



Quality of life
in Europe:
**Subjective
well-being**

3rd
European
Quality
of Life
Survey

European Commission

Quality of life in Europe: Subjective well-being

Luxembourg: Publications Office of the European Union

2013 – 124 pp. – 21 × 29,7 cm

ISBN 978-92-8971-120-3

doi:10.2806/37878

Quality of life
in Europe:
Subjective
well-being

3rd European Quality of Life Survey

When citing this report, please use the following wording:
Eurofound (2013), *Third European Quality of Life Survey – Quality of life in Europe: Subjective well-being*, Publications Office of the European Union, Luxembourg.

Authors: Saamah Abdallah and Laura Stoll, nef (new economics foundation), and Franz Eiffe, Statistics Austria
Research managers: Daphne Ahrendt, Daniel Molinuevo and Eszter Sándor
Project team for the third EQLS: Rob Anderson, Hans Dubois, Klára Foti, Tadas Leončikas, Branislav Mikulić, Daniel Molinuevo and Eszter Sándor
Eurofound project: Third European Quality of Life Survey

The European Foundation for the Improvement of Living and Working Conditions (Eurofound) is a tripartite European Union Agency, whose role is to provide knowledge in the area of social and work-related policies. Eurofound was established in 1975 by Council Regulation (EEC) No. 1365/75, to contribute to the planning and design of better living and working conditions in Europe.

© European Foundation for the Improvement of Living and Working Conditions, 2013.

For rights of translation or reproduction, applications should be made to the Director, European Foundation for the Improvement of Living and Working Conditions, Wyattville Road, Loughlinstown, Dublin 18, Ireland.

Telephone (+353 1) 204 31 00

Email: information@eurofound.europa.eu

Web: www.eurofound.europa.eu

**Europe Direct is a service to help you find answers
to your questions about the European Union.**

**Freephone number (*):
00 800 6 7 8 9 10 11**

(*): Certain mobile telephone operators do not allow access to 00 800 numbers or these calls may be billed.

Cataloguing data can be found at the end of this publication.

Luxembourg: Publications Office of the European Union, 2013

ISBN 978-92-897-1120-3

doi:10.2806/37878

Printed in Luxembourg

Contents

Executive summary	7
Introduction	9
Well-being in a time of crisis	9
Rise of well-being in Europe	10
Other policy agendas in the EU	11
What is subjective well-being?	12
About this report	12
Chapter 1: Methodology	15
Aspects of subjective well-being	16
European Quality of Life Survey	17
Creating synthetic subjective well-being indicators	18
Determinants of subjective well-being	19
Statistical techniques used	19
Chapter 2: Patterns of subjective well-being across Europe	21
Overall measures	23
Aspects of well-being	28
Chapter 3: Inequalities in well-being	35
Overall inequality	36
What differentiates people with low and high well-being?	38
Inequality patterns in different countries	45
Chapter 4: Determinants of subjective well-being	47
Demographic predictors of life satisfaction	48
Domain satisfaction contributions	49
Main predictors of subjective well-being	50
Domains of predictors	54
Effect sizes compared to income	72
Chapter 5: Protective factors	73
Protective factors against the well-being impact of low income	74
Protective factors against the well-being impact of illness	78
Protective factors against the well-being impact of unemployment	79
Protective factors against the well-being impact of divorce	80

Chapter 6: Changes in well-being since 2007	81
Macroeconomic and socioeconomic development: 2007–2011	82
Changes in well-being since 2007	85
Changes for different demographic groups	88
Linking changes in life satisfaction with other changes	93
Conclusions	93
Chapter 7: Conclusions	95
Who has low well-being?	96
Who has high well-being?	96
What are the key policy areas for well-being?	97
What specific lessons can be drawn for well-being?	97
Bibliography	100
Annex 1: Determinants of subjective well-being explored	104
Annex 2: Statistical techniques used	108
Annex 3: Results tables	110

Abbreviations used in this report

DG	Directorate General
EQLS	European Quality of Life Survey
EU-SILC	European Union Statistics on Income and Living Conditions
GDP	gross domestic product
OECD	Organisation for Economic Co-operation and Development
PPP	purchasing power parity
UNDP	United Nations Development Programme
WHO-5	World Health Organization's Mental Well-being Index

Country groups

EU15	15 EU Member States prior to enlargement in 2004
EU12	12 EU Member States that joined in 2004 and 2007
EU27	27 EU Member States (as at the time of the survey)*

Country clusters used in the report

Social democratic	DK, FI, NL, SE
Corporatist	BE, DE, FR, LU, AT
Liberal	IE, UK
Southern European	EL, ES, IT, CY, MT, PT
Post-socialist corporatist	CZ, HU, PL, SI, SK
Post-socialist liberal	EE, LT, LV
2007 accession cluster	BG, RO

Country codes for EU27

AT	Austria	FR	France	RO	Romania
BE	Belgium	HU	Hungary	SE	Sweden
BG	Bulgaria	IE	Ireland	SI	Slovenia
CY	Cyprus	IT	Italy	SK	Slovakia
CZ	Czech Republic	LT	Lithuania	UK	United Kingdom
DE	Germany	LU	Luxembourg		
DK	Denmark	LV	Latvia		
EE	Estonia	MT	Malta		
EL	Greece	NL	Netherlands		
ES	Spain	PL	Poland		
FI	Finland	PT	Portugal		

* At the time of carrying out the third EQLS and of writing this report, Croatia's status was that of a candidate country for membership to the European Union. It became the 28th EU Member State on 1 July 2013.

Executive summary

Introduction

How can data on subjective well-being – how people perceive the quality of their lives – be used in policy? And are such data relevant in the context of the economic challenges that Europe is currently facing? This report draws out new policy-relevant findings from the third wave of Eurofound's European Quality of Life Survey (EQLS), conducted in 2011–2012. It shows how data on well-being can help policymakers identify the groups and countries that are bearing the brunt of the economic crisis, as well as those that are holding out better than expected, and provides a new layer of evidence to aid policy decisions.

The report compares countries and groups across the then 27 EU Member States, identifying the determinants of well-being and the factors that might protect individuals from low well-being. It also looks at how subjective well-being has changed between 2007 and 2011 in the EU as a whole and in individual Member States. The report goes beyond the use of reported life satisfaction to consider a full range of subjective well-being concepts, including hedonic well-being (short-term feelings), eudaimonic well-being (how well people are functioning in their lives) and satisfaction with different aspects of life.

Policy context

Policymakers need to get a picture of the real impact of the crisis on people's lives. There is a sense that the crisis has deepened inequalities and has had a greater impact on groups that are already vulnerable in society – is this borne out in the well-being data?

Many have argued that new indicators are part of the package needed to help get out of the current crisis and to prevent another one happening. The 2009 Communication from the European Commission 'GDP and beyond: Measuring progress in a changing world' calls for a more holistic approach to measurement, including the measurement of well-being, and a greater focus on the distribution of resources and outcomes between social and economic groups, and between regions. The EQLS data are key to informing such a debate.

Key findings

- Well-being is highest in the social democratic countries of northern Europe (Denmark, Finland, the Netherlands and Sweden), and lowest in Bulgaria, Greece, Hungary, Latvia and Romania. While well-being correlates with GDP per capita, several countries achieve higher well-being than would be expected based on GDP alone.
- Almost all countries have low well-being on at least one measure. For example, despite overall high well-being, the UK has the lowest levels of vitality and neighbourhood belonging. Estonia and Latvia have the lowest levels of health satisfaction.
- The population groups that stand out as having low well-being include those limited by illness or disability, unemployed people, those who are separated or divorced, and individuals in the middle age bracket (35–49 years).
- Cyprus, Hungary and Romania have the greatest levels of overall well-being inequality, with Germany and the UK not far behind. The analysis identified which well-being inequalities were sharpest in different countries. For example, the well-being gap between those with high and those with low incomes was greatest in Bulgaria, while the biggest gender gaps were in Cyprus, Portugal and Romania.
- While life satisfaction increased marginally between 2007 and 2011, happiness has fallen and perceived social exclusion has increased, indicating that well-being has indeed stagnated during the crisis. Importantly there are different regional patterns, with the European average being elevated by increases in the newer Member States such as Bulgaria and Romania.
- Where there have been increases in well-being, particularly in the Baltic states, Ireland, southern Europe and the UK, they have been enjoyed by those in the highest income quartiles. Conversely, the largest falls in well-being were experienced by those in the bottom income quartile.

- The strongest predictors of well-being were material deprivation, health, work–life balance and lack of time, and satisfaction with public services.
- The predictors varied according to the measure being used. For example, the strongest predictor of loneliness was being widowed, while the strongest predictor of stress was work–life balance.
- The predictors also varied between country clusters used in this study. Health was the single most important determinant of life satisfaction in the social democratic cluster. Public service satisfaction was the second most important determinant in southern Europe.

More detailed analysis revealed some surprising results.

- Social aspects of deprivation, such as not being able to invite guests over, were the most important in the index of deprivation created using the EQLS.
- The most important detrimental impact of housing on life satisfaction was not feeling secure that one could stay in one’s house.
- Temporary employment contracts of less than 12 months were particularly detrimental to life satisfaction, while those of 12 months or over had no significant negative impact.
- Face-to-face contact with friends had a strong impact on well-being, while indirect contact (by phone or email) had almost no positive impact.
- When other factors are controlled for, people in rural areas have higher well-being than those in urban areas.

Policy pointers

- The data stress the importance of paying particular attention to several groups – those limited by disabilities or ill health, unemployed people and middle-aged people. They also send out warning signals for several countries that have

low or falling well-being – Estonia, Greece and Sweden all having notable declines.

- Positive lessons can be drawn from some countries. Aside from the usual focus on Scandinavian countries, Poland has higher life satisfaction than many of its neighbours, while Spain (at least in 2011) appeared to be holding up, despite the crisis, in terms of average well-being and low well-being inequality.
- From the perspective of increasing well-being, the data make it quite clear what the policy priorities are – reducing poverty and deprivation, tackling unemployment, integrating people with disabilities, addressing work–life balance and maintaining the quality of public services.
- The data also highlight the importance of protecting social networks and relationships. This implies, for example, considering the unintended social consequences associated with increasing geographical labour mobility, or the falling social cohesion and trust associated with increased inequality.
- Working conditions have an effect on well-being – moving employees from short-term to permanent contracts would have a bigger impact on well-being than moving unemployed people into short-term contracts. Tackling overwork would increase well-being.
- Local governments in urban areas could look to rural areas to identify what is providing them with a well-being advantage. Access to green space and community are likely to play a role. Meanwhile, rural policy should ensure there are still employment opportunities available to allow people to live in rural areas.
- Physical activity contributes to well-being – possible interventions to increase it include greater inclusion in school curricula and broadening active travel opportunities.
- Being in debt is negatively associated with well-being for all respondents, but particularly for those on low incomes, highlighting the need for protective measures.

Introduction

At the time of writing, Europe continued to face a crisis the scale of which has not been seen since the end of World War II. In 2011, the gross domestic product (GDP) per capita of 22 out of the then 27 EU Member States was below 2008 levels,¹ and unemployment rates were higher than in 2008 in 25 out of the 27 countries.² Public debt has become a critical issue in many countries. These economic problems have led to growing dissatisfaction with ruling elites. In many countries, recent elections have been marked by falling support for major political parties and a simultaneous rise in newer, anti-establishment parties. In some countries, particularly Greece and Spain, this discontent has manifested itself in social unrest. Unsurprisingly, all this has been accompanied with a significant decline in people's optimism about the future.³

This report considers the impact of the crisis on the *experienced* well-being of Europeans. Many socioeconomic indicators have demonstrated worrying trends, but, as the European Commissioner for the Directorate General for Employment, Social Affairs and Inclusion (DG EMPL) highlighted, the focus needs to be on the following questions. What has been 'the real impact on people's lives'?⁴ Who has been hit hardest? Where have there been surprisingly positive well-being patterns? What do the inequalities in well-being look like? What are the factors that explain the variation in well-being across Europe? What findings provide policy pointers as to how to increase, or at least stem the fall in, well-being in the coming years?

