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For better or for worse?

Happiness among unemployed in 19 European countries - The effect of the economic crisis of 2008

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Abstract

As previous research has shown that unemployment is followed by lower levels of happiness and life-satisfaction, few studies have examined how this relationship is affected by an economic crisis. The economic crisis, which hit Europe in the autumn of 2008, provides an interesting case for such analysis. Using multilevel regression analysis, 19 European countries are analysed with data from 2006 and 2010. Data for the individual level is collected from the European Social Survey, and data for the country level is collected from Eurostat. This thesis studies the relationship between unemployment and happiness/life-satisfaction, and how this relationship has been affected by the economic crisis of 2008. Furthermore, the thesis examines how the relationship between unemployment and happiness/life-satisfaction is moderated by welfare generosity. The major finding in the thesis is that the economic crisis, with rising unemployment rates, has resulted in a reduced negative effect of unemployment on happiness/life-satisfaction. This is explained by a change of social norms; rising unemployment rates in Europe has resulted in a 'normalization' of being unemployed. Moreover, the statistical analysis showed a significant negative effect from income inequality on happiness/life-satisfaction. Yet for the group of unemployed a reverse effect was found, indicating that the negative effect of unemployment is reduced, as the income inequality increases. Still, this is not considered as a likely causal effect. The effect is instead understood from the fact that these countries also have higher unemployment rates which reduces the social stigma of unemployment in these countries.

Keywords: Happiness, Life-satisfaction, Unemployment, Economic crisis, Welfare state, European Union, EU.

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1. Introduction

What is a good society and what policies create a good society? Modern societies have often been determined as successful or less successful based on economic indicators as GDP, the level of democracy, protection of human rights and equal right to education, life expectancy and infant mortality. Hence, policy development has often been targeted at increasing such factors. Still, in the last decade voices from inside, as well as outside academia have been raised to also include measures on how the citizens actually *feel*. Several authors have come to argue, as Bo Rothstein (2010) for example, that a good society cannot be a good one if the people living in it are unhappy with their lives (Rothstein, 2010). Kahneman and Krueger (2006) claim in a similar way that Western societies must start to focus more on citizens' well-being and life-satisfaction rather than increasing income and consumption (Kahneman and Krueger, 2006). Even though the field of happiness studies in political science, sociology and economics is quite new, it has still yield a great interest from as well inside as outside academia (Bjørnskov et al., 2008). The political interest can be viewed from the fact that both the former French president Nicholas Sarkozy and the British Prime Minister David Cameron have shown interest in measuring the happiness levels among the French and British citizens (Ramesh, 2011). Outside of Europe, the Kingdom of Bhutan has introduced the goal of measuring Gross National Happiness (Kahneman and Krueger, 2006). Sarkozy assigned Joseph Stiglitz to lead the report "The Commission on the Measurement of Economic and Social Progress". The report identified GDP as an inadequate measure of economic and social progress and argued that measurements of well-being as e.g. self-reported happiness and life-satisfaction in surveys should be considered as a good way to improve and complement GDP (Stiglitz et al., 2009).

The political debate in contemporary Europe is today overshadowed by the economic crisis, which has been a global fact since the autumn of 2008. While the focus of the crisis mainly has concerned the future of the Euro and the financial balance of the EU-countries, surprisingly little attention has been focused on what happens to the citizens that experience such major economic crisis. A recent study from Greece, one of the countries in Europe that has been hit the hardest by the economic crisis, show that the rates of suicide attempts had increased with 36% when comparing data from 2009 with data from 2011. The authors of the study concluded that the economic distress can be seen as resulting in higher number of suicide attempts (Economou et al., 2011).

One of the most prominent consequences of the economic crisis has been rising unemployment rates in Europe. Previous research has shown that unemployment is followed by lowered levels of subjective well-being and life-satisfaction (Clark and Oswald, 1994, Korpi, 1997). Yet, quite few studies have examined the relationship between unemployment and happiness/life-satisfaction and how this relationship is affected by a major economic crisis. As the economic crisis of 2008 provides an interesting case, this thesis aims to contribute to the understanding of how a large economic crisis affects happiness/life-satisfaction among the unemployed. It is of relevance to analyse if the relationship between happiness/life-satisfaction and unemployment has changed due to the crisis and if there are certain countries where unemployed suffer worse than in others. Related to this is issue is the organization of the welfare system in a country. One could expect that e.g. a more generous welfare system would milder the effect of being unemployed. Still, previous studies have foremost been focused on the relationship between happiness and the welfare state, rather than how the relationship between unemployment and happiness is affected by the welfare state's organization. Furthermore, previous research on happiness and life-satisfaction in relation to the welfare state has shown contrary results. While some studies find a positive relationship between happiness and the level of generosity of the welfare state (DiTella et al., 2003, Pacek and Radcliff, 2008a, Radcliff, 2001, Scruggs and Allan, 2006) other studies find no such relationship (Bjørnskov et al., 2008, Ouweneel, 2002, Veenhoven, 2000b).

The purpose of this study is to examine the focal relationship between unemployment and happiness. Furthermore, the thesis aims to study 1) If and how this relationship has been affected by the economic crisis in 2008 and 2) If the relationship between unemployment and happiness is moderated by welfare generosity. As Bengt Brülde argues, if researchers can understand why different countries have different average levels of happiness, this information can be used to understand which structural conditions provide the best preconditions for a society with happy citizens (Brülde, 2007c).

1.1 Disposition of the thesis

The disposition of the thesis has the following structure. The next chapter outlines the theoretical framework and present happiness theories and previous research. Chapter three describes the research aim and the hypotheses. Chapter four explains and discusses the method and data used. Chapter five present the results from the statistical analyses. Chapter six finish the thesis as the conclusions from the study are discussed.

2. Theoretical framework

This chapter will introduce the theoretical framework. Firstly, the concept of happiness and happiness theories are outlined and the reader is briefly introduced to how happiness and life-satisfaction are measured in empirical studies. A more comprehensive discussion of validity and reliability in empirical happiness research is given in chapter 4, *Method and Data*. Secondly, previous research relevant for this study is presented focusing on 1) the relationship between employment status and happiness 2) happiness and welfare generosity and 3) happiness and economic crises. Relevant additional factors will be briefly discussed further.

2.1 Happiness – definition and theories

2.1.1 Definition of happiness

There is no clear and precise definition of happiness; instead there are several different strands of theories explaining happiness in different ways. Still, happiness is often explained as a positive evaluation of one's life. Such understanding of happiness comes close to the concept of 'life-satisfaction' where happiness is understood as being satisfied with the quality of one's life (Blanchflower and Oswald, 2004, Pacek and Radcliff, 2008b, Veenhoven, 1997).

Bengt Brülde (2007c) refers to happiness as an individual mental state of mind. Even though this understanding of happiness might seem quite evident, happiness in classical philosophy was understood in a different way. The understanding of happiness in classical philosophy also included objective factors of what was considered to be part of 'the good life'(Brülde, 2007c).

Concepts as subjective well-being, life-satisfaction and welfare are further used interchangeably in the field of happiness studies (Veenhoven, 1997). In philosophical works, the concept of the 'good life' is moreover used when discussing happiness. The good life is a subjective concept, based on the individual's own evaluation of her life. The understanding of the 'good life' is a life which is good for the person that leads it, and refers thereby not to e.g. leading a morally good and altruistic life (Brülde, 2007a).

2.1.2 Happiness theories

There are several different theories which aim at explaining 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 the individual evaluates their life in positive way. If one instead regards happiness as an external or objective matter, there are certain things in life that is good for the person and will result in 'the good life' no matter if the person desires these things or not (Brülde, 2007a).

So called *Pure Happiness Theories* regard happiness as the *only* thing that determinates a person's quality of life. While opponents of pure happiness theories do not deny the importance of happiness for a person's life-satisfaction, other factors than happiness are regarded as important as well (Brülde, 2007c).

Bengt Brülde (2007a) lists 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 whom evaluates their life in a positive way. In the hedonist view a person is happy if a person has more pleasure than displeasure in her life. The mood view explains a happy person as a person with a positive mood state. The hybrid view regards happiness as a both a cognitive as well as mental state. To be happy is to both evaluate one's life in a positive way as well as considering the affective experience of how good or bad life feels (Brülde, 2007a). Brülde (2007b) argues that the most satisfying way to explain happiness is to use the hybrid theory and supports his arguments on the understanding of the subject as sovereign. The evaluation of one's life as good or bad is important according to Brülde when explaining happiness (Brülde, 2007b).

Ruut Veenhoven has developed a model for understanding happiness and quality of life based on the notion of *life chances* and *life results*, separating *internal* and *external* qualities. Veenhoven argues 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). Veenhoven furthermore separates outer and inner life qualities where the outer qualities refer to the environment and the inner to individual. Both 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 system and mass education. The internal qualities of life refers to individual characteristics such as physical

and mental health, knowledge and what Veenhoven (2000) refers to as 'art of living', e.g. different lifestyles. Veenhoven argues that when there is a good match between inner and outer qualities; when the individual 'fits' it's environment well there are good preconditions for happiness (Veenhoven, 2000a).

2.1.3 Measuring happiness in empirical research

Today, happiness and life-satisfaction are measured in a wide range of disciplines such as political science, sociology, psychology, medicine and economics. The empirical researcher aims to define and analyse different factors that are related to happiness and life-satisfaction by for example using statistical analysis (Haybron, 2000).

Empirical studies of happiness and life-satisfaction are commonly referred to as *Quality of Life* (QOL). Veenhoven (1997) classifies these studies as a way of measuring what constitutes the good life and how the respondents' life meets these standards. Veenhoven further regards QOL as ideologically based in the Enlightenment tradition and a wider tradition of social engineering which has influenced the development of the modern welfare state, among others (Veenhoven, 1997). Empirical studies of happiness and life-satisfaction have been performed in the Western world since the 1940s. The USA has performed the Gallup-Polls since 1948, and in the EU the Eurobarometer Survey began in 1973, which both includes questions of life-satisfaction (Veenhoven, 1996). When happiness and life-satisfaction started to be included in surveys, life-satisfaction was measured in separate domains such as work and family. Satisfaction with *life as a whole*, and measuring how happy people *are as a whole*, was later distinguished from measuring satisfaction with different life domains (Veenhoven, 1996).

In empirical studies, happiness and life-satisfaction have been used synonymously yet the most common dependent variable is life-satisfaction. Respondents are asked how satisfied they are with their lives and are asked to define their life-satisfaction on a scale. Different surveys use different scales; some use a verbal scale with four steps starting at 'Not at all satisfied' and ending at 'Very satisfied'. Other surveys uses a numeric scale from 1-10 or 0-10, where 0 or 1 is defined as *Not at all satisfied* and 10 *as very or extremely satisfied*. Happiness can also be measured in much the same way as with life-satisfaction, by asking people how happy they are. The scales, verbal or numeric, are used in the same way as for

life-satisfaction (Brülde, 2007c p.27). When measuring happiness in quantitative studies, e.g. on a scale from 0-10, the self-reported score is regarded as depending on factors such as class, gender, age, ethnicity, employment status and religious views (Blanchflower and Oswald, 2011).

From a theoretical perspective, Brülde argues that most empirical researchers 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) (Brülde, 2007c p.74).

2.1.4 The understanding of happiness in this thesis

In this thesis, happiness will be understood from the perspective of the Hybrid Theory. Happiness is regarded to be a mental state of mind, as described by Brülde (2007c) and happiness is understood as having both evaluative and affective aspects. The concepts of life-satisfaction and subjective well-being will be used synonymously with the concept of happiness. This is due to the fact that these concepts are used with same meaning in previous research and using only happiness or only life-satisfaction would therefore be misleading.

2.2 Previous research

The focal relationship of this study is the one between employment status and happiness. The aim is to study this relationship and how it is affected by 1) the economic crisis from 2008 and 2) the level of welfare generosity. This section will introduce previous research on employment status and happiness and thereafter proceed by presenting the relationship between happiness and economic crises. Further, previous research on welfare generosity and happiness will be outlined. This section will be finished by discussing additional factors related to happiness; focusing on these factors that will be included as control variables in the statistical analysis.

2.2.1 Employment status and happiness

A vast number of studies have shown that unemployed individuals report lower levels of happiness and life-satisfaction (see for example: Clark and Oswald, 1994, Clark et al., 2001, Frey and Stutzer, 2000, Korpi, 1997, Winkelmann, 2009). Still, it is not clear exactly why

unemployed feel worse than employed individuals. When trying to explain the relationship between employment status and happiness two main strands of theories can be outlined. The first one understands employment and the negative effect from a psychological perspective. The second strand of theory regards the unemployment and the lowered subjective well-being from a material perspective focusing on the loss of income.

When explaining the lower levels of happiness and life-satisfaction from unemployment using a psychological perspective, employment is regarded as a psychological institution. Marie Jahoda has developed a theoretical perspective[1] which argues 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. Nordenmark and Strandh (1999) builds on Jahoda's theories yet find this view too focused on structure and thereby leaving little room for agency. As a complement, the authors therefore also include *Identity Theory* which argues that the effect of unemployment depends on the individuals current and previous experiences and how important work is for the individual's identity. If work is very central for the individual and if the individual finds it difficult to create and withhold a positive self-image when becoming unemployed, then the effect of unemployment will of course become more severe (Nordenmark and Strandh, 1999).

Andersen (2009) is also using Jahoda's theories of unemployment but argue that work and employment cannot be seen as one homogenous institution. Andersen claim that the effect of employment, and thereby also unemployment, varies between different social classes. When studying the effect of unemployment, Andersen concludes that individuals in the middle classes are worst off once unemployed. This is explained from the fact the work conditions for the middle class are not too demanding and that work is important for the identity of the middle classes. For the higher and the lower classes, Andersen instead finds a relief in mental stress when these individuals become unemployed. Andersen explains this from the fact that both the lower and the higher classes have a work situation that is more stressful compared to the middle classes (Andersen, 2009).

