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What are the Reasons for Differences in Job Satisfaction across Europe? Individual, Compositional, and Institutional Explanations

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This article looks at the determinants of job satisfaction in 27 European countries at both the individual and country level. Individual determinants include type of occupation, supervision responsibilities, working hours, and the assessment of various dimensions, such as intrinsic and extrinsic job characteristics. These factors already explain a large share of country-level variation which renders country differences in job satisfaction foremost the result of individual factors and the composition of the workforce. Notwithstanding this finding, some countries still have higher job satisfaction (country premium) whilst others have less job satisfaction (country penalty) once individual-level explanations are taken into account. To explain this, we considered the effects of country-level institutional factors, such as wage levels, extent of unionization, levels of unemployment and inequality, of which wage levels were the most important.

Introduction

Why are people satisfied or dissatisfied with their work? Most research has looked at individual factors, such as type of occupation or contract, supervision responsibilities, and working hours, assessments of the job with respect to pay, autonomy, health, social contacts, in-service training, and so on when explaining work attitudes, preferences, or evaluations (Kalleberg, 1977; Gallie, 2007a). These are often classified in term of extrinsic and intrinsic factors. However, institutional determinants can also be important for explaining job satisfaction. For example, Kalleberg (1983) and others discussed inequalities in work and among workers and Gallie and colleagues considered production regimes and employment regimes as being relevant contextual factors (Hall and Soskice, 2001; Gallie, 2007b). In this vein, institutional factors that have been explored include the nature of the workplace or the organization (Saloniemi, Virtanen, and Vahtera, 2004; Rose, 2005). However, most of these studies are limited to a small number of countries. Here, we present a study using data from 27 countries to explore which of the previous findings can be generalized at the European level.

There is also another institutional component of job satisfaction which is often referred to in the literature. The particular country a person lives in might affect their job satisfaction because of the specific constellation of work, gender, social, and economic relations in a given context, which can be historically path dependent. For instance, working conditions could

have been improved by trade union influence in some countries more than in others, welfare provisions, such as social security and a range of benefits might have an impact on work attitudes and evaluations, and levels of wealth and inequality could also lead individuals to be more or less satisfied with their jobs in response to the general economic climate.

Previous research does suggest that structural factors, for instance macro-economic or societal conditions, influence the relationship between job satisfaction and job characteristics. For example, cross-national research suggests variations in the importance of extrinsic or intrinsic factors (Diener and Diener, 1995; Ritter and Anker, 2002; Ahn and Garcia, 2004; Muñoz de Bustillo Llorente and Macias, 2005) though Gallie (2007a) is more sceptical about this conclusion. Comparative research also explains differences across the world in terms of value orientations, suggesting, for example, different cultures of work (Huang and Van De Vliert, 2003). Looking at just aggregate levels of job satisfaction by country, we do find differences across Europe, with higher levels in Northern and Western countries and lower levels in Eastern and Southern countries (Wallace, Pichler, and Hayes, 2007). This led us to ask: is this because of poorer working conditions in those countries? Or because of more or less unionization? Or because of lower wage levels? Or is it different work cultures rooted in historical conditions?

In this article, we examine the determinants of job satisfaction in 27 European countries. We begin with looking at determinants of job satisfaction at the individual level in order to see whether there is enough cross-national variation to be worth exploring. In doing so, we set out a broader statistical analysis and test of Gallie's (2007a) findings that country differences in job orientations are themselves much more the outcome of workforce composition than 'true' structural or institutional conditions based on various welfare regimes (Esping-Anderson, 1990) or other relevant causes. Here, we apply this idea to the explanation of levels of job satisfaction including a much larger sample of countries than the ones found in previous research (Gallie, 2007a) as well as the whole of Europe, including many Eastern European countries. If there is sufficient evidence of country differences, we can go on to consider why this should be. Whereas previous research favoured looking at the institutional, i.e. macro-level for explanations of difference, we will first consider whether country variations can be explained by individual factors and the composition of the labour force (Gallie, 2007a). For example, there could be higher satisfaction in one country than another because there are simply better jobs or more people in higher occupations there rather than because of differences in work culture or economic level. Therefore, we first need to consider cross-national differences in individual explanations (subjective and objective characteristics of jobs) and composition before we turn to possible institutional explanations.

We would not expect to find very strong variations in job satisfaction across European countries, since composition of the workforce might account for a large part of it. Beyond composition, however, jobs are of relatively good quality across Europe in a more global perspective. European countries generally have modern, post-industrial economies, high levels of work regulation, and good welfare states. Although there are variations in all of these things, we would expect more homogeneity across Europe than was found in Huang and Van De Vliert's (2003) world-wide study. Nevertheless, variations in working conditions across Europe could help account for varying levels of job satisfaction and here we need to isolate which factors might be most important (individual or compositional ones). Whilst most studies seek explanations for this in the welfare state and policy regimes, we choose a different approach here by using more specific measures of institutional characteristics of European countries. Usually, Esping-Anderson's (1990) typology of welfare regimes is taken as a proxy for a rather heterogeneous sample of various institutional characteristics. For instance, Gallie (2007a) associates it with social security, specific sex differences, variation in education, the system of skill formation, and the salience of quality of work policies (Gallie, 2007a, pp. 281–283). Hence, the welfare regime functions as a placeholder for a set of decidedly different aspects of social life and this consideration works out well in studying a small number of countries. In a large-scale comparative setting, such as ours here, we might do better by specifying more clearly what the welfare regime really 'stands for' by choosing 'more-to-the-point' indicators of various policies as well as institutional and socio-economic conditions.