The report uses data from Eurofound's third European Quality of Life Survey (EQLS), which interviewed respondents in all 27 EU countries in 2011–2012. Comparisons are also made with the previous wave of the survey, conducted in 2007.

Unsurprisingly, experienced well-being has indeed fallen in many countries within Europe. However, falls in many western European countries have been matched by increases in well-being in eastern European countries. The results also show:

- material deprivation is the strongest predictor of many aspects of experienced well-being;
- other key factors include health, work–life balance and personal relationships;
- several factors may 'protect' against the negative impact of low income or bad health, which are known to influence

experienced well-being – these include personal solvency, job security and family relationships;

- inequalities in experienced well-being are large; in many countries, the 20% of the population with the highest levels of well-being report a sense of life satisfaction over six points higher than the 20% of the population with the lowest levels of well-being, on a scale of 1–10;
- in many countries, the gap in well-being between the wealthiest and the poorest members of the population has grown during the crisis.

Well-being in a time of crisis

The question arises as to whether it is right to look at well-being in a time of economic crisis? Surely policymakers should focus efforts for now on returning to economic growth. This is indeed the position of some (Thiry et al, 2013). However, there are several reasons why the new science of well-being may be more relevant than ever before.

First, it is important to monitor for low levels of well-being, so as to identify those population groups that require targeted protection. This need may not always be apparent simply through the use of economic indicators.

Secondly, well-being analysis might help identify areas or population groups that have higher well-being than expected, which might provide policy lessons that could be replicated for other population groups, or lead to general policy recommendations.

Thirdly, analysing well-being can help quantify and compare the differential impacts on well-being of different aspects of life, thereby informing debate on policy trade-offs. For example, what aspects of housing are most important to well-being? What are the relative effects on well-being of poor working conditions versus unemployment? In general, what are the most important factors that determine well-being? Such trade-offs are likely to become particularly acute from now on, given the lack of a clear path to the rates of economic growth that Europe saw pre-2008. In the context of constrained fiscal space, governments may have to get smarter about the ways in which they seek to ensure the well-being of their populations.

¹ Based on GDP per capita, purchasing power parity (PPP) and World Development Indicators.

² Eurostat data, February 2013.

³ Based on EQLS data from 2007 and 2011.

⁴ László Andor, speaking at the seminar 'Policies for a well-being driven economic agenda for Europe', Budapest, 5 March 2013.

These three questions – who is doing badly, who is doing better than expected and what are the trade-offs between policy goals – are questions being asked by senior officials at the European Commission. The findings drawn together in this report will seek to start answering them.

But it is important to acknowledge that there are several reasons why policy decisions cannot be made on the basis of the various findings discussed in this report alone. First, the findings from the EQLS are based on cross-sectional analysis. For example, the results can demonstrate that married people are happier than single people, but this on its own does not mean that getting married will make single people happier. Fortunately though, in many cases, other research using panel data has been able to demonstrate such longitudinal changes (for example, Lucas et al, 2003). Secondly, this report only looks at the direct effects on individuals. Richer people may have higher well-being, but studies on relative income have highlighted that one person's increase in income comes at the expense of everyone else's relative income declining (Clark et al, 2008). Thirdly, the study does not look at indirect or lagged (long-term) effects. It may be that policies that are good for well-being in the short term might lead to other outcomes that, in the long term, harm well-being within a country. Finally, the analysis does not consider the effect of policies on other desirable outcomes, such as reducing environmental pressures or improving international relations.

The first of these four issues can, at least theoretically, be resolved through the collection of more well-being data. However, the remaining three require well-being analysis to be brought together with other kinds of analyses, modelling and of course consideration of trade-offs.

Rise of well-being in Europe

Well-being is cited as early as 1993 in the Treaty on the European Union (also known as the Maastricht Treaty). However, it was not until 2006 that it began to appear more explicitly in EU policy rhetoric, when the European Sustainable Development Strategy cited the well-being of present and future generations as its central objective (see Figure 1 for a timeline) (Council of the European Union, 2006).⁵ In response, Eurostat commissioned work in 2007 to scope out the feasibility of well-being indicators at the European level (Eurostat, 2009).

Figure 1: Key well-being events in Europe



Note: DGINS = Directors General of the National Statistical Institutes

Well-being has been a central element of the 'Beyond GDP' agenda, which arose in recognition of the shortcomings of GDP as a measure of human welfare. The agenda was launched in the EU with a major conference in the European Parliament in 2007, and in 2009 the European Commission produced a Communication entitled 'GDP and beyond: Measuring progress in a changing world', which provides a road map for new areas of measurement. It concludes, 'ultimately, national and EU policies will be judged on whether they are successful in delivering [social, economic and environmental] goals and improving the well-being of Europeans' (European Commission, 2009). Shortly afterwards, a commission set up by then French President Nicolas Sarkozy, and headed by Nobel prize-winning economist Joseph Stiglitz, made a set of widely heeded recommendations, notably a 'shift in emphasis from measuring economic production to measuring people's well-being' (Stiglitz et al, 2009, p. 12).

⁵ The Lisbon Treaty also refers to 'Promoting ... peace and the well-being of the Union's peoples' as among 'the main objectives of the Union'.

The work of this commission is seen to have been pivotal in the recognition of the policy importance of well-being (Hák et al, 2012). Subsequent to its formation, Eurostat, in conjunction with the French National Institute of Statistics and Economic Studies (INSEE), set up the Sponsorship Group on Measuring Progress, Sustainable Development and Well-Being. In 2013, Eurostat published an online set of quality of life indicators, including some subjective well-being items from the EQLS (Eurostat, 2013). Meanwhile, the EU Statistics on Income and Living Conditions (EU-SILC), the main social survey coordinated by Eurostat, added a well-being module in 2013.

In 2012, a stock take of subjective well-being measurement in the EU found 11 countries with official national surveys that included subjective well-being, including France, Germany, Italy, Poland and the UK (Abdallah and Mahony, 2012). In total, 32 official or semi-official surveys were found incorporating subjective well-being measures in Europe. These range from small-scale surveys with samples of little over 1,000, to the UK's Annual Population Survey which, from 2011 onwards, includes data on subjective well-being for 160,000 respondents each year.

In recent years, attention has begun to move from the measurement of well-being to its use to inform policy, a process that includes this report. In the EU, this question was central to the Well-Being in 2030 project set up by the European Policy Centre and funded by DG EMPL. It is also the central question of the Commission's FP7 project BRAINPOOL (Bringing Alternative Indicators into Policy) funded by the Directorate General for Research and Innovation (DG RES).⁶ Recent conferences on well-being have placed a growing emphasis on its relevance for policy. For example, the European conference on 'Measuring well-being and fostering the progress of societies', organised by the Organisation for Economic Co-operation and Development (OECD) in Paris in June 2012, concluded with a round table on 'well-being policy frameworks'.⁷ In the OECD's recent *Guidelines on measuring subjective well-being*, an entire chapter is devoted to policy uses (OECD, 2013).

Consideration of the potential for subjective well-being measurement to be used in policymaking and evaluation has been particularly developed in the UK, where several government ministries, including the Department for Transport, Communities and Local Government, the Department for Business, Innovation and Skills (Foresight Mental Capital and Wellbeing Project, 2008) and the Department of Health (2009), have dedicated efforts to using well-being data. In addition, a team within the UK Cabinet Office (which coordinates different ministries) is charged with helping and encouraging civil servants to do more in this area (UK Civil Service website).

Other policy agendas in the EU

One of the challenges of using well-being analysis in policy is that there is no such thing as 'well-being policy'. As this report will show, well-being evidence is relevant for a range of policy areas, from economic to environment policy, and from health to housing policy. Indeed one of the main arguments for using well-being evidence in policy is that it provides a more holistic perspective, encouraging policymakers to pay greater attention to the positive and negative impacts of all policy areas on people's lives in general (Michaelson et al, 2009). Given this holistic approach, this section of the report briefly notes some of the main EU priorities and policy areas for which well-being evidence may be relevant.

- **Europe 2020 strategy** (European Commission, 2010): Alongside growth, sustainability and innovation, the strategy gives the EU a renewed focus on social issues and inclusion. One of its five headline goals includes poverty reduction, and new 'at risk of poverty' indicators have been developed to monitor progress towards this goal. The other four headline goals include increasing employment rates, active ageing, broadening tertiary education and reducing emissions.
- **Social Investment Package** (European Commission, 2013): A series of communications have been produced on the challenges in implementing European Social Funds to achieve social investment and cohesion. Encouraging people to enter, and stay in, the labour force is central. There is also interest in getting workers into the healthcare and long-term care sectors; other important elements of the package are child poverty and well-being and homelessness.
- **Youth Employment Package** (European Commission, 2012c): High youth unemployment rates (21% in Europe overall and up to 50% in Spain and Greece in 2013) have spurred interest in developing youth guarantee schemes to help young people to avoid the scarring effects of unemployment.

Several of the Commission's DGs also have a specific interest in well-being or related issues.

- DG Employment, Social Affairs and Inclusion has perhaps the most obvious interest in well-being. As well as the Social Investment Package and Youth Employment Package, the DG lists as priorities working time and active ageing.
- DG Regional and Urban Policy is developing its own well-being indicators to help in directing the large funds it administers: regional development, cohesion and accession. It is also taking a particular interest in youth unemployment.
- DG Environment was the first to move into the Beyond GDP and well-being agenda, sustainable development being linked to well-being now and in the future (Council of the European Union, 2006). In terms of well-being, current focuses include a review of EU air quality policy, as well as water and waste legislation.

⁶ <http://www.brainpoolproject.eu>

⁷ The conference was part of another FP7 project called e-Frame. For more information, visit <http://www.eframeproject.eu>.

- DG Agriculture and Rural Development describes its mission in its 2013 Management Plan as follows: 'to ensure the well-being of ... rural areas'. Its objectives include ensuring jobs and quality of life in the countryside (European Commission, 2012a).

Meanwhile, it is worth bearing in mind the context of the Multi-annual Financial Framework 2014–2020 agreed upon by the Member States in February 2013. The framework sets the budget for the EU until 2020, which, for the first time, will be smaller than the previous one. Cuts are expected to affect the European Social Fund in particular.

What is subjective well-being?

The Encyclopaedia of Quality of Life and Well-being Research defines subjective well-being as:

The personal perception and experience of positive and negative emotional responses and global and specific cognitive evaluations of satisfaction with life. ... Simply, SWB [subjective well-being] is the individual evaluation of quality of life.

(Proctor, in press)

Subjective well-being is occasionally referred to in this report as *experienced* well-being to highlight that it reflects people's experiences of their lives. Table 1, which is based on a classification by Dutch sociologist Ruut Veenhoven, illustrates that subjective well-being is subjective in two senses, in terms of what is being measured and how it is being measured. Self-reported housing satisfaction is used as an example here.

Table 1: Two dimensions of subjectivity

	Objective substance	Subjective substance
Objective measurement	Objective assessment of overcrowding based on number of rooms and number of people living in the home.	How long individual stays in the house before moving.
Subjective measurement	Assessment of accommodation (for example, whether the home is overcrowded).	Self-reported housing satisfaction.

Source: Veenhoven, 2002

As Table 1 shows, self-reported housing satisfaction is subjective both because it involves a subjective measurement (asking someone in a survey), and because the thing being assessed is itself subjective (it is someone's opinion). What is being assessed is not the individual's home, but the individual's perception of that home. Consider a respondent who lives in a large comfortable house, but indicates that they are dissatisfied with it. The data showing that the respondent is not satisfied with the home are not incorrect, unless the respondent has chosen to lie in the survey. If they feel dissatisfied, then they are dissatisfied. Perhaps they are just hard to please, but perhaps there is indeed something unpleasant about the house that the analysis has not been able to identify using objective data.

A key element of subjective well-being is, therefore, that the substance of the thing being assessed is subjective. As such, subjective well-being is best assessed subjectively, through surveys. As Helliwell and Wang outlined in the *World Happiness Report*:

The most fundamental indicator of your happiness is how happy YOU feel, not whether others see you smiling, your family thinks you are happy, or you have all the presumed material advantages of a good life.

(Helliwell and Wang, 2012, p. 21)

Another key element is that measuring subjective well-being means evaluating something that can be unequivocally 'good' or 'bad'. Asking someone whether they *feel* old or young is also a subjective measurement of a subjective substance, but there is no inherently 'good' or preferable answer. It is not 'better' to be either young or old.