Winkelmann and Winkelmann (1998) have studied the non-pecuniary costs of unemployment and conclude that employment is a source of identity and self-esteem. The authors' results

[1] As explained in Nordenmark and Strandh (1999)

indicates that it is the social costs, rather than the loss of income that results in lover levels of happiness among unemployed individuals (Winkelmann and Winkelmann, 1998).

The second strand of theory focuses on the negative effect on unemployment as a result of loss of income. Ervasti and Venetoklis (2010) argue that consumption patterns in the Western world makes employment necessary if one wants to take part of activities and consumption. The authors further argue that the 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. Following this line of argument, the authors argue that individuals from the higher strata of society can cope with unemployment to a higher degree than individuals in the lower societal strata (Ervasti and Venetoklis, 2010). Nordenmark and Strandh argues in a similar way that the economic aspect of unemployment is important, however also emphasising psychological factors related to employment. The authors argue that unemployment leads to a dissonance between the psychologically- and economically defined needs which creates frustration for the individual. The frustration to not be able to fulfil one's socially defined needs can thereby explain the lower subjective well-being for the unemployed (Nordenmark and Strandh, 1999).

2.2.2. Happiness and welfare generosity

The question of whether or not the welfare state or level of welfare generosity matters for the level of happiness in a nation has been given different and contrary answers. Results from Veenhoven (2000b) and Bjørnskov (2007; 2008) indicates that there is no such relationship between welfare generosity and happiness. At the other hand (2003), Radcliff (2001), Rothstein (2010) Pacek and Radcliff (2008) and Scruggs and Allan (2006) show positive correlation between the organization of the welfare state and level of welfare generosity and happiness. There have been further been studies focusing directly on how the effect of unemployment is moderated by the organisation of the welfare state; Ouwenell (2002) finds no significant relationship between the subjective well-being of unemployed and level of social spending. However, DiTella et al. (2003) however find a positive relationship between the level of unemployment benefits and the happiness among unemployed.

When the relationship between the welfare generosity and happiness has been measured, two general ways of measurement can be found. One way of measuring is to use the percentage of

GDP which is spent on social security in a country. A second way of measuring is to use the concept of welfare states or de-commodification and how these concepts are related to average levels of happiness and life-satisfaction. The concepts of the welfare state and of de-commodification are to a large extent based on Gøsta Esping-Andersen's work "*The three worlds of welfare capitalism*". The concept of de-commodification refers to the degree that that the worker can survive without selling one's labour on the labour market. Esping-Andersen defines three different types of de-commodification arrangement in the Western world which he defines as *welfare regimes*. The first system is foremost found in the Anglo-Saxon nations and is based on means-tested assistance, with countries as Britain, Australia and the USA as examples and is called the *Liberal regime*. The second system is based on work performance and was developed first in Germany and thereafter on the European continent and is named the *Corporatist* or *Continental regime*. The third system is based on universal rights of citizenship and resident in the country and is most prominent in the Scandinavian countries, called the *Social Democratic* or *Nordic regime*. Esping-Andersen has developed a de-commodification index for the three system based on pensions-, sickness- and unemployment insurance. The Anglo-Saxon countries receives the lowest total de-commodification score while the Nordic countries have the highest de-commodification score and the Continental countries fall closely under the Scandinavian countries (Esping-Andersen, 1990 p.36-54)

Veenhoven (2000b) has analysed the relationship between happiness and welfare generosity by using social expenditures as percentages of GDP. In the study of 41 countries with data from 1980-90, Veenhoven (2000b) finds no strong relationship to the average levels of happiness and social spending (Veenhoven, 2000b). Similar conclusions are drawn by Ouweneel (2002) when studying the well-being of unemployed individuals in 42 countries (Ouweneel, 2002). Bjørnskov (2007) reaches the similar results when measuring the relationship between size of government and life-satisfaction and finds no significant result between life-satisfaction and social expenditures (Bjørnskov et al., 2007). However, contrary to these studies, DiTella et al. (2003), when analysing 12 European countries and the USA, found a positive significant relationship between national well-being and the levels of unemployment benefits (DiTella et al., 2003).

Radcliff (2001) has measured the relationship between the welfare state and average levels of happiness by using the concepts developed by Esping-Andersen (1990), outlined above.

Radcliff (2001) studied the relationship between welfare regimes and happiness and concludes that the levels of happiness are highest in the Social Democratic regime (Radcliff, 2001). Rothstein (2010) reaches similar conclusions and found that the citizens within the Social Democratic regime have higher average levels of happiness compared to citizens in the Southern Europe. Rothstein explains the results by arguing that the Social Democratic regime with its universal characteristics results in higher levels of social and economic equality which gives happier citizens. Rothstein however emphasises that the result cannot answer the question of causality, but concluded that there are a strong correlation between happiness and the Social Democratic regime (Rothstein, 2010).

When using Esping-Andersen's concept of de-commodification, Pacek and Radcliff (2008) found a positive and significant correlation between de-commodification and happiness (Pacek and Radcliff, 2008a). Scruggs and Allan (2006) have replicated Esping-Andersen's concepts of welfare regimes but concluded that this concept is no longer meaningful when studying the effect of the welfare state as the Esping-Andersen clustering were barely in existence at the time when the authors replicated the study. As an alternative measure, the authors used a measurement of benefit generosity where unemployment-, sickness- and pension benefits are included. When controlling for benefit generosity, Scruggs and Allan (2006) finds a positive and significant correlation between levels of benefits and happiness (Scruggs and Allan, 2006). In a similar way, Sammani (2009) tested the hypothesis that a more generous welfare state results in happier citizens. While the first test revealed a positive and significant correlation, when controlling for effect over time the relationship no longer exists (Samanni, 2009).

2.2.3 Happiness and economic crisis

What happens to individuals' well-being and life-satisfaction when their country or region is experiencing a major economic crisis? Several studies have concluded that an economic recession results in lowered well-being among the citizens. Different groups in society are however affected in different ways, such as Bjørnskov (2008) who points to the fact that low-skilled workers and women are more vulnerable than others. The reason for this is the fact that there are a surplus of low-skilled workers and that women tend to be let go before their male colleges (Bjørnskov et al., 2008). Results from DiTella et al. (2003) show that the subjective well-being is lowered for both employed and unemployed individuals. A study by

Mertens and Beblo (2011) on the effect of the economic crisis of 2008 in Germany and the UK returned a conclusion that supported DiTella et al. revealing that the general level of life-satisfaction fell in the both countries. Mertens and Beblo (2011) argue that a major economic crisis results in a general feeling of insecurity among the citizens which causes lower levels of life-satisfaction. While DiTella et al. finds that both employed and unemployed individuals are affected negatively, Mertens and Beblo finds that the negative results are applicable foremost to the employed individuals. For unemployed people, the negative effect of unemployment seems to be reduced during the crisis and the same relationship is found among individuals with temporary jobs. Mertens and Beblo explain this relationship as due to a change of social norms; the economic crisis makes unemployment and uncertain labour market positions more normalized which reduces the negative effect for the individuals in these positions (Mertens and Beblo, 2011). Bell and Blanchflower (2010) have also studied the effect of the economic crisis of 2008, focusing on the UK only. Their results show that people with low education as well as young black individuals were affected the worst (Bell and Blanchflower, 2010).

A recent study by Gudmundsdottir (2011) compared data from 2007 and 2008 from Iceland, focusing on happiness and the effect of the economic crisis. Gudmundsdottir concluded that those worst affected by the economic crisis were those with financial difficulties. In comparison to i.e. DiTella et al. (2003) Gudmundsdottir finds no significant relationship between happiness and unemployment in her study (Gudmundsdottir, 2011).

Related to the effect of an economic crisis on the relationship between unemployment and happiness is the concept of social norms. Clark (2003) refers to social norms as adapting and adjusting one's behaviour to 'relevant others', which Clark also refers to as the individuals reference group. Clark (2003) found that when the unemployment was high in the reference group, the negative effect for the unemployed was reduced. This effect can be found if both the respondent and the respondent's partner are unemployed; the negative effect on the level of happiness is reduced. This is a quite noticeable effect since being employed and having an unemployed partner instead results in a negative effect on the level of happiness (Clark, 2003).

2.2.4 Additional factors

Previous research has shown that happiness and life-satisfaction are significantly related to a wide range of factors. As it is out of the scope of this thesis to review all these studies only the factors that are considered to be of relevance for the statistical analysis are outlined below. These are age, education, individual income, GDP, unemployment rate and democracy and equality[2].

Age

The relationship between age and happiness has shown to be u-shaped. The levels of happiness are highest in the childhood and early adulthood while it decreases and are usually lowest in the mid-thirties. Thereafter, the levels of happiness generally increases again (Veenhoven, 1996). Regarding the relationship between happiness and unemployment and age, the mental stress of becoming unemployed is highest for individuals in the age group 30-49 and lowest for individuals under the age of 30 (Clark and Oswald, 1994). The fact that middle-age individuals are more affected than young persons can be understand both from the perspective that their professional role are more established and that the loss of income is harder to cope with the longer one has been active in the labour market (Jackson and Warr, 1984).

Individual income

Individual income is positively correlated with happiness and life-satisfaction. However, this relationship is stronger in countries with a lower GDP per capita and several authors have argued that the income should be regarded as a form of basic need when explaining the relationship between happiness and income (Diener et al., 1995). If income is regarded as a basic need, the level of happiness or life-satisfaction should not increase after a certain income level. Layard (2005) argues that this is the case and in when analysing the relationship between income and happiness a curved shaped relationship is found. Layard therefore claim that after a certain level of material prosperity money no longer buys happiness (Layard, 2005). Easterlin's research (2001) show similar results arguing that individuals adjust their preferences after their income and that the level of happiness is therefore constant during the

[2] Gender was originally intended to be part of the control variables in the statistical analysis. Yet, gender shown no significant effect on the dependent variable and was therefore excluded from the statistical analysis. Hence, the effect of gender on happiness/life-satisfaction and the relationship between unemployment and gender is not outlined in the thesis. For the interested reader the articles by e.g. Forret et al., (2010) and Kahneman and Krueger (2006) are recommended.

life-cycle, regardless of income. The level of income is most important in early adulthood when most people have the same preferences but different levels of income. Over time, people adjust to higher or lower levels of income standard (Easterlin, 2001).

Education

In post-industrial societies, education can be seen as the most important human capital. The level of education and employment status is further clearly interlinked and having a secure and well-paid work is closely connected to the level of education. To not have finished upper secondary education is often highlighted as the greatest risk factor for becoming unemployed (Michalos, 2008). The effect on unemployment can also be understood from how important a job and a career is in a person's life-plan. If one's work is very central and an important part of one's life-plan; it is more likely that if becoming unemployed will result in larger negative effects on happiness/life-satisfaction. Furthermore, it is more likely that individuals who have proceeded to higher education will give their work identity and career a more central place in their life plans (Andersen, 2009).

GDP

There is a clear and significant relationship between GDP and happiness as citizens in richer countries have higher average levels of happiness compared to those in poorer countries (Brülde, 2007c). When comparing bordering countries; countries with higher GDP than their neighbouring countries had higher average levels of happiness (Diener et al., 1995).

Democracy and Equality

When measuring happiness, countries that are classified as more equal and democratic also have higher average levels of happiness. Factors such as gender equality, equal access to education are shown to be positively correlated to happiness. Such results have been explained by the understanding that increased social inequalities results in a frustration for individuals and increases the risks of i.e. poverty. Moreover, according to a study Bjørnskov (Bjørnskov et al., 2008) the longer period of time a country has been classified as democratic, the higher the levels of happiness among the citizens will be. Democracy, human rights, equal access to education for both sexes are all factors which gives the individual a greater freedom to pursue their life goals and live their lives after personal preferences. The increased freedom of such opportunities can explain why citizens are happier in countries which provide good

protection in areas such as democracy and human rights (Diener et al., 1995, Veenhoven, 1996).

3. Research aim and hypotheses

This chapter will introduce the research aim and the three hypotheses that will be tested in the statistical analysis.

3.1 Research aim

The focal relationship in the thesis is the one between employment status and happiness/life-satisfaction. The concept employment status will include employed and unemployed individuals[3]. The aim in the thesis is to study the relationship between unemployment and happiness/life-satisfaction and 1) if and how this relationship has been affected by the economic crisis of 2008 and 2) if and how the level of welfare generosity moderates the relationship between unemployment and happiness/life-satisfaction.

3.2 The hypotheses

Below are the three hypotheses presented.

3.2.1 Hypothesis 1

Based on previous research the expected result is that unemployed individuals will have lower average levels of happiness and life-satisfaction. This is tested through hypothesis 1.

H_1 Unemployed individuals will have lower average levels of happiness/life-satisfaction compared to employed individuals.

3.2.2 Hypothesis 2

The aim of the thesis is furthermore to examine if and how the economic crisis of 2008 has affected the relationship between unemployment and happiness. The expected results in this part of the study are uncertain due to limited research in this area. As indicated in previous research the effect of a large economic crisis can both be expected to increase or decrease the negative effect of unemployment on happiness/life-satisfaction. An increased negative effect

[3] The category of employment status was originally aimed to also include individuals with low job security. Individuals with no or limited job contract were analyzed in relation to the dependent variable. However, the primary analysis of this category showed no clear and significant results and this group is therefore not a part of the empirical analysis.

can be expected due to an increased insecurity in society. A decreased effect of unemployment on happiness/life-satisfaction can be expected as a result from a 'normalization process' of unemployment; when more individuals are unemployed this becomes less of a stigma. The previous research regarding the negative effect of an economic crisis furthermore contains a very limited number of studies comparing a larger number of countries, as in this thesis. One of the few studies that compare several European countries and the USA is the study from DiTella et al., (2003) which concluded that an economic recession will negatively impact the average levels of happiness among both employed and unemployed. The more recent studies regarding happiness and the economic crisis of 2008 examine only one or a few countries, e.g. Gudmundsdottir (2011) and Mertens and Beblo (2011). The hypothesis is therefore stated following the result from DiTella et al., (2003) assuming that the economic crisis of 2008 will increase the negative effect of unemployment.

