and life satisfaction of each intangible job characteristics.

2. Data and Descriptive Results

Research on life satisfaction or happiness in Spain has been scarce mainly due to the lack of data. Eurobarometer surveys are often used but the sample size for each country is rather small (1000 each year) and the covariates included are limited to carry out any extensive and robust analyses. Recently European Community Household Panel Survey has become available but it contains information on several life domain satisfactions but not on general life satisfaction (Ahn et al. 2004).

The only available Spanish data with a reasonable sample size which include information on life satisfaction as well as job satisfaction is the Spanish survey of life quality at work (hereafter ECVT). The survey is conducted on about 6000 Spanish workers each year starting from 1999. We have 6 cross-sections of the survey for the years 1999-2004. The main advantage of the survey is that it includes detailed information on intangible and subjective job characteristics as well as objective job characteristics. On the other hand, the survey is not longitudinal, therefore unable to examine the factors affecting transitions in happiness level or to control for fixed individual effects.

At the outset, it is important that one understands well the survey questions we analyze. The respondents in the ECVT were asked “How satisfied are you with your job (or current life)?” with 10 possible response categories ranging from ‘very dissatisfied’ (=1) to ‘very satisfied’ (=10).

The satisfaction question is based entirely on individuals’ own perception. The question asked is not concrete in terms of comparison groups or in the description of each category of satisfaction levels¹, therefore leaving large rooms for interpretation heterogeneity across interviewees. Second, the possible responses are ordered qualitatively.² Comparing the responses between groups of people is not straightforward. We begin with simple “averages” of the responses in the questionnaire. The simple average provides a satisfaction index (the bigger the average, the happier) which is comparable across populations under the assumption of linearity across responses.

Table 1 presents the satisfaction score distribution, average and standard deviation by gender. The distribution is similar between job and life satisfaction except that the variation is slightly wider in job satisfaction than in life satisfaction. As it can be seen, there are few people reporting satisfaction level lower than 5, only 10% in job satisfaction and 7% in life satisfaction. Both the mean and the median are situated at 7 while the mode lies at 8 for job satisfaction and 7 in life satisfaction. It can also be seen that there is a high concentration in the satisfaction scores between six and eight, around 60% in job satisfaction and 65% of in life satisfaction. Therefore, it seems that Spanish workers are in general quite happy with their jobs and lives. By gender we observe almost no difference.

¹ The categories (2, 3, 4, ..., 9) between the worst (=1) and the best (=10) have no words attached to them.

² To the extent that respondents consider the response numbers (1 to 10) as cardinal measures of their happiness (for example, the response 10 means twice happier than the response 5) the reported values may be used as a cardinal measure of satisfaction.

Table 1: Distribution (%) of Job and Life Satisfaction Scores

Score	Job Satisfaction			Life Satisfaction		
	Men	Women	Both	Men	Women	Both
1	1,88	1,87	1,88	0,58	0,88	0,70
2	1,03	1,50	1,22	0,66	1,32	0,92
3	1,93	2,36	2,10	1,48	2,66	1,94
4	4,56	4,48	4,53	3,10	3,84	3,39
5	10,70	10,44	10,6	11,61	11,56	11,59
6	14,52	14,43	14,49	18,54	15,6	17,38
7	19,26	18,22	18,85	27,09	25,86	26,61
8	28,24	27,01	27,75	22,92	22,98	22,95
9	9,45	10,33	9,80	7,75	9,20	8,32
10	8,43	9,35	8,80	6,26	6,09	6,20
Average	6,987	6,988	6,987	6,934	6,869	6,909
SD	1,910	1,979	1,937	1,624	1,779	1,687
N	22741	11691	35432	23031	12827	35858

Tables 2 through 5 compare the job and life satisfaction levels by some individual, household and job characteristics. Although these univariate comparisons should not be considered as true effects due to the possibility of confounding the effects of other correlated variables, they serve as a first approximation to the search of potential factors which determine individual well-being and as an indirect test of data reliability. If the results are different from our reasonable conjecture or from the findings of other studies, we should question the data quality.