A third key element is that subjective well-being measures assess something about the life of an individual. Satisfaction with the economic situation of a country may be an important determinant of subjective well-being, but it is not a measure of subjective well-being because it is an assessment of something quite external to the respondent.

Finally, this study argues that good measurement of subjective well-being assesses concepts that are general and universally desirable and important.

About this report

This report is based on the most interesting and policy-relevant findings that come from analysis of the latest EQLS. After presenting some information on the well-being framework and methodology used in Chapter 1, Chapters 2 and 3 describe the pattern of well-being in Europe. Chapter 2 presents the

differences between countries in subjective well-being, while Chapter 3 focuses on differences between population groups, and looks more broadly at well-being inequality. Chapter 4 goes beyond the descriptive, using statistical analyses to attempt to identify the determinants of high and low well-being. Results are structured according to Eurostat's eight quality of life domains (Eurostat, 2013). Chapter 5 explores a few protective factors that appear to mitigate the negative effects on well-being of low income, unemployment and poor health. In Chapter 6, data from the second round of the EQLS are used to consider how well-being has changed between 2007 and 2011.

Chapter 7 draws out the policy implications of the analysis chapters, structuring them based on policy area, rather than type of analysis.

This report is one of a series of reports by Eurofound to examine the results from the third EQLS. These include the overview report *Quality of life in Europe: Impacts of the crisis* (Eurofound, 2012b) and reports on:

- subjective well-being;
- social inequalities;
- quality of society and public services;
- trends in quality of life in Europe (2003–2012).

CHAPTER 1

Methodology

Methodology

This chapter outlines the data and techniques used in this report. It first provides a framework for conceptualising subjective well-being and its three main aspects – hedonic well-being, evaluative well-being and eudaimonic well-being. Then it introduces the main data source, the EQLS, and identifies the questions used to measure subjective well-being. The chapter concludes with a brief note on the methodologies used and the data used to explain the variations in subjective well-being.

Aspects of subjective well-being

Over the past 60 years, several approaches to measuring subjective well-being have emerged. While these approaches were originally often seen in opposition to one another, consensus has recently emerged around three main approaches that are complementary to one another, and that they should be used together to provide a rounded picture of well-being (ONS, 2011; Eurostat, 2013; OECD, 2013).

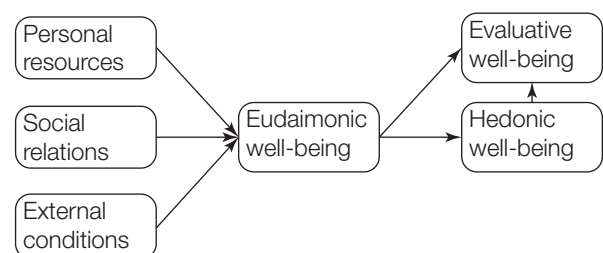
- **Hedonic well-being** – Also called ‘affect’, this refers to people’s day-to-day feelings and moods. Both positive and negative feelings are measured, and it has been found that the two are not entirely correlated (Diener et al, 1985). Typically, surveys ask respondents to answer questions that refer to relatively short time periods, for example a day or a week, so as to aid recall. While this means that such measures may suffer from substantial temporal variability – as people’s mood will go up and down from day to day – large sample sizes and good survey design (not interviewing everyone on a Monday, for example) should ensure that this does not systematically bias population estimates. Indeed, some studies suggest that those hedonic measures, where respondents are not asked to recall how they have felt over long periods of time, may be the most resistant to cultural biases in response (Krueger et al, 2009).
- **Evaluative well-being** – Respondents are expected to provide a more cognitively influenced judgement, weighing up different aspects of their lives. The most regularly used question asks people to report how satisfied they are with their life as a whole nowadays, thereby not fixing a tight time frame. Another common question asks respondents to position themselves on a ladder with the top of the ladder representing the best possible life. Such questions have intuitive appeal, as they explicitly ask respondents to provide an overall assessment, but they also implicitly bring in relative effects, as satisfaction is likely to be judged against expectations. There is a risk that someone reporting being satisfied is only so because they have low expectations (Michalos, 1985).

- **Eudaimonic well-being** – Less commonly incorporated into large-scale surveys, questions designed to gain information on this form of well-being ask respondents about a range of concepts believed to be important to well-being, such as sense of autonomy, relationships, meaning and self-esteem. Eudaimonic approaches draw on a tradition dating back to Aristotle, through various psychological and humanistic theories (for example, Deci and Ryan, 1980; Keyes, 2002; Seligman, 2011; Huppert and So, 2013), and evidence demonstrating universal relevance of the factors measured. Sometimes they are understood as preconditions to well-being (as measured by evaluative and hedonic approaches); sometimes they are seen as part of well-being itself. The new economics foundation (nef) has argued that measuring eudaimonic well-being provides a more textured approach to well-being analysis, leading more naturally to policy conclusions and ensuring that well-being is not considered to be only about being happy (Centre for Well-Being, 2011).

The Dynamic Model of Well-being developed by nef in 2008 sees eudaimonic well-being, or ‘flourishing’, as being a direct outcome of the interaction between one’s external conditions, personal resources and social relations (Thompson and Marks, 2008; see adaptation as a working model in Figure 2). In turn, eudaimonic well-being, particularly when framed as the ability of individuals to meet their psychological needs, is theorised to lead to hedonic well-being (Ryan et al, 2008; see also Boulanger et al, 2011). An individual’s experience of hedonic well-being, and their ability to flourish, can then be expected to determine how they respond to evaluative well-being questions (albeit through a filter of their memory and how their experience compares with their expectations).

All three approaches can be measured using the EQLS.

Figure 2: Working model of well-being



Source: Adapted from Thompson and Marks, 2008

European Quality of Life Survey

The EQLS is conducted by the European Foundation for the Improvement of Living and Working Conditions (Eurofound), a tripartite European Union Agency founded in 1975 to contribute to the planning and design of better living and working conditions in Europe. Eurofound brings together stakeholders from three different realms – employer groups, trade unions and policymakers.

The first EQLS was conducted in 2003 and the second in 2007; the third and most recent round was completed in 2011–2012. The third EQLS covers the 27 European Union Member States as at the time of the survey, as well as seven other European candidate or pre-accession countries (which also included Croatia). The minimum sample size for each country was 1,000, with larger samples for the seven most populous nations in Europe. The survey is designed to allow

representative estimates at the national level, covering the population aged 18 or over.⁸ Interviews are conducted face to face. The first round of the survey was accompanied by a concept paper presenting Eurofound's understanding of quality of life (Eurofound, 2003). More information can be found in the third EQLS overview report (Eurofound, 2012b).

The third EQLS includes 26 questions that directly assess subjective well-being, as well as a unique combination of questions on a full range of quality of life areas that can be expected to influence subjective well-being. Table 2 lists the well-being questions in the 2011 survey, identifies the concepts they purport to measure, categorises them according to the three types of well-being (evaluative, hedonic or eudaimonic), and indicates whether the question was also included in the 2007 survey. Precise question wording can be seen in the questionnaire.⁹

Table 2: Subjective well-being: List and categorisation of subjective well-being items in the third EQLS questionnaire

Item	Concept	Well-being category	In 2007 survey
Q29a I am optimistic about the future	Optimism (general)	Eudaimonic	✓
Q29b I generally feel that what I do in life is worthwhile	Feeling worthwhile	Eudaimonic	
Q29c I feel I am free to decide how to live my life	Autonomy	Eudaimonic	
Q29d In my daily life, I seldom have time to do the things I really enjoy	Time pressure	Eudaimonic	
Q29e I feel left out of society	Social exclusion – left out of society	Eudaimonic	✓
Q29f Life has become too complicated today that I almost can't find my way	Social exclusion – life is too complicated	Eudaimonic	✓
Q29g I feel the value of what I do is not recognised by others	Social exclusion – not recognised	Eudaimonic	✓
Q29h Some people look down on me because of my job situation or income	Social exclusion – looked down upon	Eudaimonic	✓
Q29i I feel close to people in the area where I live	Neighbourhood belonging	Eudaimonic	
Q30 All things considered, how satisfied would you say you are with your life these days?	Overall life satisfaction	Evaluative	✓
Q40a How satisfied you are with each of the following items? Your education	Education satisfaction	Evaluative	✓
Q40b How satisfied you are with each of the following items? Your present job	Job satisfaction	Evaluative	✓
Q40c How satisfied you are with each of the following items? Your present standard of living	Standard of living satisfaction	Evaluative	✓
Q40d How satisfied you are with each of the following items? Your accommodation	Accommodation satisfaction	Evaluative	✓

⁸ More details on the survey methodology can be found at <http://www.eurofound.europa.eu/surveys/eqls/2011/index.htm>.

⁹ The questionnaire can be found at <http://www.eurofound.europa.eu/surveys/eqls/2011/questtranslation.htm>.

Item	Concept	Well-being category	In 2007 survey
Q40e How satisfied you are with each of the following items? Your family life	Family satisfaction	Evaluative	✓
Q40f How satisfied you are with each of the following items? Your health	Health satisfaction	Evaluative	✓
Q40g How satisfied you are with each of the following items? Your social life	Social life satisfaction	Evaluative	✓
Q41 Taking all things together, how happy would you say you are?	Overall life (happiness)	Evaluative ¹⁰	✓
Q45a I have felt cheerful and in good spirits	Positive emotion (cheerful)	Hedonic	✓
Q45b I have felt calm and relaxed	Positive emotion (calm and relaxed)	Hedonic	✓
Q45c I have felt active and rigorous	Vitality (active)	Hedonic/Eudaimonic	✓
Q45d I woke up feeling fresh and rested	Vitality (rested)	Hedonic/Eudaimonic	✓
Q45e My daily life has been filled with things that interest me	Engagement	Eudaimonic	✓
Q46a I have felt particularly tense	Negative emotion (tense)	Hedonic	
Q46b I have felt lonely	Loneliness	Eudaimonic	
Q46c I have felt downhearted and depressed	Negative emotion (downhearted)	Hedonic	

Creating synthetic subjective well-being indicators

The question arises as to how the 26 indicators listed in Table 2 should be understood. Some, such as life satisfaction and happiness, appear to be overall measures – they give analysts an overall assessment of how someone is doing, without indicating how their well-being might be improved. Others, such as the questions on loneliness or vitality, provide more specific information. One would expect the overall measures to broadly correlate, as they are trying to reach some kind of general assessment, albeit in different ways (for example evaluatively or hedonically). But the more specific measures need not correlate – it is easy to imagine someone who is lonely, but has a lot of energy. Importantly, the policy implications of low scores on these specific aspects of well-being may be different. For example, high levels of stress might be related to long working hours and time poverty. High levels of loneliness or social exclusion might be related to a disrupted social fabric. This report goes some way to exploring the differing drivers for these various aspects of subjective well-being.

To help in this process, a range of six *synthetic indicators* are defined that either provide a more overall assessment of well-being, or something related to a specific aspect of well-being.

The indicators are based on the categories and distinctions presented in Table 2, and factor analyses (see Annex 2 on statistical techniques).

Overall measures

WHO-5 Mental Well-Being Index (Q45a-e)

Part of the questionnaire is based on the five questions that make up the World Health Organization's Mental Well-Being Index (WHO-5), which was developed to measure positive psychological well-being (Bech, 1998). The index measures a mix of hedonic and eudaimonic well-being over the previous two weeks.

Hedonic well-being index (Q45a, b; Q46a, c)

Well-being scientists regularly draw a distinction between positive and negative affect (for example, OECD, 2013). The circumplex model of affect adds a second dimension, that of *arousal* (Russell, 1980). The third EQLS includes four items that can be seen to represent all four possible combinations

¹⁰ Question 41 asks respondents to report how happy they are, and may at first sight seem like a hedonic question because of its use of the word 'happy'. However, the question is phrased more evaluatively, with respondents asked 'to take all things together', that is to consider their life as a whole. The word 'happy' is rather more synonymous with 'satisfied'. Previous research has suggested that responses to questions like this fall somewhere in between responses to purely evaluative questions and purely hedonic questions (Diener et al, 2010); a pattern that will be confirmed in this report.

of these two dimensions: cheerful – positive, aroused; calm – positive, unaroused; tense – negative, aroused; and depressed – negative, unaroused. These are combined in the hedonic well-being index, with the negative emotions reversed such that scoring high on the index requires an absence of negative emotions.

