UNEMPLOYMENT AND HAPPINESS

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ABSTRACT

Unemployment reduces the well-being of the unemployed and in some cases the well-being of the employed. In this project the effect of unemployment on well-being is studied. This research is focused on Spain, not like most articles based on Great Britain, Germany or United States and uses cross-sectional data from the European Social Survey from the year 2002 until 2012. The main literature reviewed reports that the impact of unemployment on well-being is negative and the negative effect of unemployment on the well-being of the employed is higher than on the well-being of the unemployed when the regional unemployment rate increases. There are 8 variables of interest and 9 control variables. The dependent variable is life satisfaction and the regressions are related to labor force status, regional unemployment, partner's labor force status, past unemployment and temporary or permanent work contract. The empirical results show in all the models that the unemployed are less satisfied than the employed. Considering the regional unemployment rate and the partner's unemployment, the employed are better-off than the unemployed when the aggregate unemployment rises. In the regressions with past unemployment, the unemployed that have a period of unemployment within last 5 years are better-off than the unemployed that have not experienced unemployment within last 5 years. And finally, taking into account the model with the type of contract, it is reported that a limited contract reduces the life satisfaction of the employed and the unemployed.

CONTENTS

1. INTRODUCTION

Spain has experienced a significant increase in the unemployment rate over the last years: in the year 2002, the unemployment rate was 11.61%, in the beginning of the crisis, in 2008 was 13.79%, recently, in 2012 was 25.77% and currently, Spain is one of the countries in the European Union with the highest unemployment rate and according to the studies realized by the Centro de Investigaciones Sociológicas (CIS), one of the things that worry most Spanish people is the lack of work.

This work was chosen for the need to know how unemployment affects the happiness of Spaniards since the main articles talking about this issue are focused on Britain, Germany, United States or Europe in general (Clark and Oswald, 1994; Luechinger, Meier and Stutzer, 2010). Therefore, it's even more interesting for me to make a final project about the impact of unemployment on happiness focused on Spain in particular.

All these studies mentioned above analyze the impact of unemployment on happiness and show that the unemployed are less happy than the employed. The aim of this project is to review what others have shown and to provide empirical evidence of the negative influence of own unemployment on the Spanish citizens. There are many facts that could affect the relationship between well-being and unemployment, for example, the regional unemployment rate and the partner's unemployment. Hence I identify the way that the others' unemployment affects the well-being of the employed and the unemployed and whether exists the social norm, which suggests that a higher level of unemployment between relevant others reduces the well-being of the employed, while the effect of unemployment on the well-being of the unemployed is reduced. There are other interesting points, such as the relation between the employed and the unemployed with past unemployment and also how the type of contract affect the employed and the unemployed.

This project is centered in the geographic area of Spain and uses data of the European Social Survey (ESS), which reports subjective well-being data and socio demographics data, among others. The unemployment rates are from the Instituto Nacional de Estadística (INE). The study is cross-sectional, range from 2002 to 2012 and the program used is Stata.

The main limitation is the data. In the sample, there are few unemployed people and still less respondents with partner. Thus in some models the statistical power might be low.

The rest of the project is structured as follows. The next section presents the theoretical part with the studies already made by other economists. Section 3 contains how the study is carried out. Section 4 describes the data. Section 5 presents the results obtained with the analysis. Finally, section 6 summarizes the main findings.

2. CONCEPTUAL FRAMEWORK

With reference to happiness and unemployment, there are many studies focused on analyzing the impact of unemployment on well-being. Some articles, like the one from Clark and Oswald (1994), talk about the impact of unemployment on the well-being of the unemployed. Others, such as Clark, Knabe and Rätzel (2010), are more focused on explaining the impact of the aggregate unemployment and the labor-market groups on the well-being of the unemployed and on the well-being of the employed as well.

In this section the principal elements and the main results obtained in the labor economics literature are analyzed. There are two major parts, one is the influence of own unemployment on well-being and the other is the effect of social norms on individual well-being.

2.1 The impact of own unemployment on individual well-being

This part is divided by different issues, which are interrelated.

2.1.1 The nature of unemployment

Right-wing politicians usually say in their debates that unemployment is voluntary because some people prefer to claim the unemployment benefit rather than work. If unemployment is voluntary, unemployed should be as satisfied as those employed. According to Clark and Oswald (1994), the unemployed British people show higher levels of mental distress compared to the employed British people. Furthermore, Clark (2003) reveal that those who go from employment to unemployment show a decrease in well-being of around one point and those jobless which find work after unemployment, experience a large increase. Hence, unemployment seems to be involuntary rather than voluntary.

2.1.2 The importance of the loss of income

It may be that unemployed are less happy because they earn less income at the end of the month. But an unemployed person suffers lower well-being even if he/she gets back this income loss and enjoys more leisure without reducing consumption (Knabe and Rätzel, 2009). The truth is that when people become unemployed do not only lose the income associated with working, they also lose other non-monetary benefits, such as fewer contact with people outside the family, a change in social status, lack of motivation, meaning of life, etc. Clark et al. (2010) explained in their study that this loss of non-monetary benefits is considered to be more significant than the loss of income itself.

2.1.3 The differences in well-being because of education and age among the unemployed

The unemployed with higher levels of education, suffer higher levels of mental distress because those who are highly educated have higher aspirations and for them, the opportunity cost of not working is larger (Clark and Oswald, 1994).

Young people have higher unemployment rates than the old ones and show less distress than those. The reason might be that the young people have lower levels of stress than have the old or it might be that young know that is more common for them to be unemployed and they accept it more easily (Clark and Oswald, 1994). Therefore, this difference in well-being between unemployed young people and unemployed adults could be linked to the effect of social norms because the young have higher levels of unemployment and the impact that they experience of own unemployment on well-being is smaller. In addition, the young and the adults have different role responsibilities, for example the young have lower financial responsibilities since they are used to living with their parents, and also it is easier for them to maintain their social networks from school and to find activities that don't require money (Warr, Jackson and Banks, 1988). Clark (2003) report that the well-being shows a U-shape in age minimizing at age 36 because people in their mid-thirties have higher financial responsibilities and family commitments, and hence, they have more pressure to find a job.

2.1.4 Other personal characteristics of those affected by own unemployment

According to Clark and Oswald (1994), the ones that have a persistent unemployment seem to be happier than the ones who have been unemployed less than one year and also being unemployed reduces happiness more than any other characteristic, including divorce and separation.

Regarding social classes, in an economic crisis, those occupying managerial and professional positions will have a higher probability of maintaining their employment than those in unskilled or semiskilled occupations. Thus, those belonging to the lower social classes have a higher risk of becoming unemployed and therefore, may be less satisfied (Preti and Miotto, 1999).

2.1.5 The relation between the loss in well-being and the individual labor market behavior

There is a positive relationship between the well-being loss from becoming unemployed and the probability of searching a job. Those unemployed that have lost more than 2 points of well-being are more likely to have searched for work the past week and one year later remained unemployed only 25% of those who lost more than 2 points of well-being. On the other hand, 42% of those whose well-being being fell less, remained unemployed after 1 year (Clark, 2003).

2.1.6 Wage concessions and job security

The ones who experience a greater fall in well-being when become unemployed are willing to accept a larger wage cut to find a new job. An increase of 1 point in the effect of unemployment on life satisfaction is associated with a wage concession that is 5.8% larger, taking into account previous labor income (Clark et al., 2010).

Regarding job insecurity, men that have a higher unemployment fear, show lower wage growth. For women this association is insignificant. Men have a higher cost of job loss than women because men have lower unemployment rates and higher average wages (Campbell, Carruth, Dickerson and Green, 2007).

2.2 The impact of social norms on individual well-being

The unemployment of others affects the unemployed as well as the employed, in this subsection the reasons are reviewed.

Some behaviors are difficult to explain with standard economic tools and for that reason, economic models of social norms are necessary to illustrate that individuals do not only interact through the price system or the exchange of information.

We have to take into account that the social norm interesting for us is the norm of unemployment and we also have to consider the unemployment rates of the relevant others, for example, the unemployment rate of those in the same region. The assumption of unemployment as a social norm is that higher level of unemployment between relevant others will reduce the impact on well-being of an individual's own unemployment (Clark, 2003).

2.2.1 The role of regional unemployment

According to the article by Luechinger et al. (2010), worker's well-being decrease when unemployment increases because of two main reasons, general negative externalities and reduced economic security. High unemployment rates entail negative effects that affect everybody in the society like crime, public finances and the increase in income inequality. High unemployment rates also affect factors related to people's individual workplaces, such as changes in working hours, salaries and probability of job loss. But for the unemployed, any social-norm effect mitigates this impact. Therefore, the unemployed are less negatively affected by regional unemployment than are the employed. Both are affected if unemployment rises because the employed feel the risk that in the future may become unemployed and for the unemployed, if unemployment rises they will have lower chances to return to the labor force. But the unemployed are less tied to the social norm when most people are working and then, they show lower well-being. Whereas the social norm effect is reduced by the increase of unemployment since less people are working, and thus, the effect of unemployment on the well-being of the unemployed is reduced (Clark et al., 2010).

According to a study by Clark (2003), at a regional unemployment rate of 24%, people working and people without work have equal well-being effects. The estimated effect of unemployment on well-being is two-and-a-half times higher in a region with a 4% of unemployment rate than in a region with a 16% of unemployment rate. Moreover, there are sex and age differences. The relationship between individual unemployment and regional unemployment rate is negative and insignificant for women, but positive and

significant for men, as well as at a regional unemployment rate of just over 20%, the well-being of employed and unemployed is equal for prime-age (16-50 years) males.

Furthermore, unemployment rates affect suicide rates. Suicide rates increase for all age groups over time and this is associated with the increase of the unemployment rate. Regions where unemployment rate is higher have lower suicide rates because there is more people unemployed, and therefore, they develop supportive relations and it is more tolerable being unemployed (Preti and Miotto, 1999).

