ATINER CONFERENCE PAPER SERIES No: ECO2012-0257

Athens Institute for Education and Research
ATINER

ATINER's Conference Paper Series
ECO2012-0257

Job Satisfaction Determinants of Tertiary-Educated Employees in European Countries

Alexander Tarvid
PhD Student
University of Latvia
Latvia

ATINER CONFERENCE PAPER SERIES No: ECO2012-0257

Athens Institute for Education and Research
8 Valaoritou Street, Kolonaki, 10671 Athens, Greece
Tel: + 30 210 3634210 Fax: + 30 210 3634209
Email: info@atiner.gr URL: www.atiner.gr
URL Conference Papers Series: www.atiner.gr/papers.htm

ISSN **2241-2891**
19/09/2012

An Introduction to ATINER's Conference Paper Series

ATINER started to publish this conference papers series in 2012. It includes only the papers submitted for publication after they were presented at one of the conferences organized by our Institute every year. The papers published in the series have not been refereed and are published as they were submitted by the author. The series serves two purposes. First, we want to disseminate the information as fast as possible. Second, by doing so, the authors can receive comments useful to revise their papers before they are considered for publication in one of ATINER's books, following our standard procedures of a blind review.

Dr. Gregory T. Papanikos
President
Athens Institute for Education and Research

This paper should be cited as follows:

Tarvid, A. (2012) **"Job Satisfaction Determinants of Tertiary-Educated Employees in European Countries"** Athens: ATINER'S Conference Paper Series, No: ECO2012-0257.

Job Satisfaction Determinants of Tertiary-Educated Employees in European Countries

Alexander Tarvid
PhD Student
University of Latvia
Latvia

Abstract

Factors affecting the job satisfaction of tertiary graduates are studied. Recent data on 13 European countries from 2010-11 are used. Special attention is given to differences between bachelors and masters. It is found that in many countries, Master's degree decreases job satisfaction. Moreover, it never increases job satisfaction of female employees. Bachelors are more sensitive to monetary compensation, while masters pay more attention to career opportunities. The results also show that the most important groups of job-related factors influencing job satisfaction are (1) content, (2) risks, and (3) compensation.

Keywords: higher education, job satisfaction, cross-country comparison, tobit

Contact Information of Corresponding author:

Introduction

Kalleberg (1977, p. 126) defines job satisfaction as "an overall affective orientation on the part of individuals toward work roles which they are presently occupying" and views it as a result of an interplay between the values workers attach to job characteristics and the extent to which these values are satisfied. Generally, job satisfaction is a very important characteristic of an employee. It is known as one of the main determinants of the intention to quit, and hence it was heavily studied in occupations with high turnover like nursing (Acker, 2004; Chen & Johantgen, 2010; Cortese, Colombo, & Ghislieri, 2010; Harris, Winskowski, & Engdahl, 2007; Parry, 2008). Several studies of job satisfaction of the general population were also performed; representative studies for Europe include Millán, Hessels, Thurik, & Aguado (2011), Mora, García-Aracil, & Vila (2007), Skalli, Theodossiou, & Vasileiou (2008), and Poggi (2010).

In this paper, we study the determinants of job satisfaction of tertiary-educated employees aged 20-60. Particular attention is given to factors specific to higher education: whether masters are more satisfied than bachelors and whether the over-educated are less satisfied than the well-matched. We use recent individual-level data on 13 European countries from European Social Survey Round 5, fielded in 2010-11. This paper thus contributes to the literature by providing rich empirical cross-sectional evidence on the differences in job satisfaction determinants in recent, after-crisis, years.

The paper is structured as follows. The next section reviews the relevant literature. After that, data and methods of this study are described. The following section presents the results. The two final sections provide discussion and conclusions.

Literature Review

At a theoretic level, the Job Demands-Resources model (see Bakker & Demerouti, 2007, for a review) views the workplace (in its broad meaning) as a field where job demands meet with available resources. When not enough resources are available to satisfy job demands, job strain occurs. Resources, however, are used not only for satisfying demands, but also as a driver for employee's motivation. Hence, this framework argues about the importance of support activities like help from co-workers or allowing employees to manage their working time for increasing satisfaction with job. At the same time, excessive job demands (e.g., leading to regularly not being able to finish all tasks on time) or insufficient resources (e.g., not being paid appropriately, but also having no opportunity for advancement and performing a considerable amount of repetitive tasks) lead to stressful situations and, thus, decrease job satisfaction.