Overall well-being index (all Q29, Q30, Q41, Q45, Q46)

The standardised scores for all subjective well-being items (except domain satisfactions) were combined, with equal weightings, into a single overall well-being index. This was not used very often, but was useful as an overall outcome measure.

Aspects of well-being

Social exclusion index (Q29e–h)

This index was developed by Eurofound using the first EQLS, and reported on in the third EQLS overview report (Eurofound, 2012b). A high score on the social exclusion index indicates high levels of perceived social exclusion (that is, low well-being).

Elements of eudaimonic well-being index (Q29a–c)

Aside from the items in the social exclusion index, the third EQLS includes several more measures of what can be understood as eudaimonic well-being. However, in factor analysis (see Annex 2), only three could be loaded together into a single factor – optimism, feeling worthwhile and autonomy. These are grouped together in this eudaimonic well-being index. While overall measures of well-being do exist that are based on eudaimonic items (see Huppert and So, 2013), the limited number combined here means that this measure is less likely to be considered as an overall one.

Stress and busyness index (Q29c, d; Q45b, Q46a)

Four items – time pressure, autonomy, calm and relaxed, and tense – could be loaded together in a factor that appears to be related to stress and busyness. The standardised scores (see Annex 2) for the four items were averaged to produce an index. Stress and busyness are seen in this report as negative

outcomes, but it is worth noting that they are often associated with generally positive conditions, such as having a job.

Determinants of subjective well-being

The analysis explored a range of items and topics from the third EQLS which it was thought, based on previous research, might explain individual-level variation in subjective well-being.¹¹ Table A1 in Annex 1 lists these items, structured according to the domains of quality of life identified by the Eurostat Expert Group on the topic. A list of ‘demographics and core variables’ were also identified that provide vital statistics about the respondent that tended to be given primacy in the analyses (see below). Table A2 in Annex 1 lists the country-level indicators used in the analysis (such as GDP per capita).

Statistical techniques used

Three main types of analysis were used to produce this report – factor analyses, bivariate analyses and multivariate regression analyses.

- **Factor analyses** – Several variables that are believed to measure similar or interrelated concepts are brought together to see how they group together into underlying factors. For example, the analysis tested how the subjective well-being variables group together so as to produce synthetic variables.
- **Bivariate analyses** – In a bivariate analysis, one is looking to see how a single predictor or determinant variable is related to a single outcome variable; for example, the relationship between age and life satisfaction, or gender and the social exclusion index. In most cases, statistical tests are carried out to see whether the effects found in the survey sample are significant – that is, that they do in fact represent differences in the population at large.
- **Multivariate regression analyses** – Multivariate analyses allow the researcher to combine several predictor variables into one analysis. This allows one to compare relative effect sizes to see which predictors are more important, and also allows one to control for potentially confounding variables. For example, a certain ethnic minority might have lower average life satisfaction than another, but can the difference be explained in terms of the average incomes of the two groups, or is there an independent effect of ethnicity?

More information on the statistical techniques used can be found in Annex 2.

¹¹ Stoll et al (2012) provide a thorough review of the drivers of subjective well-being, which was used to inform a similar review carried out on behalf of Eurostat (Abdallah and Stoll, 2012).

CHAPTER 2

Patterns of subjective well-being across Europe

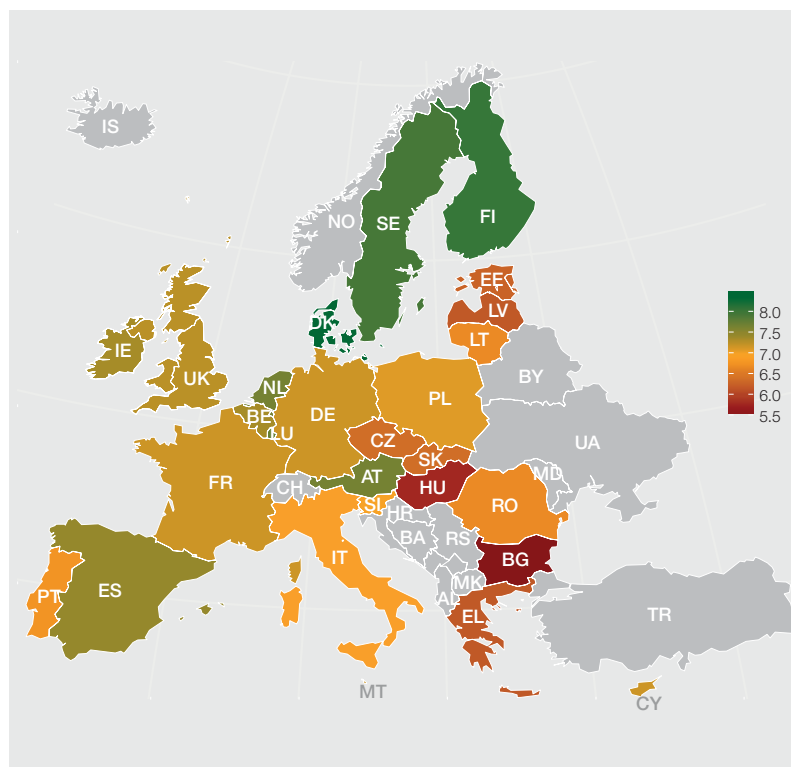
Patterns of subjective well-being across Europe

This chapter explores the patterns of well-being across Europe. As well as using the synthetic indicators described in Chapter 1, it will also explore patterns for some more detailed aspects of subjective well-being.

This sort of analysis is not just about making league tables. Comparing well-being outcomes will enable policymakers and

analysts to begin to identify the characteristics of countries that are doing well in terms of well-being despite the economic crisis, so that lessons may be learnt from them. It is also useful for providing warning signals to countries whose well-being is below par, and to highlight places where support is needed.

Figure 3: Life satisfaction across Europe (scale of 1–10)



Note: Q30 All things considered, how satisfied would you say you are with your life these days? Please tell me on a scale of 1 to 10, where 1 means very dissatisfied and 10 means very satisfied.

Overall measures

Life satisfaction

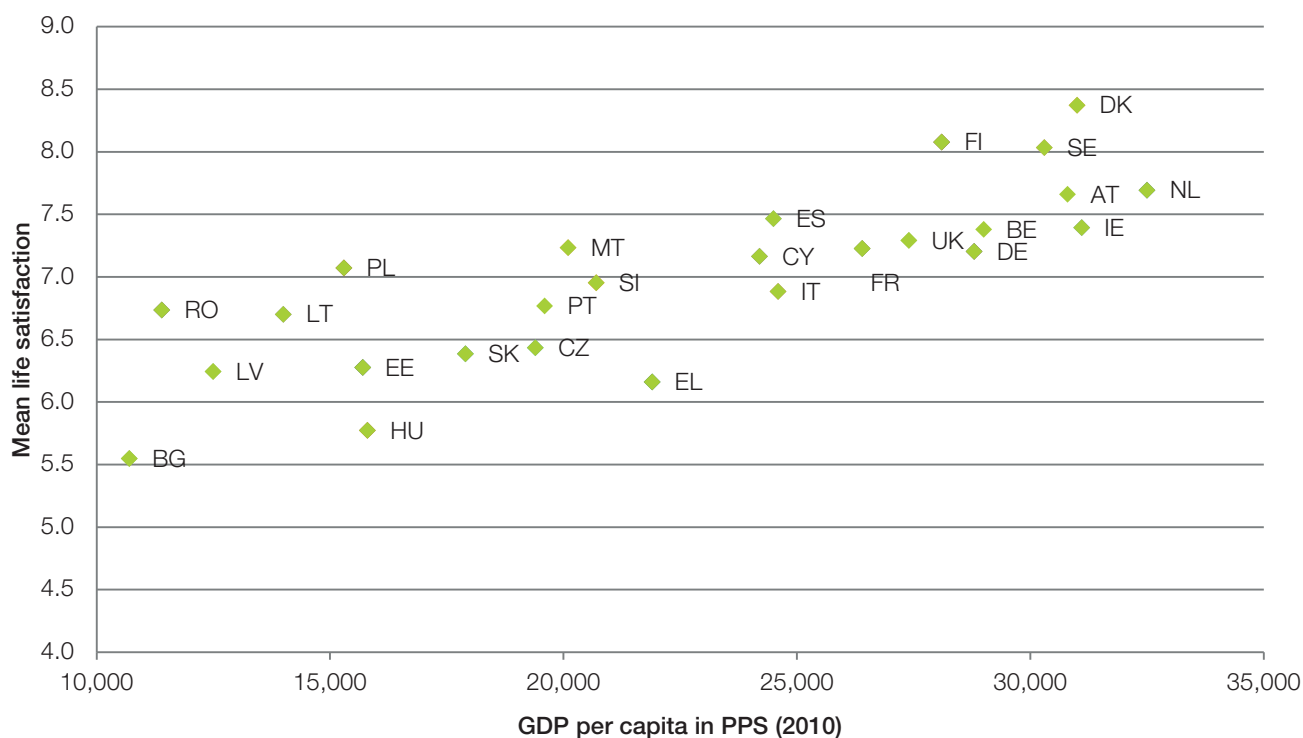
Figure 3 maps average life satisfaction across Europe, which ranges from 8.4 in Denmark (on a scale of 1 to 10) to 5.5 in Bulgaria (Table A3 in Annex 3 presents mean scores for all main indicators for all countries).

Figure 4 shows that GDP per capita explains a lot of this variation, with the richest countries such as the Netherlands and Denmark indeed having some of the highest levels of life satisfaction, and the poorest such as Bulgaria also having the

lowest levels of life satisfaction. However, the relationship is not perfect. For example, Hungary is richer, per capita, than Poland, and yet life satisfaction is 1.3 points lower. Romania's GDP is only slightly higher than Bulgaria's, and yet the two countries differ in life satisfaction by 1.2 points. At the other end of the scale, Denmark – consistently the European country with the highest levels of life satisfaction – is not quite the richest, with Ireland and the Netherlands both having higher GDP per capita. Finland has higher levels of life satisfaction than Germany and Belgium, despite having lower GDP per capita.

These differences are important in the current economic climate, as countries have to work to maintain high levels of subjective well-being without being able to rely on growing GDP.

Figure 4: Life satisfaction against GDP per capita (€)



Notes: Q30 (for question wording, see note to Figure 3). Correlation (R) = 0.81.¹²

Source: GDP data from Eurostat

Further analysis showed that considering median equivalised net household income instead of GDP per capita eliminated some of the discrepancies with life satisfaction. For example, median household income in Denmark is the highest in the EU, with the exception of Luxembourg. Meanwhile, despite Poland

having a lower GDP per capita than Hungary, median income there is higher. This closer correlation highlights the relevance of median household income as a better measure of people's living standards than GDP per capita.