2.2.2 The unemployed couple and the other's household unemployment rate
Partner's inactivity or unemployment and household's unemployment decreases the well-being of the employed, whereas partner's inactivity or unemployment and household's unemployment increases the well-being of the unemployed. The well-being of an individual is still reduced because of own unemployment, but this negative effect of becoming unemployed is smaller if the partner is inactive or unemployed and if the unemployment rate of all adults of working age in the household is high. The difference of well-being between the employed and the unemployed is reduced from 27% to 16% when the partner is unemployed. When others' household are all unemployed, the difference falls from over 20% to 7% (Clark, 2003). The reason is the social norm of unemployment, the effect of unemployment on the well-being of the unemployed when less people is working is smaller, while the effect of unemployment on the well-being of the employed when less people is working is larger.

2.2.3 The labor-market groups, job insecurity and the effect of the current perceptions of job insecurity
The life satisfaction of the employed is reduced by the fear of future unemployment because they find their job low secure, while the life satisfaction of the unemployed is reduced by the fear of future unemployment since it is more difficult for them to find a new job (Knabe and Rätzel, 2009).

According to Clark et al., (2010), the difference in well-being is produced by the labor-market insecurity (good vs bad prospects) rather than the labor-force status (employed vs unemployed). The main implication of the labor-market insecurity is that people with more risk in the labor-market (people working with insecure jobs and jobless with poor re-employment prospects) are more affected by the social-norm of unemployment. The results show that the well-being of employed is reduced by job insecurity and good-

prospect unemployed are better-off than the bad-prospect unemployed, but both are unhappier than the employed with secure jobs. For both sexes, the employed with job security are the most satisfied and the unemployed with bad prospects are the less satisfied. The average satisfaction scores of the employed with low job security and of the good-prospect employed are quite close. The well-being gap is larger between employed and unemployed with bad prospects compared to the well-being gap between employed and unemployed with good prospects, which is similar.

Those unemployed with low re-employment chance will be unemployed in the future with probability 55.2% and employed with 23.1% probability. Unemployed with high re-employment chance will have 29.5% probability of being unemployed in the future and 45.2% probability of being employed. The same happens for the employed, 5% of those employed with low job security in the present will be unemployed in the future, and 90.3% will be employed. The current employed with high job security will be unemployed in the future with probability 1.7% and employed with 92.3% probability. Moreover, those currently unemployed report higher differences in percentage points in the future amongst the prospects reported than those currently employed. Therefore, what individuals say in the present about their job security has a correlation with what will happen to them in the future (Clark et al., 2010).

2.2.4 The labor-market groups and regional unemployment

Regional unemployment decreases the life satisfaction of the secure employed, while the impact of regional unemployment on the insecure employed is less negative or even positive. Hence, regional unemployment has a less negative impact on the bad-prospect unemployed than on the good-prospect unemployed, the reason is that people tied to unemployment are not negatively affected by worsening labor-market conditions. For the good-prospect unemployed, there is no relationship between the well-being gap and the regional unemployment, the social- norm does not exist. Therefore, the impact of other's unemployment on individual well-being depends on the degree of job security that the individual face (Clark et al., 2010).

2.2.5 The public and the private sectors and the unemployment rate

The public and the private sectors offer a different job security because public sector employees enjoy job legal protection from dismissals and employment in the public sector is less volatile. Public sector employees are less influenced by economic shocks,

they have different employment contracts, and besides, it is difficult that public companies go bankrupt and in a recession the pressure to reduce unemployment in the public sector is lower than in the private. Thus, the well-being of private sector employees is affected by general externalities, such as crime, public finances and the increase in income inequality, and it is also affected by the reduction in economic security, otherwise the well-being of public sector is only affected by general externalities. The results show that if unemployment rate increases, public servants present higher life satisfaction relative to nonpublic servants, therefore the public sector employees are less affected by regional unemployment than private sector employees. There is also a negative relationship between the regional unemployment and the life satisfaction of people working in the private sector. However, regional unemployment is not correlated with the life satisfaction of people working in the public sector. When unemployment increase from 3.7% (lowest value in the sample) to 20.2% (highest value in the sample) the life satisfaction of people working in the private sector is reduced by 0.60 points, that is close to the negative effect of becoming individually unemployed. Therefore, the results suggest that the differential effects of high unemployment between the well-being of public and private workers are due to the increased economic insecurity and they are not due to general negative externalities (Luechinger et al., 2010).

2.2.6 Past unemployment

Past unemployment reduces the life satisfaction of the employed and unemployed, excluding unemployed women. The effect is lower for the unemployed than for the employed because unemployed people are used to be unemployed, since they have already experienced more often unemployment (Knabe and Rätzel, 2009).

2.2.7 Past unemployment and job insecurity

Previous unemployment experience increases the fear of becoming unemployed in the future because employed people that have been unemployed for a long period of time, feel their job less secure and the unemployed that have been unemployed for a large period of time in the last three years, feel more difficult to find a new job (Campbell et al., 2007; Knabe and Rätzel, 2009).

2.2.8 The influence of the GDP and state crime rate

It can be that other variables explain better the well-being data than does the unemployment rate. The aggregate unemployment may act as a substitute of other aggregate variable. In the study of Clark et al. (2010), crime rates have a different impact regarding good- and bad-prospect unemployed, and the other correlations are insignificant. Therefore, the unemployment rate explains better the well-being data than does GDP or state crime rates.

3. EMPIRICAL STRATEGY

In this section, the empirical models are developed so as to compare the results of these models with the conceptual framework. Firstly, this study provides some elementary techniques to relate the effect of unemployment with subjective well-being. After that, in order to know the effect of unemployment on life satisfaction the following model is presented (Equation 1):

$$stflife_{it} = \alpha_i + \beta_1 mnactic_{it} + essround_t + \mu_{it} \tag{1}$$

where *stflife_{it}* is a measure of well-being reported by individual *i* at time *t*, α_i is an individual fixed effect, *mnactic_{it}* is a dummy variable that corresponds to the main activity of the respondent which takes value one when unemployed and zero when employed, *essround_t* is a set of time dummy variables and μ_{it} is a random error term . The dependent variable is life satisfaction and the variable of interest in this model is main activity. The literature says that unemployment reduces the life satisfaction of the unemployed (Clark, 2003; Clark et al., 2010; Clark and Oswald, 1994). Therefore, I expect:

- $\beta_1 < 0$ → which means that own unemployment reduces the life satisfaction of the unemployed and therefore, the unemployed are less happy than the employed.

The first model is modified in order to add control variables and verify that the results of the variable of interest (main activity) does not change at all, and hence life satisfaction is mainly affected by unemployment as the literature describes. The following model is estimated (Equation 2):

$$stflife_{it} = \alpha_i + \beta_1 mnactic_{it} + \beta_2 agea_{it} + \beta_3 age2_{it} + \beta_4 gndr_{it} + \beta_5 hhmmb_{it} +$$
$$\beta_6 chldhm_{it} + \beta_7 marital_{it} + \beta_8 edulvla_{it} + \beta_9 domicil_{it} + \beta_{10} regiones_{it} +$$
$$essround_t + \mu_{it} \tag{2}$$

where *agea*$_{it}$ is the age of the respondent, *age2*$_{it}$ is the age squared, *gndr*$_{it}$ is a dummy variable capturing whether the individual is male or female, *hhmmb*$_{it}$ is the number of people living at the household, *chldhm*$_{it}$ is a dummy variable that captures whether the respondent has children living at home, *marital*$_{it}$ is a set of dummy variables for the legal marital status, *edulvla*$_{it}$ is a set of dummy variables for education, *domicil*$_{it}$ is a of dummy variables for the area where the respondent lives, *regiones*$_{it}$ is a of dummy variables for the region where the respondent lives.

After that, a third model captures the effect of the regional unemployment rate on well-being. The following regression is estimated (Equation 3):

$$stflife_{it} = \alpha_i + \beta_1 mnactic_{it} + \beta_2 ur_{it} + essround_t + \mu_{it} \tag{3}$$

where *ur*$_{it}$ is regional unemployment rate.

According to the literature review of section 2, the impact of regional unemployment on well-being is negative (Clark, 2003; Clark et al., 2010; Luechinger et al., 2010). The dependent variable is life satisfaction and the variables of interest are main activity and regional unemployment rate. Then, the new hypothesis is:

- $\beta_2 < 0 \rightarrow$ regional unemployment rate decreases life satisfaction.

An extension of this model is estimated to show the existence of social norms (Equation 4):

$$stflife_{it} = \alpha_i + \beta_1 mnactic_{it} + \beta_2 ur_{it} + \beta_3 (mnactic_{it} * ur_{it}) +$$
$$essround_t + \mu_{it} \tag{4}$$

In part 2 it is explained that higher unemployment rates reduce more the well-being of the employed than the well-being of the unemployed (Clark, 2003; Clark et al., 2010). The dependent variable is life satisfaction and the variables of interest in this regression are main activity, regional unemployment rate and the interaction term that captures the possibility that that the effect of the labor force status depends on the regional unemployment rate. I predict that:

- $\beta_3 > 0 \rightarrow$ regional unemployment affects more negatively the life satisfaction of the employed than the life satisfaction of the unemployed.

The last model is extended to take into account the control variables and make the model more robust. The dependent variable is life satisfaction and the variables of interest are main activity, regional unemployment rate and the interaction term between main activity and regional unemployment rate. The new model that I am interested in estimating is (Equation 5):

$$stflife_{it} = \alpha_i + \beta_1 mnactic_{it} + \beta_2 ur_{it} + \beta_3(mnactic_{it} * ur_{it}) + \beta_4 agea_{it} +$$
$$\beta_5 age2_{it} + \beta_5 marital_{it} + \beta_6 edulvla_{it} + \beta_7 gndr_{it} + \beta_8 hhmmb_{it} + \beta_9 chldhm_{it} +$$
$$\beta_{10} domicil_{it} + \beta_{11} regiones_{it} + essround_t + \mu_{it} \tag{5}$$

After the models including regional unemployment rates, it is interesting to consider the effect of another aggregate unemployment discussed in part 2, the unemployment of the partner. The following equation is estimated (Equation 6):

$$stflife_{it} = \alpha_i + \beta_1 mnactic_{it} + \beta_2 mnactp_{it} + essround_t + \mu_{it} \tag{6}$$

where *mnactp_{it}* is a set of dummy variables that captures the partner's main activity which takes the value three when unemployed, two when respondents are not in the labor force and one when employed.