As noted in the Introduction, Kalleberg (1977) views job satisfaction as the extent to which the real characteristics of individuals' jobs match to their

aspirations. He distinguishes among six groups of values: intrinsic (associated with the task itself), convenience (comfort-providing facets external to the task), financial, relationships with co-workers (satisfaction of social needs, making friends among employees), career opportunities, and resource adequacy (incl. support from co-workers). In his survey, administered in the US in 1972-73, he found that the most important factors affecting job satisfaction are intrinsic and financial, while career and resource adequacy are of moderate importance.

Skalli, Theodossiou, & Vasileiou (2008) consider the importance of five job-related facets of job satisfaction in 10 European countries using European Community Household Panel data, 1994-2001 (their data does not include any CEE[1] country, but does include Scandinavian and Southern European countries). They find that in all countries, the most important determinant is the type of work. The other important factors go approximately (i.e., with some minor country-specific differences) in the following order: earnings, working conditions, job security, and working times. Clearly, this is in line with the findings of Kalleberg (1977).

Vila, García-Aracil, & Mora (2007) use data from Careers after Higher Education, A European Research Survey for tertiary graduates aged 26-35 from seven countries (again, no CEE country appears in the sample). They find that only five job determinants significantly influence job satisfaction (in decreasing order of effect size): career, opportunity to pursue own ideas, good social environment, use of acquired knowledge and skills, and challenging tasks. Notably, financial compensation variables were not included as regressors.

Studies differ on the extent of homogeneity of the directions of the effects from job satisfaction determinants in different European countries. For instance, Mora, García-Aracil, & Vila (2007) find that countries are quite homogeneous, while Díaz-Serrano & Cabral Vieira (2005) report a considerable heterogeneity across countries.

Data and Methods

We use data from Round 5 of the European Social Survey (Norwegian Social Science Data Services, 2010), ESS, which was fielded in 2010-11. ESS is a biennial survey known, firstly, for its broad country coverage (every round covers more than 30 European countries), and secondly, for its very detailed information on respondents' personality and beliefs and their family, in addition to questions about their participation in the labour market.

Among all five currently available ESS rounds, only two contain the job satisfaction variable: Round 3 and Round 5. While Round 3 was used in job-satisfaction models (Lange, 2012), it contains very little information about respondents' perceptions of their current job. On the contrary, Round 5

[1] Central and Eastern Europe.

introduces a block of variables that directly measure respondents' attitudes to various aspects of their current job (see Table 1); we will refer to them as primary job-related factors. We consider these variables as important control variables and include them in regressions. Unfortunately, nearly all of them are missing in Round 3, so it is impossible to compare their effects across time. As a result, we use data from Round 5 only.

The current job satisfaction variable in ESS measures the respondent's answer to the question "How satisfied are you in your main job?" on the 0-10 scale. Two classes of econometric methods can be applied to such a dependent variable. The first one is to run ordered logistic regression, but this would complicate the analysis of marginal effects, as large tables would have to be produced for each of the eleven categories. In principle, one could use stereotype logistic regression (Anderson, 1984) to combine the categories of the dependent variable that are not distinguishable by respondents and, consequently, reduce the number of categories. We performed this check and found that the reduction is not big enough to improve readability of model output (eleven categories were reduced to seven).

Thus, we proceed with the second option—to run linear models, which can be justified by having a large number of dependent-variable categories. To be able to make predictions that are always in the interval [0; 10], we employ two-limit tobit regression (Wooldridge, 2010, pp. 703-705), with the lower limit of 0 and the upper limit of 10.

We delimit our analysis to currently employed tertiary-educated individuals aged 20-60. The inclusion of primary job-related factors further reduces the sample size, as they are defined only for employees (while a significant proportion of respondents in the ESS database are self-employed). Consequently, removing from the analysis countries with less than 120 observations, the estimation sample consists of 13 countries.

The estimation strategy is as follows. Firstly, we concentrate on the effects of education level; the aim is to study whether masters are more or less satisfied with their current job than bachelors. For that, we run the model (to be described shortly) for male and female respondents. Firstly, separate regressions are run for each country. In each case, primary job-related factors are added sequentially to make sure that the previously added factors have stable effects in terms of sign and significance. Secondly, countries are grouped based on the size of the effect from education level (positive, small/no effect, negative). Finally, these groups are divided into more homogeneous (in terms of the effects of other regressors) subgroups, adding interactions with countries where significant. Tobit regressions are then run on the resulting country groups.