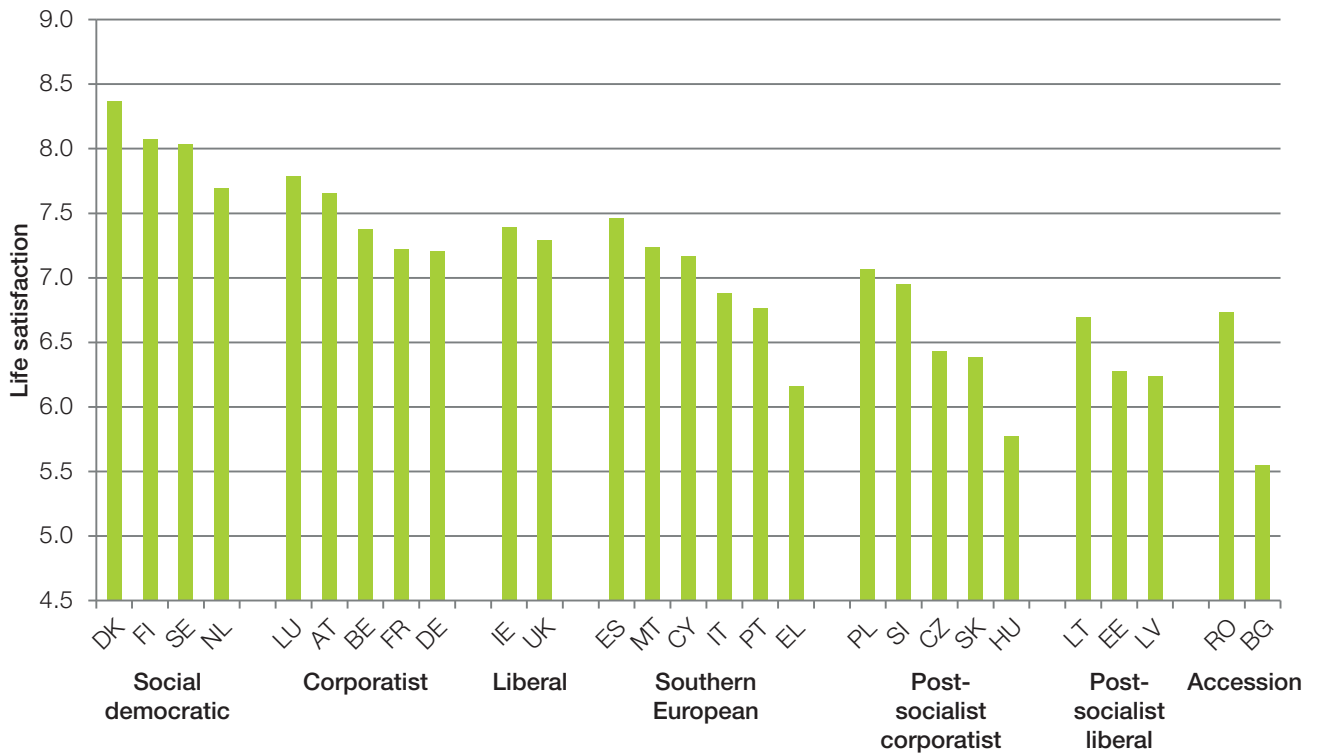
¹² This is a Pearson correlation coefficient, which is used on several occasions in this report. Only statistically significant correlations are shown. Correlation estimates the relationship between two variables. Correlation coefficients can have values between -1 and 1, where a value of 0 indicates no correlation, a value of -1 indicates a perfect inverse relationship, and a value of 1 indicates a perfect direct relationship. Values between 0.1 and 0.3 are considered weak correlation, 0.3 and 0.5 indicate medium, and 0.5 to 1.0 indicate strong correlation. Correlation does not prove causality.

The analysis also looked at how clusters of similar countries do (Figure 5), using the welfare regime typology developed by Whelan and Maître (2010). The typology divides up European countries into seven groups according to welfare state regimes. It draws on the widespread categorisation developed by Esping-Anderson (1990), but goes beyond it to incorporate the formerly communist countries of central and eastern Europe. The results echo the pattern seen when looking at GDP – with the clusters consisting of economically more disadvantaged countries (the post-socialist corporatist and post-socialist liberal clusters of central and eastern Europe, the 2007 accession cluster of eastern Europe and the southern European cluster) having lower levels of life satisfaction, while

the western European clusters (social democratic, liberal and corporatist) have higher life satisfaction.

One useful finding that emerges from the clustering is the distinction between the social democratic cluster and the other two western European clusters – corporatist and liberal. In terms of GDP per capita, there is plenty of overlap between the three clusters. In terms of life satisfaction, however, the social democratic cluster clearly performs better. The only non-social democratic country to have higher life satisfaction than any social democratic country is Luxembourg, which scores above the Netherlands – but of course Luxembourg is rather an atypical case.

Figure 5: Life satisfaction, by country and country cluster (scale of 1–10)



Note: Q30 (for question wording, see note to Figure 3).

While there is generally not that much variation in life satisfaction within clusters, three countries in particular appear to score much lower than their peers – Greece in southern Europe, Hungary in the post-socialist corporatist cluster and Bulgaria in the 2007 accession cluster. Greece’s average life

satisfaction of 6.2 contrasts with an average of 7.1 for the rest of southern Europe overall; Hungary’s 5.8 contrasts with an average of 6.9 for the other countries in the post-socialist corporatist cluster; while Bulgaria and Romania appear to have little in common in terms of life satisfaction (5.5 versus 6.7).

Happiness and hedonic well-being

The question on happiness and the hedonic well-being index both measure overall well-being, similarly to life satisfaction. But how do the results for these two measures differ from the results found for life satisfaction?

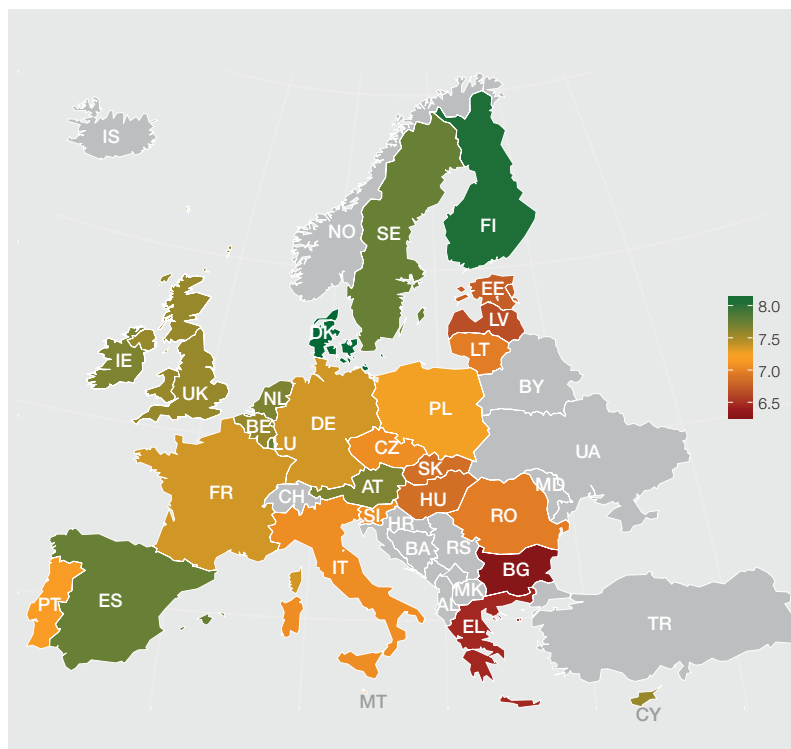
There is substantial intercorrelation between the three measures,¹³ and much of the pattern is the same whichever measure is used (Figures 6 and 7). Social democratic countries report the highest life satisfaction, happiness and hedonic well-being, followed by the liberal and corporatist countries. However, there are differences. While the three former socialist regime clusters perform worst on life satisfaction and happiness, all three clusters have higher levels of average hedonic well-being than the southern European cluster. Bulgaria, Slovakia and the Czech Republic, in particular, all fare much better in terms of

hedonic well-being than in terms of life satisfaction. For example, Bulgaria ranks bottom in terms of life satisfaction, but ranks 16th out of 27 in terms of hedonic well-being.

Meanwhile, most southern European countries have relatively lower hedonic well-being than life satisfaction. Greece, for example, has the lowest score on hedonic well-being in Europe, just behind neighbouring Cyprus. The only exception within southern Europe is Portugal, which rises up the rankings for hedonic well-being relative to life satisfaction.

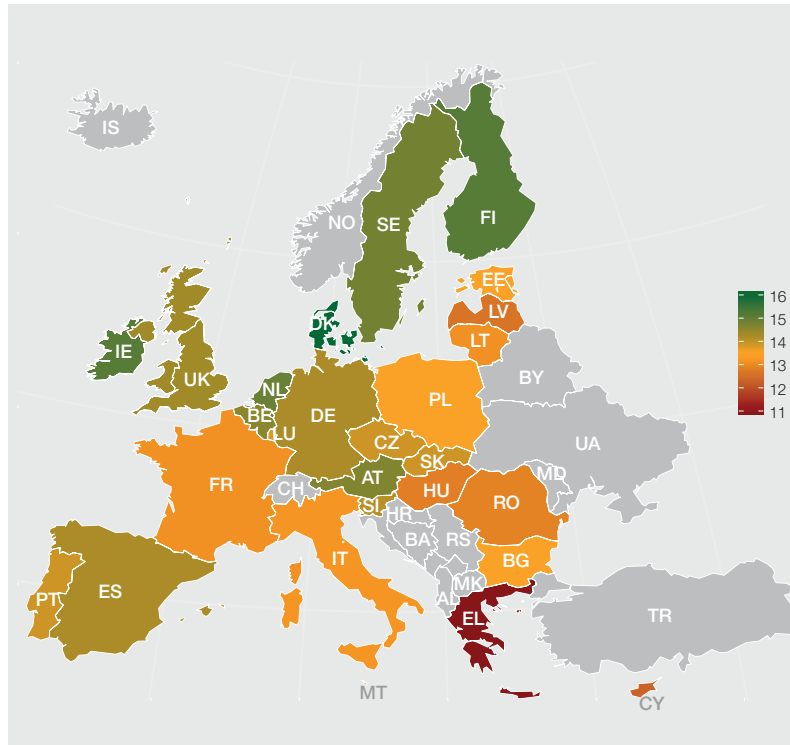
Within the corporatist cluster, France and Luxembourg follow a pattern similar to southern Europe, scoring much lower in terms of hedonic well-being than life satisfaction. For example, France ranks 12th out of 27 for life satisfaction, but 20th in terms of hedonic well-being.

Figure 6: Levels of happiness across Europe (scale of 1–10)



Note: Q41 Taking all things together on a scale of 1 to 10, how happy would you say you are? Here 1 means you are very unhappy and 10 means you are very happy.

¹³ Life satisfaction correlates with happiness with a coefficient of $R = 0.95$, and with hedonic well-being $R = 0.68$.

Figure 7: Levels of hedonic well-being across Europe (scale of 0–20)

Note: For more on the hedonic well-being index, see Chapter 1.

Do these results represent genuine differences in the patterns of various aspects of well-being, or are they cultural biases? Abdallah (2011) notes that different measures of well-being may be influenced by different cultural biases – including positivity biases, acquiescence biases and translational issues. Oishi (2010) reviews some of the differences in interpretations of concepts of happiness and life satisfaction.

That said, there may well be some genuine differences in the experiences of people's lives that are reflected in the

results. Diener et al (2010) suggest that evaluative measures such as life satisfaction are more strongly determined by economic conditions than hedonic measures (see also Eurofound, 2009). Indeed, the correlation between hedonic well-being and GDP is more than 40% lower than the correlation between life satisfaction and GDP.¹⁴ These differences are explored later in this chapter, when looking at the patterns of results for the individual questions used in measuring subjective well-being.

¹⁴ R = 0.38 for hedonic well-being, versus R = 0.66 for life satisfaction.

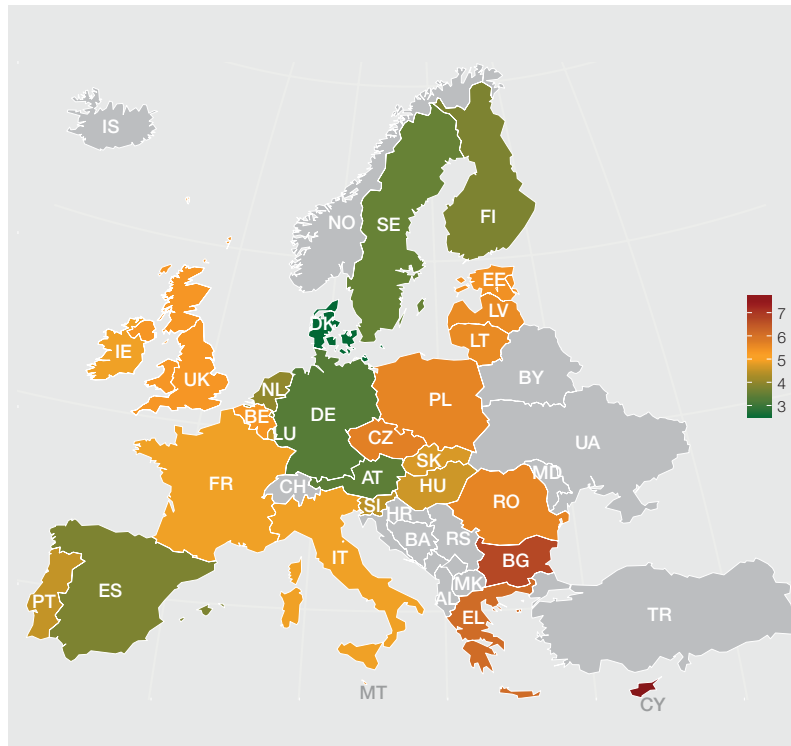
Aspects of well-being

This section first presents the patterns for four key measures of aspects of well-being – stress/busyness, perceived social exclusion and eudaimonic well-being, all based on the synthetic indicators described in Chapter 1, and loneliness. Perceived social exclusion is of particular interest, given that it has risen significantly since 2007 (see Chapter 6). Later the scope broadens to include a wider range of individual subjective well-being questions. There, the analysis looks at which aspects of subjective well-being each country scores relatively poorly on. The idea is to be able to identify specific areas for improvement for each country.