H_2 The effect of the economic crisis of 2008 will increase the negative effect of being unemployed when comparing data from 2006 and 2010.

3.2.3 Hypothesis 3

Furthermore, the thesis aims to test the moderating effect on welfare generosity. Previous studies have shown contrary results in this field, and have foremost focused on the effect of welfare generosity in nations, rather than focusing on the group of unemployed, as in this thesis. Yet, several studies have concluded that a more generous welfare state is associated with happier citizens, e.g. Radcliff (2001), Rothstein (2010) Pacek and Radcliff (2008), Scruggs and Allan (2006). It is therefore argued that unemployed, a group that are in risk of social exclusion, would benefit from a more generous welfare state. Therefore, the hypothesis expects that higher levels of welfare generosity will reduce the negative effect of being unemployed.

H_3 The level of welfare generosity will moderate the negative effect of being unemployed, hence higher level of welfare generosity will reduce the negative effect of being unemployed.

4. Method and data

Below, the design of the study is outlined and the data sample introduced and discussed.

4.1 Research design

The purpose of the study is to examine the relationship between unemployment and happiness/life-satisfaction in 19 European countries. The aim is to further study how this relationship has been affected by the economic crisis of 2008 in Europe, and secondly if the effect of unemployment on the happiness/life-satisfaction is moderated by welfare generosity. To be able to make such large generalizations and compare average levels between countries, the quantitative method is the most appropriate. While the multiple regression analysis and the Ordinary Least Squares (OLS) are suitable to examine the relationship between unemployment and happiness/life-satisfaction, the focus on structural conditions requires a mixed model analysis. The multilevel regression analysis is therefore argued to be the most suitable method for this thesis (Hox, 2010).

The thesis deals with a two level multilevel model. Data will therefore be collected for two levels; data for the individual level (level 1) and data for the country level (level 2). At level 1 there are individuals in 19 countries which are classified according to employment status (employed or unemployed) and their self-reported levels of happiness and life-satisfaction. In accordance to previous research intraclass variability is expected among these individuals due to factors as e.g. social class and age. Control variables are therefore included at level 1; both in the OLS regressions and in the multilevel analysis. As the European Social Survey (ESS) is stratified by countries, the principle of independence is violated as respondents within countries are more alike in comparison to other respondents (ESS EduNet chapter 7)[4]. All countries will therefore be analysed separately for each year.

At level 2 there are 19 countries in which the individuals are *nested*. Nesting is a central concept in multilevel analysis and individuals can be nested in groups or clusters, for example in organizations or countries. In the same way as account for the intraclass variation at level 1, one must also account for variation between the different countries in which the individuals are nested. This is done by introducing country predictors at level 2. Of interest is to find the

[4] http://essedunet.nsd.uib.no/cms/topics/regression/7/

identification of a significant interaction effect[5] between unemployment and the country level predictors to determine if the relationship between unemployment and happiness/life-satisfaction is moderated by any of the country level predictors.

4.1.1 Fixed and random effects

The single level model assumes that the intercept and the slope are *fixed* values, meaning that the intercept and the slope are the same for the whole sample. As exemplified in this thesis, such analysis is shown when all countries are analysed together by using the linear Ordinary Least Square method (OLS). When doing so, one receives one fixed intercept for all countries and one fixed b-coefficient for the explanatory variable. For example, the effect of unemployment is then assumed to be the same for all countries. Yet, to be able to consider such analysis as accurate all individuals should be randomly collected. As explained above, as the individuals are nested in countries and therefore this principle is violated. The multilevel analysis is therefore a better method for such sample than the OLS regression. The multilevel analysis provides the analyst with the possibility to introduce *random effects* in the analysis. As fixed effects assume that issues such as the intercept and the effect of unemployment are the same for all countries, the random effects show how the intercept and the effect of unemployment vary between the different countries. The random part of the multilevel analysis therefore describes the *variance* between the groups (here countries) that the individuals are nested within (Heck et al., 2010 ,Ch. 3).

4.1.2 Hypotheses testing in multilevel analysis

The multilevel analysis can be used to test how well different models fit the data. For this purpose a top-down or bottom-up approach can be used. In this study a bottom-up approach is used as parameters will be added one after one. As doing so one can use the Maximum Likelihood estimation to determine how well the parameters fit the observed data in model. When using the Maximum Likelihood, each model will receive a value of -2Log Likelihood. The -2Log Likelihood has a Chi-square distribution. Furthermore, a change in -2Log Likelihood between two models also has a Chi-square distribution. This is relevant when

[5] An interaction term refers to a multiplication of variable X*Z to understand the relationship of X to Y under precondition that Z is part of the interpretation. E.g. is the relationship between unemployment (X) and happiness/life-satisfaction (Y) depending on of the level of income inequality (Z)?

testing nested models[6] as one can use the difference in deviance between models to determine which model fits the data the best. For example, if model 1 has one parameter and one additional parameter is added in model 2; the change in -2LogLikelihood has a Chi-square distribution of one degree of freedom. If two parameters are added, then the change in -2LogLikelihood has a Chi-square distribution of two degrees of freedom and so on. One can therefore control if the change of deviance has led to a significant improvement of the nested models.

Furthermore, the use of deviance is important in a study like this where the number of groups (in this case countries) are relatively small. The preferred number of groups for multilevel analysis is >100 which might not be realistic if the level two units are European countries. The relative low number of level two units in this analysis (19) might therefore give lower significance levels than for i.e. an OLS regression. The change in deviance can therefore be used to control the significance levels when adding parameters in the analysis (Hox, 2010 , Ch. 3).

4.1.3 Centering explanatory variables

In the analysis, the intercept is interpreted when all other values are 0. However, 0 might not always be observable or meaningful value for the explanatory variables. Centering is therefore a common procedure in multilevel analysis. Centering the country predictor by the grand mean[7] results in the fact the 0 will become a meaningful value as it represents the mean value of all countries. Centering is further important when using interaction terms as this reduce the risk of multicollinearity and simplify the interpretation of the interaction terms (Hox, 2010 Ch. 4)

4.2 Measuring happiness – reliability and validity

When using self-reported levels of happiness or life-satisfaction in academic research, questions of validity and reliability are often raised. Concerns of validity include questions regarding if surveys aiming to measure happiness *actually measures happiness* or if they

[6] Nested models refer to models where i.e. Model 2 contains the same parameters as Model 1 but one or more parameters have been added in Model 2. The difference in deviance in relationship to degrees of freedom can thereby be used to calculate if Model 2 fits the data significantly better than Model 1.

[7] Grand mean refers to the overall mean. Grand mean centering of country predictors refers to a variable where 0 represents the mean value of all countries. A country with a positive value in a grand mean centered variable refers to a country where the original value is above the grand mean. A country with negative value refers in the same to a country where the original value is below the grand mean.

measure something else. Can self-reported happiness and life-satisfaction produce meaningful and useful data for measuring happiness and life-satisfaction? Further, are such surveys with self-reported levels of happiness and life-satisfaction reliable? Are the results stable over time and do the results of self-reported surveys correspond with other results, as for example health indicators? (Creswell, 2009 p.149-150). Based on previous research, the answer to these questions are yes; self-reported happiness and life-satisfaction from surveys has shown to be a valid and reliable source of empirical data for scientific research. Below the concerns of validity and reliability as well as how happiness and life-satisfaction are measured in empirical research will be outlined.

Concerning the validity of self-reported happiness and life-satisfaction several studies have concluded that there are positive correlations between subjective self-reported levels of happiness and objective measures of happiness. Global measurements of life-satisfaction has shown positive correlation to both psychological and medical indicators (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). People who report themselves as happy are also rated independently as happy by people around them. Other factors pointing to validity of self-reported happiness is that countries with higher levels of average self-reported happiness also have lower levels of suicide (DiTella et al., 2003). Further relevant factors of subjective well-being as sleep quality and self-reported health have shown positive correlations to self-reported happiness (Kahneman and Krueger, 2006). The development in neuroscience has further improved the testing of the validity of self-reported happiness. Previous studies in neuroscience have concluded that happiness and pleasant experiences are related to activity in the left prefrontal cortex of the brain while pain and unpleasant experiences are associated to activity in the right prefrontal cortex of the brain (Brülde, 2007c, Kahneman and Krueger, 2006). Studies have shown positive correlations between left-right brain activity and self-reported life-satisfaction (Kahneman and Krueger, 2006).

Common objections against using surveys with self-reported happiness or life-satisfaction for research have focused on the difficulty in comparing average levels of happiness between different countries due to differences in languages. Objections have been raised to the fact that the concepts of ‘happiness’ and ‘life-satisfaction’ don’t have the same connotations in different languages. Yet, when testing this hypothesis on respondents in bilingual countries no

such linguistic bias has been found. Secondly, there has further been criticism against the use of self-reported happiness as respondents in countries where happiness is regarded as very desirable would rate themselves higher, whereas respondents living in countries where a more modest approach is considered desirable would underrate their score. Still, this has been taken into account and people living in cultures where hedonistic values are considered more desirable do not rate themselves higher than in cultures with a more modest approach (Veenhoven, 1996).

4.3 Choice of dependent variable and scales of measurement

When measuring happiness, the most common dependent variable is the one measuring life-satisfaction. Still, the variable measuring happiness is also used. Different scholars have different views on which of the variables that give the best result. Authors such as Sammani and Holmberg (2010) and Brülde (2007c) argue that it may be better to explicitly ask people how happy they are (Samanni and Holmberg, 2010, Brülde, 2007c). Yet, Blanchflower and Oswald (2011) argue that it makes little difference if one asks the respondent how happy they are or how satisfied they are with her life as whole (Blanchflower and Oswald, 2011).

Different surveys use different questionnaires and scales; some surveys use multiple-scales while others use single-item scales. The single-item scales are most commonly a 5-7 points Likert scale, but there are single-item scales measuring happiness or life-satisfaction on scales from 2 to 100 points. The Likert scale has been criticized for not being sensitive enough, however has the 10-point end-defined scales been argued to have a good reliability. Abdel-Khalek (2006) argues that the single-item scale is to be preferred when measuring happiness due to the fact that there are few benefits of asking the respondents many different questions. Instead, the respondents can better decide if they fit the concept of e.g. happiness or life-satisfaction in the single-item scale (Abdel-Khalek, 2006). Brülde argues in a similar way that although people seem to be more precise in defining their satisfaction with different domains in life than with life as a whole, it would not be beneficial to ask a person how satisfied they are with e.g. seven domains and thereafter calculated an aggregated score. The reason for this is that different people emphasise different life domains. Hence, some people put the greatest focus on the areas of lives where one is the most successful while others emphasises those areas in life where they are doing the worst (Brülde, 2007c).

4.3.1 The dependent variable in this thesis

The dependent variable in this thesis is an index variable based on two single-item scale. The first variable asks the respondents *how satisfied they are with their life as a whole* and the second, *how happy they are*. Both variables are measured on a 0-10 scale. The argument for creating an index variable is outlined bellowed at 4.4.2 but it is important to emphasise that adding two single-item scale variables should not be considered the same as adding scores from different life domains. Instead, the single-item scale is the most preferable one in a study like this (see Brülde 2007c and Abdel-Khalek 2006) and the choice of combining the two variables is based on methodological arguments described below in 4.4.2.

4.4 Data

This section will introduce the data and the variables used in the analysis. Table A9 in the appendix provides sources and names for the variables used.

4.4.1 Data collection

This thesis deals with a multilevel research problem. Data will therefore be collected at two levels; the individual level and the country level. The data for the individual level is collected from the European Social Survey (ESS). Each round of ESS contains rotating modules as well as core modules. The respondent in the ESS meets with an interviewer, at so called face-to-face interviews. Every country participating in a round handles the sampling at national level. Data and fieldwork documentation for round 1-5 can be reached at ESS Data[8].

Cross-national surveys face some important methodological issues. Smith et al. (2011) emphasises issues concerning coverage, non-responses, sampling-errors and measurement-errors which are connected to influence from the interviewer (Smith et al., 2011 p.487). Smith et al. (2011) argues that the ESS is the cross-national survey that has made the greatest effort to deal with such errors as described above. The ESS has to a large degree been able to reach high stated methodological goals (Smith et al., 2011).

The issue of non-responses is of specific concern in this study as the group in question are unemployed individuals. Socioeconomic disadvantaged groups such as unemployed, participate to a lower degree in surveys like the ESS. This can be understood from the

[8] http://ess.nsd.uib.no/

perspective of shared social norms and values; does it feel important to participate and contribute with one's opinion? Social inclusion and social participation in society have shown to be closely linked to the willingness to participate in surveys. In surveys regarding health and income for example, there are higher non-responses among those that are ill and with low incomes. In a survey like ESS that asks many 'socioeconomically sensitive' questions it is therefore likely that the group of unemployed are underrepresented. As such, the results received can therefore be seen as somewhat of an understatement and would probably be stronger if the response rate wasn't socioeconomic biased (Michel and Jaak, 2003).

For the analysis, two different rounds from the ESS will be used; round 3 from 2006 and round 5 from 2010. The variables used are part of the core module and can thereby be compared. Different countries participate in each round but the 23 countries are found 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. Of these 23, 19 countries are part of the 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.

The data for the second level; the country level, is collected from Eurostat. Eurostat is the statistical office of the European Union (EU) and was created in 1953 as the Coal and Steel Community was founded. As the EU was founded in 1958 the Eurostat became a Directorial Generate (DG) to the European Commission (Introduction to Eurostat)[9]. It is the Member States and not Eurostat which are responsible to collect data; Eurostat has the role to harmonize the data to make sure that the statistics are comparable throughout Europe (Eurostat – What we do)[10]. The data used in the analysis can be downloaded from the Eurostat Database[11].