The dependent variable is life satisfaction and the variables of interest are labor force status and the partner's labor force status. As discussed in part 2, Clark (2003) show that the unemployment or inactivity of the partner decreases the well-being of the employed and increases the well-being of the unemployed. It is expected that:

- $\beta_{21}, \beta_{22} < 0 \rightarrow$ the respondents with the partner inactive or unemployed are less happy than the ones with the partner employed.

The interaction term of the labor force status with the partner's labor force status is included in the last model and the dependent variable is life satisfaction and the variables of interest are main activity, partner's main activity and the interaction term. An extended equation is estimated below (Equation 7):

$$stflife_{it} = \alpha_i + \beta_1 mnactic_{it} + \beta_2 mnactp_{it} + \beta_3(mnactic_{it} * mnactp_{it}) +$$
$$essround_t + \mu_{it} \tag{7}$$

The hypothesis is:

- $\beta_{31}, \beta_{32} > 0 \rightarrow$ the unemployed with the partner inactive or unemployed are better-off than the employed with the partner inactive or unemployed.

The last regression with the variable of the partner's main activity incorporates control variables. The life satisfaction function estimated is (Equation 8):

$$stflife_{it} = \alpha_i + \beta_1 mnactic_{it} + \beta_2 mnactp_{it} + \beta_3(mnactic_{it} * mnactp_{it}) + \beta_4 agea_{it} + \beta_5 age2_{it} + \beta_5 marital_{it} + \beta_6 edulvla_{it} + \beta_7 gndr_{it} + \beta_8 hhmmb_{it} + \beta_9 chldhm_{it} + \beta_{10} domicil_{it} + \beta_{11} regiones_{it} + essround_t + \mu_{it} \qquad (8)$$

As far as it is known from section 2, past unemployment reduces the well-being of the employed as well as the well-being of the unemployed. The impact is lower for the ones who have experienced more often unemployment (Knabe and Rätzel, 2009). The dependent variable is life satisfaction and the variables of interest are main activity and past unemployment. The following regression is the one with past unemployment (Equation 9):

$$stflife_{it} = \alpha_i + \beta_1 mnactic_{it} + \beta_2 uemp3m_{it} + \beta_3 uemp12m_{it} + \beta_4 uemp5yr_{it} + essround_t + \mu_{it} \qquad (9)$$

where $uemp3m_{it}$ is a dummy variable for any period of unemployment and seeking work more than 3 months, $uemp12m_{it}$ is a dummy variable for any period of unemployment and work seeking lasted 12 months or more, $uemp5yr_{it}$ is a dummy variable for any period of unemployment and work seeking within last 5 years.

It is expected:

- $\beta_2, \beta_3, \beta_4 < 0 \rightarrow$ past unemployment reduces the life satisfaction of the employed and the unemployed

In a second step to test the effect of past unemployment depending on the labor force status, the interaction terms between past unemployment and labor force status are included. The following equation is estimated (Equation 10):

$$stflife_{it} = \alpha_i + \beta_1 mnactic_{it} + \beta_2 uemp3m_{it} + \beta_3 uemp12m_{it} + \beta_4 uemp5yr_{it} + \beta_5(mnactic_{it} * uemp3m_{it}) + \beta_6(mnactic_{it} * uemp12_{it}) + \beta_7(mnactic_{it} * uemp5yr_{it}) + essround_t + \mu_{it} \qquad (10)$$

The hypotheses are:

- $\beta_5, \beta_6, \beta_7 < 0$ → the negative impact of past unemployment on current life satisfaction is higher for those who do not experience many periods of unemployment.

In a third step the control variables are added and the following model is estimated (Equation 11):

$$stflife_{it} = \alpha_i + \beta_1 mnactic_{it} + \beta_2 uemp3m_{it} + \beta_3 uemp12m_{it} + \beta_4 uemp5yr_{it} + \beta_5(mnactic_{it} * uemp3m_{it}) + \beta_6(mnactic_{it} * uemp12_{it}) + \beta_7(mnactic_{it} * uemp5yr_{it}) + \beta_8 agea_{it} + \beta_9 age2_{it} + \beta_{10} marital_{it} + \beta_{11} edulvla_{it} + \beta_{12} gndr_{it} + \beta_{13} hhmmb_{it} + \beta_{14} chldhm_{it} + \beta_{15} domicil_{it} + \beta_{16} regiones_{it} + essround_t + \mu_{it}$$
(11)

The last model of this project includes the type of contract the respondent has or had, so as to know if what causes the changes in well-being is the labor market insecurity rather than the labor force status. An unlimited contract is associated with more job security, while a limited contract is associated with job insecurity. As written in section 2, Clark et al. (2010) report that there is a negative relationship between the well-being of the employed and job insecurity and also show that the good-prospect unemployed have higher well-being than the bad-prospect unemployed. The dependent variable is life satisfaction and the variables of interest are labor force status and the type of contract. I therefore estimate the following equation (Equation 12):

$$stflife_{it} = \alpha_i + \beta_1 mnactic_{it} + \beta_2 wrkctr_{it} + essround_t + \mu_{it}$$ (12)

where *wrkctr_it* is a set of dummy variables for type of contract which takes value three when the respondent has no contract, value two when has a limited contract and one when unlimited.

I expect the following:

- $\beta_{21} < 0$ → Employed persons that have a limited contract and unemployed persons that had a limited contract are less happy.

The last model is extended to add the interaction effect (Equation 13):

$$stflife_{it} = \alpha_i + \beta_1 mnactic_{it} + \beta_2 wrkctr_{it} + \beta_3(mnactic_{it} * wrkctr_{it}) + essround_t + \mu_{it}$$
(13)

The new hypothesis with the extended model is:

- $\beta_{31} < 0 \rightarrow$ A temporary contract reduces the well-being of the unemployed

Finally, in the model with the type of contract, I include the control variables (Equation 14):

$$stflife_{it} = \alpha_i + \beta_1 mnactic_{it} + \beta_2 wrkctr_{it} + \beta_3 (mnactic_{it} * wrkctr_{it}) +$$
$$\beta_4 agea_{it} + \beta_5 age2_{it} + \beta_6 marital_{it} + \beta_7 edulvla_{it} + \beta_8 gndr_{it} + \beta_9 hhmmb_{it} +$$
$$\beta_{10} chldhm_{it} + \beta_{11} domicil_{it} + \beta_{12} regiones_{it} + essround_t + \mu_{it} \qquad (14)$$

4. DATA

To evaluate the impact of unemployment on happiness in Spain, I have used six rounds from 2002 to 2012 of the European Social Survey (ESS). This general survey includes household grid variables, subjective well-being variables and socio demographic variables. Data is collected by the consultancy firm Typsa using structured questionnaires in Spanish and in Catalan. The respondents answer almost all the questions using cards. To establish causal inferences regarding unemployment, data has been completed using regional unemployment rates from the INE. The study contains 17 original variables, 20 in total taking into account the modified variables and 6,358 observations. The appendix table A1 shows the sample means and standard errors of these variables in the ESS sample.

The variables included in the analysis can be divided into two groups: variables of interest and control variables.

4.1 Variables of interest

- The indicator of well-being is the variable life satisfaction, which is the dependent variable and the question asked to the respondents is: "All things considered, how satisfied are you with your life as a whole nowadays?" The respondents answer on an ordinal scale from 0 (completely dissatisfied) to 10 (extremely satisfied). The overall distribution of this variable in the ESS sample is shown in the Appendix Table A2. According to it, 73.11% of the respondents say that his/her life satisfaction is greater or equal than 7.

Figure 1. Distribution of life satisfaction
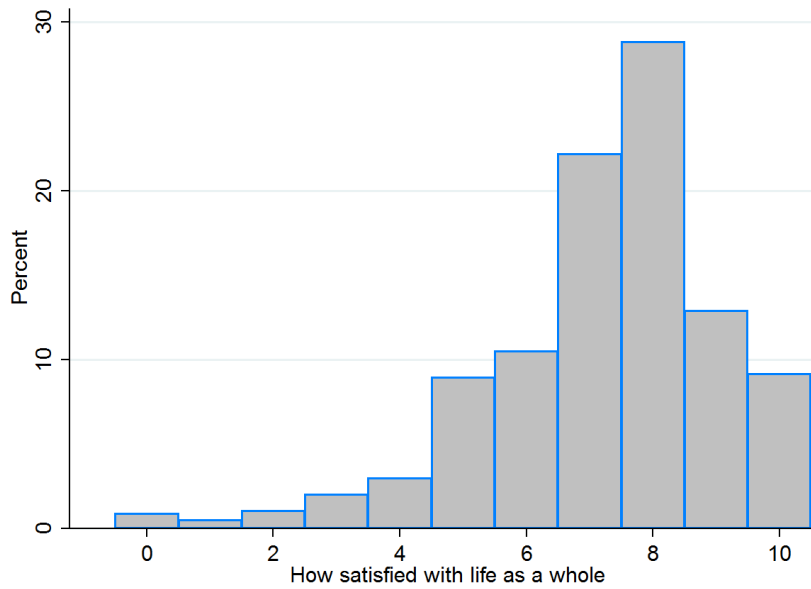
Source: Own elaboration with Stata based on the ESS.

Figure 1 shows that most of the people in the sample are satisfied with life, which is not surprising since, as indicated in section 2, this skewed distribution is consistent with the findings in the literature.

- Main activity: this variable describes whether the respondent is unemployed or is employed. The question asked is: "Using this card, which of these descriptions applies to what you have been doing for the last 7 days?" The possible answers are: "in paid work", which includes employee, self-employed or working for your family business. "In education", "unemployed actively looking for a job", "unemployed, wanting a job but not actively looking for a job", "permanently sick or disabled", "retired", "in community or military service" and "doing housework, looking after children or other persons". We have removed the answers that are not interesting for the study, therefore the remaining are "in paid work" and "unemployed actively looking for a job". The article written by Clark (2003) refers only to respondents active in the labor market, based on this study, the unemployed not looking for a job are removed too. Finally, this variable gathers two activities: employed and unemployed looking for a job. There are 5,675 employed and 683 unemployed looking for a job (Appendix Table A3).