Individual Characteristics

First, by age, there is a slightly increasing tendency with age in job satisfaction. With respect to life satisfaction, we observe the lowest level in their 40s among male workers and those over 60 among the female workers. The variation in job satisfaction by age is larger among men while the opposite is true for life satisfaction. In particular, the female workers less than 20 years old report the highest levels of satisfaction while those in their 60s report the lowest levels, with the difference of 0.7 points between the two groups.

Table 2: Average Satisfaction by Individual Characteristics

	Job Satisfaction		Life Satisfaction	
	Men	Women	Men	Women
Age				
16-19	7,165	6,829	7,091	7,276
20-29	6,800	6,888	7,005	6,992
30-39	6,909	6,968	6,890	6,880
40-49	7,009	6,943	6,818	6,715
50-59	7,258	7,333	7,015	6,839
60-64	7,409	7,382	7,045	6,478
Marital status				
Single	6,854	6,889	6,910	6,874
Married	7,059	7,094	6,978	7,043
Seperated-div.	6,889	6,795	6,237	6,099
Widowed	6,158	7,157	5,949	6,159
Education				
<Primary	6,703	6,573	6,468	6,279
Primary	6,856	6,694	6,702	6,546
Secondary	6,978	6,903	6,939	6,719
Fp-bup-cou	6,948	6,998	6,996	6,910
University	7,302	7,219	7,221	7,128

Marital status shows substantial effects on life satisfaction but much smaller effects on job satisfaction. For both genders, the widowed, separated or divorced report substantially lower life satisfaction scores than singles or married persons, a result consistent with previous studies.

Higher education levels are clearly associated with higher satisfaction levels in both job and life, with a difference of 0.6 points in job satisfaction and 0.8 points in life satisfaction between the lowest and the highest education levels. However, as it will be shown in the section of multivariate analysis, the effect of education turns out to be due to other correlated characteristics such as income, wage and other job characteristics.

Household Characteristics

Among the household characteristics, we have information on the spouse's labor market status, household income, presence of dependent children and the principal caretaker of domestic chores. Among the married persons, having an unemployed spouse reduces both job and life satisfaction levels considerably. This negative effect, in addition to the negative effect of unemployment on the unemployed person (see for example Ahn et al, 2004),

indicates that the overall effect of unemployment should also include the effects on other family members' well-being.

Table 3: Average Satisfaction by Household Characteristics

	Job Satisfaction		Life Satisfaction	
	Men	Women	Men	Women
Spouse's labor market status				
Work	7,013	7,085	7,177	7,135
Unemployed	6,557	6,848	6,764	6,371
Retired	7,722	7,596	7,111	7,045
Others	7,129	7,072	6,904	6,671
Household income (monthly in euros)				
<200	5,800	5,364	5,600	4,250
200-399	4,903	6,095	6,000	6,373
400-599	5,559	6,423	5,927	6,101
600-799	6,691	6,623	6,547	6,185
800-999	6,943	6,798	6,744	6,579
1000-1199	7,008	7,058	6,974	6,771
1200-1399	7,024	6,877	6,928	6,803
1400-1599	7,072	6,944	7,134	7,006
1600-1799	7,214	7,149	7,269	7,305
1800-1999	7,124	7,583	7,236	7,196
2000+	7,403	7,327	7,417	7,446
Domestic work (principal housekeeper)				
Myself	6,843	6,928	6,518	6,668
Shared	6,993	7,031	7,079	7,050
Others	7,006	7,040	6,926	6,957
Dependent children?				
No	6,901	6,925	6,934	6,921
Yes	7,068	7,059	6,935	6,811

Household income affects strongly on the individual's job and life satisfaction. Obviously, the effect of household income on job satisfaction is likely due to a high correlation between individual labor income and household income. The effect is strongest at low levels of income.