When measuring indicators of macroeconomic development and welfare generosity there are several reliable and high quality sources that can be used for this purpose; e.g. the *Quality of*

[9] http://epp.eurostat.ec.europa.eu/portal/page/portal/about_eurostat/introduction
[10] http://epp.eurostat.ec.europa.eu/portal/page/portal/about_eurostat/introduction/what_we_do
[11] http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/search_database

Government (QOG) database[12]. Still, to be able to create a two level model it is important to find country level data for as many of the countries as possible that are part of the ESS round 3 and 5. Furthermore, as the two datasets are compared it is important to find country level data for both of the years 2006 and 2010. For these purposes, the Eurostat database is argued to be the best choice for this study.

4.4.2 The dependent variable

In happiness studies, the most common dependent variable is the one measuring life-satisfaction. The respondent is asked to evaluate how satisfied she is with her life as a whole (Blanchflower and Oswald, 2011). This question is found in the core module for ESS and is therefore possible to compare between 2006 and 2010. The question asked is as follow: "*All things considered, how satisfied are you with your life as a whole nowadays? Please answer using this card, where 0 means extremely dissatisfied and 10 means extremely satisfied*." (Survey, 2006 p.11, Survey, 2010 p.10). Yet, there is also a question in the core module asking explicitly about happiness: "*Taking all things together, how happy would you say you are?*" and the respondent are asked to choose a number between 0 to 10 where 0 is extremely unhappy and 10 is extremely happy (Survey, 2006 p.15, Survey, 2010 p.14).

The choice here is to either choose the variable measuring life-satisfaction or the variable asking the respondent how happy she is. Yet, as explained by Djurfeldt and Barmark (2009), using several indicators measuring the same phenomena reduces the risks for measurement errors. Such measurement errors can for example be found as some respondents might not pay equal attention to all questions and might answer without really considering their answer. Such errors result in what is usually referred to as 'white noise'. Using more than one indicator for the same phenomena can therefore be a way to avoid such 'noise' in the results. The alternative here is to then add the two variables together and create a new variable; an index variable. To be able to so, it is important that the two variables measure the same thing; -that they share enough information. To test this in SPSS a Cronbach's alpha test is used. This test gives results between 0 to 1 and to be able to be able to create a new variable of two original ones the Cronbach's alpha should be over 0,7 (Djurfeldt and Barmark, 2009 p.71,100). When testing the variables of life-satisfaction and happiness from the ESS data with Cronbach's alpha, the ESS data from 2006 have a score of 0,819 and for the ESS data

[12] http://www.qog.pol.gu.se/data/

from 2010 the score is 0,838. Based on these results, the choice is made to add the two variables together as a new dependent variable; Quality of life (QOL). The variable is spanning from 0 to 10, where 0 is extremely unhappy/dissatisfied with life and 10 extremely happy/satisfied with life.

4.4.3 The individual level predictors

Below are the main independent variable and the control variables presented for level 1. As the focal relationship is between unemployment and happiness/life-satisfaction; employment status is the main independent variable. Yet, as the literature review of previous research has shown, happiness and life-satisfaction can be explained by many factors. For this thesis, the most important factors for consideration are; social class, age, education and income. These factors will be included as control variables and are described below.

Employment status

The main independent variable is employment status. The variable check for the main activity of the respondent in the last 7 days. From this a binary variable (0,1) where only employed and unemployed will be included; coded as 0= Employed, and 1=Unemployed and looking for a job or unemployed and not looking for a job. Only the labour force is included in the study and respondents that are categorized such as for example *students*, *retired* or *taking care of children* are therefore not part of the analysis.

Social class

All respondents taking part of the ESS are asked about their occupational status. The occupations in the ESS are classified based on the European Socio-economic Classification (ESeC). The ESeC has it's theoretical base in the class scheme developed by Goldthorpe, Erikson and Portocarero, also referred to as the EGP scheme (Harrison and Rose, 2006). Originally, the class scheme referred *to market situation* and *work situation*. The concept of *market situation* refers to the income level of the occupation but also factors such as economic security and occupational advancement possibilities. *Work situation* on the other hand is supposed to capture authority and control in the production process. Occupations are furthermore distinguished depending on the relation between the employer and the employee. Two main forms of relationships are defined; 'labour contract' and 'service relationship'. The working class have a labour contract relationship; a specific product or service is produced in

exchange for a wage. The higher classes, the Salariat, have a service relationship. Occupations with a service relationship require that the employee invest in certain skills and these skills cannot be bought on the labour market in the same ways as labour contract occupations. The intermediate classes are occupations that have relationship between employer and employee that are 'mixed' with a degree of labour contracts but also service relationship (Wright, 2005 ,chapter 2)

For the control variable for class, the recommendations of Harrison and Rose are followed and three classes are combined based on relationship between employer and employee described above. A three class model is created from the ESeC 1-9 level classification. 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, *Salariat* and *Working class* while the *Intermediate class* is held as a reference category and therefore not included in the analysis. This means that the coefficient value of the variables Working class and Salariat are the value in reference to the Intermediate class.

Age

The model also considers age. Age has previously shown to have a u-shaped relationship to happiness and life-satisfaction. For the data sets, a normal probability plot[13] has been performed which show a similar relationship for the data used here. As a solution, age categories will be analysed separately. This is done by creating two binary variables; one for respondents 30-50 years old and one for respondents 51-67 years old. Respondents under 30 years old are kept as reference category. The results for the age variables will therefore be in relation to respondents under 30 years of age. All respondents over the age of 67 will be excluded from the analysis. Although 65 is the most common pension age in Europe, 67 is the pension age in Norway and one can also expect that individuals with low pension benefits will work some extra years. The descriptive statistics of the independent variable employment status further show that there are a considerable amount of respondents between the age of

[13] A normal probability plot is used to control if the variable is normally distributed. By using a normal probability plot one can distinguish if the distribution is skewed, or if it as in this case is U-shaped.

65-67 that are coded as employed and unemployed while few respondents over the age of 67 are coded as employed or unemployed.

Education

Since the 1960s the Western world has seen the development of mass education. As education for much of history was a privilege for only for a small group in society, all children and youths in the Western world are today expected to take part of at least primary education. Further, the number of individuals also taking part of higher education and receiving a university degree has increased rapidly since the 70s (Altbach et al., 2009). As this in itself is a positive development it however makes comparison of education levels 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*. To use e.g. completed at least a bachelor degree would exclude too many individuals.

Subjective income

The ESS asks all respondents of the household's total net income and the answers are harmonized into a 12 (2006) or 10 (2010) scale model. However, as not all countries had values on this variable it could not be used for comparison between the countries. Instead the variable measuring feelings about the household's income is used; "*Which of the descriptions on this card comes closest to how you feel about your household's income nowadays*?". The variable, income_coping, is 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*".

4.4.4 The country level predictors

The predictors for the country level aim to capture two things; firstly indicators of the economic crisis of 2008 and secondly welfare generosity. Two indicators that are usually used to measure macroeconomic development are used in the analysis; GDP change and unemployment rate. For welfare generosity two variables are chosen where one is focused on the whole population; the Gini-coefficient, and the other is specified at the group of unemployed; the risk of poverty among unemployed after social transfers (age 16-64). The

data for the four country predictors are collected from the same years as the ESS round 3 and 5 were performed; 2006 and 2010.

GDP

GDP is one of the most frequently used indicators on macroeconomic development. The measurement chosen here is national annual GDP with the unit of percentage change on previous period. The choice of unit is based on the argument that this unit is the best indicator of whether a country is experiencing economic boom or recession.

Unemployment rate

The unemployment rate in the countries which are part of the analysis is of interest in several different ways. Firstly, unemployment rate is a common macroeconomic indicator and rising unemployment rate is often a consequence of an economic crisis. Secondly, it is of interest to study if the experience of being unemployed differ due to the level of unemployment rate in a country. As the review of previous research has shown that increased unemployment can result ´normalization' of unemployment leading to the reduced negative effect of being unemployed it is important to take into account the rate of unemployment. The variable measures the total unemployment rate in a country where the unemployed are defined as people between the ages of 15 to 74 years of age whom 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)[14].

The Gini-coefficient index

The Gini-coefficient measures the equality and inequality of income distribution. The index goes from 0-100, where 0 equals perfect equality and 100 perfect inequality. If the value were 100 in a country, the richest would receive all income in the country and if the value were 0 the national income would be equally distributed in the nation. An increase of the Gini coefficient therefore represents an in increase in inequality (Definition by Eurostat)[15]. Disposable income include income from work, private income for investment and property,

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

[15] http://ec.europa.eu/eurostat/ramon/nomenclatures/index.cfm?TargetUrl=DSP_GLOSSARY_NOM_DTL_VIEW&StrNom=CODED2&StrLanguageCode=EN&IntKey=16650085&RdoSearch=BEGIN&TxtSearch=gini&CboTheme=&IsTer=&IntCurrentPage=1&ter_valid=0

transfers between households, and all social transfers received in cash including old-age pensions (Eurostat - Income and living conditions)[16].

When measuring welfare generosity there are several indexes that can be used, such as those that can be found in the QOG-dataset described above. Yet, due to lack of comparative data for all countries and for both years these indexes cannot be used. Furthermore, total social expenditure as a percentage of GDP is another common way to measure welfare generosity. Although, as the crisis has led to increased unemployment resulting in higher social spending for many countries; - comparing data on social spending from 2006 and 2010 would not be beneficial for the analysis. The Gini-coefficient is a reliable measure and will be considered as an indicator of de-commodification and redistributive measures.

The risk of poverty for unemployed after social transfers (age 16-64)

Eurostat contains data regarding risk of poverty based on activity status from the previous year. The activity status chosen for the analysis are the unemployed. Risk of poverty is calculated as a disposable income below 60% of the median income after social transfers. The disposable income is calculated as the sum of income from work, private income from investments and property, transfers between households, and all social transfers received in cash including old-age pensions. The age category for this variable is 16-64 years of age (Explanatory text – Income and living conditions)[17]. As with the Gini-coefficient, the rate of poverty after social transfers among unemployed will be understood as a result of those social policies and redistributive measures that will affect the experience of being unemployed in the countries that are analysed.

[16] http://epp.eurostat.ec.europa.eu/cache/ITY_SDDS/EN/ilc_esms.htm#unit_measure
[17] http://epp.eurostat.ec.europa.eu/cache/ITY_SDDS/EN/ilc_esms.htm#stat_pres

5. Results

This chapter will present the statistical analyses that have been performed to test the stated hypotheses. The first hypothesis aims to test the focal relationship between unemployment and happiness/life-satisfaction. The second hypothesis examines the effect of the economic crisis of 2008 on the focal relationship between unemployment and happiness/life-satisfaction. This is done in two different ways. Firstly, two separate datasets are chosen; one before the crisis (2006) and one after the crisis (2010). Secondly, indicators of the economic crisis are introduced in the multilevel analysis, testing the effect of GDP change and unemployment rate on the dependent variable and the focal relationship between unemployment and happiness/life-satisfaction. The third hypothesis examines the effect of welfare generosity on the dependent variable and the focal relationship between unemployment and happiness/life-satisfaction. The indicators chosen are the Gini-coefficient measuring income inequality, and an indicator measuring the risk of poverty for the unemployed after social transfers.

When testing the hypotheses in the analysis, it is of specific interest to find a significant interaction effect between the group of unemployed and the country predictors. The reader should note that when introducing the country predictor in the analysis, the effect is given on the dependent variable for the *whole population* examined; both employed and unemployed. When introducing the interaction term in the analysis one can tell if there is an 'extra' effect for the group of unemployed. If the interaction term is significant, this can contribute to understand the focal relationship between unemployment and happiness/life-satisfaction.

However, before proceeding to the results from the testing of the hypotheses, the reader will be introduced to the data by a section of descriptive statistics. Thereafter, the results from the OLS regressions and the multilevel regression analyses are presented. Tables which aren't included in chapter five can be found in the appendix. If a table is part of the appendix it is labelled e.g. A1, otherwise only e.g. table 1.

5.1 Descriptive statistics

This section presents descriptive statistics for the dependent variable; Happiness/life-satisfaction (QOL 0-10) and the main independent variable Employment status (Employed=0 Unemployed=1). Furthermore, descriptive statistics for the country level predictors are introduced.

5.1.1 The dependent variable

Table 1 shows the differences in mean values on the dependent variable QOL *How happy/satisfied are you in your current life?* (0-10).

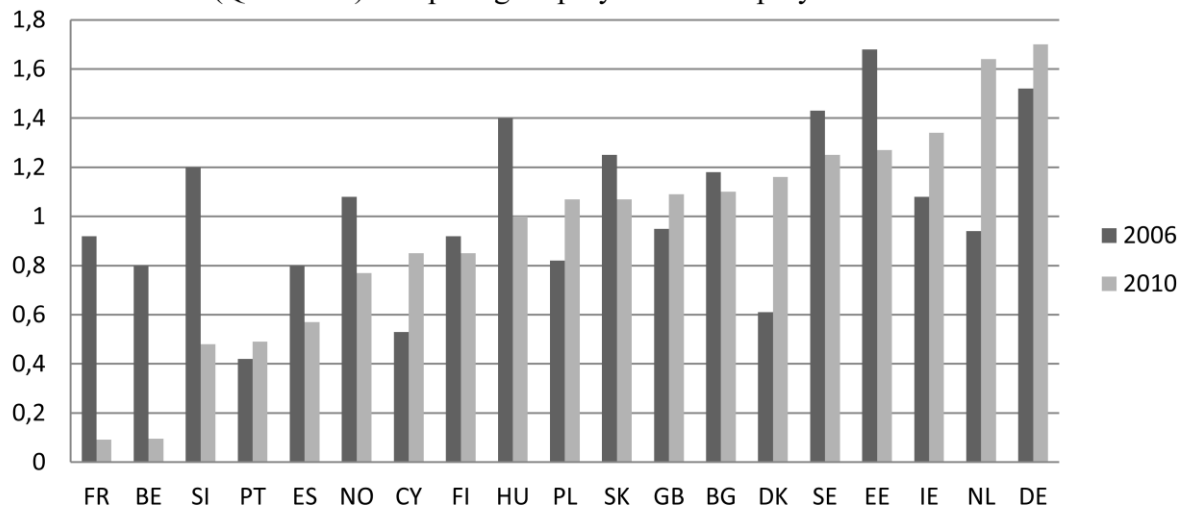
Table 1.
Descriptive statistics for the dependent variable QOL (0-10) showing mean values for employed and unemployed respondents in 19 countries.