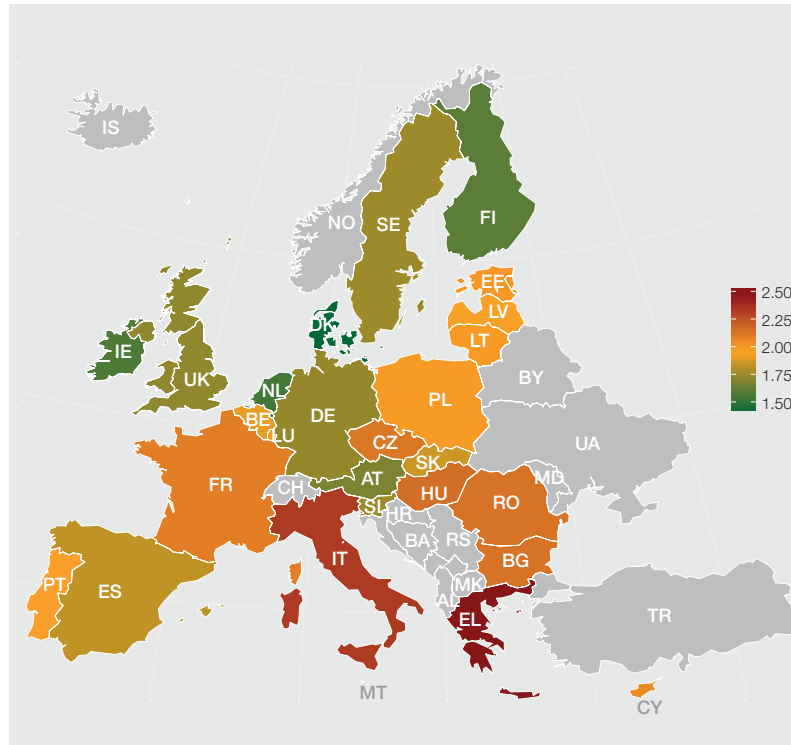
Perceived social exclusion and loneliness

The social democratic countries do not score as consistently well on these more social indicators (Figures 9 and 10). Denmark still ranks best on both measures but, for example, Sweden only ranks eighth for loneliness. With regard to social exclusion, Germany and Austria rank second and third best respectively. With regard to loneliness, the liberal cluster (Ireland and the UK) do quite well, performing better than the corporatist countries.

Figure 9: Perceived social exclusion across Europe (scale of 0–20)



Note: For more on the social exclusion index, see Chapter 1.

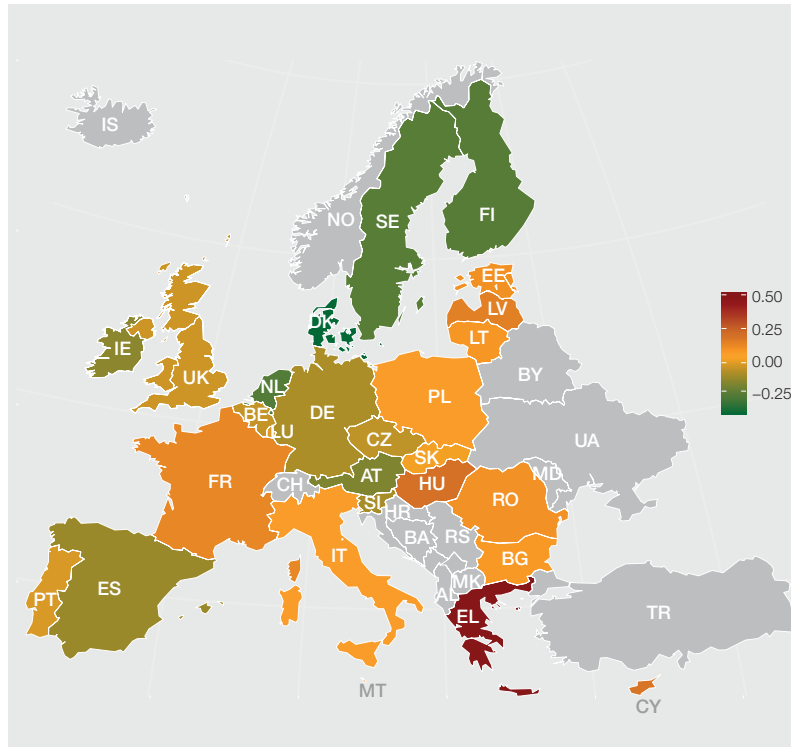
Figure 10: Perceived loneliness across Europe (scale of 1–6)

Note: Q46b Please indicate for each of the statements which is closest to how you have been feeling over the last two weeks. I have felt lonely.

The highest levels of perceived social exclusion are, as with the lowest levels of life satisfaction, in the 2007 accession cluster (Figure 9). But beyond that, the welfare regime clusters do not seem to be a useful guide for results. Cyprus and Greece have some of the highest social exclusion scores. But other countries in the southern cluster (Portugal and Spain) have some of the lowest exclusion scores. Some of the post-socialist corporatist countries of central Europe do well with relatively low scores – Slovenia, Hungary and Slovakia. But their more northerly neighbours Poland and the Czech Republic do only marginally better than Greece, Bulgaria and Cyprus. The clues for these differences may therefore lie in the policies, politics and culture specific to each of these sets of neighbouring

countries, rather than the more general welfare state characteristics shared by the southern European cluster.

In terms of loneliness, people in Greece, Italy, Hungary, Romania and Bulgaria reported the highest levels of loneliness – Italy being a surprising outlier (Figure 10). Comparing the two metrics, it seems as if liberal countries do better in terms of loneliness and corporatist ones do better in terms of social exclusion. The lower levels of social exclusion in corporatist countries may reflect a greater effort by society to be inclusive; however, it is not clear why loneliness was particularly high in some of those same countries.

Figure 11: Stress/busyness across Europe (standardised scores)

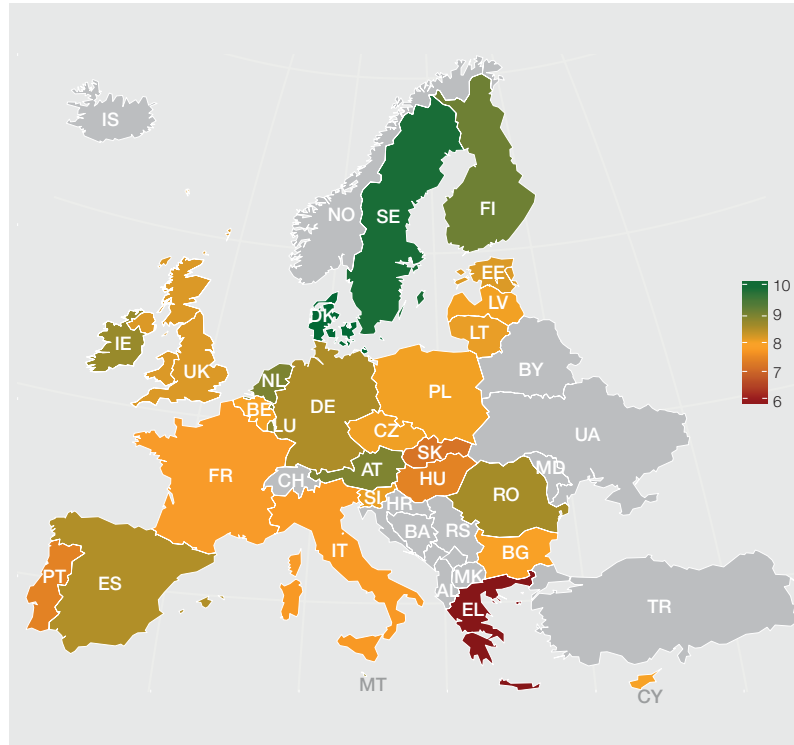
Note: For more on the stress/busyness measure, see Chapter 1.

Stress/busyness

Again, social democratic countries have the lowest levels of stress/busyness (Figure 11). However, beyond that, the picture departs from that seen for life satisfaction. Other countries that do well include Austria, Ireland and Spain. The countries with the highest levels of stress are Greece, Hungary, Cyprus, Latvia and France.

Eudaimonic well-being

The four countries in the social democratic regime experience the highest levels of eudaimonic well-being (Figure 12). Austria and Luxembourg rank highly among the corporatist regime; Malta and Spain also experience relatively high levels of eudaimonic well-being. The countries with the lowest levels of eudaimonic well-being are Greece, Slovakia, Portugal, Hungary, Italy and France.

Figure 12: Elements of eudaimonic well-being across Europe (scale of 0–12)

Note: For more on the elements of eudaimonic well-being, see Chapter 1.

All measures of well-being

Table 3 lists all 27 countries, and identifies, for each one, the three individual items or synthetic indicators that the country does worst on (compared with other European countries),

and the one item or synthetic indicator it does best on. For the worst outcomes, boxes are colour-coded based on how badly the country ranks on that measure (darker shades indicate lower rankings).

Table 3: Worst and best well-being outcomes for all EU countries

	Worst outcomes			Best outcome
AT	Neighbourhood belonging (21st)	Engagement (12th)	Feeling tense (11th)	Vitality (rested) (1st)
BE	Neighbourhood belonging (25th)	Optimism (21st)	Feeling worthwhile (19th)	Engagement (4th)
BG	Standard of living (27th)	Family life (27th)	Social life (27th)	Vitality (active) (1st)
CY	Social exclusion index (27th)	Hedonic well-being (26th)	Time pressure (26th)	Health (1st)
CZ	Family life (26th)	Social exclusion index (24th)	Loneliness (22nd)	Time pressure (9th)
DE	Neighbourhood belonging (26th)	Health (19th)	Feeling tense (18th)	Social exclusion (2nd)
DK	Feeling close to people (12th)	Vitality (rested) (3rd)	Family (3rd)	Feeling worthwhile (1st)
EE	Engagement (27th)	Health (26th)	Autonomy (25th)	Neighbourhood belonging (5th)
EL	Hedonic well-being (27th)	Stress (27th)	Autonomy (27th)	Health (6th)
ES	Job (20th)	Feeling downhearted (15th)	Standard of living (13th)	Neighbourhood belonging (4th)
FI	Neighbourhood belonging (24th)	Engagement (9th)	Vitality (rested) (9th)	Time pressure (2nd)
FR	Vitality (rested) (26th)	Feeling tense (25th)	Calm and relaxed (24th)	Engagement (10th)
HU	Stress (26th)	Autonomy (26th)	Feeling downhearted (26th)	Vitality (active) (11th)
IE	Vitality (rested) (18th)	Vitality (active) (17th)	Social life (17th)	Hedonic well-being (2nd)
IT	Loneliness (26th)	Optimism (24th)	Education (24th)	Vitality (active) (2nd)
LT	Feeling worthwhile (26th)	Accommodation (24th)	Social life (24th)	Optimism (10th)
LU	Vitality (rested) (24th)	Feeling tense (22nd)	Calm and relaxed (16th)	Standard of living (4th)
LV	Accommodation (27th)	Health (27th)	Social life (27th)	Neighbourhood belonging (3rd)
MT	Calm and relaxed (26th)	Engagement (23rd)	Vitality (active) (23rd)	Family (4th)
NL	Education (17th)	Family life (15th)	Vitality (active) (15th)	Time pressure (1st)
PL	Education (27th)	Accommodation (25th)	Job (25th)	Feeling tense (9th)
PT	Optimism (26th)	Feeling worthwhile (22nd)	Job (21st)	Education (4th)
RO	Time pressure (27th)	Loneliness (24th)	Hedonic well-being (23rd)	Education (1st)
SE	Vitality (rested) (25th)	Vitality (active) (16th)	Family life (11th)	Optimism (1st)
SI	Vitality (active) (26th)	Engagement (25th)	Education (23rd)	Time pressure (4th)
SK	Optimism (25th)	Vitality (active) (24th)	Feeling worthwhile (23rd)	Feeling tense (5th)
UK	Vitality (rested) (27th)	Vitality (active) (27th)	Neighbourhood belonging (27th)	Loneliness (6th)

Notes: Numbers in brackets indicate rank of that country, compared with other countries, on that measure, with 1st always indicating highest well-being, and 27th lowest. Shades of orange indicate how close the country is to the bottom of the list: ■ Bottom 3; ■ Bottom 7; ■ Bottom half.

