



The More the Merrier?

The Mediating Effect of Unemployment on Happiness among Unemployed in 19 European Countries

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Abstract

This paper analyses the relationship between unemployment and happiness at the individual level, and how this relationship has been affected by the rising unemployment rates in Europe after the economic crisis in 2008. Nineteen European countries are analysed with pooled cross sectional data from 2006 and 2010, using multilevel regression analysis. The results show that the aggregated unemployment at the country level affect the level of happiness on the individual level; the unemployed are less unhappy when the unemployment rate is higher. A similar pattern is shown for those experiencing economic difficulties; when the aggregated unemployment is higher, there is a reduction of the negative effect of experiencing economic difficulties on happiness. Furthermore, those individuals that are unemployed *and* experiencing economic difficulties are also less unhappy when the unemployment rate is higher. The results show a mediating effect of unemployment rate at the country level on individuals' experience of unemployment and economic difficulties. These effects can be interpreted as a result of changing social norms; the economic crisis has highlighted both unemployment and economic difficulties as societal issues; hence reducing the social (individual) stigma attached to these vulnerable situations.

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1. Introduction

What happens to individuals' well-being when their country or region is experiencing a major economic crisis? Are different groups e.g. unemployed affected different compared to employed individuals? Modern societies have often been determined as successful or less successful based on indicators such as GDP, the level of democracy, life expectancy and infant mortality. Consequently, policy has often been targeted at increasing such factors. Still, in the last decade scholars have come to argue that measures of how the citizens actually *feel* are equally important (Rothstein 2010; Kahneman and Krueger 2006). Furthermore, it has been argued that the understanding of why countries have different levels of happiness can cast light on the structural preconditions for a society with happy citizens (Brülde, 2007a).

The economic crisis of 2008 continues to define the political and social situation in Europe. While the crisis has had profound effects on the political landscape in Europe, it has affected the lives of many of the people living in countries that were hit hard by the crisis. One of the most prominent consequences of the economic crisis has been rising unemployment rates. Previous research has shown that unemployment is followed by lowered levels of subjective well-being (Clark and Oswald, 1994; Korpi 1997; Winkelmann and Winkelmann 1998). Yet, the relationship between unemployment and happiness is complex. Although losing one's job often results in lower levels of happiness, higher unemployment rates at the country level may reduce the negative effect of unemployment on happiness for unemployed at the individual level. This country level association to individual happiness may be explained by social norms and reduced social stigma followed by an increase in unemployment rate (Clark 2003; Luechinger et al. 2010). Based on these findings, this paper will focus specifically on how unemployment and financial difficulties interact, and how this relationship is mediated by unemployment rate. 19 European countries will be analysed by using multilevel regression analysis with pooled cross section data from 2006 and 2010.

2. Theoretical framework

2.1 Happiness – concepts and theories

There are several different theories which aim to explain happiness. Firstly, happiness can be understood as an *internal or subjective* concern, or as an *objective or external* concern. From the subjective or internal perspective, happiness depends solely on the fact that individuals evaluate their life in a positive way. If one instead regards happiness as an external or objective matter, there are certain things in life that are good for the person and will result in ‘the good life’ no matter if the person desires these things or not (Brülde, 2007b).

So-called *Pure Happiness Theories* regard happiness as the *only* thing that determines a person’s well-being. While opponents of pure happiness theories do not deny the importance of happiness for a person’s well-being, other factors than happiness are regarded as important as well (Brülde, 2007c). Brülde (2007b) listed four different strands of happiness theories; 1) the cognitive view, 2) the hedonistic view, 3) the mood view and 4) the hybrid view. The *cognitive view* explains happiness as a person who evaluates their life in a positive way. The person evaluates her life as a whole and is satisfied with it; she does not want to change anything about her life. In the *hedonist view* a person is happy if the balance between happiness and displeasure is in favour of happiness; there is more happiness than displeasure. The *mood view* explains a happy person as a person with a positive mood state. The positive mood is not necessarily connected to a specific event, it has more to do with being a ‘positive’ person. The hybrid view regards happiness as both a cognitive as well as a mental state. To be happy is both to evaluate one’s life in a positive way as well as to consider the affective experience of how good or bad life feels (Brülde, 2007b). Brülde argued that the most satisfying way to explain happiness is to use the hybrid theory and he based his arguments on the understanding of the subject as sovereign; the evaluation of one’s life as good or bad is important (Brülde, 2007c).