Country	2006 Employed	2006 Unemployed	2010 Employed	2010 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

The table illustrates two things. Firstly, there are considerable differences in the mean values of the dependent variable when comparing the employed and the unemployed respondents. The unemployed respondents report lower levels of happiness and life-satisfaction compared to the employed respondents. Secondly, there are large differences in the levels of Happiness/Life-satisfaction among the unemployed from the 19 countries. Figure 1 shows the *differences* in mean values on the dependent variable for employed and unemployed respondents from each country. The table further shows the mean values for the two data sets chosen; 2006 and 2010. Taking Hungary as an illuminating example; the differences in mean values on the dependent variable (QOL 0-10) 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 point higher on the scales of happiness and life-satisfaction (QOL 0-10) compared to unemployed respondents.

Figure 1.
Descriptive statistics. The differences in mean values of Happiness/Life-satisfaction (QOL 0-10) comparing employed to unemployed



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

As table 2 shows, a majority of the countries (11 out of 19) had larger differences between employed and unemployed respondents in average levels of happiness/life-satisfaction before the economic crisis than after the crisis. As the example of Hungary showed; while employed individuals rated themselves 1,4 point higher on the dependent variable (QOL 0-10) in 2006, in 2010 this differences was 1 point. The differences in happiness/life-satisfaction between employed and unemployed respondents were therefore reduced after crisis in Hungary.

5.1.2 The independent variable

The main independent variable is Employment status (0,1) including respondents that are employed or unemployed. As explained above, respondents that were coded as for example students, retired or taking care of children, are not included in the variable employment status. Table 2 shows the distribution of employed versus unemployed respondents in the ESS data from 2006 and 2010.

Table 2. **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).			

One of the most prominent effects of the economic crisis of 2008 has been rising unemployment rates. This is reflected in the data sample from ESS as the numbers of respondents coded as unemployed have increased in 2010 in comparison to 2006.

5.1.3 The country predictors

Four country predictors have been chosen for the analysis. These are 1) Annual GDP growth as change in percentages compared to the last period, 2) Unemployment rate 3) The GINI-coefficient and 4) The risk of poverty among unemployed after social transfers for the population age 16-64. The tables A1-A4 show the descriptive statistics for the country predictors for each country. The effect of the economic crisis can be viewed by the grand mean of GDP change and the grand mean for unemployment rate for the 19 countries. The grand mean for GDP change has decreased from 4,3% to 2,0% (table A1), and the grand mean for the unemployment rate has increased from 7,6% to 10,0% (table A2). The grand mean of the Gini-coefficient has decreased somewhat; from 29,4 to 29,1 (table A3) and the risk of poverty among unemployed has increased from 39,5% to 42,3% (table A4).

Table A5 and A6 show the Pearson correlation between the country predictors for the years 2006 and 2010. The country predictor the Gini-coefficient is negatively correlated to change in GDP, indicating that the countries with a higher annual GDP growth have higher levels of income equality. This effect is however much stronger in 2010 in comparison to 2006. The correlation between GINI and the unemployment rate has furthermore changed between 2006 and 2010. In 2006 this effect was positive; the Gini-coefficient increased as the unemployment rate rose. The association is still positive in 2010 but much stronger. The correlation between unemployment rate and change in GDP has changed from positive in 2006 to negative in 2010. This change is likely due to the fact that some countries had dramatic changes in recorded GDP from 2006 such as Estonia and Poland.

5.2 Testing the hypotheses

Following are the results from both the OLS regressions and the multilevel regressions for each of the tested hypotheses.

5.2.1 Hypothesis 1

H_1 Unemployed individuals will have lower average levels of happiness/life-satisfaction compared to employed individuals.

The results from the OLS regression analyses confirm this hypothesis as shown in table 3 below.

Table 3.
OLS regressions. The effect of unemployment (Employment status 0,1) on the dependent variable (QOL 0-10)
B-coefficients of the IV Employment status and the interaction term Employment status X Income coping

	2006				**2010**			
	Model 1	Model 5	Model 6	Employment status X Income coping (Model 6)	Model 1	Model 5	Model 6	Employment status X Income coping (Model 6)
19 countries	-1,234***	-,676***	-,573***	-,226**	-1,100***	-,523***	-,553***	,063
	(,046)	(,045)	(,061)	(,090)	(,040)	(,041)	(,056)	(,080)
Belgium	-,831***	-,264	,033	-,618*	-,961***	-,589***	-,511***	-,176
	(,156)	(,163)	(,223)	(,316)	(,140)	(,139)	(,187)	(,279)
Bulgaria	-1,129***	-,398**	,048	-,516	-1,095***	-,476***	-,060	-,484
	(,195)	(,194)	(,501)	(,534)	(,129)	(,136)	(,349)	(,374)
Cyprus	-,716***	-,676***	-,349	-,960**	-,833***	-,632***	-,565	-,100
	(,229)	(,233)	(,285)	(,484)	(,225)	(,231)	(,392)	(,473)
Denmark	-,574**	-,439*	-,316	-,658	-1,158***	-,843***	-,1014***	1,223**
	(,248)	(,249)	(,276)	(,635)	(,158)	(,168)	(,180)	(,471)
Estonia	-1,671***	-1,001***	-,053	-1,569**	-1,264***	-,497***	-,437	-,098
	(,346)	(,325)	(,515)	(,663)	(,189)	(,181)	(,293)	(,372)
Finland	-,965***	-,679***	-,641***	-,150	-,849***	-,537***	-,479***	-,190
	(,145)	(,146)	(,168)	(,333)	(,132)	(,133))	(,160)	(,286)
France	-,927***	-,674***	-,428**	-,811**	-,926***	-,632***	-,524**	-,343
	(,187)	(,181)	(,217)	(,394)	(,183)	(,178)	(,213)	(,373)
Germany	-1,522***	-,462***	-,510**	,092	-1,701***	-,773***	-,834***	,106
	(,149)	(,148)	(,215)	(,297)	(,169)	(,174)	(,266)	(,350)
Hungary	-1,385***	-,536**	-,386	-,186	-1,002***	-,321	-,310	-,015
	(,271)	(,263)	(,593)	(,660)	(,226)	(,223)	(,455)	(,514)
Ireland	-1,142***	-,724***	-,835***	,310	-1,338***	-,986***	-1,275***	,628**
	(,208)	(,223)	(,278)	(,463)	(,122)	(,132)	(,177)	(,256)
Netherlands	-,934***	-,389**	-,441**	,142	-1,753***	-1,132***	-,145	-1,856***
	(,180)	(,177)	(,222)	(,365)	(,189)	(,193)	(,278)	(,381)
Norway	-,1079***	-,804***	-,676**	-,462	-,774***	-,624***	-,459**	-,612
	(,258)	(,255)	(,301)	(,571)	(,187)	(,197)	(,230)	(,437)
Poland	-,781***	-,406**	-,626**	,409	-1,033***	-,494**	-,510*	,032
	(,212)	(,204)	(,300)	(,407)	(,201)	(,202)	(,289)	(,400)
Portugal	-,433***	-,195	,040	-,366	-,516***	-,224*	-,251	,042
	(,148)	(,155)	(,256)	(,317)	(,126)	(,132)	(,221)	(,275)
Slovakia	-1,299***	-,676***	-,487	-,269	-,1074***	-,659***	-,752**	,152
	(,193)	(,194)	(,345)	(,406)	(,187)	(,189)	(,300)	(,379)
Slovenia	-1,216***	-,815***	-,984***	,605	-,481**	-,026	-,273	,869*
	(,212)	(,217)	(,255)	(,482)	(,203)	(,214)	(,250)	(,456)
Spain	-,805***	-,728***	-,698***	-,102	-,559***	-,326***	-,354	,066
	(,175)	(,176)	(,209)	(,386)	(,107)	(,115)	(,151)	(,229)
Sweden	-1,426***	-1,256***	-1,118***	-,596	-1,249***	-,979***	-,928***	-,183
	(,170)	(,175)	(,199)	(,407)	(,181)	(,191)	(,225)	(,425)
United Kingdom	-,973***	-,670***	-,537**	-,370	-1,109***	-,432**	-,148	-,541
	(,176)	(,179)	(,222)	(,366)	(,166)	(,174)	(,249)	(,339)

Source: ESS round 3 (2006) and round 5 (2010) Unstandardized coefficients. *P<.10 **P<.05 ***P<.01 Standard errors within parentheses.
Data weighted by design weight in separate country analysis. Design weight and population weight are used when countries are analysed together.
Selected cases: 2006; respondents born >=1939, 2010: respondents born >=1943
Model 1: The b-coefficient for employment status when no other control variables are included. Model 5: The b-coefficient for employment status when the control variables class, age, education and financial difficulties are included. Model 6: The b-coefficient for employment status when class, age, education, financial difficulties and the interaction term Employment status X Income coping are included. The column "Employment status X Income coping" shows the b-coefficient for the interaction term in model 6.

Table 3 shows the b-coefficients for the independent variable Employment status. The b-coefficients show the *effect of unemployment on happiness/life-satisfaction* (QOL 0-10). Model 1 shows the b-coefficient for employment status when no other control variables are included. All countries show significant negative effects from unemployment on happiness/life-satisfaction in both 2006 and 2010. Model 5 shows the b-coefficient of employment status when all control variables are included. The control variables are: social class, age, education and experience financial difficulties (income coping). The effect of unemployment on the dependent variable is kept relatively constant in model 1-4 until the

control variable for financial difficulties (income coping) is included in model 5. The variable income coping shows a significant negative effect on the dependent variable in all countries analysed. Furthermore, the effect of unemployment on the dependent variable changes in model 5 as the variable income coping is introduced in the analysis. The change is shown when comparing the b-coefficients of employment status between model 1 and 5; the negative effect of unemployment is reduced. This effect is found in all countries, yet to a varying degree, and for both years analysed. For example, one can compare Germany and Sweden, two countries with quite large negative effect of unemployment on the dependent variable. In the dataset from 2006 the negative effect of unemployment in Germany is drastically reduced (from -1,522 to -,462) while the effect in Sweden is reduced but a much lesser degree (from -1,426 to -1,256).

There are here at least three potential interpretations of the reduced negative effect of unemployment on the dependent variable when controlling for financial difficulties. The first is that unemployment and financial difficulties both have negative effects on the dependent variable, but that these variables are independent of each other. Secondly, one can interpret the effect of being unemployed leads to financial difficulties and that this causes lower levels of happiness/life-satisfaction. Thirdly, following the second interpretation, one can also argue that there are a possible 'extra' negative effect of being *both* unemployed and having financial difficulties. The effect of unemployment on happiness/life-satisfaction would therefore depend on the presence of financial difficulties or not. To test this third interpretation, an interaction term between the unemployment (employment status) and the variable controlling for financial difficulties (Income coping) was introduced in model 6 table 3. Table 3 shows two values for model 6, first the b-coefficient of employment status and secondly the b-coefficient for the interaction term (Employment status X Income coping). For the dataset from 2006 this interaction effect is significant (-,226 P<.05). Yet, when analysing all countries separately a significant interaction effect is only found in Belgium, Cyprus, Estonia and France. Although, for Bulgaria, Hungary and Slovakia low tolerance values[18] (<,30) disrupts this interpretation. The low tolerance values show that the two independent variables

[18] Regression analysis assumes that the explanatory variables are independent of each other. To control for this criteria in SPSS **Collinearity Diagnostics** can be used. By using the diagnostics a **tolerance value** is received. The tolerance value refers simplified to how much of the variance in the variable that is shared with the other variables in the regression analysis. If the tolerance value is 1, none of the variance is shared with the other variables in the regression. If the tolerance is 0, none of the variance in the variable can be considered to be unique. A tolerance value of <30 should be interpreted as indicating multicollinearity.

are highly correlated for these countries. Due to multicollinearity for those countries mentioned above, the change between model 1 and model 5 is a better illustration of the relationship between unemployment and experiencing financial difficulties in these countries.

As described previously, the relationship between unemployment and experiencing financial difficulties are similar in the two datasets; the negative effect of unemployment is reduced as the variable income coping is included in model 5. As a significant interaction term was found in the data from 2006, this was not the case for the data from 2010. However, when analysing the countries separately with the data from 2010, the interaction term was significant for Denmark, Ireland and the Netherlands.

The interaction term was positive for Denmark and Ireland, and the b-coefficient for employment status becomes stronger in model 6 compared to model 5. The interaction term for the Netherlands is strongly negative (-1,856 P<.01) whereas the b-coefficient for employment status instead becomes weaker. The interaction term for these countries could therefore be interpreted as being unemployed in the Netherlands to a great extent can be explained by economic factors, while in Denmark there was a strong negative effect of *only* being unemployed which is not as connected to financial difficulties as in the Netherlands.

To conclude the results from testing hypothesis 1 confirm the hypothesis. Unemployed individuals have significantly lower average levels of happiness/life-satisfaction compared to employed ones. This relationship is significant for both of the datasets analysed. As the effect of unemployment was relatively constant when introducing control variables for social class, age and education, the negative effect on the dependent variable was reduced when financial difficulties were taken into account. From the OLS regressions in table 3, there are four main conclusions which can be drawn. Firstly, both unemployment and financial difficulties lead to significantly negative effects on happiness/life-satisfaction. Secondly, these variables are interrelated; which indicate that being unemployed results in a loss of income which negatively affects the dependent variable. Thirdly, when analysing all countries together a significant interaction effect was found in 2006, showing that there is an extra negative effect of being *both* unemployed and experiencing financial difficulties. This effect was also shown in the data from 2010 for three countries when the countries were analysed separately. Fourthly, the relationship between unemployment and having financial difficulties varies between the countries. While the negative effect of unemployment was reduced quite

drastically for many countries when introducing the control variable for financial difficulties, this was not the case for all countries. Comparing for example Sweden and Germany, the effect of unemployment changes to a much higher degree in Germany compared to Sweden. This indicates that the negative effect of unemployment on happiness/life-satisfaction is more strongly related to economic causes in Germany than in Sweden.