Job Satisfaction

Job satisfaction has long been presented as an indicator of the individual assessment of the working life (for instance, Seashore, 1974; Scheer, 1975; Sirgy *et al.*, 2001; Barak, Findler, and Wind, 2003). Generally, job satisfaction is regarded as the result of a number of perceived job characteristics including intrinsic and

extrinsic rewards (for instance, Sousa-Poza and Sousa-Poza, 2000; Malka and Chatman, 2003; Rose, 2003; Saloniemi, Virtanen, and Vahtera, 2004; Clark, 2005). Extrinsic job characteristics refer to pay, fringe benefits, other financial rewards, and career development. Intrinsic rewards derive from carrying out the activity of work itself and include challenging and interesting work tasks, autonomy in and influence on work processes (Kalleberg, 1977; Spector, 1997; Cooper-Hakim and Viswesvaran, 2005; Rose, 2005; Gallie, 2007b). Intrinsic job characteristics are rewarding because they facilitate aspirations of self-realization, creativity, and individuality. Hence, taken together, intrinsic and extrinsic rewards are seen as strong factors in the experience of work, which heavily influence job satisfaction (Igalens and Rouseel, 1999; Mastekaase and Kalleberg, 2001).

In addition, more objective job characteristics such as weekly working hours, prestige as reflected in occupational class, contract type, supervision responsibility, and participation in job-related training could also determine job satisfaction. Occupations differ in job quality to the extent that 'higher' occupations such as professional activities are related to 'better jobs'. They convey higher extrinsic rewards (Mincer, 1974; Blossfeld, 1986; Keith and McWilliams, 1997; Gallie, 2003). On the other hand, precarious working relationships based on insecure or non-existing contracts can depress job satisfaction. Precarious jobs often are short term or highly unstable, which make them less attractive (Scherer, 2004) and thus lead towards lower levels of satisfaction with the job (Paugam and Zhou, 2007). Long working hours might also decrease job satisfaction as might too short ones. Unfavourable objective conditions like these likely lead towards dissatisfaction with the job and Keith and McWilliams (1997) have shown that people in such situations are more likely to switch jobs.

Gender, age, and education are also relevant for the job (Blackburb, Jarman, and Siltanen, 1993; Anker, 1997). Men and women have different jobs regarding their objective qualities and status and therefore could arrive at different evaluations of their job quality. Furthermore, they might be differently satisfied with the same jobs because of gender roles that impact on their job motivation (Hakim, 2000) and inequalities in the work place (differences in pay, promotion, and so on) may leave them more resigned to worse jobs. Different national welfare and childcare provisions especially impact on women's working environment (Lewis, 1993; Crompton, Gallie, and Purcell, 1996). As for a potential effect of education, research on human capital (for instance, Becker, 1964; Shavit and Blossfeld, 1993; Tåhlin 2007) generally shows that a higher skill level is positively associated with better jobs and thus related to job satisfaction as an outcome. Likewise, longer exposure to education provides also more intensive contact to a set of value orientations—higher education for better jobs and job opportunities—which could positively influence not only work attitudes (Rose, 2005; Gallie, 2007a) but also levels of job satisfactions through the mechanisms of aspiration, adaptation, and agency.

In recent years, there has been a growing interest in social indicators for monitoring welfare and social change in Europe (Noll, 2002; Wallace, Pichler, and Hayes, 2007). Social indicators are useful in comparing nations for many purposes, such as policy analysis, and complement more economy-oriented measures. However, merely using aggregate indicators to compare European countries can be misleading unless we take into account the individual-level impact and the country-level impact at the same time. Variation in any aggregate measure in general and job satisfaction, in particular, may not be due to country-specific factors alone. On the contrary, variation can be rather the outcome of aggregate individual effects. An adequate decomposition of these sources, however, is not possible with aggregate data. Therefore, we have used both levels in this analysis in a multilevel (ML) setup in order to separate individual effects, composition of the workforce from 'real' country-specific institutional effects on the level of job satisfaction. The latter is usually accomplished by the inclusion of welfare typologies (Gallie, 2007a) or so-called 'production regimes' (for instance, Hult and Svallfors, 2002) but we will depart from this starting point because of assumptions on which we elaborate in the next paragraphs.

Hypotheses: Cross National Determinants of Job Satisfaction

Why does job satisfaction vary across European countries? For macro-level analysis, one of the prime choices of an explanation is the welfare regime typology based on Esping-Andersen's (1990) seminal work. Here, we take a different road and start from the assumption that different jobs create different levels of satisfaction. From the literature on individual determinants of job satisfaction (see above), we already know that job characteristics such as skill level, authority, autonomy, and financial rewards play important roles not only in stratification but also in

satisfaction outcomes (Gallie, 2007a). These considerations might also be important to explain cross-national differences. Good and bad jobs are available in different quantities in different countries, which will likely affect the levels of satisfaction. For instance, in the most post-industrialized countries, manual jobs became scarcer. Because non-manual jobs produce higher levels of job satisfaction, one could argue that the percentage of people in non-manual jobs probably accounts for some of the country differences. Hence, the workforce composition of a country could be relevant for the country's level of job satisfaction. Similarly, this is the case for other relevant job characteristics such as the type of contract. It could be the case that we find evidence of different prevalence rates for different types of contracts in different countries. In some countries, permanent jobs might be the norm, in others people work on short-term fixed contracts more often. Again, the composition of national labour markets could result in differences in job satisfaction because of individual predictors.