Secondly, differences in job satisfaction determinants between bachelors and masters are investigated. For that, samples of each country are divided into bachelors and masters, and the same model is run on this level. Countries are then grouped based on similarities of effects. The model is then run on the level of country groups.

In regressions on country groups, we employ the sandwich estimator

appropriate for clustering of observations (Williams, 2000; Wooldridge, 2010, pp. 863-894); in particular, the estimators we use assume that observations are uncorrelated across countries, but can be correlated within countries.

The model consists of the following variable groups: (1) primary job-related factors; (2) other job-related factors (tenure and its square, over-education[1] dummy, supervising position dummy, public firm dummy); (3) firm size; (4) immigrant background (Hazans, 2011); and (5) general demographic characteristics (age and its square, disability dummy). Where relevant, gender or education level is added as an explanatory variable.

For readability and analysis purposes, all primary job-related factors were re-coded into dummies. Originally, they are coded on a 1-4 or 1-5 scale. In case of four categories, categories 1-2 are coded as 0 and categories 3-4 as 1. In re-coding five-level variables, categories 1-2 are coded as 0 and categories 3-5 as 1.

Results

Firstly, consider the effects from the level of education (Table 2).

The most surprising result here is that there is *no* country where females with a Master's degree are more satisfied with their current job than bachelors. The group Belgium-Bulgaria-Denmark-Spain-UK has a strongly negative effect from education level, while the group Greece-Israel-Sweden has a moderately negative effect (which is not far from being statistically significant, with the p-value of 0.17). The other five countries (Germany, France, the Netherlands, Norway, and Poland) show no difference in job satisfaction between females with different education levels.

The job satisfaction level of males is affected by education level to a greater extent. For respondents from Belgium, Greece, Israel, and Poland, the effect is strongly negative (comparable to the similar effect for females), but for the group Germany-Spain-UK it is 1.5 times greater in the absolute terms. The Netherlands and Norway show a slightly positive return on education, while the group Bulgaria-Denmark-Sweden shows a strongly positive effect. France is an outlier with an extremely positive effect from education level[2].

When respondents are divided into bachelors and masters, countries from the same geographical region tend to show similar effects of explanatory variables. Hence, we consider four groups of countries: Northern Europe (Denmark, Norway, Sweden), Southern Europe (Israel, Greece, Spain), the Netherlands & the UK, and the remaining Central Europe (Belgium, Bulgaria, Germany, France, Poland). The Netherlands and the UK were separated from

[1]Loosely defined as working in a position where higher education is not required. In this paper, we use the definition of the strong form of over-education: any tertiary graduate not working as a manager, professional, or technician (the three first major groups of the International Standard Classification of Occupations) is considered over-educated (Tarvid, 2012).

[2]The effects of other variables on the job satisfaction of French men also differ from those observed for Bulgaria, Denmark, and Sweden. Hence, we ran a separate regression for them.

the Central Europe group to keep the latter sufficiently homogeneous. See Table 3 for main results.

Besides education level, another factor that is specific for tertiary graduates is over-education. One would expect that the over-educated would have a considerably lower job satisfaction than the well-matched tertiary graduates (because their potential is useless at work). Surprisingly, there are no statistically significant effects from over-education for bachelors (except for the Netherlands-UK group), while for masters, in all country groups except for Northern Europe the effects are strongly negative. Looking on the absolute size of marginal effects, one can observe that job satisfaction of masters is more sensitive to over-education than that of bachelors.

Now consider the primary job-related factors.

Factors that in all cases increase job satisfaction are variety in work, job requires learning, career opportunities, and appropriate monetary compensation. In most cases, positive effects are also found from help from co-workers[1] and ability to manage own working time[2]. Factors that decrease job satisfaction in most cases are work overload[3], health at risk at work[4], and risk moving to a less interesting job[5].

In all country groups, we observe that masters are much more sensitive than bachelors to career opportunities and less sensitive to (1) the risk of moving to a less interesting job and (2) appropriate monetary compensation, the latter especially pronounced in Northern Europe. In all country groups except for Northern Europe, masters are much more sensitive to variety in work, while in Central and Southern Europe, they are much more sensitive to both content-related factors.