5.2.2 Hypothesis 2

H_2 The effect of the economic crisis of 2008 will increase the negative effect of being unemployed when comparing data from 2006 and 2010.

This hypothesis is tested by first comparing the effect of unemployment on the dependent variable between the two datasets from 2006 and 2010. Furthermore, two country predictors of the economic crisis, GDP change and unemployment rate; is included in the multilevel regression analysis. The results from these analyses show several interesting results but neither the results from the OLS regression nor the results from the multilevel regression can confirm the hypothesis. Instead a reverse effect is found; the negative effect of unemployment has decreased after the economic crisis of 2008. Below will the results from the OLS regressions and the multilevel analysis be presented.

Due to the fact that introducing the interaction term in model 6 (table 3) resulted in some cases of multicollinearity in the OLS regressions when the countries where analysed separately; model 5 is considered to the best model to compare the effect of unemployment on the dependent variable between the two datasets. When analysing all countries together, one can tell that the negative effect of unemployment on happiness/life-satisfaction is reduced after the crisis (from -,676 to -,523 in model 5 for both years, see table 3). Furthermore, all countries were analysed separately. These results show that a majority of the countries (11 out of 19) had a decreased negative effect from unemployment on the dependent variable (see model 5 table 3). Eight countries had an increased negative effect of unemployment on the dependent variable. These countries are; Belgium, Bulgaria, Denmark, Germany, Ireland, The Netherlands, Poland and Portugal. To better understand these differences the countries are analysed by using multilevel regression analysis and including the country predictors. Table 4 and 5 show the multilevel analyses for each of the datasets. For hypothesis 2 the country predictors GDP and unemployment rate (models 3-4 table 4 and 5) are of specific interest.

Table 4.
Multilevel models predicting Happiness/Life-satisfaction (QOL 0-10) 2006

FIXED PART	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
INDIVIDUAL LEVEL							
Intercept	7,589***	7,585***	7,599***	7,567***	7,586***	7,580***	7,585***
	(,149)	(,149)	(,142)	(,133)	(,127)	(,136)	(,127)
Employment status (0,1)	-,665***	-,588***	-,588***	-,587***	,589***	-,588***	-,577***
	(,062)	(,078)	(,078)	(,078)	(,078)	(,077)	(,070)
Working class (0,1)	-,143***	-,143***	-,142***	-,143***	-,143***	-,143***	-,143***
	(,040)	(,040)	(,039)	(,040)	(,040)	(,039)	(,041)
Salariat (0,1)	,184***	,185***	,186***	,185***	,184***	,185***	,184***
	(,044)	(,044)	(,045)	(,044)	(,044)	(,044)	(,044)
30-50 years old (0,1)	-,221***	-,220***	-,220***	-,220***	-,220***	-,220***	-,219***
	(,034)	(,034)	(,034)	(,033)	(,033)	(,034)	(,033)
51-67 years old (0,1)	-,397***	-,395***	-,396***	-,396***	-,395***	-,396***	-,394***
	(,063)	(,063)	(,063)	(,062)	(,059)	(,063)	(,063)
Education (0,1)	,056	,055	,058	,056	,051	,055	,051
	(,060)	(,060)	(,061)	(,060)	(,059)	(,060)	(,058)
Income coping (0,1)	-1,166***	-1,141***	-1,141***	-1,141***	-1,142***	-1,141***	-1,138***
	(,087)	(,087)	(,087)	(,087)	(,088)	(,087)	(,087)
Employment status X Income coping		-,165*	-,165*	-,167*	-,165*	-,165*	-,182**
		(,091)	(,091)	(,091)	(,091)	(,091)	(,091)
COUNTRY LEVEL							
GDP change			-,100				
			(,066)				
Unemployment rate				-,107**			
				(,045)			
Gini-coefficient					-,087**		-,089**
					(,033)		(,033)
Poverty unemployed						-,026*	
						(,013)	
Employment status X Gini-coefficient							,034**
							(,015)
RANDOM PART							
Intercept	,384***	,386***	,346***	,294***	,271***	,315***	,269***
	(,136)	(,137)	(,122)	(,105)	(,100)	(,112)	(,099)
Employment status (0,1)	,032	,039	,038	,039	,039	,039	,017
	(,022)	(,024)	(,024)	(,025)	(,024)	(,024)	(,019)
Working class (0,1)	,014	,014	,013	,014	,015	,013	,015
	(,009)	(,009)	(,009)	(,009)	(,010)	(,009)	(,010)
Salariat (0,1)	,019	,019	,020	,019	,019	,019	,019
	(,012)	(,012)	(,013)	(,012)	(,012)	(,012)	(,012)
30-50 years old (0,1)	,004	,004	,004	,002	,003	,004	,003
	(,008)	(,008)	(,008)	(,007)	(,007)	(,008)	(,007)
51-67 years old (0,1)	,050*	,050*	,051*	,046*	,048*	,050*	,048*
	(,027)	(,026)	(,027)	(,025)	(,026)	(,027)	(,026)
Education (0,1)	,046**	,046**	,048**	,045**	,042**	,045**	,041*
	(,023)	(,022)	(,023)	(,022)	(,021)	(,022)	(,021)
Income coping (0,1)	,119***	,117***	,117***	,117***	,118***	,116***	,117***
	(,045)	(,044)	(,044)	(,044)	(,044)	(,044)	(,044)
Number of parameters	17	18	19	19	19	19	20
Deviance	68720	68716	68714	68711	68710	68713	68706
Number of countries	19	19	19	19	19	19	19
Individual N	18315	18315	18315	18315	18315	18315	18315

Source: Individual level; ESS round 3 (2006). Country level: Eurostat (2006). Selected cases: Birth year >=1939
Method of estimation: Maximum Likelihood. Country predictors are centred by grand mean.
Reference category for class: Intermediate classes. Reference category for age: <30 years old.
*p<.10 **p<.05 ***p<.01. Standard errors within parentheses

Table 5.
Multilevel models predicting Happiness/Life-satisfaction (QOL 0-10) 2010

FIXED PART	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
INDIVIDUAL LEVEL							
Intercept	7,610***	7,610***	7,611***	7,601***	7,581***	7,608***	7,581***
	(,147)	(,148)	(,137)	(,135)	(,127)	(,148)	(,127)
Employment status (0,1)	-,613***	-,622***	-,621***	-,622***	-,622***	-,622***	-,621***
	(,069)	(,080)	(,080)	(,080)	(,080)	(,080)	(,079)
Working class (0,1)	-,136***	-,136***	-,137***	-,136***	-,137***	-,136***	-,137***
	(,042)	(,042)	(,042)	(,042)	(,042)	(,042)	(,042)
Salariat (0,1)	,184***	,184***	,184***	,184***	,184***	,184***	,184***
	(,040)	(,039)	(,039)	(,039)	(,039)	(,039)	(,039)
30-50 years old (0,1)	-,214***	-,215***	-,214***	-,215***	-,215***	-,215***	-,216***
	(,039)	(,039)	(,040)	(,039)	(,039)	(,039)	(.039)
51-67 years old (0,1)	-,358***	-,358***	-,358***	-,358***	-,359***	-,358***	-,359***
	(,066)	(,066)	(,066)	(,066)	(,066)	(,066)	(,066)
Education (0,1)	,106	,106	,103	,106	,099	,106	,099
	(,070)	(,070)	(,070)	(,069)	(,070)	(,070)	(,070)
Income coping (0,1)	-1,103***	-1,106***	-1,106***	-1,106***	-1,107***	-1,106***	-1,105***
	(,086)	(,087)	(,079)	(,087)	(,088)	(,087)	(,088)
Employment status X Income coping		,017	,016	,016	,016	,017	,013
		(,079)	(,080)	(,079)	(,079)	(,079)	(,079)
COUNTRY LEVEL							
GDP change			,146*				
			(,084)				
Unemployment rate				-,064*			
				(,033)			
Gini-coefficient					-,090**		-,091**
					(,034)		(,034)
Poverty unemployed						-,003	
						(,015)	
Employment status X Gini-coefficient							,009
							(,019)
RANDOM PART							
Intercept	,374***	,374***	,319***	,307***	,264***	,373***	,264***
	(,131)	(,131)	(,113)	(,109)	(,095)	(,131)	(,095)
Employment status (0,1)	,058**	,058**	,058**	,058**	,058**	,058	,057**
	(,028)	(,029)	(,028)	(,028)	(,028)	(,028)	(,028)
Working class (0,1)	,017**	,017*	,017*	,017*	,017*	,017*	,017*
	(,010)	(,010)	(,010)	(,010)	(,010)	(,010)	(,010)
Salariat (0,1)	,012	,012	,011	,012	,011	,012	,011
	(,009)	(,009)	(,009)	(,009)	(,009)	(,009)	(,009)
30-50 years old (0,1)	,009	,009	,009	,009	,008	,009	,008
	(,009)	(,009)	(,010)	(,009)	(,009)	(,009)	(,009)
51-67 years old (0,1)	,056**	,056**	,057**	,056**	,056**	,056**	,056**
	(,026)	(,026)	(,026)	(,026)	(,026)	(,026)	(,026)
Education (0,1)	,068**	,068**	,069**	,067**	,067**	,068**	,068**
	(,027)	(.027)	(,028)	(,027)	(,027)	(,027)	(,028)
Income coping (0,1)	,117***	,116***	,117***	,117***	,117***	,116***	,117***
	(,043)	(,043)	(,043)	(,043)	(,043)	(,043)	(,043)
Number of parameters	17	18	19	19	19	19	20
Deviance	71506	71506	71503	71502	71500	71506	71499
Number of countries	19	19	19	19	19	19	19
Individual N	18825	18825	18825	18825	18825	18825	18825

Source: Individual level; ESS round 5 (2010). Country level: Eurostat (2010). Selected cases: Birth year >=1943
Country predictors are centred by grand mean. Method of estimation: Maximum Likelihood. Reference category for class: Intermediate classes. Reference category for age: <30 years old.
*p<.10 **p<.05 ***p<.01. Standard errors within parentheses

Model 1 in table 4 and 5 show the fixed and random effects for the individual level predictors. These predictors are the same as in the OLS regressions; social class, age, education and experiencing financial difficulties. Table A7 and A8 show the fixed and random effects for the individual level predictors as they are added one by one.

Model 2 shows the fixed and random effects when the interaction term between employment status and income coping is included. As in the OLS regressions the interaction term is only significant for the dataset from 2006 (-,165 P<.10). Although multicollinearity was found for some countries when they were analysed separately, this was not the case when all countries were analysed together. The interaction term can therefore be included in the multilevel regression analysis.

Model 3 (table 4 and 5) shows the fixed and random effects when the country predictor GDP change is introduced. The variable measures the change in GDP in percentages, compared to the previous year. The effect of GDP change on the dependent variable is not significant for the 2006 dataset, but shows a positive and significant effect for the 2010 data (,146 P<.10). The change in deviance shows an improvement of the models fit to the data[19]. The random intercept decreases from ,374 to ,319 but with this exception are the fixed and random effects the same as in model 2. To test if change in GDP can explain the relationship between unemployment and happiness; an interaction term between unemployment status and GDP change is introduced. Yet, the effect is not significant and can thereby explain why the unemployed feel worse than the employed.

Model 4 (table 4 and 5) shows the fixed and random effects when the country predictor unemployment rate is introduced. This effect is negative and significant for both of the datasets, yet the effect is stronger in 2006 compared to 2010 (-,107 P<.05 compared to -,064 P<.10). The models' fit to the data are significantly improved for both of the datasets[20]. To examine if the relationship between unemployment and happiness/life-satisfaction can be

[19] Model 3 is nested in model 2. Comparing the model 2 and 3 from the 2010 data the deviance decreases from 71506 to 71503 when adding one parameter. A Chi-square distribution of three with one degree of freedom is significant at the 90% level. Comparing model 2 and 3 in the data from 2006 there is no significant improvement of the model's fit to the data.

[20] Model 4 is nested in model 2. For the 2006 dataset the deviance decreases from 68716 to 68711 when adding one parameter. For the 2010 dataset the deviance decreases from 71506 to 71502 when adding one parameter. Both models' fit to the data are improved at the 95% level following the Chi-square distribution with one degree of freedom.

explained by the unemployment rate, an interaction term is introduced. Yet, the interaction is not significant for either of the datasets. The random intercepts decreases for both of the datasets when including unemployment rate in the analysis, indicating that this explains some of the variance between the countries.

To conclude the results from testing hypothesis 2 cannot confirm the hypothesis. The hypothesis was first tested by comparing the effect of unemployment on the dependent variable with data from 2006 to 2010. As the hypothesis assumed an increased negative effect from unemployment on the happiness/life-satisfaction, the analysis showed that the negative effect of unemployment instead had been reduced after the crisis. The analysis further showed that effect of unemployment and experiencing financial are closely interlinked. Secondly, the hypothesis was tested by introducing two country predictors in the multilevel analysis; GDP change and unemployment rate. It is interesting to note that the predictor GDP change is positive and significant in a period of recession, but not in a period of economic boom. A reversed effect is found for unemployment; the effect of rising unemployment rates shows a stronger negative effect in an economic boom than in a time of economic recession. Yet no significant interaction effect was found between unemployment and the country predictors and the results from the country predictors can therefore not explain the relationship between unemployment and happiness/life-satisfaction.

5.2.3 Hypothesis 3

H_3 *The level of welfare generosity will moderate the negative effect of being unemployed, hence higher levels of welfare generosity will reduce the negative effect of being unemployed.*

To account for welfare generosity two country predictors have been chosen; the Gini-coefficient and the risk for poverty among unemployed after social transfers (age 16-64). These predictors are considered here as indicators of the level of welfare generosity in the countries analysed. Countries with low values on these variables will be considered as having higher levels of welfare generosity. These predictors are introduced in the multilevel analyses, see model 5-7 in table 4 and 5.