These two examples lead us to our first hypothesis concerning differences in job satisfaction across European countries. Whilst we control for individual-level determinants of job satisfaction, country differences actually decrease as some of these determinants (occupational class, type of contract) also determine the composition of the workforce. This might already be an important and valuable explanation of differences in job satisfaction. Thus, we argue that country differences in job satisfaction are (also) a by-product of individual differences in job satisfaction on the one hand and the composition based on occupations and contract types on the other. We call this the *compositional effect hypothesis* because country differences are based on the composition of the sample, including more or less people in higher occupations, more or less people with permanent contracts and so forth, which bears on the average level of job satisfaction. In general, this explanation is often overlooked in comparative research (Huang and Van De Vliert, 2003; Muñoz de Bustillo Llorente and Macias, 2005), whilst the primary interest is quickly directed to more substantive, structural, and institutional explanations. Although Gallie's (2007a) study hints at this interpretation, his analysis is limited to a small number of countries and does not support more general conclusions in a statistical sense. Here, our study uses a sufficient number of countries to offer sound statistical evidence of this reasonable claim.

Composition, however, does not tell the whole story. Instead of using welfare regimes as a proxy for numerous institutionally relevant conditions and thus alternative explanations of country differences in job satisfaction, we would argue that economic conditions (as measured by gross domestic product, GDP), the average wage level or average working hours could be made responsible for country differences in job satisfaction (cf. Diener and Diener, 1995). Basically, a country with better economic conditions is more likely to tend towards a post-industrialized labour market therefore providing better jobs, higher job rewards in both extrinsic and intrinsic terms. Working conditions are generally better in a wealthier country as working hours are shorter, hourly pay is higher and holidays are longer. In order to be as precise as possible, we refer to more specific institutional indicators, such as average wage level (which is maybe most closely related to GDP) and average working hours. We expect that job satisfaction is higher in countries with higher GDP (*GDP hypothesis*), where the average wage level is higher (*wage hypothesis*) as well as where working hours are shorter on average (*working time hypothesis*). However, to avoid multi-collinearity in our statistical models we might have to choose one or another of these institutional indicators in the end and cannot assess their joint explanatory power.

Other factors that could be included are the national unemployment rate and the national level of inequality as important predictors of job satisfaction. Why unemployment? Our assumption is that high levels of unemployment generally pressurize the active-working population to stick to their jobs regardless of their level of satisfaction. In times of higher unemployment it is not only more difficult to find a job, but it is also more difficult to switch one's job in general. Thus, people who are dissatisfied might have no other option than sticking to their current job whereas in countries with low or no unemployment, people who are dissatisfied more easily find alternative jobs (with which they are not dissatisfied anymore). However, high levels of unemployment could also make people satisfied with any job they have because at least they do have a job. In this vein, unemployment could impact on job satisfaction although the surveyed people all have jobs. The *first unemployment hypothesis* thus reads that in countries with higher unemployment, people are less satisfied with their jobs. In contrast, people could also be more satisfied with their jobs when unemployment is high because they are happy to have a job at all (*second unemployment hypothesis*).

Socio-economic inequality is relevant insofar as job satisfaction might be the result of a comparison with other people. When comparing one's job to that of someone else doing the same or different things, perceived differences could lead to lower levels of

satisfaction. When similar jobs lead to great differences in the outcomes, this could be a source of dissatisfaction. The classic example is salaries, but why should job satisfaction not be relevant as an outcome? Inequality becomes especially important as a relative standard of comparison to other people and other people's jobs and working conditions. Put simply, perceived 'unfairness' could make people dissatisfied with their jobs. In a more equal society, however, perceptions of differences could be less likely despite having dissimilar job duties, differences in pay, and so forth. Hence, the next hypothesis reads that greater social and economic equalities within a country compensate for having a worse job. Equality thus makes people more satisfied with their jobs in general (*inequality hypothesis*).

In addition, we propose to explain country differences with the degree of unionization. Trade unions are important actors in negotiating conditions of work; they represent the interests of the employees and interact with employers and state institutions. They negotiate salaries and working conditions and can influence welfare issues. Arrangements between trade unions and other institutional actors often concern all employees, whether or not they are members of trade unions. This circumstance also highlights why trade union membership is not necessarily an individual predictor of job satisfaction. However, the strength of trade unions could be an important factor at the country level. Strong trade unions have more power, and employers might take precautions and accommodate strong trade unions to avoid industrial action. This could include not only higher salaries but also the creation of better working conditions, less dangerous jobs, more intellectually demanding work, fair promotions, and so forth. In this vein, the size of trade unions as measured by the share of union members among the total working population could matter at the country level. We are aware that the rate of unionization does not necessarily indicate the power of unions—in France for example, unions might have few members but nevertheless be rather powerful. However, membership rates do give some indication of the influence of trade unions in general. Our *trade union hypothesis* then reads that in countries where trade unions have more members, job satisfaction is higher.

Data

In this article, we use the European Quality of Life Survey to find answers to our hypotheses. EQLS was conducted on behalf of the European Foundation for the Improvement of Living and Working Conditions (2004) in 2003. EQLS randomly asks approximately 1,000 respondents aged 18 or older in each of its 28 participating European countries about life, work, and employment-related aspects. A major goal of EQLS was covering all actual and becoming EU Member States shortly before the accession of 10 new countries to the EU in 2004. In addition, the survey included Bulgaria, Romania (both countries became members in 2007), and Turkey (not included in the analysis).

Amongst other things, respondents were asked how satisfied they are with their present job. Respondents rated their job satisfaction on a scale of 1 to 10 where 1 meant 'very dissatisfied' and 10 'very satisfied'. Information is provided about occupational class, the type of contract, supervision responsibilities, having a second job, weekly working hours, and job-related advanced training and education. Unfortunately, individual data on trade union membership or personal income are not available.

We distinguish between five occupational classes: professional and managerial (the 'salariate'), self-employed people, non-manual employees (intermediate), manual workers ('working class', reference group), and people in agriculture. A more refined classification scheme (Erikson-Goldthorphe-Protocalero or ESeC) is not available. As for type of contract, we differentiate between people with permanent contracts (reference group), long-term fixed contracts (more than 12 months), short-term fixed contracts (12 months or less), no written contract (oral agreements), other kinds of contract, and those without contracts (e.g. the self-employed). To describe job characteristics, we further use supervision responsibilities (yes or no). As far as working conditions are concerned, we examine the effects of weekly working hours (including paid extra time) as well as the opportunity of additional training. The latter variable observes whether the respondents have participated in a job-related advanced training course, have done any other courses or none whatsoever. In addition, we control for gender and age of the respondents.