Source: See Table 2 for a list of individual items, and the section on 'Creating synthetic subjective well-being indicators' for synthetic variables.

With the exception of Denmark, every country suffers at least one aspect of well-being where they rank in the bottom half of the table. In other words, almost all countries have improvements to make in at least one aspect of well-being. For example, Sweden, which ranks third in terms of life satisfaction, comes third from *bottom* in terms of vitality (feeling fresh and rested). The UK, which does relatively well in terms of life satisfaction, ranks bottom on three measures: both vitality measures (fresh and rested, and active and vigorous), and neighbourhood belonging. Other results worthy of highlighting include low job satisfaction in Spain (ranked eighth from bottom), feeling tense in Luxembourg (ranked sixth worst) and low health satisfaction in Estonia (ranked second from bottom).

Of course, most of the countries that do poorly in terms of life satisfaction and the other overall measures also have particular

areas of concern that are highlighted in Table 3. Greece does worst in terms of hedonic well-being, stress and autonomy. Bulgaria does worst in terms of satisfaction with standard of living, social life and family life. Hungary ranks second to worst for stress, autonomy and feeling downhearted and depressed.

One can also look at the measures where countries do particularly well. For example, Bulgaria may rank bottom in terms of life satisfaction, but Bulgarians were the most likely nationality in Europe to report feeling active and vigorous, and the second most likely to report feeling fresh and rested. Education satisfaction in Romania was the highest in Europe (and this, it should be noted, did not represent a tendency to report being satisfied with everything – Romanians reported low health satisfaction). People in the Netherlands, followed by those in Finland, were the least likely to report feeling time pressure.

Policy pointers

As with many social indicators, it is the Scandinavian social democratic countries that lead the way in terms of well-being in Europe, despite their slight decreases in life satisfaction since 2007 (see Chapter 6). Their success is not just a result of economic prosperity – Denmark and Sweden have lower GDPs per capita than Ireland, and Finland has a lower GDP per capita than Germany. However, the results also strengthen the case for governments to pay closer attention to median household income, which is more closely correlated with life satisfaction than GDP per capita.

Nonetheless, the data provide evidence of ‘black spots’ – areas with lower well-being – which might not necessarily have been identified using other data. Here comparisons have been made between countries, but later chapters look at other determinants, such as differences in well-being between urban and rural populations. This analysis may be useful in making decisions about where to direct resources, both at the national and the EU level.

The use of various measures for overall well-being highlights the fact that differences do emerge for the different aspects of well-being. Strong decisions should not be made looking at just one indicator without first looking at the others. For example, Romania might seem to be faring better than Bulgaria in terms of life satisfaction, and therefore one might consider promoting policies where Romania differs from its neighbour. However, hedonic well-being is lower in Romania, and so such conclusions may be premature.

The range of indicators for elements of well-being provide pointers for more specific lessons for individual countries. They highlight, for example, that the UK faces challenges in terms of vitality and neighbourhood belonging, that health is a particular issue in Estonia, that high levels of stress and busyness are found in France, while Italy appears to have high levels of loneliness.

CHAPTER 3

Inequalities in well-being

Inequalities in well-being

In the context of the economic crisis, it is more important than ever to consider distributional patterns. According to the European Commission, the crisis has ‘disproportionately hit those who are already vulnerable’ (European Commission, 2011, p. 12) and has deepened inequalities (Vaughan-Whitehead, 2012). Inequality has always been an important moral issue, but recently there is growing evidence that it has a negative impact not just on the poorest in society, but on everybody (Wilkinson and Pickett, 2009). The recent *Employment and social developments in Europe 2011* report suggests that inequality may have been a causal factor behind the financial crisis, as it spurred overconsumption and indebtedness (European Commission, 2012b). With regard to measurement, both the Stiglitz Commission (Stiglitz et al, 2009) and the European Commission’s ‘GDP and beyond’ Communication (European Commission, 2009) have made clear recommendations to go beyond merely presenting averages, and to include measures that capture the distributional aspect of outcomes.

This chapter will do just that. It starts by introducing two new innovative measures that provide a summary assessment of overall well-being inequality within countries. These measures highlight which countries are the most unequal in terms of well-being, but they do not pinpoint where the inequalities come from – for instance, who are the people with low well-being and who are the people with high well-being? That will be the subject of the second part of this chapter, which presents averages for different population subgroups (such as unemployed people, or particular age groups), and take a snapshot of the kinds of people who have very low or very high well-being. The final part of the chapter looks at how these patterns differ between countries – in which countries are well-being inequalities, such as the differences in well-being between poor and rich or between young and old, particularly acute?

The analysis presents only descriptive statistics. The purpose is to identify which groups are in need of support, and which

countries are doing best or worst in terms of spreading the impact of the crisis. In Chapter 4, multivariate regressions begin to draw some conclusions about the relative roles that demographic and other factors have in *determining* well-being. That analysis will help to draw some conclusions about what can be done to improve the well-being of Europeans.

Overall inequality

Indicators such as the Gini coefficient provide useful summary statistics of the inequality of income in a country, without revealing who is rich and who is poor.¹⁵ Until recently, such techniques have been predominantly applied to income, though a growing interest in health inequalities (Gakidou et al, 2000) and wealth inequalities is beginning to emerge (Davies, 2009). Techniques developed in a report produced for Eurostat in 2012 are used here to assess *well-being* inequality – measures of the distribution of well-being within a country (Abdallah, 2012). Two measures are presented. The first is the difference in life satisfaction between the first and fifth well-being quintiles – that is, the difference between the 20% with the highest life satisfaction and the 20% with the lowest life satisfaction in each country. This is analogous to the quintile share ratio that Eurostat uses for income inequality. The second measure is the mean pair distance, which is the average distance in life satisfaction between two individuals chosen at random. In computational terms, it is similar to the Gini coefficient, and one can be converted to the other relatively simply (Annex 2 explains why the Gini coefficient is not an appropriate measure for a non-ratio scale such as life satisfaction).

Table 4 shows the ranking of EU Member States according to the quintile difference measure, but including mean pair distance and mean life satisfaction. Figure 13 presents the mean pair distance plotted against mean life satisfaction.

¹⁵ The Gini coefficient is calculated as a number between 0 and 1, where 0 would indicate no inequality at all (everyone having the same income), and 1 would indicate maximum inequality (one person having all the wealth). Most countries in Europe have a Gini coefficient of between 0.25 and 0.35.

Table 4: Indicators of life satisfaction inequality, by country

	Means for each quintile					Q1–Q5 difference	Mean pair distance	Mean life satisfaction
	Q1	Q2	Q3	Q4	Q5			
RO	2.9	5.8	7.3	8.1	9.5	6.61	2.64	6.73
HU	2.2	4.7	6.0	7.3	8.7	6.45	2.62	5.77
CY	3.6	6.2	7.6	8.5	10.0	6.41	2.55	7.16
BG	2.2	4.5	5.7	6.9	8.5	6.32	2.52	5.55
UK	3.7	6.5	7.8	8.5	9.9	6.17	2.42	7.29
DE	3.5	6.6	7.8	8.5	9.6	6.11	2.38	7.20
AT	3.9	7.3	8.0	9.1	10.0	6.10	2.33	7.66
LV	2.9	5.1	6.5	7.7	9.0	6.06	2.49	6.24
LT	3.6	5.4	7.0	8.1	9.5	5.93	2.45	6.70
EE	3.1	5.3	6.5	7.5	9.0	5.86	2.37	6.28
CZ	3.1	5.5	6.8	7.8	9.0	5.84	2.37	6.43
PL	3.8	6.2	7.4	8.2	9.7	5.83	2.31	7.07
IE	4.0	6.7	7.9	8.5	9.8	5.82	2.27	7.39
SK	3.5	5.2	6.5	7.6	9.2	5.72	2.34	6.39
EL	3.0	5.5	6.4	7.3	8.6	5.57	2.22	6.16
MT	4.1	6.6	7.7	8.3	9.5	5.45	2.14	7.23
SI	4.0	6.1	7.2	8.0	9.4	5.41	2.14	6.95
FR	4.3	6.6	7.5	8.1	9.6	5.27	2.05	7.23
PT	3.8	5.9	7.0	8.0	9.1	5.22	2.12	6.77
IT	4.0	6.2	7.0	8.0	9.2	5.17	2.04	6.88
ES	4.7	6.8	7.7	8.5	9.7	4.96	1.97	7.47
LU	5.1	7.3	8.0	8.7	9.9	4.80	1.87	7.79
BE	5.4	7.5	8.1	9.2	10.0	4.64	1.79	7.38
SE	4.8	6.9	7.7	8.1	9.4	4.64	1.86	8.03
FI	5.7	7.8	8.2	9.0	9.8	4.12	1.62	8.08
NL	5.5	7.2	8.0	8.3	9.5	3.92	1.52	7.69
DK	6.1	8.0	8.5	9.2	10.0	3.91	1.54	8.37

Note: See Annex 2 for calculation method and text for details on indicators.

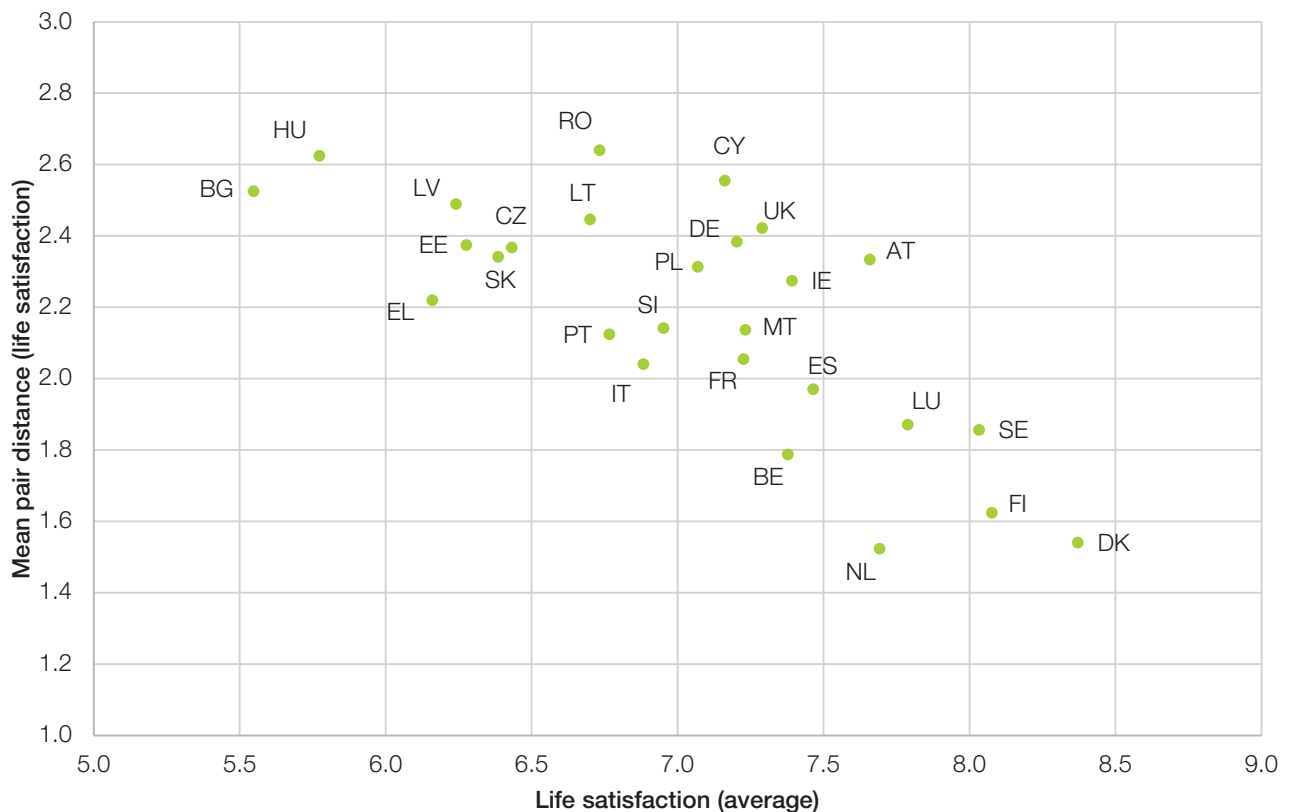
First, it is worth noting the large quintile differences. Even in France, one of the countries that performs averagely on this indicator, there is a difference of 5.3 points in life satisfaction

on a 1–10 scale between the least satisfied quintile and the most satisfied quintile. In Romania, the most unequal country in terms of life satisfaction, the difference reaches 6.6 points.