For both genders those who declare himself or herself as the principal homemaker report lowest job and life satisfaction but the difference is larger in life satisfaction than in job satisfaction. Both men and women who share housekeeping with other persons report higher life satisfaction than those who are themselves the principal housekeeper. Having dependent children does not show any difference in life satisfaction among men, while it is associated with slightly lower life satisfaction among women.

Job Characteristics

The sector and the contract type of jobs also seem to affect both job and life satisfaction. As expected, permanent contracts and public sector jobs provide higher job and life satisfaction. Public sector workers with a permanent contract enjoy about 1 point (and 0.6 points) higher job (and life) satisfaction than private sector temporary contract holders.

Table 4: Average Satisfaction by Objective Job Characteristics

	Job Satisfaction		Life Satisfaction	
	Men	Women	Men	Women
Sector and contract type				
Priv-perm	7,148	7,048	7,024	6,879
Priv-temp	6,473	6,473	6,569	6,618
Pub-perm	7,357	7,522	7,250	7,178
Pub-temp	6,810	7,083	7,056	6,880
Hours of work per week				
20-29	6,821	6,833	7,109	6,790
30-39	7,088	7,231	7,185	7,124
40-49	7,080	7,009	6,979	6,873
50-59	6,630	6,309	6,607	6,093
60-69	6,337	6,151	6,281	6,338
70+	6,049	5,190	6,232	5,346
Wage (monthly in euros)				
<200	5,513	5,889	6,718	6,464
200-399	6,007	6,553	6,442	6,725
400-599	6,177	6,417	6,604	6,581
600-799	6,625	6,954	6,703	6,795
800-999	7,124	7,341	6,977	6,964
1000-1199	7,206	7,538	7,099	7,502
1200-1399	7,408	7,503	7,267	7,304
1400-1599	7,352	7,614	7,333	7,534
1600-1799	7,527	7,671	7,364	7,329
1800-1999	7,340	7,952	7,524	7,524
2000+	7,740	7,580	7,346	7,260
Commuting time to work				
<15 minutes	7,135	7,180	7,033	7,022
16-30	6,981	6,948	6,954	6,890
31-45	6,873	6,654	6,783	6,634
46-60	6,624	6,888	6,812	6,530
60-90	6,673	6,484	6,656	6,361
90+	6,398	6,975	6,213	6,200

Hours of work also affect substantially both job and life satisfaction. Those working 30-39 hours report the highest satisfaction while those working more than 50 hours per week report substantially lower satisfaction levels.

Individual labor income is associated positively with both job and life satisfaction, with a stronger effect on job satisfaction. The effect is strong at low levels of income but disappears beyond 1200 euros per month.

Another job characteristic that seems to affect workers' job and life satisfaction is commuting time to work. There is a small effect for the commuting time below 30 minutes. Beyond that there is a substantial reduction in satisfaction with additional commuting time, especially in life satisfaction.

Intangible Job Characteristics

Combining actual working hours and desired ones we can measure the satisfaction penalty due to working hour inflexibility. Naturally, those who are working more or fewer hours than the desired ones report much lower satisfaction levels.

One intangible job characteristics related to individuals' labor income is workers' perception of wage adequacy posed in the question "What do you think about your wage compared to the market wage for the type of work that you undertake?" with possible responses 'lower', 'adequate' and 'higher'. The comparison by the response to this question shows clearly that those who consider their wages under the market wage are much less satisfied than others, with a stronger effect on job satisfaction. What is interesting is that receiving higher wages than the market wage does not increase much satisfaction. Furthermore, there are about eight times more workers who consider their wage below the market wage than those who consider the opposite.

A good job match increases job satisfaction by more than 1 point and life satisfaction by 0.5 points. All other intangible job characteristics show substantial effects on both job and life satisfaction. In most cases the effect on job satisfaction is about the double than that on life satisfaction.