Veenhoven (2000) developed a model for understanding happiness and quality of life based on the notion of *life chances* and *life results*. Veenhoven argued that even though there is a clear connection between opportunities (life chances) for having a good life this is not the same as having a good life (life results). For example the parents’ educational level is closely related to a

student's outcome. However, not all students with good life chances (parents with high education) do well in school. Such life chances and life results further have both outer and inner qualities. The external life chances have ecologic, economic, social and cultural aspects as e.g. clean air, equality, generous social security systems and mass education. The internal qualities of life refers instead to individual characteristics such as physical and mental health, knowledge and what Veenhoven (2000) referred to as the 'art of living', e.g. different lifestyles. Veenhoven argued that when there is a good match between inner and outer qualities; there are good preconditions for happiness (Veenhoven, 2000).

2.2 Measuring happiness

Happiness is today measured in a wide range of disciplines such as political science, sociology, psychology, medicine and economics. Empirical research aims to define and analyse different factors that are related to happiness and life-satisfaction, for example by using statistical analysis (Haybron, 2000). Empirical studies of happiness and life-satisfaction have been performed since the late 1940s, e.g. the Gallup-Polls in the USA and later the Eurobarometer Survey in the European countries (Veenhoven, 1996). From a theoretical perspective, Brülde (2007a) argued that most empirical researcher understand happiness as the concept explained in the *Hybrid Theory*; happiness has both evaluative as well as affective components. When measuring happiness this way, the subjective well-being of the respondents is taken into consideration (affective part) but the respondents are also asked how satisfied they are with their lives (evaluative part).

Regarding reliability and validity, previous research has shown that self-reported happiness and life-satisfaction is a valid and reliable source of empirical data for scientific research. Concerning the validity of self-reported happiness and life-satisfaction several studies have concluded that there are positive associations between subjective self-reported levels of happiness and objective measures of happiness. Global measurements of life-satisfaction have shown positive correlation to both psychological and medical indicators such as for example self-reported health and sleep quality (Creswell, 2009 ; Kahneman and Krueger, 2006). People that report high levels of happiness in surveys have also been shown to smile more in interactions with other people (Frey and Stutzer, 2000).

2.3 Unemployment and happiness

Subjective well-being and happiness are likely a result of both individual and structural factors. Although individual characteristics make some people less affected by external events, most people are negatively affected by becoming unemployed. While unemployment is clearly linked to lower levels of happiness compared to employment (see for example: Clark and Oswald, 1994, Clark et al., 2001, Frey and Stutzer, 2000, Korpi, 1997, Winkelmann, 2009) it is not clear exactly why unemployed persons feel worse than employed persons.

Simplified, two main strands of theories have been outlined to explain why unemployed feel worse than employed; one focused on psychological factors and the second on material factors. When the reduced well-being of unemployed have been explained by psychological factors Jahoda's theories (1982) have been influential. Jahoda developed a theoretical perspective which argued that employment fulfils five different functions for the individual 1) Time structure, 2) Social contacts, 3) Participation in the collective purposes, 4) Status and identity and 5) Regular identity (Jahoda 1982). Nordenmark and Strandh (1999) have used Jahoda's theories and concluded that for those individuals where work is very central it can be difficult to create and withhold a positive self-image during unemployment; hence the effected of unemployment would be more severe (Nordenmark and Strandh, 1999).

The material perspective emphasises loss of income and the economic constraint that makes social participation in societies where consumption is central difficult. Ervasti and Venetoklis (2010) argued that loss of income can be understood as loss of agency for the individual, as the lack of economic resources reduces the individual's ability to structure and organize their everyday life. According to Nordenmark and Strandh (1999), loss of income can be viewed as a dissonance between psychological and economical defined needs, something that creates frustration and stress for the individual (Nordenmark and Strandh, 1999).