Since this is a survey, we must rely on subjective measures of other extrinsic and intrinsic job characteristics in this analysis. The respondents have been asked whether they *strongly agree, agree, neither agree/nor disagree, disagree* or *strongly disagree* whether (i) *their work is too demanding and stressful;* (ii) *they are well paid*; (iii) *they have a great deal of influence in deciding how to do their work*; (iv) *their work is dull and boring*; (v) *their job offers good prospects for career*

advancement; (vi) *they constantly work to tight deadlines*; and (vii) *they work in dangerous or unhealthy conditions*. In addition, they could assess their job security: '*How likely do you think it is that you might lose your job in the next 6 months?*' with answers '*very likely, quite likely, neither likely/nor unlikely, quite unlikely* or *very unlikely*'.

Although this analysis mainly focuses on macro-level institutional explanations of job satisfaction, it is necessary to examine within-country determinants of job satisfaction to determine the importance of compositional effects (e.g. smaller or larger share of 'professionals', smaller shares of people with permanent jobs...). Once these compositional effects are accounted for, the cross-national determinants of job satisfaction become more statistically credible. At the country level, we then use GDP per capita (in purchasing power parities, PPP), national wage levels, average working time, the degree of unionization, national unemployment rates, and economic inequality (Gini coefficient) as structural predictors of job satisfaction. Data are mainly taken from Eurostat New Cronos, but for the degree of unionization we draw on Carley's (2004) paper and set the number of trade union members in relation to the size of the active population. Descriptive figures of these indicators can be found in the Appendix.

Methods

We use multilevel modelling to estimate the variation in job satisfaction at various levels simultaneously. We start with so-called random intercept models where job satisfaction across countries may vary 'on average' but all the effects of predictor variables are set equal across countries. This can be expressed in the equation

$$y_{ij} = (\beta_{00} + \beta_{0j}) + \beta_1 x_{1ij} + \ldots + \beta_k x_{kij} + e_{ij} \quad (1)$$

where y_{ij} is the score on the dependent variable job satisfaction for individual i in country j; β_{00} is the common intercept for all countries; β_{0j} is the country-specific deviation from the common intercept (random intercept, country differential); β_1 to β_k are the fixed slope coefficients for k independent predictor variables x_{1ij} to x_{kij}; and e_{ij} is the individual level error term. We then add so-called random slopes for some of the individual-level predictors to account for the possibility that different individual-level determinants may have somewhat different effects on job satisfaction in a given country. However, because of the rather small number of observations at the country level (note that we have 'only' 27 'cases') we are restricted to include a rather small number of country-level variables. These models can be expressed by the following equation.

$$y_{ij} = (\beta_{00} + \beta_{0j}) + (\beta_1 + u_{1j})x_{1ij} + \ldots + \beta_k x_{kij} + e_{ij} \quad (2)$$

where we add error terms u_{kj} to some but not all effects β_k of predictor variables of job satisfaction. The inclusion of random slopes in some cases may also guarantee that all variation in individual-level determinants of job satisfaction is accounted for before examining institutional causes at the country level.

In our final models, we add explanations for all random parts (intercept and slopes) by introducing structural indicators. In other words, the aim here is to 'explain away' the terms labelled with u which represent variation across countries. These predictors should first explain differences in the average level of job satisfaction across countries (as main effects) and differences in the different effects of some individual-level predictors (random slopes) in the second place (as so-called cross-level interactions). More formally, such a full multilevel model takes the form

$$y_{ij} = (\beta_{00} + \beta_{0j} + W_{1j}) + (\beta_1 + u_{1j} + W_{1j})x_{1ij} + \ldots + \beta_k x_{kij} + e_{ij} \quad (3)$$

where W_{1j} is a country-level variable, for instance GDP. In combination with the intercepts $\beta_{00} + \beta_{0j}$, W_{1j} is described as a main effect and explains away random variation in the average level of job satisfaction across countries. In combination with regression coefficients $\beta_1 + u_{1j}$, W_{1j} is defined as so-called cross-level interaction because it explains away the varying effects of some variable x_{kij}.

After controlling for compositional effects, we examine country-level explanations of differences in job satisfaction. We present alternative models and limit our analysis to single effects of each institutional indicator which is based on the circumstance that the small number of 27 countries does not support more sophisticated predictions based on a larger number of independent variables due to computational and statistical reasons.

Results

Individual-Level Explanations

In our first model, we explain individual job satisfaction with gender, age, education, occupational class, supervision responsibilities, type of contract, having a second job, attendance of training and education courses related to the job, and average total weekly

Table 1 Individual level predictors of job satisfaction across Europe

Indicators	Model 1	Model 2
Gender (male)	0.006	0.069**
Age (centred, 39)	0.006***	0.011***
Education (in years, centred, 12)	0.010**	−0.004
Occupational class (manual)		
Professional/managerial	0.963***	0.312***
Self-employed	0.544***	0.155
Intermediate/non-manual	0.495***	0.173***
Agriculture	−0.125	−0.072
Type of contract (permanent)		
Long term fixed (>12 months)	−0.081	0.037
Short term fixed (≤12 months)	−0.268***	0.093
No written contract	−0.146*	−0.068
Other	−0.233**	−0.132
None (e.g. self-employed)	0.065	−0.130*
Supervision (no)	0.373***	0.069*
Second job (no)	−0.014	0.033
Weekly working hours (centred, 40)	−0.003*	−0.002
Life-long learning (no courses)		
Job-related courses	0.338***	0.115***
Other courses	0.079	−0.026
Job characteristics (subjective positive evaluation)		
Demanding job		0.103***
Well paid		0.361***
Autonomy		0.117***
Boring tasks		0.478***
Promotion prospects		0.282***
Tight deadlines		0.073***
Dangerous/unhealthy		0.039***
Job security		0.220***
Intercept	6.601***	3.065***
Random part		
Level 1 variation: within countries	3.782***	2.896***
Level 2 variation: between countries	0.133***	0.066***
Effective sample size		
Level 1	747	1102
Level 2	27	27
Deviance	49,617.4	46,415.6