Table 5: Average Satisfaction by Subjective Job Characteristics

	Job Satisfaction		Life Satisfaction	
	Men	Women	Men	Women
Desired work hours				
More hours	6,701	6,605	6,787	6,599
Same	7,237	7,250	7,113	7,089
Fewer hours	6,414	6,542	6,618	6,553
Wage adequate?				
Lower	6,108	6,153	6,566	6,427
Adequate	7,423	7,453	7,143	7,126
Higher	7,524	7,340	7,365	7,253
Good job match?				
No	6,071	6,158	6,535	6,564
Yes	7,243	7,318	7,051	7,000
Flexible?				
No	6,663	6,663	6,717	6,660
Yes	7,411	7,460	7,240	7,187
Independent?				
No	6,424	6,401	6,644	6,560
Yes	7,562	7,600	7,243	7,197
Useful to society?				
No	6,422	6,311	6,548	6,551
Yes	7,226	7,278	7,094	7,004
Stable?				
No	6,240	6,295	6,497	6,504
Yes	7,383	7,394	7,173	7,087
Pleasant work environment?				
No	6,095	5,953	6,457	6,339
Yes	7,497	7,464	7,221	7,125
Decide tasks?				
No	6,516	6,425	6,666	6,605
Yes	7,574	7,581	7,297	7,153
Stressful?				
No	7,173	7,221	7,042	7,000
Yes	6,588	6,481	6,703	6,585
Trust in superiors?				
No	6,105	5,922	6,515	6,372
Yes	7,535	7,619	7,212	7,182
Trust in colleagues?				
No	5,906	5,766	6,337	6,334
Yes	7,212	7,261	7,066	7,020
Proud of job?				
No	6,102	6,059	6,505	6,457
Yes	7,662	7,749	7,272	7,221

3. Multivariate Results

Although most of the descriptive results in the previous section seem reasonable and in line with previous findings, they are likely to be biased due to the confounding effects of other correlated characteristics. To establish true effect net of other correlated variables we run regressions including all relevant variables which may affect workers' satisfaction. As will be seen below, the effects of some variables differ substantially from the results of descriptive comparisons. We have run three OLS regressions for each gender. The first regression examines job satisfaction. The second and the third regressions examine life satisfaction with the only difference that the third includes job satisfaction as an additional explanatory variable. The idea is to examine whether and how much each job characteristics affect life satisfaction directly or only indirectly through their effects on job satisfaction. The sample includes paid employees aged 16-64 and working at least 20 hours per week. Sample means are reported in Appendix.

The OLS regressions assume that the dependent variable (satisfaction in our case) is continuous. Although this assumption is questionable, we carry on with it due to its interpretation easiness and the findings that provide evidence of qualitatively similar results between OLS and more sophisticated estimation methods (see for example Ferrer-i-Carbonell and Frijters, 2004).

Income

We first discuss the effect of income variables so that we can evaluate the effect of other variables in reference to the income effect. We included income in logarithm, therefore the estimated coefficient measuring the effect of doubling income on life satisfaction score. As expected, individual labor income increases substantially job satisfaction while household income does so life satisfaction. Doubling labor income increases job satisfaction by 0.38 points for men and 0.3 points for women while doubling household income increases life satisfaction by 0.48 for men and 0.41 for women. It is interesting that individual labor income has no effect on life satisfaction. Obviously, there is a strong positive correlation between the two types of income as personal labor income is a part of household income. However, the correlation is not so strong (correlation coefficient of 0.63) to invalidate the estimated coefficients. Therefore, we may interpret that what matters in life satisfaction is household income rather than personal labor income. For example, two workers, one with labor earnings only the half of the other but the difference compensated by other household income, are equally satisfied with their lives.