- Partner's main activity: informs about the occupation of the partner. The question is: "And which of the descriptions on this card best describe his/her situation (in the last 7 days)?" The respondents can choose between: "in paid work", "in education",

"unemployed and actively looking for a job", "unemployed, wanting a job but not actively looking for a job", "permanently sick or disabled", "retired", "in community or military service" and "doing housework, looking after children or other persons". Like in the study by Clark (2003), the categories that refer to the partner not in the labor force are joined. There are 155 partners in paid work, 74 are not in the labor force and 21 are unemployed looking for a job. The 95.88% are not applicable because they do not live with husband, wife or partner (Appendix Table A4).

- Regional unemployment rate: this variable contains the corresponding unemployment rate according to the region where the respondent live. The results of Ceuta and Melilla have to be taken with caution because they might be affected by large sampling errors. Figure 2 shows regional unemployment rates from 2002 to 2012.

Figure 2. Unemployment rates by region, 2002-2012
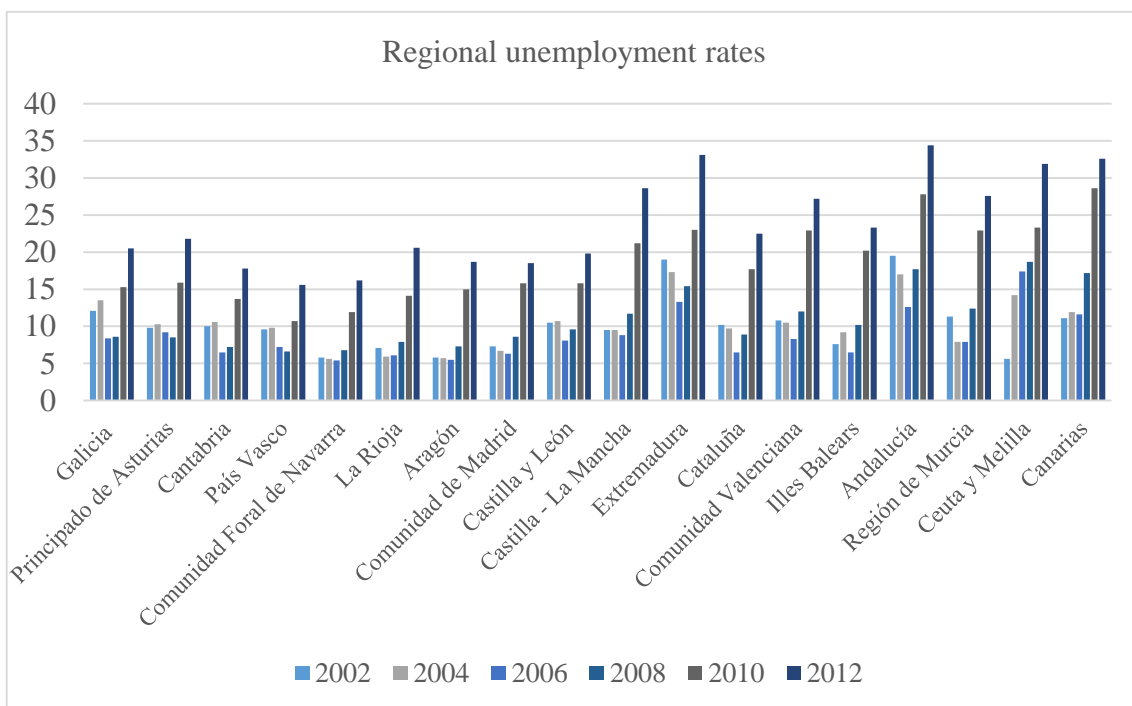
Source: Own elaboration based on INE.

According to figure 2, before 2008 unemployment rates were, in general, decreasing because of the property bubble and the expansion of the service industry, whereas when the economic crisis starts in Spain in the year 2008, unemployment rates start increasing in all the regions. The lowest unemployment rate is 5.4% in Comunidad Foral de Navarra the year 2006 and the highest is 34.40% in Andalucía the year 2012. Moreover,

taking into account all regional unemployment rates, the average unemployment rate is 13.8%. From regional unemployment rates another variable is created, the average unemployment rate, which separates the regions between those with the unemployment rate below the average and those with the unemployment rate above the average.

- Ever unemployed and seeking work for a period more than 3 months. The question is: "Have you ever been unemployed and seeking work for a period of more than three months?" The answer is a closed question (yes/no) and 2,826 respond yes and 3,500 respond no (Appendix Table A5).

- Any period of unemployment and work seeking lasted 12 months or more. The question is: "Have any of these periods lasted for 12 months or more?" The answer is a closed question (yes/no). 17.25% respond yes and 26.90% respond no. Most of the cases are not applicable because only respond who answer yes in the question of the variable "Ever unemployed and seeking work for a period more than 3 months" (Appendix Table A6).

- Any period of unemployment and work seeking within last 5 years. The question is: "Have any of these periods been within the past 5 years?" The answer is a closed question (yes/no) and 1,518 respondents answer yes, 1,296 respondents answer no. The majority are not applicable since this variable refers to the ones that have been unemployed periods of more than 3 months (Appendix Table A7).

- Employment contract temporary or permanent. The question is: "Do/did you have a work contract of unlimited duration, or, limited duration, or, do/did you have no contract?" The respondents must answer one of the three. The 49.12% have an unlimited contract and the 22.62% have a limited contract (Appendix Table A8).

4.2 Control variables

- Gender: this variable refers to whether the respondent is "male" or the respondent is "female". In the sample there are 3,595 males and 2,763 females (Appendix Table A9).

- Age of the respondent. The answer comes from the variable year of birth and the question is: "And in what year were you born?" The respondents answer the corresponding year and then, the interviewer calculates the age and adds this variable. The average number of years in the sample is 44 years and 50% of the respondents are below 39 (Appendix Table A10). This variable generates age2, which is age squared so as to produce a quadratic curve.

Figure 3. Age distribution
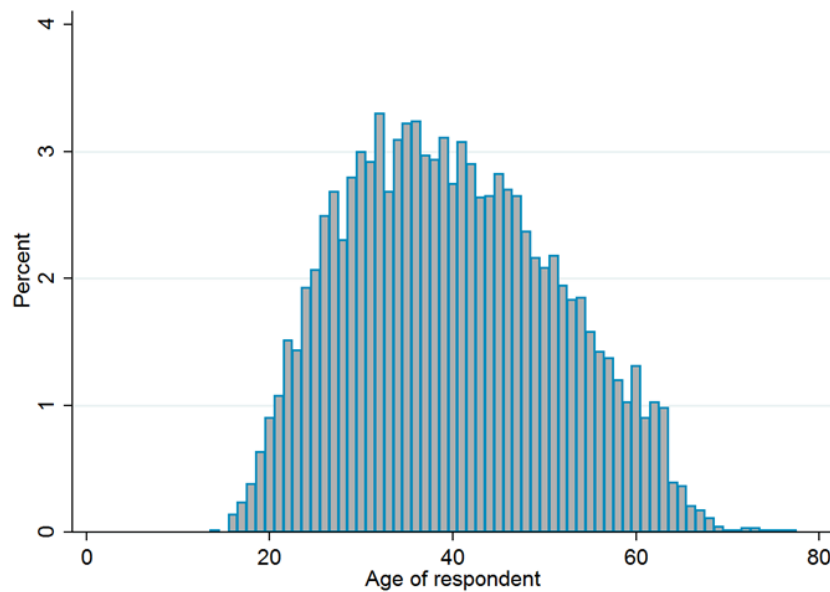
Source: Own elaboration with Stata based on the ESS.

Figure 3 shows that the shape of age distribution is similar to a normal distribution.

▪ Region: this variable indicates the Spanish region where the respondent lives. In the data, "Ciudad Autónoma de Ceuta" and "Ciudad Autónoma de Melilla" are together and form "Ceuta y Melilla". Figure 4 shows the Autonomous communities of Spain with the corresponding inhabitants that are in the sample.

Figure 4. Regional population distribution in Spain according to the sample
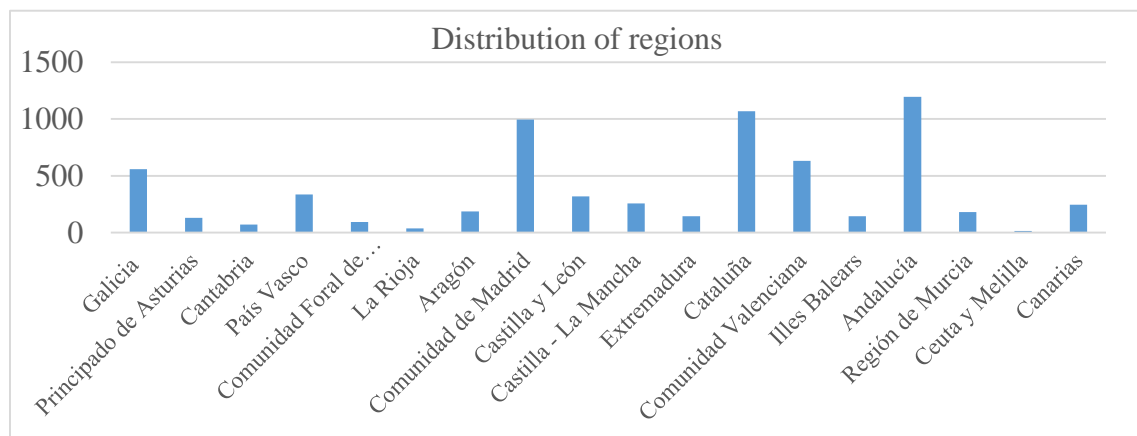
Source: Own elaboration based on the ESS.

According to Figure 4, Andalucía, Cataluña and Comunidad de Madrid represent the majority of the population in the sample.

- Employment relation. The question is for both, respondents currently in work or those that had a job in the past and the question is: "In your main job are/were you an employee, self-employed or, working for your own family's business?" The respondents must answer one of the three. The 80.40% are employees, 16.61% are self-employed and the remaining, 1.45% are working for own family business (Appendix Table A11).

- Children living at home. The respondent answers a closed question about the household grid, which is whether he/she lives with children or does not. The 50.22% of the respondents has children living at home. The 49.69% has not (Appendix Table A12).