2.4 Economic recession and happiness

Previous studies have shown that an economic recession is followed by reduced well-being among citizens in the affected country or region. The reduced levels of happiness can be explained by the potential threat that an economic recession brings; higher unemployment rates brings feelings of economic insecurity (DiTella et al. 2003; Luechinger et al. 2010; Mertens and Belbo 2011).

Although an economic crisis might create widespread feelings of economic insecurity, different groups might nevertheless be affected in different ways. Graham et al (2010) studied the effect of the most recent global economic recession in the USA, and conclude that the uncertainty generated by the crisis led to generally lower levels of happiness. However, when comparing different income groups the results indicate that those with higher income react stronger than those with lower income. The authors argued the more one has to loose, the more one worries about losing it (Graham et al.2010). Gudmundsdottir (2011) analysed the effect of the economic recession on Iceland by comparing data from 2007 and 2008. She concluded that the individuals whose well-being was worst affected by the economic recession were those who experienced financial difficulties.

An economic recession and higher unemployment rates have in some cases been shown to reduce the negative effect among the unemployed as well as for those with temporary jobs. Mertens and Beblo (2011) explained this as a result of change of social norms; the economic crisis makes unemployment and insecure labour market positions more normalized which reduces the negative effect of occupying one of these positions (Mertens and Beblo, 2011). Similar conclusions were drawn by Clark (2003) who argued that unemployed might feel better during an economic recession since individuals adjust their behaviour to ‘relevant others’, which Clark also referred to as the individual’s reference group. Clark’s results showed that when unemployment was high in the reference group, the negative effect for the unemployed was reduced (Clark, 2003).

3. Aim and research questions

The aim of this paper is to analyse the effect of unemployment on happiness. More specifically the aim is to examine how unemployment rate at the country level interacts with individual unemployment and individual economic difficulties.

H₁ The country level of unemployment rate will mediate the relationship between unemployment and happiness; higher unemployment rates at the country level will reduce the negative effect of unemployment on happiness at the individual level.

H₂ Unemployment and experiencing financial difficulties will be interrelated. Unemployed experiencing economic difficulties will have lower levels of happiness compared to unemployed that do not experience economic difficulties.

4. Data

4.1 Individual level

Data is collected for a two-level model with variables at the individual and the country. The data for the individual level (level 1) comes from the European Social Survey (ESS)¹. For the analysis, two different rounds from the ESS will be used; round 3 from 2006 and round 5 from 2010. The data sets are chosen to capture changing levels of unemployment rate following the economic crisis in 2008. Different countries participate in each round but 23 countries are included in both round 3 and round 5; Belgium, Bulgaria, Cyprus, Denmark, Estonia, Finland, France, Germany, Hungary, Ireland, Israel, The Netherlands, Norway, Poland, Portugal, The Russian Federation, Slovakia, Slovenia, Spain, Sweden, The United Kingdom and Ukraine. I have included 19 countries in the empirical analysis. Israel, Ukraine, the Russian Federation and Switzerland are excluded from the analysis as reliable and accessible data cannot be found for these countries for the country level.

¹ For documentation and field work see <http://ess.nsd.uib.no/>

The dependent variable measures happiness and is a single item variable. Respondents were asked “*How happy are you?*” and indicate their happiness on a scale from 0 to 10 where 0 is extremely unhappy and 10 extremely happy. Missing values have been deleted but otherwise the variable is kept as originally coded in the ESS (i.e. 0-10).

The main independent variables are employment status and subjective income. The model also includes the following control variables that have been shown to be associated with happiness: social class, gender and education. For more information regarding these variables, see appendix A1.

Employment status

The main independent variable is employment status at the individual level. The questionnaire asked for the main activity of the respondent during the last 7 days. From this a binary variable (0,1) has been created, coded as 0= Employed, and 1=Unemployed and looking for a job or unemployed and not looking for a job. Only the labour force has been included in the study and respondents that have been categorized such as for example students, retired or taking care of children are therefore not part of the analysis.