Table 6: OLS Regression (1=very dissatisfied; ...; 10= very satisfied) of Job and Life Satisfaction (bold faced: |t|>2)

	Job Satisfaction		Life Satisfaction		Life Satisfaction*	
	Men	Women	Men	Women	Men	Women
Observations	3938	2352	3938	2352	3938	2352
R-square	0,344	0,406	0,170	0,184	0,212	0,200
Variables	Coeff.	Coeff.	Coeff.	Coeff.	Coeff.	Coeff.
Job satisfaction					0,209	0,146
<i>Income (in logarithm)</i>						
- Household	-0,074	-0,213	0,482	0,412	0,504	0,437
- Individual Labor	0,377	0,300	-0,074	-0,049	-0,154	-0,109
Age	-0,066	-0,111	-0,080	-0,061	-0,065	-0,045
Age sq.	0,0008	0,0013	0,0009	0,0006	0,0007	0,0004
<i>Marital Status and Spouse's labor market status (re: Married & Spouse work)</i>						
- Sp-unemp	-0,147	-0,095	0,067	-0,524	0,064	-0,518
- Sp-retired	0,530	-0,023	0,071	0,287	-0,030	0,286
- Sp-other	0,044	0,250	-0,009	-0,237	-0,009	-0,280
- Single	0,160	-0,075	-0,297	-0,297	-0,315	-0,294
- Sep-Div.	0,328	-0,163	-0,563	-0,517	-0,610	-0,482
- Widowed	-0,506	0,289	-0,763	-0,559	-0,645	-0,603
<i>Education Level (re: less than primary)</i>						
- Primary	0,060	0,362	0,050	-0,064	0,025	-0,096
- Secondary	0,014	0,262	0,047	-0,087	0,031	-0,115
- FP/Bup/Cou	0,007	0,358	0,042	-0,199	0,026	-0,242
- University	-0,044	0,241	0,032	-0,193	0,032	-0,216
Moved since 16	-0,037	0,010	-0,011	-0,004	-0,005	-0,008
Dependent child	0,078	0,111	-0,037	-0,149	-0,044	-0,173
<i>Principal Housekeeper (re: myself)</i>						
- Shared	0,128	0,002	0,127	0,143	0,109	0,144
- Others	0,092	0,117	0,084	0,055	0,067	0,032
<i>Association with social club</i>						
- Sport club	0,132	-0,230	0,423	0,054	0,398	0,088
- Voluntary organ.	-0,387	-0,024	-0,065	0,245	0,015	0,243
<i>Hours of work (re: 40-49)</i>						
- 20-29 hrs	0,074	0,094	0,108	0,066	0,081	0,055
- 30-39 hrs	0,045	0,096	0,143	0,128	0,133	0,126
- 50-59 hrs	-0,421	-0,419	-0,313	-0,536	-0,239	-0,475

<i>Table 6 (continuous)</i>						
- 60.69 hrs	-0,522	-0,946	-0,599	0,387	-0,519	0,532
- 70+	-0,477	-0,610	-0,472	-1,128	-0,348	-1,051
<i>Sector and contract type (re: Private permanent)</i>						
- Priv-temp	0,046	-0,006	-0,118	-0,026	-0,129	-0,017
- Pub-perm	0,035	0,174	0,008	0,124	0,012	0,088
- Pub-temp	-0,102	0,154	0,029	0,004	0,048	-0,021
Fringe Benefit	0,021	0,118	0,052	0,059	0,045	0,043
Commuting time	-0,047	0,016	-0,063	-0,148	-0,055	-0,154
Night Shift	0,040	0,162	0,109	-0,002	0,093	-0,038
<i>Hours preferred (re: same as now)</i>						
- Fewer hours	-0,308	-0,137	-0,296	-0,278	-0,259	-0,264
- More hours	-0,189	-0,144	-0,158	-0,144	-0,122	-0,135
<i>Wage adequacy (re: adequate)</i>						
- lower	-0,565	-0,504	-0,145	-0,261	-0,028	-0,195
- higher	-0,268	-0,150	-0,035	-0,108	0,026	-0,088
<i>Other intangible job characteristics</i>						
- Flexible	0,185	0,143	0,152	0,294	0,117	0,274
- Independent	0,288	0,299	0,129	0,236	0,058	0,188
- Socially useful	0,009	0,161	0,183	0,116	0,176	0,101
- Stable	0,321	0,276	0,171	0,101	0,103	0,065
- Pleasant environ	0,427	0,383	0,217	0,244	0,129	0,176
- Decide task	0,226	0,246	0,134	0,094	0,094	0,063
- Physical effort	-0,107	-0,582	-0,022	-0,140	-0,008	-0,039
- Stress	-0,255	-0,339	-0,227	-0,204	-0,179	-0,148
- Relation -vertical	0,547	0,658	0,158	0,209	0,036	0,109
- Relation horizontal	0,282	0,435	0,177	-0,130	0,122	-0,177
- Job match	0,387	0,450	0,190	0,044	0,107	-0,021
- Pride	0,669	0,768	0,198	0,299	0,070	0,188
Constant	4,944	6,318	5,757	6,656	4,691	5,831