- Number of people living in the household. The question is: "Including yourself, how many people - including children - live here regularly as members of this household?" The respondents could answer any number. The 87.24% of the respondents are four members or less in the household (Appendix Table A13).

- Residence area. The question is: "Which phrase on this card best describes the area where you live?" The respondents answer if they live "in a big city", "in suburbs or outskirts of big city", "in a town or small city", "in a country village" and "in a farm or home in countryside". The two biggest percentages are those who live in a country village and those living in a town or small city with 38.46% and 29.98% respectively (Appendix Table A14).

- Legal marital status. The question asked is: "This question is about your legal marital status not about who you may or may not be living with. Which one of the descriptions on this card describes your legal marital status now?" The possible answers are: "married", "separated", "divorced", "widowed" and "never married". The most relevant is that 57.38% are married and 24.55% have never been married (Appendix Table A15).

- Education. The question is: "What is the highest level of education you have achieved?" The possible answers are: "not possible to harmonize into 5-level ISCED", "less than lower secondary education (ISCED 0-1)", "lower secondary education completed (ISCED 2)", "upper secondary education completed (ISCED 3)", "post-secondary non-tertiary education completed (ISCED 4)" and "tertiary education completed (ISCED 5-6)". The 28.09% have completed tertiary education, the 26.23% have completed lower secondary education, the 18.39% have completed less than lower secondary education, the 17.27% have completed upper secondary

education and the 9.67% have completed post-secondary non-tertiary education (Appendix Table A16).

5. RESULTS

The elementary methods applied show that the unemployed are less satisfied with life than the employed. The gap between the employed and the unemployed looking for a job is 1.26 points (Table 1). Therefore, unemployment is involuntary rather than voluntary because the unemployed are less happy than the employed.

Table 1. Labor market force and life satisfaction

Main activity	Mean	N
Employed	7.359	5,675
Unemployed, looking for job	6.1	683
Total	7.223	6,358

Source: Own elaboration based on the ESS.

Those unemployed living in a region with the unemployment rate higher than the average suffer lower life satisfaction than unemployed people with a regional unemployment rate lower than the average (Table 2). These results differ from the articles written by Clark (2003), Clark et al. (2010) and Luechinger et al. (2010). Using simple methods, the social norm of unemployment in this sample is not found.

Table 2. Unemployed looking for job, regional unemployment rate and life satisfaction

Unemployment rate	Mean	Std. Dev.	Freq.
Lower than average	6.23	2.202	222
Higher than average	6.037	2.527	461
Total	6.1	2.426	683

Source: Own elaboration based on the ESS.

Figure 5. Life satisfaction, labor force status and unemployment rate
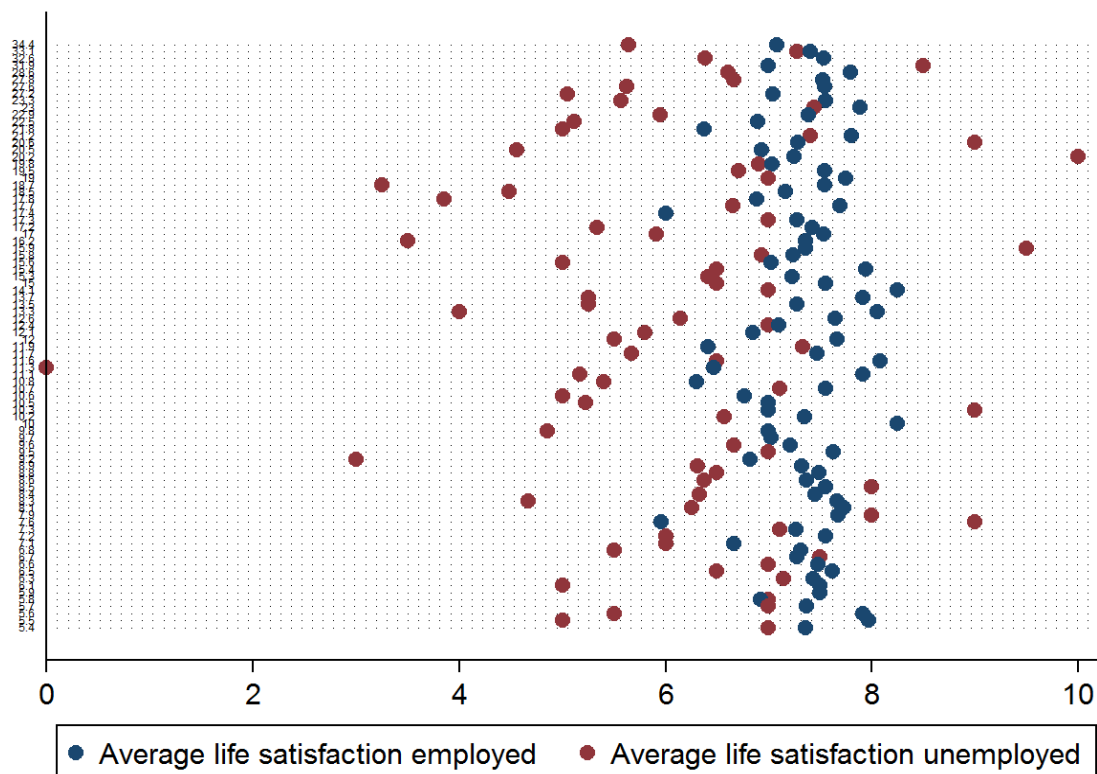
Source: Own elaboration with Stata based on the ESS.

Looking at figure 5, the life satisfaction of the employed is between 6 and 8 regardless of the unemployment rates but the life satisfaction of the unemployed is more spread regardless of the unemployment rates.

Table 3. Life satisfaction and labor force status[1,2]

Life satisfaction	Labor force status	Labor force status and control variables
Employed		
Unemployed, looking for job	-1.196*** (.075)	-1.152*** (.076)
Age		-.017*** (.003)
Age-squared		.000*** (2.62e-06)
Men		
Female		-.083* (.046)
Number of people in the household		.002 (.009)
Have children at home		

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[1] Further results of this regression with all control variables are shown in Appendix Table B1.

[2] If the setting is changed and the self-employed are added in the main activity variable, the results do not change compared to the first model where there are only employees and unemployed looking for job. This result is in contrast with Clark (2003), who finds well-being differences between the employed and the self-employed.

Does not have children at home		.043
		(.059)
Married		
Separated		-1.16***
		(.144)
Divorced		-.916***
		(.111)***
Widowed		-.574
		(.205)
Never married		-.514***
		(.074)
Less than lower secondary education		
Lower secondary education completed		.168**
		(.071)
Upper secondary education completed		.104
		(.079)
Post-secondary non-tertiary education completed		.327***
		(.093)
Tertiary education completed		.381***
		(.072)
Residence area dummies		Yes
Region dummies		Yes
Time dummies	Yes	Yes
_cons	7.162***	7.64***
	(.065)	(.189)

Source: Own elaboration with Stata based on the ESS.

Notes: Standard errors in parentheses. *,**,***Denote significance at the 10%, 5%, 1% levels. The reference category is indicated by bold italics letters.

The results of the first regression with only labor force status are shown in column 1 of Table 3. The omitted categories are employed and ESS 2002. The dummy variable for unemployed is negative and significant at the 1% level. The life satisfaction of the employed is 1.2 points higher with respect to the unemployed looking for a job. This result is in line with Clark (2003); Clark et al. (2010); Clark and Oswald (1994) that report that unemployment reduces the life satisfaction of the unemployed.

In Table 3, column 2, are shown the results from the regression with labor force status and control variables. Aside from the variables of interest, contains variables of control. The omitted categories are employed, men, children at home, married and less than lower secondary education. Unemployed looking for a job is statistically significant and negatively correlated with life satisfaction, therefore, the effect of own unemployment on life satisfaction is robust once I introduce the controls. Age is significant and negative and age-squared is significant and positive, showing that there is a U-shape in age, in line with Clark (2003), which means that people in their mid-thirties are worst

affected by own unemployment because of their higher financial responsibilities and commitments, while the younger and the older are better. Women have, on average, lower levels of life satisfaction, but the difference with men is very small (0.0825639) and is statistically significantly different only at the 10% level. The number of people in the household and having children at home are not significant even at the 10% level. The married are the most life satisfied and the separated are the least. The high-educated have the highest level of well-being, while those with upper secondary education completed have the lowest.

Table 4. Life satisfaction, labor force status and regional unemployment rates[3]

Life satisfaction	Regional unemployment rate	The interaction term	Regional unemployment rate and control variables
Employed			
Unemployed, looking for job	-1.223***	-1.046***	-.940***
	(.076)	(.179)	(.177)
Regional	.020***	.022***	.011
unemployment rate	(.005)	(.005)	(.013)
Employed x regional unemployment rate			
Unemployed, looking for job x regional unemployment rate		-.01	-.012
		(.009)	(.009)
Time dummies	Yes	Yes	Yes
_cons	6.932***	6.908***	7.533***
	(.088)	(.090)	(.227)

Source: Own elaboration with Stata based on the ESS.

Notes: Standard errors in parentheses. *,**,***Denote significance at the 10%, 5%, 1% levels. The reference category is indicated by bold italics letters.

Table 4 in the first column shows the results of the first regression with regional unemployment. The omitted category is employed. The unemployed, looking for job continue to be negatively correlated with life satisfaction. However, the regional unemployment rate is positive and statistically significant at the 1% level.

Table 4 in the second column reports the results of the second equation with unemployment rates, where the interaction of the main activity with regional unemployment rates is included. The omitted categories are employed and the interaction term between the employed and the regional unemployment rate. The relationship between life satisfaction and unemployment is still negative. The interaction term between the unemployed looking for a job and the regional

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[3] In Appendix Table B2 are included further results of this regression.

unemployment is negative and not significant. Therefore, these results are not consistent with the literature (Clark, 2003; Clark et al., 2010). In this data, the social norm of unemployment does not exist. The unemployed are worst than the employed when the unemployment rate increases.

Further results are given in the third column of Table 4. With the control variables, the employed are a bit worst than before and the life satisfaction differences between the employed and the unemployed continue to be significant at the 1% level. The regional unemployment rate coefficient decreases compared to before and it is not statistically significant. The interaction term between the unemployed and the regional unemployment rate decreses and therefore is more negative but still insignificant and again the social norm does not exist.