Economic difficulties

The question captures economic difficulties based on the respondents’ subjective evaluation of their economic situation. To capture the respondents’ economic situation it is necessary to have an indication of the balance between the household’s income and expenditures. The respondents are asked how they feel about the household’s income as following: “*Which of the descriptions on this card comes closest to how you feel about your household's income nowadays?*”. The variable has been coded as a binary variable where 0= “*Living comfortably on present income*” and “*Coping on present income*” and 1= “*Finding it difficult on present income*” and “*Finding it very difficult on present income*”.

4.2 Country level

The data for the second level; the country level, is collected from Eurostat². The main independent variable at the country level is the unemployment rate. The variable measures the total unemployment rate in a country where the **unemployed** are defined as people between ages 15 to 74 who are not employed that have actively been seeking work over the past four weeks and were ready to begin working immediately or within two weeks (Explanatory text, LFS – Adjusted series)³. The variable is centred by grand mean to avoid multi-collinearity and to simplify the interpretation of the cross-level interaction terms. The centred values are shown in table 1. The unstandardized unemployment rates for each year and country are shown in table 2.

5. Method

The analysis is based on independent pooled cross section data from the ESS round 3 (2006) and 5 (2010) for the individual level. The main advantage with pooling the data is to increase the sample size and strengthen the statistical power of the analysis. Hence, the analysis will generate more precise estimates. Pooling independently cross section data usually only brings minor methodological concerns. However, as the data is based on two different random samples the population is not identically distributed. This concern is dealt with by allowing random intercepts in the analysis (Wooldridge 2006).

As the data is collected at two levels, survey data and macro data, the respondents will be nested within countries. The Ordinary Least Square (OLS) method is therefore inappropriate and multilevel regression will be used to control for the country level variation. Compared to OLS, the multilevel regression allows for introduction of random intercepts to see how i.e. the effect of unemployment varies between countries. Furthermore, using multilevel regression makes it possible to introduce cross-level interaction effects in to the model. Cross-level interaction terms make it possible to analyse if there are institutional factors at the country level that can explain

²The data can be downloaded at: [tp://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/search_database](http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/search_database)
For information regarding Eurostat see:

http://epp.eurostat.ec.europa.eu/portal/page/portal/about_eurostat/introduction.

³ http://epp.eurostat.ec.europa.eu/cache/ITY_SDDS/EN/une_esms.htm

difference in individual level effects across countries. Using a stepwise approach, variables will be added one by one. The Maximum Likelihood estimation is used to determine how well the parameters fit the observed data in model. Using -2Log Likelihood when comparing how the model change as parameters are added, the difference in deviance is used to determine which model that fits data the best (Hox, 2010).

6. Results

6.1 Descriptive statistics

Figure 1 shows the differences in mean values on the dependent variable “*How happy are you?*” (0-10). Figure 1 illustrates two things. Firstly, there are considerable differences in the mean values of the dependent variable when comparing employed and unemployed respondents. Unemployed respondents report lower levels of happiness and life-satisfaction compared to employed respondents. Secondly, there are large differences in levels of happiness among the unemployed across countries. Figure 1 shows *differences* in mean values on the dependent variable for employed and unemployed respondents for each country. The table further shows the mean values for the two data sets chosen; 2006 and 2010. Taking Hungary as an example; the differences in mean values on the dependent variable between employed and unemployed respondents is 1.4 in 2006. This means that employed individuals in Hungary, in the year 2006, on average rated themselves 1.4 points higher on the scale of happiness compared to unemployed respondents. The differences in happiness between employed and unemployed respondents was reduced in 11 countries following the economic crisis in 2008.

Table 3 illustrates the effects of the economic crisis in 2010; 8.7% of the sample is coded as unemployed 2010 compared to 4.8% in 2006, see table 2. The group that experience economic difficulties has also increased after the crisis; from 23.3% to 26.9%. The increase is found both among the employed and the unemployed, see table 4.