Note: In all regressions, dummy variables representing each year and each region are included. *: include job satisfaction variable as a covariate.

Individual and Household Characteristics

Job satisfaction decreases with age until around 45, then increases for both male and female workers. On the other hand, life satisfaction decreases until age 50 then increases for male workers but continues to decrease for female workers. The age effect is substantial; for example, satisfaction (both job

and life) decreases by 0.5 points as age increases from 20 to 40 for both genders. Marital status and the spouse's labor market status among the married have no significant effects on job satisfaction but some effects on life satisfaction. For both men and women, the widowed and the divorced suffer a reduction in life satisfaction by about 0.5 to 0.7 points relative to those married with an employed spouse. Singles also are less satisfied than the married with a working spouse.

Among the married women, their husband's labor market status is important in their life satisfaction. If the husband is unemployed, the wife's life satisfaction decreases by 0.52 points, a similar magnitude as in the case of widowhood or divorce (see Clark, 1994, for the effect of unemployment on own happiness). This, in combination with insignificant effects of wife's unemployment on the husband's life satisfaction, suggests that Spanish society still maintains the traditional male breadwinner mentality.

Education has significant and positive effects on both job and life satisfaction when job characteristics are not included as shown in the earlier descriptive section³. The effects, however, disappear when job characteristics are included, suggesting that education affects life satisfaction mostly through its correlation with job characteristics. A similar result was found in other studies in that the inclusion of wage and other job characteristics makes education effect disappear (Ahn and García, 2004) or become negative (Clark and Oswald, 1996).

Spanish population is known to value highly their family ties and friendship. Having moved residence since age 16 may serve as a proxy for this variable. The result shows that there is no effect although we have to be aware of endogeneity bias in that those who value family ties less are more likely to move to other regions. Dependent children seem to affect negatively (although not significant) women's life satisfaction while no effect is shown on men.

One of the important socio-political issues related with population well-being and low fertility rate in Spain is family-work conciliation. One of the reasons for the low fertility rate in Spain is considered to be the little cooperation from men in housekeeping. Many career oriented women renounce children or stop at a low parity to be able to pursue their labor market career. Information on the principal housekeeper is therefore relevant in determining individual well-being among the workers (remember that our sample includes only those who work at least 20 hours per week). Our results suggest that housekeeping may reduce worker's life satisfaction.

³ The results of regressions in which only a subset of variables is included are not reported for the sake of space.

It is a well established fact that social interaction is an important part of happiness for most people (see a survey by Myers, 1999). We have included some variables which capture individuals' social relations. Affiliations to various leisure, social and political organizations are included. We find some interesting results. An affiliation to a sports club increases substantially men's life satisfaction while a similar effect is observed for women in the case of the affiliation to voluntary work organizations (similar results in Argyle, 1996). This suggests the different nature between men and women in obtaining life satisfaction. Affiliations to other than sports club and voluntary work organization turned out insignificant.

Job Characteristics

Hours of work over 50 hours decrease substantially individual well-being. The magnitude is quite substantial. An increase of 10 hours from 40-49 hours to 50-59 hours has almost similar effects as reducing labor (household) income into a half in job (life) satisfaction. The negative effect of over work is largest in female workers' life satisfaction, an indication of a greater difficulty of work-life balance among working women than men.