Table 4 reports the top five most important primary job-related factors that affect job satisfaction for each pair of country group and education level. For masters, variety in work is the first or the second most important factor in all four country groups, while for bachelors job content factors are in top-three everywhere except for Southern Europe.

On the contrary, career opportunities and appropriate monetary compensation never occupy positions higher than the fourth in Northern and Southern Europe, contrary to what theory would predict. Career opportunities significantly affect job satisfaction everywhere, but only in the Netherlands and the UK they are the most important factor, while in the other regions they are never higher than the fourth position.

Apparently, what moves these two compensation-related factors down the ladder of importance is the inclusion of job risks, which were not in the models of job satisfaction of the tertiary-educated that we quoted before, but which in

[1]Not significant for bachelors in Central Europe and the UK, while negative in the Netherlands.
[2]Not significant for masters in the Netherlands & the UK and negative for masters in Southern Europe.
[3]An increasing effect is found for masters in Northern and Southern Europe.
[4]Not significant for masters in Southern Europe.
[5]Positive for bachelors in Central Europe and not significant for masters in the Netherlands & the UK.

most cases[1] are in the top-three. In general, thus, while both Kalleberg (1977) and Skalli, Theodossiou, & Vasileiou (2008) found that the first two most important factor groups are content and compensation, our results show that job-related risks are placed between them, so that the relevant order is (1) content, (2) risks, and (3) compensation.

Females (both bachelors and masters) are more satisfied than males in Central and Southern Europe, while less in the other two groups. Moreover, except for Southern Europe, gender effect size decreases with education level, meaning that the higher is education, the less there are differences in job satisfaction across gender.

Age effect is found only for bachelors, in all country groups except for Central Europe. The effect is U-shaped in Northern and Southern Europe and inverse U-shaped in the Netherlands & the UK. We also run regressions with interactions added between gender and age and age-squared (not reported). We found a U-shaped relationship for bachelor males everywhere except Central Europe and for master males in Central Europe and the Netherlands & the UK. For females, however, a U-shaped effect is observed only for bachelors in Northern Europe (note also that the absolute gender effect in Northern Europe is the smallest across all country groups, meaning a better gender equality with respect to job satisfaction). On the contrary, in the Netherlands & the UK (both bachelors and masters) and for bachelors in Southern Europe, an inverse U-shaped effect is observed for females.

Masters are more sensitive to disability and/or serious health problems. However, disability decreases job satisfaction of masters only in Central Europe and the Netherlands, while it significantly increases it for masters in the UK and the other two country groups.

Surprisingly, holding a supervising position increases job satisfaction only in Central Europe, for both bachelors and masters. In the other cases[2], the effect is negative.

Finally, bachelors in all country groups prefer to work for small companies, while for masters such effects are observed only in Central Europe and the Netherlands & the UK.

Discussion

Investment in further education should pay out, e.g., via higher wages, lower risk of unemployment, and higher job satisfaction. This would be a typical conclusion from theory. In practice, though, one can observe that individuals are frequently unable to find a job that they would consider a good match.

The most obvious consequence of such a failure is over-education. While it does not affect the job satisfaction of bachelors, masters become highly dissatisfied if they work on positions inappropriate for their level of education.

[1]Except for the Netherlands and the UK.
[2]Small and not significant for masters in the Netherlands and the UK.

But even after controlling for over-education, we showed that masters are frequently less satisfied with their jobs than bachelors.

One of the possible explanations is that masters strive for higher status in the organisation, so that they receive benefits that distinguish them from employees with only Bachelor degree. Indeed, while both career opportunities and appropriate wages increase job satisfaction of bachelors and masters, the latter are more career-oriented and less wage-oriented than the former. Evidence on lower returns of the Master's degree means that its holders very often have expectations that are much higher than what they actually face at their job.

Career and wages, though, in many cases are not the most important determinants of job satisfaction. Very frequently, it is job content that has the highest influence on employee's contentment, especially in Northern and Southern European countries. In other words, even a highly paid job with perfect opportunities for career growth could distract employees if it is monotonous or stagnates one's personal progress by not requiring to learn anything new. As a further proof of this claim, recall the negative returns to working on a supervising position, observed in all countries except for the Central European. Moreover, employers should decrease risks associated with the job, as in many cases, they are more important than compensation for employees.