Notes: Results from a multilevel regression model, including random intercept (4.3 per cent of the variation occurs at the country level). Population: 18- to 70-year-olds, living in EU 27. $N_{OLS} = 11{,}893$ *in 27 countries (missing values on single predictors dummied out in the model).*
Dependent variable: job satisfaction scaled 1–10.
Omitted (reference) categories of categorical predictor variables in parentheses.
Baseline model: level 1 variation (e_{0ij}) = *4.041; level 2 variation* (u_{00j}) = *0.185.*
Deviance (−2 log-likelihood) of the baseline model: 50,440.3.
Explanatory power of Model 1: 6.4 per cent of the variation in job satisfaction within countries; 28 per cent of the variation in job satisfaction across countries (compositional effects).
Explanatory power of Model 2: 28.3 per cent of the variation in job satisfaction within countries; 64 per cent of the variation in job satisfaction across countries (compositional effects).
*** $P<0.01$; ** $P<0.05$; * $P<0.1$.
Source: EQLS (2003), data not weighted.

working hours. Results of multilevel analyses (Model 1) are presented in Table 1.

The main predictors of job satisfaction are occupational class and type of contract. Higher classes are much more satisfied with their jobs. The same holds for people in secure employment with permanent and long-term contracts. Age, education, supervision responsibilities, and working hours further explain job satisfaction at

the individual level. Attending job-related further education increases job satisfaction by 0.3 units. The overall explanatory power of this model is, however, rather modest. Approximately 6 per cent of the variation in job satisfaction at the individual level is explained by them. This leaves much space for other explanations, such as intrinsic and extrinsic rewards, which our second model explores in more detail.

Model 2 shows that gender impacts on job satisfaction once we control for subjective evaluations of the job. Basically speaking, given the same level of subjectively perceived job characteristics, women are more satisfied with their jobs. That they are not so without controlling for subjective evaluations indicates that women less often report positive assessments of their jobs in general. The effects of occupational class and type of contract are typically explained by subjective perceptions of the job. Regression coefficients in these instances are significantly smaller (for instance, for the professional and managerial class and the intermediate non-manual employees) or are totally explained away (self-employed, short-term contracts, without written contracts, or other types of contracts). This means that types of contracts are specifically assessed in terms of job quality. However, a long-term contract needs not necessarily be secure either. In the United Kingdom there are relatively few temporary contracts, because people can be easily fired in a deregulated labour market. In countries where employment regulations are stricter, temporary contracts may be used as a means of avoiding to lay-off workers. Furthermore, the negative effect of longer working hours has also been explained away by subjective job evaluations. Finally, attending job-related further education is also partly explained by subjective perceptions of the job.

In the remainder of the analysis, we concentrate on cross-national determinants of job satisfaction. Model 1 has already accounted for approximately one-third of the variation in job satisfaction as shown by the comparison of level 2 variation in the empty model (equals 0.185) and the individual explanations model (0.133). Model 2 explains country differences to an even greater extent. The remaining variation at the country level is equal to 0.066. Thus, individual-level predictors have resulted in a reduction of about two-thirds in unaccounted variation in job satisfaction across countries—a very significant level of explanatory power. This finding also strongly supports our compositional hypothesis because occupational class and contract type account for a quarter of this reduction. In other words, our models show that the main explanation for country differences in job satisfaction lies with the composition of the labour force on the one hand and subjective evaluations of the jobs on the other. When examining country differences without taking into account this major explanation we thus run the danger to (i) overestimate true differences across countries, and, more importantly (ii) to unduly attest explanatory power to institutional indicators as the country-level variance of job satisfaction remains inflated. Although the remaining country variation in our study is rather small in comparison to within-country variation, we will further test whether job satisfaction also has institutional causes across 27 European countries.

Job Satisfaction across Europe

Only 4.3 per cent of the total variation occurs between countries as indicated by the baseline model. Nevertheless this share of variation is highly significant. Amongst other explanations, compositional effects account for more than 60 per cent of it. In the following analysis, we offer some explanations for the remaining cross-national differences. Before we start, we add random terms to the most distinct objective predictors of job satisfaction. That is, the effects of occupational class (professional/managerial and intermediate/non-manual) as well as the effect of having a short-term contract are allowed to vary across countries. Although the latter is not significant on average (Model 2 in Table 1), the enormous reduction in effect size through the inclusion of subjective job characteristics provides grounding for speculations about whether there are significant country differences. This model (not shown) reveals that for all three parameters, the random variation is significant and improves model fit (both in linear and quadratic variance and covariance terms). That is, we can say that the effects of occupational class and short-term contracts vary significantly across countries. Hence, composition impacts differently on job satisfaction in different countries. In the remainder of the article, we aim to explain these country differences. We start with examining the average level of job satisfaction in each country more thoroughly.