Sector and contract type show no effects contrary to the result of descriptive statistics, which suggests that these variables affect worker's satisfaction due to their attributes presented in other job characteristics such as flexibility and stability. Receiving some kind of fringe benefit has positive effect but its effect is small.

Commuting time to work decreases significantly life satisfaction for both men and women while its effect on job satisfaction is much smaller. Its effect on life satisfaction is larger among women, suggesting a greater opportunity costs or a greater difficulty of work-life balance among working women than men.

Intangible Job Characteristics

Some variables which capture intangible job characteristics or subjective evaluation of jobs are included. First, working fewer or longer hours than the desired reduces substantially both job and life satisfaction, with a larger reduction in the case of working longer than desired hours. Its effect on job satisfaction is larger for men than for women. This result is consistent with the problem of work-life balance as expressed in many countries (Oswald, 2002) and suggests a potentially important well-being enhancement of more flexible work hours.

Second, on the wage adequacy, those who consider their wages lower than the market wage are substantially less satisfied with their jobs than others. This result is consistent with the comparison income hypothesis (Clark and Oswald, 1996) or market wage hypothesis (Cappelli and Sherer, 1988), both of which find evidence for the negative effect of comparison income (or market wage) given own income (wage) on job satisfaction. One interesting result is that those who consider their wages higher than the market wage are also less satisfied with their job than those who receive a wage in line with the market wage. Its effect on life satisfaction is much smaller but still significant for women.

Flexibility is measured by the possibility of workers to take a day off without losing their wages. It shows a large positive effect for both men and women. The effect is especially large for women in life satisfaction, which suggests its importance in work-life balance for working women.

The original information for other intangible job characteristics comes in five categories, from the least (=1) to the most (=5). These variables are grouped in two categories, zero including the first 3 categories and one for the categories 4 and 5. Therefore, we may interpret the estimated coefficient as the effect of having high (4 or 5) levels relative to having low (1 to 3) levels of each characteristic. Most of these variables have significant and substantial effects on job satisfaction. Particularly important factors are pride in their jobs, good relationship with superiors and companions at workplace, pleasant work environment, good job match, work independence and work-related stress.

On life satisfaction, the effect of most variables is smaller in magnitude than in the case of job satisfaction but still significant. Interestingly, some intangible job characteristics affect life satisfaction significantly even when job satisfaction is included as an explanatory variable. A discrepancy between actual and desired work hours, flexibility, work environment and stress are among these. That many intangible job characteristics maintain their effects on life satisfaction even when job satisfaction is included indicates their importance in carrying out a happy life.

In summary, the effects of intangible job characteristics is large in both job and life satisfaction. The effects of some characteristics on job satisfaction are equivalent to or greater than that of doubling labor income and their effects on life satisfaction are similar to the effect of 50% increase in household income.

How much are intangible job characteristics worth?

Here, we compute the money value (premium or penalty) of each and combined job characteristics by comparing the estimated coefficient of each characteristic with that of labor income in the case of job satisfaction and with that of household income in the case of life satisfaction.

Combined intangible job characteristics have effects on job satisfaction more than 10 times the effect of doubling wages for men and women. Their combined effect on life satisfaction is about 5 to 6 times the effect of doubling household income. On the other hand, the combined effect of objective job characteristics, such as doubling wage (or household income), normal hours of work, permanent public sector job, fringe benefits and short commuting time, is several times smaller than that of combined intangible job characteristics.