Our results also support the Job Demands-Resources model in that support activities are important to mitigate stressful situations on the job and, consequently, increase job satisfaction. Nevertheless, resources (including content and compensation groups) are the first thing employers should concentrate on.

Considerable attention has long been paid to gender effects in empirical literature. We find that, with minor exceptions, females are actually more satisfied with their job than males. Moreover, gender gap in job satisfaction decreases with higher levels of education. One should also that the difference in job satisfaction between males and females is very small in Northern Europe.

Conclusions

Based on the results of this paper, recommendations can be made for both employers and employees. Employers should concentrate on providing jobs with attractive content and lower risk. They also should keep in mind that masters are more responsive to career opportunities, while bachelors look more on wages. Before they choose to continue studies at the Master's level, employees should realise that their actual gains on the labour market could be lower than their expected gains, whatever claimed by their universities. The more realistic are graduates' expectations, the lower should be the gap in job satisfaction between bachelors and masters.

Further studies on this topic should include the field of study variable to

check whether the supply of graduates from a field affects job satisfaction of a graduate from this field. Unfortunately, the data we use do not include this information.

Works Cited

Acker, G. M. (2004). The Effect of Organizational Conditions (Role Conflict, Role Ambiguity, Opportunities for Professional Development, and Social Support) on Job Satisfaction and Intention to Leave Among Social Workers in Mental Health Care. *Community Mental Health Journal, 40*(1), 65-73. doi:10.1023/B:COMH.0000015218.12111.26

Anderson, J. A. (1984). Regression and Ordered Categorical Variables. *Journal of the Royal Statistical Society. Series B, 46*(1), 1-30.

Bakker, A. B., & Demerouti, E. (2007). The Job Demands-Resources Model: State of the Art. *Journal of Managerial Psychology, 22*(3), 209-238. doi:10.1108/02683940710733115

Chen, Y.-M., & Johantgen, M. E. (2010). Magnet Hospital Attributes in European Hospitals: A multilevel model of job satisfaction. *International Journal of Nursing Studies, 47*(8), 1001-1012. doi:10.1016/j.ijnurstu.2009.12.016

Cortese, C. G., Colombo, L., & Ghislieri, C. (2010). Determinants of nurses' job satisfaction: the role of work–family conflict, job demand, emotional charge and social support. *Journal of Nursing Management, 18*(1), 35-43. doi:10.1111/j.1365-2834.2009.01064.x

Díaz-Serrano, L., & Cabral Vieira, J. (2005). *Low Pay, Higher Pay and Job Satisfaction within the European Union: Empirical Evidence from Fourteen Countries.* Discussion Paper No. 1558, IZA.

Harris, J. I., Winskowski, A., & Engdahl, B. E. (2007). Types of workplace social support in the prediction of job satisfaction. *The Career Development Quarterly, 56*(2), 150-156.

Hazans, M. (2011). *Informal Workers Across Europe: Evidence from 30 Countries.* Discussion Paper No. 5871, IZA.

Kalleberg, A. L. (1977). Work Values and Job Rewards: A Theory of Job Satisfaction. *American Sociological Review, 42*(1), 124-143.

Lange, T. (2012). Job satisfaction and self-employment: autonomy or personality? *Small Business Economics, 38*(2), 165-177. doi:10.1007/s11187-009-9249-8

Millán, J. M., Hessels, J., Thurik, R., & Aguado, R. (2011). Determinants of job satisfaction: a European comparison of self-employed and paid employees. *Small Business Economics*, 1-20. doi:10.1007/s11187-011-9380-1

Mora, J.-G., García-Aracil, A., & Vila, L. E. (2007). Job satisfaction among young European higher education graduates. *Higher Education, 53*(1), 29-59. doi:10.1007/s10734-005-2377-4

Norwegian Social Science Data Services. (2010). *European Social Survey Round 5 Data. Data File Edition 2.0.*

Parry, J. (2008). Intention to leave the profession: antecedents and role in nurse turnover. *Journal of Advanced Nursing, 64*(2), 157-167. doi:10.1111/j.1365-2648.2008.04771.x

Poggi, A. (2010). Job satisfaction, working conditions and aspirations. *Journal of Economic Psychology, 31*(6), 936-949. doi:10.1016/j.joep.2010.08.003

Skalli, A., Theodossiou, I., & Vasileiou, E. (2008). Jobs as Lancaster goods: Facets of job satisfaction and overall job satisfaction. *Journal of Socio-Economics, 37*(5), 1906-1920.