Figure 1 addresses average job satisfaction scores for each country. The black bars represent the observed (raw score) differences in job satisfaction. Job satisfaction is highest in Denmark (mean of 8.2 on a scale of 1–10), Finland (8.0), and Germany (7.9) according to our aggregated observed scores. It is lowest in Bulgaria (6.5), Slovakia (6.5), and Poland (6.8). Generally speaking, job satisfaction is considerably lower in eastern European countries than in other European

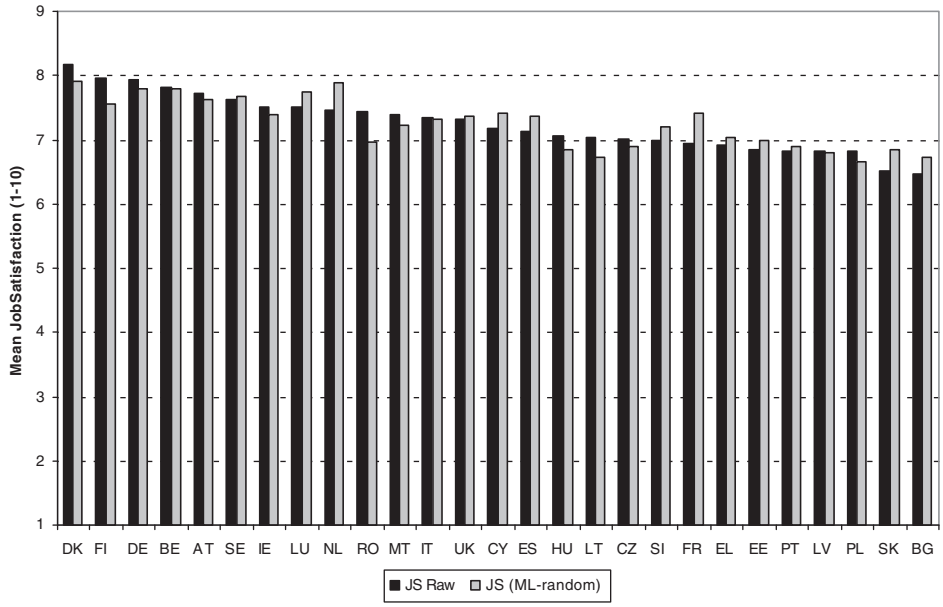

Figure 1 Average levels of job satisfaction in 27 European countries. Comparing raw scores and individual-level predictions from multilevel models

Notes: JS Raw: raw scores for average country level of job satisfaction JS Predictions (ML-random): prediction scores from ML analysis controlling for individual effects and random parts. Difference between JS raw and JS prediction represent country differential. AT, Austria, BE, Belgium, BG, Bulgaria, CY, Cyprus, CZ, Czech Republic, DK, Denmark, EE, Estonia, FI, Finland, FR, France, DE, Germany, UK, United Kingdom, EL, Greece, HU, Hungary, IE, Ireland, IT, Italy, LV, Latvia, LT, Lithuania, LU, Luxembourg, MT, Malta, NL, Netherlands, PL, Poland, RO, Romania, SK, Slovakia, SI, Slovenia, ES, Spain, SE, Sweden, PT, Portugal. *Source*: EQLS (2003).

countries apart from Portugal (6.8), Greece (6.9), and France (6.9). On the other hand, Romania is the positive exception with a rather high average level of job satisfaction of 7.4.

The light-grey bars represent the predicted level of job satisfaction according to individual-level variables and random parts in our multilevel models. In some countries, people are more satisfied (black bars) than one would expect from an analysis of individual-level predictors of job satisfaction. That is, there is what we would call a 'country premium' on job satisfaction. Such a premium is observed in, for instance, Denmark, Finland, Germany, and Austria. In Romania, Hungary, Lithuania, the Czech Republic, and Poland, observed values are also higher than predicted ones. In fact, the premium is largest in Romania (0.46 units in job satisfaction), Finland (0.41), and Lithuania (0.31). In contrast, in some countries expected levels of job satisfaction are higher than observed ones. This is particularly the case in France (−0.47), the Netherlands (−0.42), and Slovakia (−0.34). In these countries, there is a 'country penalty' on job satisfaction because multivariate analysis would overestimate the actual level of job satisfaction. Hence, the context decreases job satisfaction more than otherwise reasonably assumed. This group of countries does not easily fit any usual regime typology and therefore we turn to general institutional indicators to explain these differences.

The differences between observed and predicted job satisfaction averages represent the country differentials, which measure the part of job satisfaction that cannot be explained by individual-level characteristics. We have called this the 'country premium' where observed scores are actually larger than the estimated ones and 'country penalty' where the actual scores are lower than the expected ones. Why do predicted scores deviate in different ways across European countries? We propose to explain the remaining variation in job satisfaction by reference to GDP, wage levels, unemployment rate, average working hours, the degree of unionization and inequality. In this respect, it is much more accurate to explain country differentials instead of aggregated raw scores because other determinants,

Table 2 Structural indicators and their covariation across 27 European countries

	Structural indicators	1	2	3	4	5	6	7
1	Job satisfaction (raw scores)	1						
2	Job satisfaction (country differentials)	**0.45**	1					
3	National unemployment rate	−0.56	**−0.02**	1				
4	GDP (per capita, in PPP)	0.60	**−0.21**	−0.58	1			
5	Average national working hours	−0.61	**0.13**	0.43	−0.55	1		
6	Average national wages	0.73	**−0.17**	−0.56	0.88	−0.69	1	
7	Unionization	0.69	**0.23**	−0.44	0.53	−0.32	0.52	1
8	Gini (Inequality)	−0.50	**−0.11**	0.33	−0.32	0.29	−0.36	−0.48

Notes: Correlations ≥0.40 are statistically significant at the 5 per cent level.
Job satisfaction raw scores are aggregated means of job satisfaction.
Job satisfaction country differentials (printed in bold) represent the predicted scores of job satisfaction from multilevel analysis.
Source: EQLS (2003); Eurostat, Carley (2004).

individual-level predictors, in particular, are already accounted for. This also makes sure that cross-national variation in job satisfaction is not inflated by other explanations, which we can and have taken into account in our statistical models.