Table 7: Satisfaction Premium

	Job Satisfaction Premium (relative to doubling individual labor income = 1)		Life Satisfaction Premium (relative to doubling household income = 1)	
	Men	Women	Men	Women
Intangible Job Characteristics				
Working desired hours	0,82	0,46	0,61	0,68
Flexible	0,49	0,48	0,32	0,72
Independent	0,76	1,00	0,27	0,57
Socially useful	0,02	0,54	0,38	0,28
Stable	0,85	0,92	0,35	0,24
Pleasant environment	1,13	1,28	0,45	0,59
Decide tasks	0,60	0,82	0,28	0,23
Low stress	0,68	1,13	0,47	0,50
Earning market wage	1,50	1,68	0,30	0,63
Good vertical relations	1,45	2,19	0,33	0,51
Good horizontal relations	0,75	1,45	0,37	0,32
Good job match	1,03	1,50	0,39	0,11
Proud of job	1,77	2,56	0,41	0,73
Subtotal	11,85	16,00	4,93	6,10
Objective Job Characteristics	Men	Women	Men	Women
Doubling wage (income)	1,00	1,00	1,00	1,00
Hours (40-49 vs 50-59)	1,12	1,40	0,65	1,30
Public permanent (re: private temporal)	0,09	0,58	0,02	0,30
Fringe benefits	0,05	0,39	0,11	0,14
Commuting time (16-30 vs. 45-60 minutes)	0,25	0,11	0,26	0,72
Subtotal	2,51	3,48	2,04	3,47

4. Concluding Remarks

Both job and life satisfaction among the Spanish workers is in general high, with the average around 7 in a scale ranging from 1 (very dissatisfied) to 10 (very satisfied). Individual labor income has some effects on job satisfaction while household income affects substantially individuals' life satisfaction.

The most distinguishable result is that substantial effects are observed in most intangible job characteristics, such as flexibility, independence, social usefulness, pleasant work environment, pride in their work, stress and the perception of receiving adequate wages. Combined effects of intangible job characteristics are several times larger than that of doubling wages (or household income) or the combined effects of objective job characteristics such as wages, hours of work, sector, contract type and commuting time.

Appendix: Sample means

	Men	Women
Observations	3938	2352
Monthly income (euros in log)		
- Household income	5,370	5,427
- Individual labor income	5,062	4,826
Age	38,30	36,75
Age squared	1598	1461
Marital status and spouse's labor market status		
- Sp-work	0,227	0,457
- Sp-unemployed	0,043	0,035
- Sp-retired	0,003	0,027
- Sp-other	0,430	0,027
- Single	0,270	0,326
- Sep-Div.	0,023	0,097
- Widowed	0,004	0,031
Education		
- Less than primary	0,047	0,024
- Primary	0,179	0,100
- Secondary	0,279	0,193
- FP/Bup/Cou	0,307	0,352
- University	0,188	0,331
Moved since 16	0,326	0,313
Dependent child	0,539	0,503
Principal housekeeper		
- Myself	0,075	0,439
- Shared	0,300	0,427
- Others	0,625	0,134
Affiliation		
- Sport club	0,134	0,074
- Voluntary organization.	0,029	0,045
Hours of work		
- 20-29 hrs	0,022	0,098
- 30-39 hrs	0,155	0,318
- 40-49 hrs	0,672	0,515
- 50-59 hrs	0,107	0,057
- 60-69 hrs	0,036	0,010
- 70+	0,008	0,002
Sector and contract type		
- Private-permanent	0,566	0,486
- Private-temporal	0,255	0,211
- Public-permanent	0,153	0,243
- Public-temporal	0,026	0,060
Fringe Benefit	0,668	0,687
Commuting time	1,994	1,964
Night shift	0,221	0,165
Desired work hours		
- Same as actual	0,632	0,692
- More hours	0,074	0,080
- Fewer hours	0,294	0,228
Wage		
- In line with market wage	0,644	0,625
- Less than market wage	0,315	0,340
- More than market wage	0,041	0,035
Other job characteristics		
- Flexible	0,456	0,450
- Independent	0,531	0,532
- Socially useful	0,746	0,757
- Stable	0,698	0,683
- Pleasant environment	0,668	0,707
- Decide task	0,476	0,505
- Physically demanding	0,263	0,136
- Stressful	0,332	0,342
- Good vertical relationship	0,650	0,654
- Good horizontal relationship	0,866	0,849
- Good job match	0,797	0,759
- Proud of job	0,607	0,589

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