Tarvid, A. (2012). Effects of the Field of Higher Education on the Prevalence of Over-education in European Countries. In J. E. Kesner (Ed.), *Education: Evaluation, Reform and Policy* (pp. 167-184). Athens: Athens Institute for Education and Research.

Vila, L. E., García-Aracil, A., & Mora, J.-G. (2007). The Distribution of Job Satisfaction among Young European Graduates: Does the Choice of Study Field Matter? *The Journal of Higher Education, 78*(1), 97-118.

Williams, R. L. (2000). A Note on Robust Variance Estimation for Cluster-Correlated Data. *Biometrics, 56*(2), 645-646. doi:10.1111/j.0006-341X.2000.00645.x

Wooldridge, J. M. (2010). *Econometric Analysis of Cross Section and Panel Data* (2nd ed.). Cambridge, MA: The MIT Press.

Table 1 *Job-Related Factors Affecting Job Satisfaction from Round 5 of European Social Survey.*

Group	Variable Name	Original Question
Content	Variety in work	There is a lot of variety in my work
	Job requires learning	My job requires that I keep learning new things
Effort	Job requires to work hard	My job requires that I work very hard [a]
	Work overload	I never seem to have enough time to get everything done in my job
Risks	Health at risk at work	My health or safety is at risk because of my work
	Risk moving to a less interesting job	I may have to move to a less interesting [b] job in my organisation in the next 12 months
Compensation	Career opportunities	My opportunities for advancement are good
	Paid appropriately	Considering all my efforts [c] and achievements in my job, I feel I get paid appropriately
	Wage depends on effort	My wage or salary depends on the amount of effort I put in my work
	Employment guarantee	My job is secure [d]
Support	Help from co-workers	I can get support and help from my co-workers when needed
	Can manage own work time	I can decide the time I start and finish work

[a] "Hard" refers to intensity or long hours.
[b] Less interesting to the respondent in their own opinion.
[c] "Effort" in the sense of try more than minimum.
[d] "Secure" in the sense of an actual or implied promise/likelihood of continued employment with that employer.

Table 2 *Marginal Effects after Tobit Regressions of the Job Satisfaction of Employees Aged Between 20 and 60 with Tertiary Education, by Gender and Country Group.*

Females	BE-BG-DK-ES-UK	GR-IL-SE	DE-FR-NL-NO-PL
Education, rel. to Bachelor			
Master	–0.339***	–0.154	0.001
Regression Fit Indicators			
N	653	397	576
McFadden's pseudo R^2	0.1175	0.1153	0.1152

Males	DE-ES-UK	BE-GR-IL-PL	NL-NO	BG-DK-SE	FR
Education, rel. to Bachelor					
Master	–0.520***	–0.342*	0.097***	0.316*	1.849***
Regression Fit Indicators					
N	314	374	269	238	66
McFadden's pseudo R^2	0.1418	0.0974	0.1296	0.1644	0.3025

*** p < 0.01 ** p < 0.05 * p < 0.10 + p < 0.15
Standard errors adjusted to account for intra-country correlations.
Only effects of the level of education reported.

Table 3 *Marginal Effects after Tobit Regressions of the Job Satisfaction of Employees Aged Between 20 and 60 with Tertiary Education, by Country Group and Education Level.*

	Central Europe		Netherlands & UK		Northern Europe		Southern Europe	
	Bachelors	**Masters**	**Bachelors**	**Masters**	**Bachelors**	**Masters**	**Bachelors**	**Masters**
Job-Related Factors: Content								
Variety in work	0.800***	0.843***	0.501**	1.071***	1.595***	1.311***	0.293**	0.914***
Job requires learning	0.264**	0.427***	0.947***	0.256***	0.653***	0.663***	0.335***	0.897***
x Bulgaria		*–0.479****						
x Germany		*–0.469****						
x Spain								*–1.297****
Job-Related Factors: Effort								
Job requires to work hard	0.216	0.362***	0.927***	0.554	–0.181***	–0.239***	0.320**	–1.075***
x Belgium	*–0.336+*							
x Bulgaria	*–0.405****							
x Spain								*1.519****
Work overload	–0.343***	–0.384***	–0.668***	–0.403***	–0.445**	0.207***	–0.302***	0.424**
x Belgium		*1.174****						
x Spain							*0.633****	*–0.912****
x Sweden						*–0.643****		
Job-Related Factors: Risks								
Health at risk at work	–0.552***	–0.813***	–0.927***	–0.324***	–0.388***	–0.618***	–0.575*	0.176