Table 5. Life satisfaction, labor force status and partner's labor force status[4]

Life satisfaction	Partner's labor force status	The interaction term	Partner's labor force status and control variables
Employed			
Unemployed	-1.185***	-1.15	-.595
	(.075)	(.922)	(.907)
Partner employed			
Partner not in labor force	-.545**	-.47*	-.471*
	(.257)	(.270)	(.266)
Partner unemployed	-1.1*	-.853*	-.805*
	(.423)	(.443)	(.435)
Partner employed and respondent employed			
Partner not in labor force and respondent unemployed		-.654	-1.2
		(1.13)	(1.11)
Partner unemployed and respondent unemployed		-2.606	-3.110*
		(1.638)	(1.608)
Time dummies	Yes	Yes	Yes
_cons	7.671***	7.669***	7.980***
	(.150)	(.152)	(.233)

Source: Own elaboration with Stata based on the ESS.

Notes: Standard errors in parentheses. *,**,***Denote significance at the 10%, 5%, 1% levels. The reference category is indicated by bold italics letters.

Table 5 in the first column shows the results of the first regression with the partner's activity variable. The omitted categories are employed and partner employed. The unemployed suffer lower well-being than the employed. Having the partner inactive or

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[4] Further results of this model are shown in Appendix Table B3.

unemployed is negative and significant at the 5% level with respect to having the partner employed.

The results of the interaction of the employed and the unemployed with the partner unemployed or inactive are presented in the second column of Table 5. The omitted categories are employed, partner employed and respondent employed and partner employed. The negative effect of own unemployment is not statistically significant. The coefficient of the parent not in labor force and respondent unemployed is negative and not statistically significant as well as the interaction term between the unemployed and the partner unemployed is negative and insignificant. Therefore, partner's inactivity or unemployment decreases the well-being of the unemployed. The social norm effect that Clark (2003) shows, here does not exist.

Table 5 in the third column contains the results of the impact of the partner's activity on life satisfaction with some controls. The negative effect of own unemployment is less and still insignificant. The coefficient of partner not in labor force and respondent unemployed has decreased. The coefficient of partner unemployed and respondent unemployed has decreased as well.

It is worth mentioning that the results of the regressions with the partner's labor force status variable have to be taken with caution since the sample size of this variable is very small.

Table 6. Life satisfaction, labor force status and past unemployment[5]

Life satisfaction	Past variables	Interaction terms	Past variables and control variables
Employed			
Unemployed	-.885***	-.814***	-.777***
	(.085)	(.127)	(.125)
Ever unemployed and seeking work for a period more than 3 months			
No ever unemployed and seeking work for a period more than 3 months	.625***	-.149	-.190
	(.077)	(.371)	(.367)
Period of unemployment and			

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[5] Additional results are reported on Appendix Table B4.

work seeking lasted 12 months or more			
No period of unemployment and work seeking lasted 12 months or more	.280*** (.072)	.27*** (.082)	.234*** (.081)
Period of unemployment and work seeking within last 5 years			
No period of unemployment and work seeking within last 5 years	.261*** (.073)	.315*** (.078)	.332*** (.078)
Employed x ever unemployed and seeking work for a period more than 3 months			
Unemployed x no ever unemployed and seeking work for a period more than 3 months		-.013 (.232)	-.125 (.228)
Employed x period of unemployment and work seeking lasted 12 months or more			
Unemployed x no period of unemployment and work seeking lasted 12 months or more		.059 (.174)	.056 (.171)
Employed x period of unemployment and work seeking within last 5 years			
Unemployed x no period of unemployment and work seeking within last 5 years		-.737*** (.272)	-.72*** (.269)
Time dummies	Yes	Yes	Yes
_cons	6.677*** (.092)	6.651*** (.098)	7.187*** (.200)

Source: Own elaboration with Stata based on the ESS.

Notes: Standard errors in parentheses. *,**,***Denote significance at the 10%, 5%, 1% levels. The reference category is indicated by bold italics letters.

Table 6 contains the results of the regressions with past unemployment. The omitted categories are employed, ever unemployed and seeking work for a period more than 3 months, any period of unemployment and work seeking lasted 12 months, any period of

unemployment and work seeking within last 5 years and the interaction terms between the employed and having experienced unemployment more than 3 months, a maximum of 12 months and within last 5 years. The relationship between own unemployment and life satisfaction is negative and statistically significant at the 1% level. Column 1 shows that past unemployment affects negatively the life satisfaction of the employed and the unemployed. Column 2 reports the results of the interaction terms. The interaction term of being unemployed with no ever unemployed and seeking work for a period more than 3 months is negative and not statistically significant, the coefficients term between the unemployed and no period of unemployment and work seeking lasted 12 months is positive but not statistically significant, while the coefficient term between unemployed and no period of unemployment and work seeking within last 5 years is negative and significant at the 1% level. Therefore, the unemployed that have been unemployed more than 3 months and the unemployed that have been unemployed within last 5 years are better-off than the unemployed that have not experienced these periods of unemployment. However, the impact of past unemployment that lasted 12 months or more on current life satisfaction is higher for those who have not been unemployed 12 months or more.

Being unemployed for a period of 12 months or more does not fulfill what Knabe and Rätzel (2009) report. In column 3, it is seen that even with control variables, column 2 results do not change significantly.

Finally, I have to remark that the sample size of the variables of a period of unemployment lasted 12 months or more and within last 5 years is very small.

Table 7. Life satisfaction, labor force status and type of work contract[6]

Life satisfaction	Type of work contract	The interaction term	Work contract variable and control variables
Employed			
Unemployed	-1.129***	-.869***	-.834***
	(.076)	(.12)	(.118)
Unlimited work contract			
Limited work contract	-.372***	-.303***	-.347***
	(.058)	(.063)	(.063)

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[6] Further results are shown in Appendix Table B5.

No contract	-.476***	-.503***	-.480***
	(.114)	(.122)	(.120)
Employed x unlimited work contract			
Unemployed x limited contract		-.542***	-.501***
		(.175)	(.172)
Unemployed x no contract		.108	-.044
		(.342)	(.336)
Time dummies	Yes	Yes	Yes
_cons	7.27***	7.251	7.833***
	(.069)	(.07)	(.191)

Source: Own elaboration with Stata based on the ESS.

Notes: Standard errors in parentheses. *,**,***Denote significance at the 10%, 5%, 1% levels. The reference category is indicated by bold italics letters.

The results of the estimation with the type of contract variable are presented in Table 7. The results shown in column 1 refer to the basic model and the results of the coefficient effect between the labor force status and the type of contract are shown in column 2. Column 3 presents the results with the control variables. The omitted categories are employed, unlimited work contract and the interaction term between the employed and having an unlimited work contract. The unemployed continue to be less happy than the employed. The impact of having a limited contract is negative and significant at the 1% level. Hence, a limited contract reduces the life satisfaction of the employed and unemployed. The coefficient of the interaction term between the unemployed and temporary work contract is negative and significant at the 1% level and stays constant in column 3 with control variables. However, being unemployed is still more negative than having a temporary contract before unemployment. These results are not surprising. As we have indicated in section 2, Clark et al. (2010) show that the impact of job insecurity on well-being is negative for the employed and that the good-prospect unemployed are happier than the bad-prospect unemployed.

Table 8. All significant variables

Life satisfaction	Significant variables	Significant variables and control variables
Employed		
Unemployed	-.73	-.321
	(.983)	(.97)
Regional unemployment rate	.024***	.012
	(.005)	(.013)
Partner employed		

Partner not in labor force	-.424	-.384
	(.268)	(.264)
Partner unemployed	-.835*	-.778*
	(.439)	(.431)
Partner employed and respondent employed		
Partner unemployed and respondent unemployed	-2.527	-2.84*
	(1.665)	(1.637)
Ever unemployed and seeking work more than 3 months		
No ever unemployed and seeking work for a period more than 3 months	-.096	-.169
	(.369)	(.366)
Period of unemployment and work seeking lasted 12 months or more	.	
No period of unemployment and work seeking lasted 12 months or more	284***	.229***
	(.072)	(.072)
Period of unemployment and work seeking within last 5 years		
No period of unemployment and work seeking within last 5 years	.273***	.299***
	(.078)	(.078)
Employed x period of unemployment and work seeking within last 5 years		
Unemployed x no period of unemployment and work seeking within last 5 years	-.669**	-.651**
	(.271)	(.268)
Unlimited work contract		
Limited work contract	-.248***	-.302***
	(.063)	(.063)
No contract	-.471***	-.457***
	(.122)	(.12)
Employed x unlimited work contract		
Unemployed x limited work contract	-.58***	-.539***
	(.174)	(.172)
Time dummies	Yes	Yes
_cons	6.948***	7.581***
	(.179)	(.272)

Source: Own elaboration with Stata based on the ESS.

Notes: Standard errors in parentheses. *,**,***Denote significance at the 10%, 5%, 1% levels. The reference category is indicated by bold italics letters.

Table 8 includes the set of all independent variables that have shown to be significant in the previous regressions. The omitted categories are employed, partner employed, partner employed and respondent employed, ever unemployed and seeking work more than 3 months, period of unemployment and work seeking lasted 12 months or more,

period of unemployment and work seeking within last 5 years, the interaction term between the employed and having experienced a period of unemployment and work seeking within last 5 years, unlimited work contract and the interaction term between the employed and having an unlimited work contract. In column 1 and 2, the dummy variable for unemployment is still negative, but now is insignificant. As shown in Table 4, the regional unemployment rate is positive and significant in column 1, but positive and insignificant in the second column. The negative effect of having the partner inactive is still negative but insignificant, in Table 5 was significant. There are no changes in having the partner unemployed, the impact is negative and significant at the 10% level. The interaction term between having the partner unemployed and being unemployed does not present changes compared to before. The results for the past unemployment variable and the type of work contract variable have not changed with respect to the other models. Column 3 shows that most of the results are robust once I introduce the full specification.