Table 2 provides important insights into the correlations between job satisfaction and institutional indicators. To begin with, the association between observed job satisfaction scores at the country level and country differentials is not very large. A coefficient of 0.45 indicates that there is a substantial difference between both measures. As can be further seen in Table 2, correlations with all institutional indicators are much higher for the raw scores than the differentials. This is another sign that contextual analysis alone cannot yield reliable estimates for institutional variables and their effects on job satisfaction. Moreover, contextual effects are rather conflated with compositional ones and only separating the latter out in the first place allows us to correctly interpret contextual causes of job satisfaction across European societies. Even more, bivariate correlations between country differentials and a series of indicators are not statistically significantly anymore, whereas correlations with raw scores would postulate that all institutional characteristics are significant and important correlates of job satisfaction at the country level. That is, in some instances individual-level and compositional effects are so strong than there is no room left for institutional explanations of country differences in job satisfaction. No wonder then that these explanations of differences in job satisfaction are bound to fail—because they do largely not exist.

What does that mean? It means that country differences in job satisfaction are mainly due to compositional and individual effects. 'Country job satisfaction' varies as people are more satisfied in some countries than in others because there are more professionals, managerial, intermediate non-manual jobs in these countries. They are more satisfied because of the possibility to attend job-related courses and education and, foremost, they subjectively describe better job characteristics, such as payment, autonomy, and prospects of promotion. That being said, there is less space for other explanations of cross-national variation in average job satisfaction. However, we should not forget that composition is a characteristic of countries. We do not claim that the institutional context does not matter; however, context is predominantly related to a particular composition of the labour force. GDP, unemployment, unionization, and so on do not have large additional explanatory power for the average level of job satisfaction. However, institutional indicators might explain why some of the individual level effects differ from country to country. Hence, the average wage level could be responsible for different effects of occupational class; the degree of unionization could be responsible for the effect of short-term contracts. To further evidence this, we run multilevel models including institutional indicators to explain cross-national variation in the mean of job satisfaction and the varying effects of some occupational classes and working on a short-term contract. We expect hardly any significant effects on the average of job satisfaction; however, we expect some explanatory power for random slopes in our models (see Model 2).

Because of the high correlations between some of the institutional indicators (see also Table 2), we would face multi-collinearity problems if we included all of them. More precisely, including more specific indicators, such as wage levels and working hours

Table 3 Determinants of differences in job satisfaction across countries

Structural predictors	M3	M4	M5	M6
Wage level (1600€)	0.011			
Unemployment rate (8 per cent)		−0.025*		
Unionization (37 per cent)			0.006**	
Inequality (Gini = 28)				−0.027*
Cross-level Interactions				
Professional/managerial	−0.038***	0.051***	−0.007**	0.024
Intermediate/non-manual	−0.026***	0.039***	−0.005**	0.024*
Short-term contract	0.016	−0.025	0.004	0.018
Deviance	46,338.1	46,358.2	46,363.5	46,353.5

Notes: Reference model is the individual level explanations model with random parts for intercept, professional/managerial class, intermediate/non-manual class, and short-term contracts. This model has a deviance of 46,370.
Source: EQLS (2003); Eurostat, Carley (2004).

makes it necessary to dismiss GDP because of multi-collinearity issues. This leaves us with four institutional explanations based on the wage level (in €100 steps, centred at 16), the unemployment rate (in per cent, centred at 8 per cent), unionization (centred at 37 per cent), and economic inequality (centred at a Gini-coefficient of 28, see Eurostat New Cronos). Thus, some of our hypotheses (GDP, working time) cannot be tested any longer.

In Model 3 (Table 3), we use the average national wage level as a potential explanation for the remaining cross-national differences in job satisfaction; the unemployment rate in Model 4, the degree of unionization in Model 5 and, finally, socio-economic inequality as measured by the Gini-coefficient in Model 6. After controlling for all individual effects, the average national wage level offers the most plausible explanation for country differences. This is supported by the largest decrease in the deviance compared to Model 1. The reference model (not including any explanations for country differences) has a deviance of 46,370; the wage model (Model 3) has a deviance of 46,338. The difference of approximately 32 is highly significant with four degrees of freedom. As can be seen in Table 3, the average wage levels explains varying effects of occupational class (professionals and managerial, and intermediate/non-manuals) to some extent. The findings show that in countries where the average wage level is higher, people with these occupations report somewhat lower levels of job satisfaction than in other countries. Answering to the wage hypotheses, we note that in countries with a higher average of wages, higher occupational classes are less satisfied. There is, however, no effect on the overall average of job satisfaction.

Alternative explanations also account for the variation in job satisfaction across European countries. The national unemployment rate, for instance, explains some of the small remaining differences in the average level of job satisfaction, which confirms our first unemployment hypothesis. Where unemployment is higher, professionals, managers, and intermediate/non-manual employees report higher job satisfaction than their colleagues in countries with lower unemployment. Examining the effect of unions, we can see that a high degree of unionization actually increases job satisfaction and slightly decreases satisfaction among the higher occupational classes. This is also in line with our unionization hypothesis. However, the degree of unionization has by far the smallest explanatory power as evidenced by a deviance decrease of only 7, which is the only non-significant of all explanations given four degrees of freedom. Finally, inequality also offers an explanation for differences in job satisfaction. The higher the socio-economic inequality, the lower is average job satisfaction. This confirms our inequality hypothesis. In addition, intermediate/non-manual employees are more satisfied in more unequal countries.