6.2 Multilevel regressions

Table 5 presents the results from the multilevel regression where the individual level variables are introduced stepwise. Model 1 shows the average levels of happiness when no independent

variables are included. In model 2 is employment status introduced which shows that unemployment has a strong negative effect on happiness on the individual level. In model 3, when the variable for subjective income is included, is negative effect of unemployment reduced almost by half. The introduction of the control variables for social class, gender and education are introduced in model 4-6. Although all control variables have significant effect on happiness, the estimate of unemployment is only notably affected by economic difficulties in model 3. This reduction implies that a large part of the negative effect of unemployment is due to the loss of income.

In table 6 the country variable unemployment rate is introduced. Model 1 in table 6 show that unemployment rate on the country level has a significant negative effect on happiness for the whole population (both employed and unemployed) at the individual level. However, as shown in model 2 table 6 by the interaction term between unemployed and unemployment rate; unemployed feel less bad in countries where the unemployment rate is higher. This effect does not change in model 3 when controlling for interaction between unemployment and economic difficulties. However, in model 4 when also introducing an interaction term between economic difficulties and unemployment rate the positive effect of unemployment rate for the unemployed is no longer significant. Still, as shown in model 4; for those experiencing economic difficulties there is a positive interaction effect when the unemployment rate goes up. Model 6 introduces a three-way interaction effect between unemployed, unemployment rate and economic difficulties. The three-way interaction effect is significant and positive which implies that those unemployed that have economic difficulties feel less bad in countries with higher unemployment rate.

The country variation is initially reduced as the independent variables are introduced in table 5, indicating that more of the country variation in happiness is related to country differences in the incidence of unemployment and economic difficulties. However, when unemployment and economic difficulties have been introduced the random intercept stays stable. As the country variable unemployment rate is introduced in table 5, the random intercept decreases slightly as this explains some of the country variation. When introducing the interaction effects, all models except model 3 in table 6 (Unemployment*Economic difficulties), are significantly improved when controlling for the change of -2 Log likelihood. However, the country variation, shown by

the random intercept, stays stable. The fact that the interaction terms do not affect the random intercept implies that the interaction terms mostly contribute to explain the variation at the individual level.

To visualize the interactions between unemployment, economic difficulties and unemployment rate figure 2 shows the predicted happiness scores for different scenarios. All scores holds the control variables gender, class and education constant, hence showing the score for a working class man with (at least) secondary upper education. The different levels of happiness then varies depending on whether or not the respondent is employed or unemployed, is experiencing economic difficulties or not, as well as the country level of the unemployment rate.

As shown by figure 2, the unemployment rate affects the level of happiness for the unemployed. The unemployed that are experiencing economic difficulties are better off in countries with a higher unemployment rate, with a predicted score of 6.1 on the 0-10 scale, and worse off in those countries with low unemployment rate with a predicted score of 5.7 on the 0-10 scale.

Yet, as shown by the significant interaction effect in model 4 table 6, also and those employed with economic difficulties feel less bad when the unemployment rate is higher. Yet there is no significant two-way interaction effect between unemployment and experiencing economic difficulties, this effect is only significant when unemployment rate is included in the model. A plausible explanation to this is that a larger part of the population is experiencing economic difficulties after the crisis (see table 4). As such, experiencing economic difficulties is not as closely connected to unemployment as before the crisis and it is probably therefore the two way interaction effect is not significant. It is however interesting to see that those experiencing economic difficulties have higher levels of happiness when the unemployment rate goes up, in the same way as the unemployed “benefit” from this situation.

7. Discussion

The results from the statistical analyses confirm previous research regarding unemployment and happiness; unemployed feel worse than employed individuals. Furthermore, this relationship is

interrelated to experiencing economic difficulties and is mediated by the level of the unemployment rate. The analysis further showed that also those employed with economic difficulties feel less bad in countries with higher unemployment rates.

The statistical analysis in this paper cannot answer *why* higher unemployment rates reduces the negative effect of unemployment and economic difficulties on happiness. For further research there are several areas that would be of interest to trying to explain this mechanism.