Model 5 shows the effect of the Gini-coefficient on the dependent variable, which is significant and negative for both of the dataset analysed. Both models' fit to the data are

significantly improved[21]. This effect is in accordance to the stated hypothesis; respondents in countries with higher income equality have higher average levels of happiness/life-satisfaction. This effect is however for the whole population examined; both employed and unemployed. To account for the effect of income inequality affects the well-being of the unemployed; an interaction term between employment status and the Gini-coefficient is introduced in model 7. In the data from 2006 this interaction term is significant, yet showing the opposite effect assumes in the stated hypothesis. If the effect of unemployment should be reduced by the level of welfare generosity; an increase in the Gini-coefficient should result in a negative interaction term. Yet as shown in model 7 in table 4, the interaction term is positive; indicating that the negative effect of unemployment is reduced as the income inequality increases. Studying the fixed effects in model 7 table 4, introducing the interaction term of employment status and the Gini-coefficient, the interaction term between employment status and income coping becomes somewhat stronger when comparing model 7 to model 5[22] (table 4). In the data from 2010 no significant interaction effect is found between unemployment and the Gini-coefficient (model 7 table 5). Introducing the interaction term does furthermore not improve the model's fit to the data[23].

Secondly, the country predictor measuring the risk of poverty among unemployed after social transfers, is introduced in model 6 (table 4 and 5). The country predictor has a significant negative effect on happiness/life-satisfaction (-,026 P<.10). This effect is in accordance to the stated hypothesis; lower levels of welfare generosity will affect happiness/life-satisfaction negatively. Yet no interaction effect is found is found between unemployment and the risk of becoming poor among unemployed after social transfers. Furthermore, in the analysis of the data from 2010, the effect from poverty among unemployed after social transfers shows no significant effect on the dependent variable.

What do these results tell us about the relationship between unemployment and happiness/life-satisfaction and welfare generosity? We can draw two different conclusions

[21] Model 5 is nested in model 2. The deviance decreases from 68716 to 68710 in the data from 2006 when adding one parameter. The deviance decreases from 71506 to 71500 in the data from 2010. A change of six with one degree of freedom is significant at the 97,5% level when controlling for the Chi-square distribution.
[22] Model 7 is nested in model 5. The deviance decreases from 68710 to 68706 which is a significant improvement of the model's fit to the data at the 95% level following the Chi-square distribution of four with one degree of freedom.
[23] Model 7 is nested in model 5. The deviance decreases from 71500 to 71499 when adding one parameter which does not equal a significant improvement of the model's fit to the data following the Chi-square distribution with one degree of freedom.

here. Firstly, we can draw conclusions on the effect of welfare generosity on the dependent variable for the *whole population* examined; employed and unemployed. Secondly, we can study the effect of welfare generosity for the *group of unemployed*, which is done by introducing interaction terms. So, for the whole population the Gini-coefficient shows a negative significant effect on the dependent variable. Increasing income inequality can therefore be interpreted as resulting in lower levels of happiness/life-satisfaction. However, for the group of unemployed this effect is reversed in the data from 2006. While the hypothesis stated that unemployed in countries with higher welfare generosity would be happier; the interaction term implies that unemployed in more generous welfare states feel worse. It is argued here that it is not likely that income inequality *per se* would increase the well-being of unemployed respondents. This interpretation is further supported by the fact that income inequality shows a negative effect on happiness/life-satisfaction for the whole population. Going back to the Pearson correlation of the country predictors (table A5 and A6) there is a positive correlation between the Gini-coefficient and unemployment rate. When the Gini-coefficient increases, so does the unemployment rate. A possible explanation to the interaction term is therefore that it is easier to be unemployed in societies where unemployment is more common. Such explanation would also be in line with the arguments outlined in hypothesis 2, regarding the weaker negative effect of unemployment rate on happiness/life-satisfaction, in economic recessions. When the experience of being unemployed is a more common and shared experience, it would probably carry less social stigma. Still, this effect is not found in the data from 2010. As the correlations between the Gini-coefficient and unemployment rate is stronger in 2010 compared to 2006 (see table A5 and A6), this of course undermines the arguments outlined above.

The analysis included the variable for poverty-risk among unemployed after social transfers. In the data from 2006 there is a significant negative effect on happiness/life-satisfaction when the risk of poverty for unemployed increases. This effect was found for the whole population; employed and unemployed, but no extra effect was found for the group of unemployed. In the data from 2010 the risk of poverty among unemployed after social transfers, shows no significant effect for either for the whole population or the group of unemployed. As these results show that welfare generosity does affect happiness/life-satisfaction, the results cannot confirm the hypothesis.

5.3 Discussion of the results

This section discusses the empirical results from this study in relation to previous research in this field.

Hypothesis 1, *Unemployed individuals will have lower average levels of happiness/life-satisfaction compared to employed*, was confirmed by the analysis, which was expected. The analysis therefore confirms the results from previous research in this field (see for example Clark and Oswald, 1994, Korpi, 1997, Winkelmann and Winkelmann, 1998).

In accordance to previous empirical happiness studies, the included control variables confirmed that social class, age, education and income have significant effects on happiness/life-satisfaction (see for example Andersen, 2009, Ervasti and Venetoklis, 2010, Jackson and Warr, 1984). The most influential control variable at the individual level related to financial difficulties (income coping). Experiencing financial difficulties showed significantly negative effect on the dependent variable, for all countries and for both years analysed. These results are in line with conclusions from Gudmundsdottir (2011) who finds a significant relationship between happiness and experiencing financial difficulties. The close relationship between the variables measuring unemployment and experiencing financial difficulties was shown in several ways in the statistical analysis, but most clearly demonstrated in the negative effect of unemployment on happiness/life-satisfaction was reduced when the variable controlling for financial difficulties was introduced. The relationship between unemployment and happiness/life-satisfaction, and the variable measuring financial difficulties, is of great interest as this shed some light over *why* the unemployed feel worse than employed individuals. The analysis first of all concludes that difficulties coping on one's income, will affect happiness/life-satisfaction negatively. A significant interaction effect which was found in the data from 2006, further indicates that being unemployed *and* experiencing financial difficulties gives *an extra negative effect* on happiness/life-satisfaction. For countries where such significant interaction effect was found, theories explaining the lower levels of happiness/life-satisfaction with the loss of income when becoming unemployed, are of great interest (see for example Ervasti and Venetoklis, 2010). Yet, while unemployment and experiencing financial difficulties seems to be interrelated in all countries, this relationship is stronger in some countries than others. For countries where the effect is fairly constant, as for example in Sweden, theories emphasising non-pecuniary effects as e.g. work identity would be a better match to explaining why the

unemployed feel worse than the employed (see for example Andersen, 2009, Winkelmann and Winkelmann, 1998).

Hypothesis 2 *The effect of the economic crisis of 2008 will increase the negative effect of being unemployed when comparing data from 2006 and 2010,* was not confirmed. Instead the analysis showed the opposite result; the negative effect of unemployment on happiness/life-satisfaction had decreased. The OLS regressions showed a decreased negative effect of unemployment on the dependent variable for a majority of the countries when comparing data from 2006 to 2010. However, this was also described as a possible outcome in the literature review.

The reduced negative effect of unemployment on happiness/life-satisfaction can then be explained as a result of changed social norms related to unemployment. As unemployment rates increases during an economic crisis; being unemployed becomes somewhat 'normalized', reducing social stigma (see Clark 2003, and Mertens and Beblo 2011). This effect can also be seen when studying the effect of the country predictor unemployment rate on happiness/life-satisfaction in the multilevel analysis. The predictor unemployment rate showed a significant negative effect on the dependent variable for both of the years 2006 and 2010. However, this effect was weaker after the economic crisis when the unemployment rates had increased. This could also be understood as 'normalization' of unemployment after the crisis, and thereby doesn't affect happiness/life-satisfaction as much as during an economic boom.

The interpretation of the country predictor *GDP change* could also be understood from a perspective of social norms. The variable showed no significant effect in 2006 but showed a positive significant effect after the crisis. The fact that Europe has experienced a recession and that the political debate has been very focused on economic development, could explain the fact that GDP has become more important for happiness/life-satisfaction after the crisis. Results from Layard (2005) point to the fact that economic growth doesn't seem to have a positive effect on happiness/life-satisfaction after a certain point of economic development. Yet as the economic crisis has resulted in a decreased GDP growth, this can explain why this variable has become more important after the crisis. Diener et al. (1995) has shown that bordering countries which have higher levels of GDP growth than their neighbouring countries, have higher levels of happiness and life-satisfaction. Although the countries in the

analysis are not all bordering, they are closely interlinked by the European integration process. It is therefore possible that those countries that haven't been affected as severely as others can experience a positive effect from this. It is interesting to note that there are similarities in how the effects of the country predictors GDP and unemployment rate have changed after the crisis. As the economic crisis has resulted in lower levels of GDP growth, this variable becomes significant and positive after the crisis. On the other hand, as the unemployment rates have increased in Europe after the crisis; the effect of unemployment rate on the dependent variable has been reduced. Both these changes could be understood from perspective of social norms; as resources become more scares, as with GDP; they become more important. At the other hand; as a phenomenon becomes more common, as with unemployment - the negative effect is reduced.

The conclusions from the analyses for hypothesis 2 are first of all that the crisis has not increased the negative effect of unemployment on happiness/life-satisfaction. Instead a reversed effect is found at both the individual and the country level in the multilevel analysis. This change is understood as the normalization of unemployment in Europe after the crisis. This is shown as the negative effect of unemployment on the dependent variable is lower in a majority of the countries after the economic crisis. As the predictor unemployment rate has a significant negative effect on the dependent variable in both years analysed, the effect is weaker in 2010 compared to 2006. This further strengthens the interpretation of a 'normalization' of unemployment; and as unemployment rates rise the negative effect of unemployment on happiness/life-satisfaction is reduced.

Hypothesis 3, *The level of welfare generosity will moderate the negative effect of being unemployed, hence higher level of welfare generosity will reduce the negative effect of being unemployed,* was not confirmed.

Income inequality showed a significant negative effect on happiness/life-satisfaction in the analyses from 2006 and 2010. The fact that more equal societies have higher average levels of happiness and life-satisfaction, have been shown by Radcliff (2001), Rothstein (2010), Pacek and Radcliff (2008) and Scruggs and Allan (2006). Yet, this study focuses on the relationship between unemployment and happiness/life-satisfaction, and how this relationship is affected by welfare generosity. To better understand how the relationship between unemployment and happiness is affected by income inequality, an interaction term between unemployment and income inequality was tested. To confirm the hypothesis the interaction should have been

significant and negative; indicating that unemployed feel worse as the income inequality increases. Although a significant interaction term was found the in the data from 2006, it showed a reversed effect; unemployed in countries with higher income equality feel worse. Following previous research it is not very likely that there is a causal mechanism between inequality and happiness/life-satisfaction for unemployed. Instead, studying table A5 and A6, which shows the Pearson correlations between the country predictors, we can tell that the gini-coefficient in the year 2006 was positively correlated to unemployment rate. Therefore, low Gini-values were found foremost in countries with lower levels of unemployment. If the unemployment rates are low, being unemployed would probably carry more social stigma than a country with high unemployment rates. This understanding is based on the theoretical perspective of social norms as described by Mertens and Beblo (2011) and Clark (2003) and provides a possible explanation to the interaction effect. However, the correlations between the Gini-coefficient and unemployment rate are stronger in 2010 than in 2006, which would imply a stronger interaction effect in 2010 than in 2006. Yet, the interaction effect from 2010 is not significant. There can be at least two possible explanations to this. Firstly, the interaction effect from 2006 can simply have been given by chance as it is a 10% chance of this. Secondly, if the increased unemployment rates result in a normalization of unemployment, one could argue that such normalization would also have taken place in countries with low Gini-values. If the social stigma attached to unemployment had also decreased in countries with higher income equality, this could explain why the interaction effect no longer was significant in the analysis for 2010.

Secondly, the predictor of risk of poverty after social transfers for unemployed was tested in the multilevel analyses. The hypothesis anticipated a negative effect of this predictor on the dependent variable; that countries where unemployed faced greater risk of becoming poor after social transfers would have lower levels of happiness/life-satisfaction. Such effect was found in 2006 but not in 2010. However, as with income inequality the interest is foremost on how the predictor affects the well-being of unemployed. As no significant interaction effect was found between unemployment and the risk of poverty for unemployed; this variable cannot contribute to explaining why the unemployed feel worse than the employed.

To conclude; income inequality showed a significant negative effect on the dependent variable for both years analysed. Furthermore, the risk of poverty among the unemployed showed a significant negative effect in the data from 2006 on happiness/life-satisfaction. As

the hypothesis expected that the unemployed experiencing higher welfare generosity would be happier than the unemployed in societies with lower levels of welfare generosity, however a reversed relationship was found in the data from 2006. This is understood from the fact that the countries with lower income inequality also had lower unemployment rates; giving unemployment greater social stigma in these countries.

6. Conclusions

This thesis started out with asking questions regarding unemployment and happiness/life-satisfaction, and how this relationship is affected by an economic crisis. Little research had been done in this area and the expected results were uncertain. The result from this thesis contributes to a deeper understanding of the relationship between unemployment and happiness/life-satisfaction, and how this relationship is affected by an economic crisis.

The result from the statistical analyses confirms previous research regarding unemployment and happiness/life-satisfaction; the unemployed feel worse than employed individuals. Furthermore, this relationship is interrelated to financial difficulties. As this relationship is quite strong in many countries, there are yet countries where the relationship between unemployment and experiencing financial difficulties isn't as strong. Sweden is one example of a country where the negative effect of unemployment on happiness/life-satisfaction isn't as closely related to experiencing financial difficulties as in Germany. For countries such as Sweden, psychological factors are likely to play an important role in the reduced levels of happiness/life-satisfaction among unemployed, as a result of loss of work identity.