x United Kingdom			*0.963****					
x Spain							*1.120****	
x Denmark						*2.685****		
Risk moving to a less interesting job	1.040***	–0.578*	–0.504***	–0.112	–0.895^{+}	–0.831***	–1.128***	–0.824***
x Greece							*1.691****	*1.859****

*** p < 0.01 ** p < 0.05 * p < 0.10 $^{+}$ p < 0.15

Standard errors adjusted to account for intra-country correlations. Country fixed effects not reported.

Country groupings: Central Europe (Belgium, Bulgaria, Germany, France, Poland); Northern Europe (Denmark, Norway, Sweden); Southern Europe (Spain, Greece, Israel).

Table 3 *(continued)*

	Central Europe		Netherlands & UK		Northern Europe		Southern Europe	
	Bachelors	**Masters**	**Bachelors**	**Masters**	**Bachelors**	**Masters**	**Bachelors**	**Masters**
Job-Related Factors: Compensation								
Career opportunities	0.523***	0.687***	1.107***	1.135***	0.339***	0.494***	0.562***	0.669***
Paid appropriately	0.916***	0.902***	0.675***	0.610***	0.613***	0.341***	0.448^{+}	0.459***
x Norway						*0.335****		
Wage depends on effort	0.173^{+}	–0.435**	–0.745***	0.493***	0.000	–0.229*	–0.341***	0.313**
x Belgium		*0.741****						
x United Kingdom				*1.160****				
x Greece							*0.588****	
x Israel								*0.353****
Employment guarantee	0.650**	0.450**	–0.144**	0.104	0.131	0.348***	–0.238*	0.525***
x Israel							*0.936****	
Job-Related Factors: Support								
Help from co-workers	0.116	0.431***	0.704**	0.451***	0.227^{+}	0.363*	0.646***	0.593**
x Belgium	*–0.302**							
x France	*–0.674***							
x United Kingdom				*0.683****				
x Greece							*–1.326****	
x Norway						*1.091****		
Can manage own work time	0.518***	0.572***	0.381***	0.144	0.139**	0.113***	0.804***	–0.760**
x Bulgaria	*–1.566****							
x Poland	*–2.111****							
x Belgium		*0.966****						
x Sweden					*–0.661****			
x Spain							*–0.995****	*1.602****

*** p < 0.01 ** p < 0.05 * p < 0.10 $^{+}$ p < 0.15

Standard errors adjusted to account for intra-country correlations. Country fixed effects not reported.

Table 3 *(continued)*

	Central Europe		Netherlands & UK		Northern Europe		Southern Europe	
	Bachelors	**Masters**	**Bachelors**	**Masters**	**Bachelors**	**Masters**	**Bachelors**	**Masters**
Job-Related Factors: Other								
Tenure	–0.012	–0.005	–0.008	0.048***	–0.027	0.007	0.035*	0.053***
Tenure²/100	0.047	0.050	0.021	–0.064	0.060	0.041	–0.050	–0.282***
Overeducated	0.247	–1.391***	–0.381***	–0.500***	–0.133	–0.423	–0.229	–0.408***
x Bulgaria	*–1.841****							
x Poland	*–3.303****							
x Israel								*0.852****
Supervising position	0.242*	0.190***	–0.184*	0.012	–0.146***	–0.197***	–0.272***	–0.283+
x Bulgaria		*–0.284****						
x Poland		*–0.307****						
x Sweden					*0.307****			
x Israel								*0.558****
Public firm	0.027	0.360*	0.721***	0.791***	0.415***	–0.408***	–0.036	0.085
x France	*1.332****							
x United Kingdom			*–0.823****	*–0.798****				
x Denmark					*–0.701****	*1.102****		
Immigrant Background								
Minority	0.699**	–0.951***	–0.748***	–1.215***	–0.082	–0.194	0.363***	–0.027
One parent immigrant	0.083	–0.506***	–0.701***	–0.216+	–0.119	0.518**	0.645***	–0.942***
Both parents immigrants	–0.052	–0.418	0.436	0.542***	–0.484	–0.598	0.130	–1.013***
CEE or FSU immigrant	1.444***	0.416	–1.039*	–0.602+	0.299	–0.008	0.377	–1.534***
LAA immigrant	–0.260	0.932**	0.049	0.694***	0.059	0.367+	–0.567***	–0.562
Other European immigrant	0.242	0.734	0.118*	–0.156***	–0.339	–0.239*	0.080	–0.550+