We cannot go beyond this analysis with this particular data set. Because of a rather small sample size of 27 countries, a combination of these alternative explanations is highly problematic because of a lack of empirical information necessary for the robust estimation of regression coefficients. In sum, the deviance difference shows that wage levels are the most powerful of these explanations. Because of the proximity between income and job satisfaction at the individual level, we also believe that this is the most reasonable explanation of country differences given the limitations

of a rather small number of observations at the country level.

Conclusion

This article sought to explain levels of job satisfaction at both the individual and the country level, differentiating between individual, compositional, and institutional explanations. Much of the differences in job satisfaction can be explained by objective working conditions, such as occupational level, type of contract, and job-related training and to an even greater extent by subjective evaluations of extrinsic and intrinsic job characteristics. Therefore, country differences in job satisfaction mainly occur because of different individual-level factors and composition of labour markets which reflect these different characteristics (see also Gallie, 2007a). Our large-scale cross-national analysis has shown that compositional effects account for a large part of country differences. Here, we can give broader statistical evidence of Gallie's (2007a) claims concerning the determinants of cross-national variation in job satisfaction. These effects are grounded in a different composition of the national labour markets and relate, amongst other things, to a different share of higher or lower occupations, different prevalence rates of various types of contracts, and also varying involvement in life-long learning and nationally framed subjective evaluations of job characteristics. It means that the same things affect job satisfaction across Europe, but they are more or less prevalent in different countries. Workers always prefer interesting jobs over boring ones or permanent contracts over temporary ones and people in higher level jobs are always happier with their work. In those countries with large numbers of poor quality jobs, manual work and work with little training, job satisfaction is therefore lower. In this respect, we can say that we understand a considerable amount about what determines job satisfaction in a European perspective taking into account also the new Member States, where job satisfaction is especially low on average. Of course, the particular cultural and historical contexts are important for understanding why these particular constellations of job characteristics are found in particular places.

However, extended multilevel analyses have also shown that there is some limited space for institutional explanations. We have described the remaining variation in job satisfaction at the country level as either a 'country premium' in case predicted scores of job satisfaction are lower than observed ones or as a 'country penalty' on job satisfaction if we had expected higher levels of job satisfaction in a country according to individual-level characteristics. Instead of seeking widely used explanations in the welfare state, we have argued that the national average wage level is the most straightforward candidate to explain differences in as well as varying effects of individual-level predictors of job satisfaction. Compared to alternative explanations, such as the unemployment rate, degree of unionization, and inequality, average wage levels explain why higher occupational classes experience different levels of job satisfaction across European countries to a greater extent. Other explanations also account for these differences but testing which institutional condition is responsible for it could not have been undertaken because of data limitations.

The analysis has further shown that research using aggregated job satisfaction data at the country level without controlling for compositional and individual-level effects might lead people to overestimate country variation and thus overemphasize the explanatory power of institutional arrangements leading to inadequate conclusions. This means, once we control for individual-level predictors, there is considerably less room left for, for instance, GDP or national wage levels as explanations. Hence, future research must take the nested structure of job satisfaction data more seriously. Whereas investigating institutional causes for country differences in job satisfaction might be an interesting task, the main explanations can be found at the individual level. Attributing too many differences to other institutional explanations is thus misleading, which we have shown in our comparative analysis using survey data from 27 European countries.

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Appendix

Table A1 Structural indicators: descriptives

Country	Job satisfaction	Job satisfaction ML	Unemployment	GDP	Wages (in €)	Unionization	Gini
Austria	7.7	7.6	4.3	129.1	2,167	35.54	24
Belgium	7.8	7.8	8.2	123.5	2,438	69.05	28
Bulgaria	6.5	6.7	13.7	32.6	362	15.68	26
Cyprus	7.2	7.4	4.1	89.3	1,818	51.07	29
Czech Republic	7.1	6.9	7.8	73.8	941	26.07[a]	25
Denmark	8.1	7.9	5.4	124.7	2,524	75.15	22
Estonia	6.8	7.0	10.0	54.6	755	14.08	35
Finland	7.9	7.6	9.0	113.5	1,937	81.62	24
France	7.0	7.4	9.0	112.3	2,196	43.68[a]	27
Germany	7.9	7.8	9.3	117.1	2,528	22.45	25
United Kingdom	7.3	7.4	4.9	120.1	2,594	26.51	31
Greece	6.9	7.0	9.7	92.4	1,514	14.64	33
Hungary	7.0	6.8	5.9	63.6	839	22.47	23
Ireland	7.5	7.4	4.7	141.2	2,240	27.10	29
Italy	7.4	7.3	8.4	111.3	2,002	46.74	29
Latvia	6.8	6.8	10.5	43.5	558	15.99	32
Lithuania	7.0	6.7	12.4	49.2	659	26.07[a]	34
Luxembourg	7.5	7.7	3.7	247.8	2,745	71.58	27
Malta	7.4	7.2	7.6	78.7	1,622	54.38	30
Netherlands	7.5	7.9	3.7	130.0	2,409	23.02	26
Poland	6.8	6.7	19.6	49.1	978	11.22	30
Romania	7.4	7.0	7.0	31.5	472	44.67	30
Slovakia	6.5	6.9	17.6	55.7	794	21.97	31
Slovenia	7.0	7.2	6.7	82.5	1,450	37.45	22
Spain	7.1	7.4	11.1	101.5	1,808	10.83	33
Sweden	7.6	7.7	5.6	123.2	2,070	75.33	24
Portugal	6.8	6.9	6.3	77.0	1,164	21.34	37
Averages (not weighted)	7.2	7.2	8.4	95.1	1,614	36.51	28

[a]*Missing values were replaced by means: for France, the mean level of unionization of western European countries has been used; for Czech Republic and Lithuania the mean of ex-communist European countries has been used.*

Sources: Eurostat; Carley (2004).