The results further conclude that the economic crisis doesn't seem to have worsened the negative effect of unemployment on happiness/life-satisfaction. Instead, a reverse effect of unemployment can be found at both the individual and country level in the multilevel regression analysis. At the individual level, a majority of the countries show reduced effect of unemployment on the dependent variable. At the country level, the negative effect of unemployment rate at the happiness/life-satisfaction is weaker after the crisis compared to before the crisis. The reduced negative effect of unemployment on happiness/life-satisfaction after the crisis can be understood from a change of social norms regarding unemployment. As the unemployment rates increases - being unemployed becomes more 'normalized'. Therefore, if unemployment is more common, the social stigma attached to unemployment becomes less severe.

If the fact that the unemployed feel worse than the employed is considered to be a problem, two conclusions can be drawn from this study. Firstly, the loss of income is an important factor as to why unemployed feel worse than employed in several of the countries studied here. It is therefore important to reduce the risk of poverty when individuals become unemployed. This effect could also be understood as critique of the focus on consumption in Europe, and that unemployed individuals feel that they cannot take part in the consumption pattern which is taken for granted in the Western world. As mass consumption has other negative effects on issues such as the environment, it is not necessarily that increasing the individual income is a normative desirable solution to this feeling of social exclusion. Still, in many countries the loss of income cannot alone explain why the unemployed feel worse than the employed. Psychological factors are therefore considered as important when explaining the reduced well-being among unemployed. The loss of one's work identity and loss of structure in one's everyday life, can also be understood from the fact the one is excluded from something that is very central in Western societies today; wage labour. As unemployment rates increase during an economic crisis; unemployment becomes more of a shared experience rather than only being an excluded from something else. The results from this thesis therefore tell us something important about shared norms and values related to happiness and life-satisfaction. The result further raises questions on the political focus on GDP growth in Europe and point to the fact that increasing the GDP isn't the solution to happier citizens in Europe.

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Appendix

Table A1. Descriptive statistics country predictors: GDP Change in percentages compared to the last period (0-100)

	2006		2010	
	Unstandardized	Centered	Unstandardized	Centered
Grand mean	4,3		2,0	
Belgium	2,7	-1,6	2,3	,29
Bulgaria	6,5	2,2	0,4	-1,61
Cyprus	4,1	-,2	1,1	-,91
Denmark	3,4	-,9	1,3	-,71
Estonia	10,1	5,8	2,3	,29
Finland	4,4	,09	3,7	1,89
France	2,5	-1,8	1,5	-,51
Germany	3,7	-,6	3,7	1,69
Hungary	3,9	-,4	1,3	-,71
Ireland	5,3	1,0	-0,4	-2,41
Netherlands	3,4	-,9	1,7	-,31
Norway	2,5	-1,8	0,7	-1,31
Poland	6,2	1,9	3,9	1,89
Portugal	1,4	-2,2	1,4	-,61
Slovakia	5,8	1,5	1,4	-,61
Slovenia	8,3	4,0	4,2	2,19
Spain	4,1	-,20	-0,1	-2,1
Sweden	4,3	-,01	6,1	4,1
United Kingdom	2,6	-1,7	2,7	,09

Source: Eurostat, nama_gdp_k (2006,2010) Change in percentages.

Table A2. Descriptive statistics country predictors: Unemployment rate (0-100)

	2006		2010	
	Unstandardized	Centered	Unstandardized	Centered
Grand mean	7,6		10,0	
Belgium	8,3	,7	8,3	-1,7
Bulgaria	9,0	1,4	10,2	,2
Cyprus	4,6	-3,0	6,2	-3,8
Denmark	3,9	-3,7	7,5	-2,5
Estonia	5,9	-1,7	16,9	6,9
Finland	7,7	,1	8,4	-1,6
France	9,2	1,6	9,8	-,2
Germany	10,3	2,7	7,1	-2,9
Hungary	7,5	-,1	11,2	1,2
Ireland	4,5	-3,1	13,7	3,7
Netherlands	4,4	-3,2	4,5	-5,5
Norway	3,4	-4,2	3,5	-6,5
Poland	13,9	6,3	9,6	-,4
Portugal	8,6	1,0	12	2,0
Slovakia	13,4	5,8	14,4	4,4
Slovenia	6,0	-1,6	7,3	-2,7
Spain	8,5	,9	20,1	10,1
Sweden	7,1	-,5	8,4	-1,6
United Kingdom	5,4	-2,2	7,8	-2,2

Source: Eurostat, une_rt_a, in percentages.

Table A3. Descriptive statistics country predictors: GINI-coefficient (0-100)

	2006		2010	
	Unstandardized	Centered	Unstandardized	Centered
Grand mean	29,4		29,1	
Belgium	27,8	-1,6	26,6	-2,5
Bulgaria	31,2	1,8	33,2	4,1
Cyprus	28,8	-,6	29,1	0,00
Denmark	23,7	-5,7	26,9	-2,2
Estonia	33,1	3,7	31,3	2,2
Finland	25,9	-3,5	25,4	-3,7
France	27,3	-2,1	29,9	,8
Germany	26,8	-2,6	29,3	,2
Hungary	33,3	3,9	24,1	-5,0
Ireland	31,9	2,5	33,2	4,1
Netherlands	26,4	-3,0	25,5	-3,6
Norway	31,1	,7	23,6	-5,5
Poland	33,3	3,9	31,1	2,0
Portugal	37,7	8,3	33,7	4,6
Slovakia	28,1	-1,3	25,9	-3,2
Slovenia	23,7	-5,7	23,8	-5,3
Spain	31,2	1,8	33,9	4,9
Sweden	23,7	-5,4	24,1	-5,0
United Kingdom	32,5	3,1	33,0	3,9

Source: Eurostat, SILC, ilc_di12, in percentages

Table A4. Descriptive statistics country predictors: Risk of poverty unemployed age 16-64 after social transfers (0-100)

	2006 Unstandardized	Centered	2010 Unstandardized	Centered
Grand mean	39,5		42,3	
Belgium	31,5	-8,0	31,0	-11,3
Bulgaria	48,0	8,5	49,1	6,9
Cyprus	30,8	-8,7	47,1	4,8
Denmark	25,2	-14,3	36,0	-6,3
Estonia	59,5	20,0	46,7	4,44
Finland	41,8	2,3	45,3	3,0
France	31,5	-8,0	33,5	-8,8
Germany	43,6	4,1	70,0	27,7
Hungary	53,2	13,7	44,9	2,6
Ireland	50,1	10,6	26,7	-15,6
Netherlands	27,8	11,7	32,1	-10,2
Norway	31,2	-8,3	32,7	-9,6
Poland	46,4	6,9	45,3	3,0
Portugal	31,0	-8,5	36,8	-5,5
Slovakia	33,1	-6,4	44,2	1,9
Slovenia	41,0	1,5	41,2	-1,1
Spain	37,5	-2,0	39,2	-3,1
Sweden	25,2	-14,3	37,0	-5,3
United Kingdom	57,1	17,6	47,7	5,4

Source: Eurostat, SILC, ilc_li04 (2006, 2010)

Table A5. Pearson Correlation of country predictors, 2006

	GDP change	Unemployment rate	GINI	Risk of poverty unemployed after social transfers
GDP change	1	,296**	-,030**	,452**
Unemployment rate	,296**	1	,115**	,156**
GINI	-,030**	,115**	1	,491**
Risk of poverty unemployed after social transfers	,452**	,156**	,491**	1

Source Eurostat. GDP change: nama_gdp_k; Unemployment rate: une_rt_a; GINi: ilc_di12; Risk poverty unemployed: ilc_li04. ** P<.001 (2-tailed)

Table A6. Pearson Correlation of country predictors, 2010

	GDP change	Unemployment rate	GINI	Risk of poverty unemployed after social transfers
GDP change	1	-,240**	-,418**	,405**
Unemployment rate	-,240**	1	,529**	-,140**
GINI	-,418**	,529**	1	,080**
Risk of poverty unemployed after social transfers	,405**	-,140**	,080**	1

Source Eurostat. GDP change: nama_gdp_k; Unemployment rate: une_rt_a; GINi: ilc_di12; Risk poverty unemployed: ilc_li04. ** P<.001 (2-tailed)

Table A7.
Multilevel models predicting Happiness/Life-satisfaction (QOL 0-10) 2006
INDIVIDUAL LEVEL

FIXED PART	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
INDIVIDUAL LEVEL						
Intercept	7,213***	7,221***	7,452***	7,298***	7,589***	7,585***
	(,175)	(,171)	(,156)	(,191)	(,149)	(,149)
Employment status	-1,123***	-1,041***	-1,057***	-1,030***	-,665***	-,588***
(0,1)	(,081)	(,076)	(,077)	(,080)	(,062)	(,078)
Working class (0,1)		-,232***	-,217***	-,193***	-,143***	-,143***
		(,054)	(,052)	(,047)	(,040)	(,040)
Salariat (0,1)		,259***	,286***	,272***	,184***	,185***
		(,057/	(,060)	(,058)	(,044)	(,044)
30-50 years old			-,257***	-,262***	-,221***	-,220***
(0,1)			(,048)	(,047)	(,034)	(,034)
50-67 years old			-,420***	-,416***	-,397***	-,395***
(0,1)			(,086)	(,085)	(,063)	(,063)
Education (0,1)				,170**	,056	,055
				(,070)	(,060)	(,060)
Income coping (0,1)					-1,166***	-1,141***
					(,087)	(,087)
Employment status						-,165*
X Income coping						(,091)
RANDOM PART						
Intercept	,579***	,553***	,444***	,654***	,384***	,386***
	(,189)	(,182)	(,150)	(,227)	(,136)	(,137)
Employment status	,082**	,066**	,071**	,077*	,032	,039
	(,038)	(,032)	(,032)	(,036)	(,022)	(,024)
Working class		,040**	,036**	,025*	,014	,014
		(,018)	(,017)	(,014)	(,009)	(,009)
Salariat		,043**	,049**	,044**	,019	,019
		(,026)	(,022)	(,021)	(,012)	(,012)
30-50 years old			,023	,021	,004	,004
			(,015)	(,014)	(,008)	(,008)
50-67 years old			,114**	,111**	,050*	,050*
			(,048)	(,048)	(,027)	(,026)
Education				,067**	,046**	,046**
				(,030)	(,023)	(,022)
Income coping					,119***	,117***
					(,045)	(,044)
Number of parameters	5	9	13	15	17	18
Deviance	71180	70903	70738	70469	68720	68716
Number of countries	19	19	19	19	19	19
Individual N	18473	18473	18473	18413	18315	18315

Source: ESS round 3 (2006). Selected cases: Birth year >=1939 Method of estimation: Maximum Likelihood
Reference category for class: Intermediate classes. Reference category for age: <30 years old.
*P<.10 **P<.05 ***P<.01 Standard errors within parentheses

Table A8.
Multilevel models predicting Happiness/Life-satisfaction (QOL 0-10) 2010
INDIVIDUAL LEVEL

FIXED PART	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
INDIVIDUAL LEVEL						
Intercept	7,277***	7,272***	7,523***	7,344***	7,610***	7,610***
	(,152)	(,151)	(,135)	(,178)	(,147)	(,148)
Employment status	-1,086***	-,988***	-1,021***	-,988***	-,613***	-,622***
(0,1)	(,087)	(,083)	(,084)	(,083)	(,069)	(,080)
Working class (0,1)		-,245***	-,224***	-,182**	-,136***	-,136***
		(,051)	(,050)	(,048)	(,042)	(,042)
Salariat (0,1)		,282***	,309***	,282	,184***	,184***
		(,055)	(,057)	(,051)	(,040)	(,039)
30-50 years old (0,1)			-,276***	-,272***	-,214***	-,215***
			(,044)	(,044)	(,039)	(,039)
50-67 years old (0,1)			-,414***	-,391***	-,358***	-,358***
			(,072)	(,073)	(,066)	(,066)
Education (0,1)				,204**	,106	,106
				(,073)	(,070)	(,070)
Income coping (0,1)					-1,103***	-1,106***
					(,086)	(,087)
Employment status X						,017
Income coping						(,079)
RANDOM PART						
Intercept	,438***	,424***	,327***	,560***	,374***	,374***
	(,135)	(,140)	(,114)	(,194)	(,131)	(,131)
Employment status	,113**	,099**	,101**	,098**	,058**	,058**
	(,046)	(,042)	(,042)	(,042)	(,028)	(,029)
Working class		,033**	,030**	,026*	,017**	,017*
		(,016)	(,015)	(,013)	(,010)	(,010)
Salariat		,040**	,040**	,029*	,012	,012
		(,019)	(,019)	(,016)	(,009)	(,009)
30-50 years old			,016	,015	,009	,009
			(,014)	(,013)	(,009)	(,009)
50-67 years old			,071**	,074**	,056**	,056**
			(,033)	(,033)	(,026)	(,026)
Education				,075**	,068**	,068**
				(,031)	(,027)	(.027)
Income coping					,117***	,116***
					(,043)	(,043)
Number of parameters	5	9	13	15	17	18
Deviance	73965	73643	73481	73077	71506	71506
Number of countries	19	19	19	19	19	19
Individual N	18972	18972	18972	18900	18825	18825

Source: ESS round 5 (2010). Selected cases: Birth year >=1943 Method of estimation: Maximum Likelihood.
Reference category for class: Intermediate classes. Reference category for age: <30 years old.
*p<.10 ** p<.05 ***p<.01. Standard errors within parentheses

Table A 9. References to the variables used

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

QOL; Index variable of the original variables; "HAPPY" *How happy are you* (0-10) and "STFLIFE" *How satisfied with life as a whole* (0-10)

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

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

Age; the original variable is "YRBRN" *Year of birth*

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

GDP change; original variable "nama_gdp_k"

Unemployment rate; original variable "une_rt_a"

The Gini-coefficient; original variable"ilc_di12"

Risk of poverty among unemployed, original variable "ilc_li04"