*** $p < 0.01$ ** $p < 0.05$ * $p < 0.10$ + $p < 0.15$

Standard errors adjusted to account for intra-country correlations. Country fixed effects not reported.

FSU stands for "Former Soviet Union"; LAA stands for "Latin America, Africa, or Asia."

Table 3 *(continued)*

	Central Europe		Netherlands & UK		Northern Europe		Southern Europe	
	Bachelors	**Masters**	**Bachelors**	**Masters**	**Bachelors**	**Masters**	**Bachelors**	**Masters**
General Demographic Characteristics								
Age	–0.023	–0.051	0.071**	0.026	–0.118**	–0.104	–0.087*	–0.018
Age^2/100	0.043	0.060	–0.058+	–0.030	0.153**	0.128	0.129**	0.037
Female	0.511**	0.487**	–0.421**	–0.159+	–0.139*	–0.018	0.392**	0.448**
x Germany	*–1.102***							
x Belgium		*–0.797***						
x France		*–0.841***						
x Denmark					*1.162***			
Disabled	0.257*	–0.826**	–0.464**	–0.598**	0.124+	0.335**	0.112	0.667**
x Germany	*–0.795***							
x France	*–1.374***							
x Bulgaria		*1.355***						
x United Kingdom				*0.761***				
x Norway					*–0.363***			
x Spain							*–1.161***	
x Denmark						*–0.370***		
Firm Size, rel. 25–99 employees								
< 10	0.111	–0.009	0.570**	0.524**	0.202	–0.074	–0.076**	0.100
10–24	0.272**	–0.284	0.055	0.716**	0.161**	0.164	0.510**	–0.023
100–499	0.123	–0.489**	–0.032	0.664**	–0.162**	–0.249	0.407+	0.302
> 500	–0.196	–0.209+	–0.311	–0.037	–0.059	–0.036	0.313	0.231
Regression Fit Indicators								
N	432	616	229	215	466	281	405	243

McFadden's pseudo R^2	0.1214	0.1431	0.1244	0.1538	0.1001	0.1202	0.0936	0.1262

*** $p < 0.01$ ** $p < 0.05$ * $p < 0.10$ + $p < 0.15$

Standard errors adjusted to account for intra-country correlations. Country fixed effects not reported.

Table 4 *Ranking of the Five Most Important Job-Related Effects on Job Satisfaction, by Country Group and Education Level.*

Rank	Central Europe		Netherlands & UK	
	Bachelors	**Masters**	**Bachelors**	**Masters**
1	Risk moving to a less int. job	Paid appropriately	Career opportunities	Career opportunities
2	Paid appropriately	Variety in work	Job requires learning Health at risk at work [a] Job requires to work hard	Variety in work
3	Variety in work	Health at risk at work	Wage depends on effort	Paid appropriately
4	Employment guarantee	Career opportunities	Help from co-workers [a]	Wage depends on effort
5	Health at risk at work	Risk moving to a less int. job Can manage own working time	Paid appropriately Work overload	Help from co-workers

[a] Only for the Netherlands. For the UK, this factor is considerably less important.

Rank	Northern Europe		Southern Europe	
	Bachelors	**Masters**	**Bachelors**	**Masters**
1	Variety in work	Variety in work	Risk moving to a less int. job	Job requires to work hard
2	Risk moving to a less int. job	Risk moving to a less int. job	Can manage own working time	Variety in work Job requires learning
3	Job requires learning	Job requires learning	Help from co-workers	Risk moving to a less int. job
4	Paid appropriately	Health at risk at work	Health risk at work Career opportunities	Can manage own working time
5	Work overload	Career opportunities	Paid appropriately	Career opportunities

Factors combined into one group if their absolute effects differ by not more than 0.020.