6. CONCLUSIONS

There has been an important increase of the unemployment rate in Spain over the last years. The purpose of this research is to study the effect of unemployment on happiness in Spain during the period 2002- 2012. There are many studies talking about this issue due to the large number of people affected by unemployment throughout the years and all agree on the same, the unemployed are less happy than the employed. The studies reviewed in section 2 show that unemployment is not voluntary, that the loss of income does not explain the decrease in well-being due to unemployment, the existence of the social norm of unemployment using the regional unemployment, the unemployment of the couple and the other's household unemployment rate. It is also discussed that the difference in well-being is produced by the labor-market security rather than the labor force status. There is a negative effect of past unemployment on the well-being of employed and on the well-being of the unemployed, but the impact is smaller for the ones who experience many periods of unemployment.

 Fourteen regressions are developed to test the well-being effect of labor force status, regional unemployment, partner's labor force status, past unemployment and the type of

work and I compare my results using Spanish data from the ESS with the results from the literature. The results of this study have emphasized that the impact of unemployment on well-being is negative and the well-being gap between the employed and the unemployed is 1.2 points. In the regressions using regional unemployment rate and partner's main activity the social norm of unemployment does not exist, differing from what the literature on the subject suggest. Past unemployment affects negatively the employed and the unemployed and also the unemployed that have been unemployed within last 5 years are better-off than the unemployed that have not experienced this period of unemployment. Besides, the respondents with an unlimited contract are better-off than the ones with a limited contract.

Future studies on this topic could perhaps research on the well-being differences between the labor-market groups (good vs bad prospects) in Spain and test if they explain better the well-being differences than the labor force status. Another interesting research is the differences in well-being between the public and the private sectors in Spain as well.

In this research, I have learnt how to organize information and how to run an economic experiment. I have dealt with a statistical software, which is Stata. I have analyzed the data and I have chosen the right variables. I have codified all the data of the different rounds equally, I have designed models and played with the variables. Finally, I have learnt how to interpret the results of the coefficients.

7. BIBLIOGRAPHY

Campbell, David, Alan Carruth, Andrew Dickerson, and Francis Green. 2007. "Job Insecurity and Wages." *Economic Journal* 117(518):544-66.

Centro de Investigaciones Sociológicas. (2016). *Barómetros* [online]. Available in Web: <http://www.cis.es/cis/opencms/ES/index.html/> [Consulted: 6th April 2016]

Clark, A.E. (2003): "Unemployment as a Social Norm: Psychological Evidence from Panel Data", Journal of Labor Economics 21, 323-351

Clark, A.E., A. Knabe and S. Rätzel (2010): "Boon or Bane? Well-being, Others' Unemployment, and Labor-Market Risk", Labour Economics 17(1), 52-61.

Clark, A.E., and A. Oswald (1994): "Unhappiness and Unemployment", Economic Journal 104, 648-659.

European Social Survey. (2016). *Data and Documentation* [online]. Available in Web: <http://www.europeansocialsurvey.org/> [Consulted: 3rd February 2016]

Eurostat. (2016). *Data* [online]. Available in Web: <http://ec.europa.eu/eurostat/> [Consulted: 25th February 2016]

Instituto Nacional de Estadística. (2016). *Mercado laboral* [online]. Available in Web: <http://www.ine.es/> [Consulted: 14th February 2016].

Knabe, A., Rätzel, S., forthcoming. Scarring or scaring? The psychological impact of past unemployment and future unemployment risk, Economica.

Luechinger, S., S. Meier, and A. Stutzer (2010): "Why does unemployment hurt the employed? evidence from the life satisfaction gap between the public and the private sector", Journal of Human Resources 45(4): 998-104.

Preti, Antonio, and Paola Miotto. 1999. "Suicide and Unemployment in Italy, 1982-1994." *Journal of Epidemiology and Community Health* 53(11):694-701.

Raphael, Steven, and Rudolf Winter-Ebmer. 2001. "Identifying the Effect of Unemployment on Crime." *Journal of Law and Economics* 41(1):259-83.

Stata. (2016). *Getting started with Stata for windows release 14* [online]. Available in Web: <http://www.stata.com/> [Consulted: 17th February 2016]

Warr, P.B., Jackson, P.R. and Banks, M. (1988). "Unemployment and mental health: some British studies." *Journal of Social Issues*, vol. 44, pp. 47-68.

Appendix A. Sample means, standard errors and distributions

Table A1. Sample means and standard errors

Variable	Obs	Mean	Std. Dev.	Min	Max
ESS round	6,358	3.673	1.61	1	6
Life satisfaction	6,358	7.223	1.873	0	10
Members in the household	6,358	3.301	2.970	1	88
Gender	6,358	1.434	.496	1	2
Age	6,358	44.011	63.403	14	999
Domicile	6,358	2.923	1.204	1	8
Education	6,358	30.103	460.972	1	8888
Main activity	6,358	1.215	.619	1	3
Employment relation	6,350	1.278	.774	1	8
Ever unemployed more than 3 months	6,358	1.582	.64	1	8
Ever unemployed more than 12 months	6,358	4.066	2.211	1	8
Ever unemployed more than 5 years	6,358	3.994	2.211	1	8
Partner's main activity	6,358	63.523	12.635	1	99
Marital status	6,358	12.499	28.216	1	99
Children living at home	6,358	1.504	.550	1	9
Region	6,358	42.3	17.307	11	70
Unemployment rate	6,358	14.380	7.380	5,4	34.4
Age-squared	6,358	5956.25	64797.48	196	998001
Average unemployment rate	6,358	5.815	6.815	0	13.8
Employment contract unlimited or limited duration	6,358	2.529	2.068	1	8

Source: Own elaboration based on the ESS.

Table A2. The distribution of life satisfaction

How satisfied with life as a whole	Freq.	Percent	Cum.
Extremely dissatisfied	56	0.88	0.88

1	31	0.49	1.37
2	67	1.05	2.42
3	129	2.03	4.45
4	190	2.99	7.44
5	569	8.95	16.39
6	668	10.51	26.90
7	1,410	22.18	49.07
8	1,833	28.83	77.90
9	821	12.91	90.81
Extremely satisfied	584	9.19	100.00
Total	6,358	100.00	

Source: Own elaboration based on the ESS.

Table A3. The distribution of main activity

Main activity	**Freq.**	**Percent**	**Cum.**
Employed	5,675	89.26	89.26
Unemployed, looking for job	683	10.74	100.00
Total	6,358	100.00	

Source: Own elaboration based on the ESS.

Table A4. Distribution of partner's main activity

Partner's main activity last 7 days	**Freq.**	**Percent**	**Cum.**
Paid work	155	2.44	2.44
Not in labor force	74	1.16	3.60
Unemployed, looking for job	21	0.33	3.93
Not applicable	6,096	95.88	99.81
Don't know	1	0.02	99.83
No answer	11	0.17	100.00
Total	6,615	100.00	

Source: Own elaboration based on the ESS.

Table A5. The distribution of ever unemployed and seeking work for a period more than three months

Ever unemployed and seeking work for a period more than three months	**Freq.**	**Percent**	**Cum.**
Yes	2,826	44.45	44.45
No	3,500	55.05	99.50
Refusal	24	0.38	99.87
Don't know	8	0.13	100.00
Total	6,358	100.00	

Source: Own elaboration based on the ESS.

Table A6. The distribution of any period of unemployment and work seeking lasted 12 months or more

Any period of unemployment and	**Freq.**	**Percent**	**Cum.**

work seeking lasted 12 months or more			
Yes	1,097	17.25	17.25
No	1,710	26.90	44.15
Not applicable	3,532	55.55	99.70
Refusal	7	0.11	99.81
Don't know	12	0.19	100.00
Total	6,358	100.00	

Source: Own elaboration based on the ESS.

Table A7. The distribution of any period of unemployment and work seeking within last 5 years

Any period of unemployment and work seeking within last 5 years	Freq.	Percent	Cum.
Yes	1,518	23.88	23.88
No	1,296	20.38	44.26
Not applicable	3,532	55.55	99.81
Refusal	7	0.11	99.92
Don't know	5	0.08	100.00
Total	6,358	100.00	

Source: Own elaboration based on the ESS.

Table A8. Employment contract distribution

Employment contract unlimited or limited duration	Freq.	Percent	Cum.
Unlimited	3,123	49.12	49.12
Limited	1,438	22.62	71.74
No contract	277	4.36	76.09
Not applicable	1,432	22.52	98.62
Refusal	48	0.75	99.37
Don't know	40	0.63	100.00
Total	6,358	100.00	

Source: Own elaboration based on the ESS.

Table A9. The distribution of gender

Gender	Freq.	Percent	Cum.
Male	3,595	56.54	56.54
Female	2,763	43.46	100.00
Total	6,358	100.00	

Source: Own elaboration based on the ESS.

Table A10. Age distribution

Age of respondent				
	Percentiles	Smallest		
1%	19	14		
5%	23	16	Obs	6,358
10%	25	16	Sum of Wgt.	6,358
25%	31	16		

50%	39		Mean	44.088
		Largest	Std. Dev.	63.403
75%	48	999		
90%	56	999	Variance	4019.885
95%	60	999	Skewness	14.510
99%	66	999	Kurtosis	218.651

Source: Own elaboration based on the ESS.

Table A11. Employment relation distribution

Employment relation	Freq.	Percent	Cum.
Employee	5,112	80.40	80.40
Self-employed	1,056	16.61	97.01
Working for own family business	92	1.45	98.46
Not applicable	63	0.99	99.45
Refusal	32	0.50	99.95
Don't know	3	0.05	100.00
Total	6,358	100.00	

Source: Own elaboration based on the ESS.

Table A12. Children living at home distribution

Children living at home or not	Freq.	Percent	Cum.
Respondent lives with children at house	3,193	50.22	50.22
Does not	3,159	49.69	99.91
Not available	6	0.09	100.00
Total	6,358	100.00	

Source: Own elaboration based on the ESS.

Table A13. The number of people living at home distribution

Number of people living regularly as member of household	Freq.	Percent	Cum.
1	533	8.38	8.38
2	1,429	22.48	30.86
3	1,790	28.15	59.01
4	1,795	28.23	87.24
5	556	8.74	95.99
6	151	2.37	98.36
7	60	0.94	99.31
8	22	0.35	99.65
9	8	0.13	99.78
10	3	0.05	99.83
11	2	0.03	99.86
12	1	0.02	99.87
Refusal	7	0.11	99.98
Don't know	1	0.02	100.00
Total	6,358	100.00	

Source: Own elaboration based on the ESS.