Firstly, in this paper the mediating effect of unemployment rate is assumed to be linear; when the unemployment rate goes up the negative effect of unemployment on happiness is reduced. However, it might be that this effect only is ‘activated’ at a certain point; as for example by mass unemployment during an economic recession. Furthermore, it is also possible that the ‘positive’ effect of higher unemployment rates decline at certain level. These possibilities have not been explored here as the analysis focused on happiness and unemployment after the economic crisis in 2008. However, future work could include a longitudinal study of changing unemployment rates, i.e. pooling several cross-sections to obtain a longer time span and thereby greater variation in unemployment rates.

Secondly, to be able to understand why unemployed and those with economic difficulties feel less bad when the unemployment rate increases more information at the individual level would be desirable. One explanation could be the societal focus on these issues; in times of mass-unemployment being unemployed or experiencing financial difficulties becomes a societal issue rather than an individual problem which might ease the burden for the individual. Another explanation might be found in the unemployed’s social network. If the unemployed have other persons in his or hers network, this might result in a feeling of inclusion that partly could compensate for the social exclusion unemployment. To study such effect one would need data on the individuals’ social network.

Thirdly, as unemployment and economic difficulties are shown to be interrelated further studies on how countries social insurance systems interact with this relationship would be interesting. Do the level and duration of unemployment benefits affect this relationship? In this connection, also

it might also be interesting to explore the impact of social assistance. In contrast to unemployment benefits, social assistance are generally not conditional on previous employment and are furthermore means tested. This may imply that social assistance may be perceived differently by the recipients, and that the relationship to happiness may differ between the two benefits.

To conclude, a deeper understanding of the mediating effect of unemployment rate on unemployment and economic difficulties on happiness requires more information at individual as well as the country level, as suggested above.

Tables and figures

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Grand mean	8.8	
Country	2006	2010
Belgium	-.5	-.5
Bulgaria	.2	1.4
Cyprus	-4.2	-2.6
Denmark	-4.9	-1.3
Estonia	-2.9	8.0
Finland	-1.4	-.4
France	.4	1.0
Germany	-1.7	1.5
Hungary	-1.3	2.4
Ireland	-4.3	4.9
Netherlands	-4.3	-4.4
Norway	-5.4	-5.3
Poland	.8	5.0
Portugal	-.2	3.2
Slovakia	4.6	5.6
Slovenia	-2.8	-1.5
Spain	-.3	11.3
Sweden	-1.7	-.4
United Kingdom	-3.4	-1.0

Source: Eurostat, une_rt_a, in percentages.

Country	2006		2010	
	Employed	Unemployed	Employed	Unemployed
19 countries	7,32	5,98	7,34	6,00
Belgium	7,62	6,80	7,79	6,83
Bulgaria	5,27	4,09	5,73	4,63
Cyprus	7,51	6,98	7,40	6,55
Denmark	8,43	7,82	8,40	7,24
Estonia	6,71	5,03	6,84	5,57
Finland	8,08	7,12	8,05	7,20
France	6,91	5,99	6,78	5,86
Germany	7,04	5,52	7,41	5,71
Hungary	6,09	4,69	6,38	5,38
Ireland	7,62	6,54	6,93	5,59
The Netherlands	7,69	6,75	7,94	6,30
Norway	7,88	6,8	8,00	7,23
Poland	6,97	6,15	7,33	6,26
Portugal	6,30	5,88	6,59	6,10
Slovakia	6,46	5,21	6,94	5,87
Slovenia	7,43	6,23	7,33	6,85
Spain	7,69	6,89	7,60	7,03
Sweden	7,94	6,51	8,00	6,75
The United Kingdom	7,44	6,49	7,35	6,26

Source: ESS round 3 (2006) and round 5 (2010). Selected cases: 2006: respondents born >=1939 and 2010: respondents born >=1943

Table 3.
Distribution of the IV Employment status (0,1)

2006		2010	
Employed	Unemployed	Employed	Unemployed
50.2	4.8	56.5	8.7

Source: ESS round 3 (2006) and round 5 (2010)

Table 4.
Percentage experiencing economic difficulties

	2006	2010
Total	23.3%	26.9%
Employed	16.4%	18.8%
Unemployed	55.8%	62.5%

Source: ESS round 3 (2006) and round 5 (2010)