Source: Own elaboration based on the ESS.

Table A14. Domicile distribution

Domicile	Freq.	Percent	Cum.
A big city	1,410	22.18	22.18
Suburbs or outskirts of big city	443	6.97	29.14
Town or small city	1,906	29.98	59.12
Country village	2,445	38.46	97.58
Farm or home in countryside	147	2.31	99.89
Refusal	3	0.05	99.94
Don't know	4	0.06	100.00
Total	6,358	100.00	

Source: Own elaboration based on the ESS.

Table A15. Legal marital status distribution

Legal marital status	Freq.	Percent	Cum.
Married	3,648	57.38	57.38
Separated	165	2.60	59.97
Divorced	291	4.58	64.55
Widowed	80	1.26	65.81
Never married	1,561	24.55	90.36
Refusal	23	0.36	90.72
No answer	590	9.28	100.00
Total	6,358	100.00	

Source: Own elaboration based on the ESS.

Table A16. The distribution of education

Highest level of education	Freq.	Percent	Cum.
Less than lower secondary education (ISCED 0-1)	1,169	18.39	18.39
Lower secondary education completed (ISCED 2)	1,668	26.23	44.62
Upper secondary education completed (ISCED 3)	1,098	17.27	61.89
Post-secondary non-tertiary education completed (ISCED 4)	615	9.67	71.56
Tertiary education completed (ISCED 5-6)	1,786	28.09	99.65
Other	1	0.02	99.67

Refusal	18	0.28	99.95
Don't know	3	0.05	100.00
Total	6,658	100.00	

Source: Own elaboration based on the ESS.

Appendix B. Baseline regressions with control variables

Table B1. Life satisfaction and labor force status

Life satisfaction	Labor force status	Labor force status and control variables
Employed		
Unemployed, looking for job	-1.196*** (.075)	-1.152*** (.076)
Age		-.017*** (.003)
Age-squared		.000*** (2.62e-06)
Men		
Female		-.083* (.046)
Number of people in the household		.002 (.009)
Have children at home		
Does not have children at home		.043 (.059)
Married		
Separated		-1.16*** (.144)
Divorced		-.916*** (.111)***
Widowed		-.574 (.205)
Never married		-.514*** (.074)
Less than lower secondary education		
Lower secondary education completed		.168** (.071)
Upper secondary education completed		.104 (.079)
Post-secondary non-tertiary education completed		.327*** (.093)
Tertiary education completed		.381*** (.072)
Big city		
Suburbs or outskirts of big city		-.066 (.098)
Town or small city		-.062 (.067)
Country village		.076

		(.065)
Farm or home in countryside		.264
		(.162)
Galicia		
Principado de Asturias		.043
		(.179)
Cantabria		-.022
		(.227)
País Vasco		.160
		(.129)
Comunidad Foral de Navarra		.204
		(.204)
La Rioja		.469
		(.309)
Aragón		.220
		(.156)
Comunidad de Madrid		.180*
		(.103)
Castilla y León		.185
		(.129)
Castilla-La Mancha		.518***
		(.139)
Extremadura		.683***
		(.171)
Cataluña		.161
		(.098)
Comunidad Valenciana		.096
		(.109)
Illes Balears		.012
		(.171)
Andalucía		.385***
		(.097)
Región de Murcia		.165
		(.157)
Ceuta y Melilla		.143
		(.545)
Canarias		.432***
		(.142)
ESS 2002		
ESS 2004	.066	.061
	(.088)	(.088)
ESS 2006	.433***	.416***
	(.086)	(.092)
ESS 2008	.289***	.313***
	(.080)	(.087)
ESS 2010	.383***	.378***
	(.085)	(.092)
ESS 2012	-.135	-.091
	(.086)	(.093)
_cons	7.162***	7.64***
	(.065)	(.189)

Source: Own elaboration with Stata based on the ESS.

Notes: Standard errors in parentheses. *,**,***Denote significance at the 10%, 5%, 1% levels. The reference category is indicated by bold italics letters.

Table B2. Life satisfaction, labor force status and regional unemployment rates

Life satisfaction	Regional unemployment rate	The interaction term	Regional unemployment rate and control variables
Employed			
Unemployed, looking for job	-1.223***	-1.046***	-.940***
	(.076)	(.179)	(.177)
Regional unemployment rate	.020***	.022***	.011
	(.005)	(.005)	(.013)
Employed x regional unemployment rate			
Unemployed, looking for job x regional unemployment rate		-.01	-.012
		(.009)	(.009)
ESS 2002			
ESS 2004	.076	.077	.067
	(.088)	(.088)	(.088)
ESS 2006	.494***	.5***	.447***
	(.087)	(.087)	(.099)
ESS 2008	.305***	.305***	.315***
	(.080)	(.080)	(.087)
ESS 2010	.216**	.21**	.298**
	(.095)	(.096)	(.139)
ESS 2012	-.4***	-.401***	-.209
	(.108)	(.11)	(.191)
_cons	6.932***	6.908***	7.533***
	(.088)	(.090)	(.227)

Source: Own elaboration with Stata based on the ESS.

Notes: Standard errors in parentheses. *,**,***Denote significance at the 10%, 5%, 1% levels. The reference category is indicated by bold italics letters.

Table B3. Life satisfaction, labor force status and partner's labor force status

Life satisfaction	Partner's labor force status	The interaction term	Partner's labor force status and control variables
Employed			
Unemployed	-1.185***	-1.15	-.595
	(.075)	(.922)	(.907)
Partner employed			
Partner not in labor force	-.545**	-.47*	-.471*
	(.257)	(.270)	(.266)
Partner unemployed	-1.1*	-.853*	-.805*
	(.423)	(.443)	(.435)
Partner employed and respondent employed			
Partner not in labor force and respondent unemployed		-.654	-1.2
		(1.13)	(1.11)
Partner unemployed		-2.606	-3.110*

and respondent unemployed		(1.638)	(1.608)
ESS 2002			
ESS 2004	.114	.119	.094
	(.09)	(.09)	(.09)
ESS 2006	.478***	.481***	.451***
	(.087)	(.087)	(.093)
ESS 2008	.334***	.337***	.35***
	(.082)	(.082)	(.088)
ESS 2010	.431***	.436***	.420***
	(.087)	(.087)	(.094)
ESS 2012	-.092	-.091	-.057
	(.087)	(.087)	(.094)
_cons	7.671***	7.669***	7.980***
	(.150)	(.152)	(.233)

Source: Own elaboration with Stata based on the ESS.

Notes: Standard errors in parentheses. *,**,***Denote significance at the 10%, 5%, 1% levels. The reference category is indicated by bold italics letters.

Table B4. Life satisfaction, labor force status and past unemployment

Life satisfaction	Past variables	Interaction terms	Past variables and control variables
Employed			
Unemployed	-.885***	-.814***	-.777***
	(.085)	(.127)	(.125)
Ever unemployed and seeking work for a period more than 3 months			
No ever unemployed and seeking work for a period more than 3 months	.625***	-.149	-.190
	(.077)	(.371)	(.367)
Period of unemployment and work seeking lasted 12 months or more			
No period of unemployment and work seeking lasted 12 months or more	.280***	.27***	.234***
	(.072)	(.082)	(.081)
Period of unemployment and work seeking within last 5 years			
No period of unemployment and work seeking within last 5 years	.261***	.315***	.332***
	(.073)	(.078)	(.078)
Employed x ever unemployed and seeking work for a			

period more than 3 months			
Unemployed x no ever unemployed and seeking work for a period more than 3 months		-.013 (.232)	-.125 (.228)
Employed x period of unemployment and work seeking lasted 12 months or more			
Unemployed x no period of unemployment and work seeking lasted 12 months or more		.059 (.174)	.056 (.171)
Employed x period of unemployment and work seeking within last 5 years			
Unemployed x no period of unemployment and work seeking within last 5 years		-.737*** (.272)	-.72*** (.269)
ESS 2002			
ESS 2004	.026 (.088)	.03 (.088)	.024 (.087)
ESS 2006	.401*** (.085)	.401*** (.085)	.389*** (.091)
ESS 2008	.251*** (.085)	.254*** (.080)	.286*** (.087)
ESS 2010	.36*** (.085)	.362*** (.085)	.363*** (.092)
ESS 2012	-.137 (.086)	-.134 (.086)	-.085 (.093)
_cons	6.677*** (.092)	6.651*** (.098)	7.187*** (.200)

Source: Own elaboration with Stata based on the ESS.

Notes: Standard errors in parentheses. *,**,***Denote significance at the 10%, 5%, 1% levels. The reference category is indicated by bold italics letters.

Table B5. Life satisfaction, labor force status and type of work contract

Life satisfaction	Type of work contract	The interaction term	Work contract variable and control variables
Employed			
Unemployed	-1.129*** (.076)	-.869*** (.12)	-.834*** (.118)
Unlimited work contract			

Limited work contract	-.372*** (.058)	-.303*** (.063)	-.347*** (.063)
No contract	-.476*** (.114)	-.503*** (.122)	-.480*** (.120)
Employed x unlimited work contract			
Unemployed x limited contract		-.542*** (.175)	-.501*** (.172)
Unemployed x no contract		.108 (.342)	-.044 (.336)
ESS 2002			
ESS 2004	.072 (.089)	.074 (.089)	.063 (.088)
ESS 2006	.45*** (.086)	.45*** (.086)	.431*** (.092)
ESS 2008	.295***-. (.081)	.290*** (.081)	.317*** (.869)
ESS 2010	.376*** (.086)	.367*** (.087)	.366*** (.092)
ESS 2012	-.152* (.087)	-.136 (.087)	-.089 (.093)
_cons	7.27*** (.069)	7.251 (.07)	7.833*** (.191)

Source: Own elaboration with Stata based on the ESS.

Notes: Standard errors in parentheses. *,**,***Denote significance at the 10%, 5%, 1% levels. The reference category is indicated by bold italics letters.