Table 5. Dependent variable “How happy are you?” (0-10)

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Fixed part						
Individual level						
Intercept	7.24*** (.156)	7.42*** (.133)	7.61*** (.105)	7.74*** (.105)	7.79*** (.105)	7.70*** (.108)
Unemployed (0,1)		-.959*** (.029)	-.571*** (.030)	-.553*** (.030)	-.553*** (.030)	-.543*** (.030)
Experiencing economic difficulties (0,1)			-1.04*** (.023)	-.995*** (.024)	-1.00*** (.024)	-.994*** (.024)
Working class (0,1)				-.285*** (.024)	-.265*** (.024)	-.236*** (.025)
Intermediate class (0,1)				-.129*** (.021)	-.141*** (.022)	-.131*** (.022)
Male (0,1)					-.084*** (.018)	-.087*** (.018)
Competed upper secondary education (0,1)						.092*** (.024)
Random part						
Intercept	.464 (.151)	.337 (.110)	.207 (.068)	.202 (.066)	.204 (.067)	.207 (.068)
Number of parameters	2	4	5	7	8	9
-2 Log Likelihood	284997	149819	147087	146940	146734	146184
Number of countries	19	19	19	19	19	19
Individual N	69 596	37981	37793	37793	37745	37615

Source: Individual level; ESS round 3 (2006), and 5 (2010). Country level: Eurostat (2006 and 2010). Method of estimation: Maximum Likelihood. Reference category for class: Salarial
*p<.05 **p<.01 ***p<.001. Standard errors within parentheses

Table 6. Dependent variable “How happy are you?” (0-10)

Fixed part	Model 1	Model 2	Model 3	Model 4	Model 5
Individual level					
Intercept	7.70*** (.106)	7.70*** (.105)	7.70*** (.105)	7.69*** (.105)	7.70*** (.105)
Unemployed (0,1)	-.536*** (.030)	-.559*** (.031)	-.549*** (.043)	-.538*** (.043)	-.519*** (.044)
Economic difficulties (0,1)	-.991*** (.024)	-.992*** (.024)	-.989*** (.026)	-1.01*** (.026)	-.999*** (.027)
Working class (0,1)	-.236*** (.025)	-.236*** (.025)	-.236*** (.025)	-.237*** (.025)	-.237*** (.025)
Intermediate class (0,1)	-.131*** (.022)	-.131*** (.022)	-.131*** (.022)	-.131*** (.022)	-.132*** (.022)
Male (0,1)	-.087*** (.018)	-.088*** (.018)	-.087*** (.018)	-.087*** (.018)	-.088*** (.018)
Completed upper secondary education (0,1)	.094*** (.024)	.094*** (.024)	.094*** (.024)	.093*** (.004)	.092*** (.024)
Country level					
Unemployment rate	-.009* (.004)	-.012** (.004)	-.012** (.004)	-.016*** (.004)	-.014*** (.004)
Unemployed X Unemployment rate		.021** (.007)	.021** (.007)	.013 (.008)	-.014 (.010)
Unemployed X Economic difficulties			-.020 (.060)	-.031 (.059)	-.094 (.062)
Economic difficulties X Unemployment rate				.023*** (.006)	.011 (.007)
Unemployed X Economic difficulties X Unemployment rate					.057*** (.015)
Random part					
Intercept	.196 (.064)	.194 (.064)	.194 (.064)	.193 (.063)	.192 (.063)
Number of parameters	10	11	12	13	14
-2 Log Likelihood	146177	146169	146169	146156	146142
Number of countries	19	19	19	19	19
Individual N	37615	37615	37615	37615	37615

Source: Individual level; ESS round 3 (2006), and 5 (2010). Country level: Eurostat (2006 and 2010).

Unemployment rate is centered by grand mean.

Method of estimation: Maximum Likelihood. Reference category for class: Salarial.

*p<.05 **p<.01 ***p<.001. Standard errors within parentheses

Figure 1.

Differences in mean values of happiness (0-10) between employed and unemployed respondents in 19 countries, 2006 and 2010

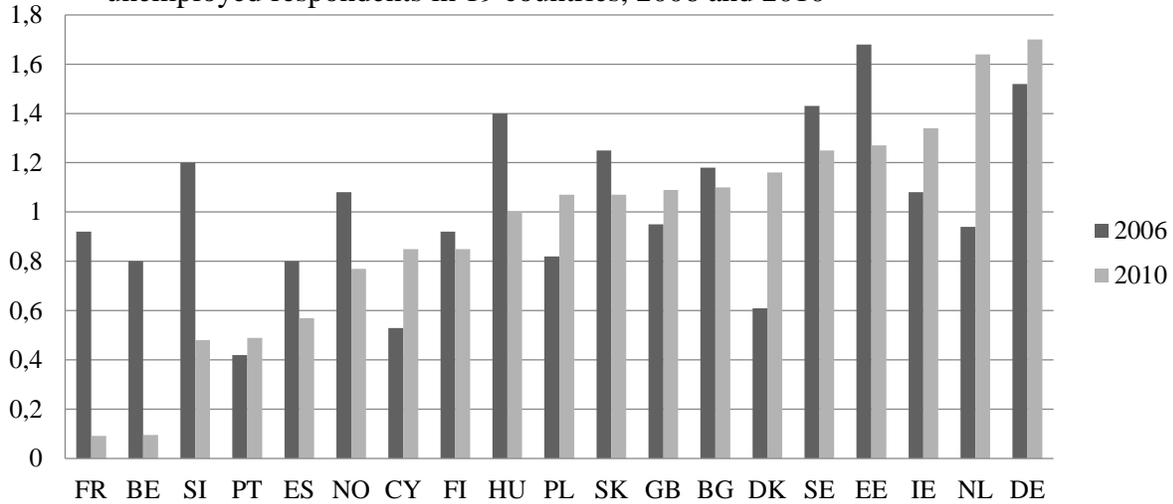


Figure 2. Predicted levels of happiness



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References to footnotes

(1) ESS Data:

<http://ess.nsd.uib.no/>

(2) Introduction to Eurostat

http://epp.eurostat.ec.europa.eu/portal/page/portal/about_eurostat/introduction

[\(2\) Eurostat database](#)

http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/search_database

(3) Explanatory text, LFS – Adjusted series

http://epp.eurostat.ec.europa.eu/cache/ITY_SDDS/EN/une_esms.htm

Appendix

A1. Control variables

Social class

The occupations in the ESS are classified based on the European Socio-economic Classification (ESeC), theoretically based on the class scheme developed by EGP class scheme (Harrison and Rose, 2006). For the control variable for class, the recommendations of Harrison and Rose are followed resulting in recoding the ESeC 1-9 level classification to a three class model. Category 1 and 2 becomes “Salariat” (defined by service relationship to employer), the category 3-6 becomes “Intermediate” (defined by mixed relationship to employer) and category 7-9 becomes the working class (defined by labour contract to employer) (Harrison and Rose, 2006 p.9). As the variable is an ordinal one, three dummy variables were created. Two dummies are included; *Working class and Intermediate* while the *Salariat* is held as a reference category.

Education

The number of individuals also taking part in higher education has increased rapidly since the 1970s (Altbach et al., 2009) which makes comparison of education between different cohorts somewhat problematic. The choice has therefore been made to create a binary variable where 1=*Completed at least upper secondary education* and 0= *Not completed upper secondary education*.

Gender

To control for the effect of gender a binary variable is used where men are coded 1 and women 0.

A3. References to the variables used

The European Social Survey round 3 (2006) and 5 (2010)

“HAPPY” *How happy are you* (0-10)

Employment status; the original variable is “MAINACT” *Main activity last 7 days*

Social class; the original variable is “ISCOCO” *Occupation, ISCO88 (com)*

Gender; original variable ”GNDR”

Education; the original variable is “EDULVLA” *Highest level of education*

Income coping “HINCFEL” *Feeling about household's income nowadays*

Eurostat, data from 2006 and 2010

Unemployment rate; original variable “une_rt_a”