Cyprus and Hungary are other countries with particularly high life satisfaction inequality: Q1–Q5 differences of just over 6.4 points are found. Meanwhile, Belgium, Italy and Portugal stand out as having relatively equal well-being distributions considering their average levels of life satisfaction (Figure 13), while

Cyprus, the UK and Austria all display relatively unequal well-being distributions despite their levels of life satisfaction being above the EU average of 7.1. The results for mean pair distance are relatively similar, which demonstrates the robustness of the Q1–Q5 methodology.¹⁶

Figure 13: Mean pair distance for life satisfaction versus mean life satisfaction, by country (scale of 1–10)



Note: Q30 All things considered, how satisfied would you say you are with your life these days? Please tell me on a scale of 1 to 10, where 1 means very dissatisfied and 10 means very satisfied.

What differentiates people with low and high well-being?

The results above leave open the question as to who are the people with lower and higher well-being in Europe. Figures 14 and 15 show mean life satisfaction and hedonic well-being for different demographic groups (see also Table A5 in Annex 3). Darker bars indicate groups that are significantly below the overall average, which is 7.1 for life satisfaction, and 7.3 for hedonic well-being (rescaled as it is). In summary, middle-aged people (35–64), poorer people, people who have not completed secondary education, unemployed people, non-EU citizens and those limited by illness all have lower

life satisfaction than average. With the exception of non-EU citizens, they also all have lower hedonic well-being, and are joined in this context by those aged 75+. Women also have significantly lower hedonic well-being than men, despite having almost identical life satisfaction. The group with the lowest well-being on both measures are those severely limited by illness, with a mean life satisfaction of 5.9 out of 10.

The pattern for age may be surprising for some – while most policymakers tend to see older and younger people as vulnerable groups, it is actually those in the middle-aged groups (aged between 35 and 64) who have the lowest life satisfaction. This ‘U-shaped’ relationship between age and well-being has been well documented by previous well-being evidence (Eurofound, 2012b; Stoll et al, 2012; Dolan et al, 2006). It is

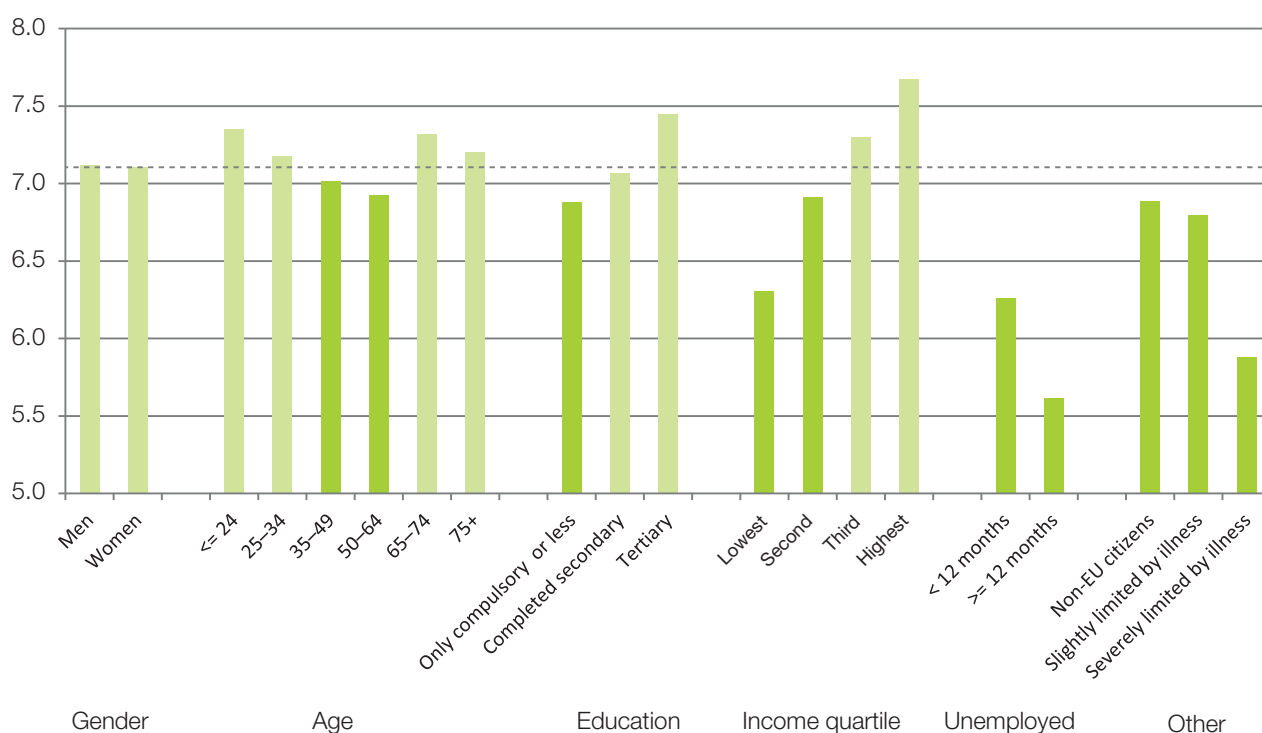
¹⁶ These methodologies are still preliminary, and caution should be taken in overinterpreting the results given the relatively small sample sizes in each country. For example, there were only slightly over 1,000 respondents sampled in most countries, meaning that the calculation for the Q1–Q5 differences are based on about 400 people for each country.

only with hedonic well-being that a fall in well-being can also be seen for the oldest group aged 75 or over.

This age pattern holds for all country clusters, with two exceptions. First, the 2007 accession cluster (Bulgaria and Romania) see a pattern of almost linearly declining life satisfaction with age, and no increase in life satisfaction for the 65–74 age group. However, when other demographic factors are controlled for, the effect reappears – and the 65–74 age group actually does have significantly higher well-being than middle-aged groups

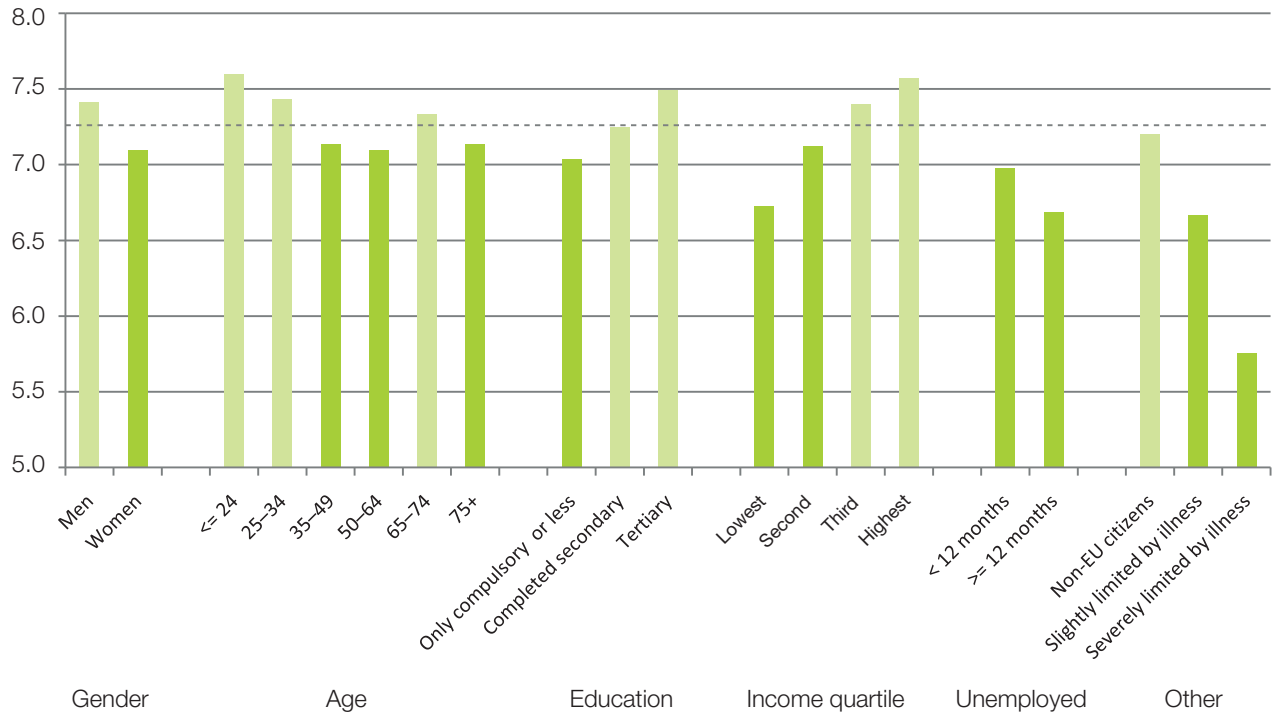
even in those countries. It is likely that factors such as income are counter-balancing the effect. The other exception is for the social democratic countries (the Nordic countries and the Netherlands). Here the opposite is the case – when other demographic variables are not controlled for, there is a linear *increase* in well-being with age, with the highest life satisfaction found among those aged 65–74. However, this pattern stops being significant when other demographic variables are controlled for.

Figure 14: Life satisfaction for selected demographic groups (scale of 1–10)



Note: Darker shading denotes numbers that are significantly below the average.

Figure 15: Hedonic well-being index (rescaled) for selected demographic groups (scale of 1–10)



Note: Darker shading denotes numbers that are significantly below the average.

The third EQLS overview report provides further analysis of demographic effects, for example the fact that the difference between high-income and low-income respondents is greater among older age groups than younger age groups (Eurofound, 2012b).

Characteristics of the least and most satisfied

Another way of looking at this is to ‘zoom in’ on the people with the lowest and highest levels of life satisfaction. Around 12% of

survey respondents reported the highest possible life satisfaction, that is 10 out of 10, while a similar proportion reported life satisfaction scores of 1–4 out of 10.¹⁷

Table 5 lists a range of factors and highlights characteristics that were significantly more likely to be found among respondents with very high life satisfaction or among those with low life satisfaction.¹⁸ The analysis goes beyond pure demographics here, to identify a few broader factors of people’s lives that are associated with low or high well-being (Table A4 in Annex 3 presents more details on this).

¹⁷ The decision to choose these groups (that is, those scoring 10 out of 10, and those scoring 1–4 out of 10) was to have similarly sized proportions of respondents. If those scoring 9 out of 10 were included in the high-scoring group, then that group would have included almost one in four respondents, which was considered to be too large a proportion.

¹⁸ Chi-square tests were used to test for significance.

Table 5: Characteristics associated with people who have low life satisfaction, and those who have high life satisfaction

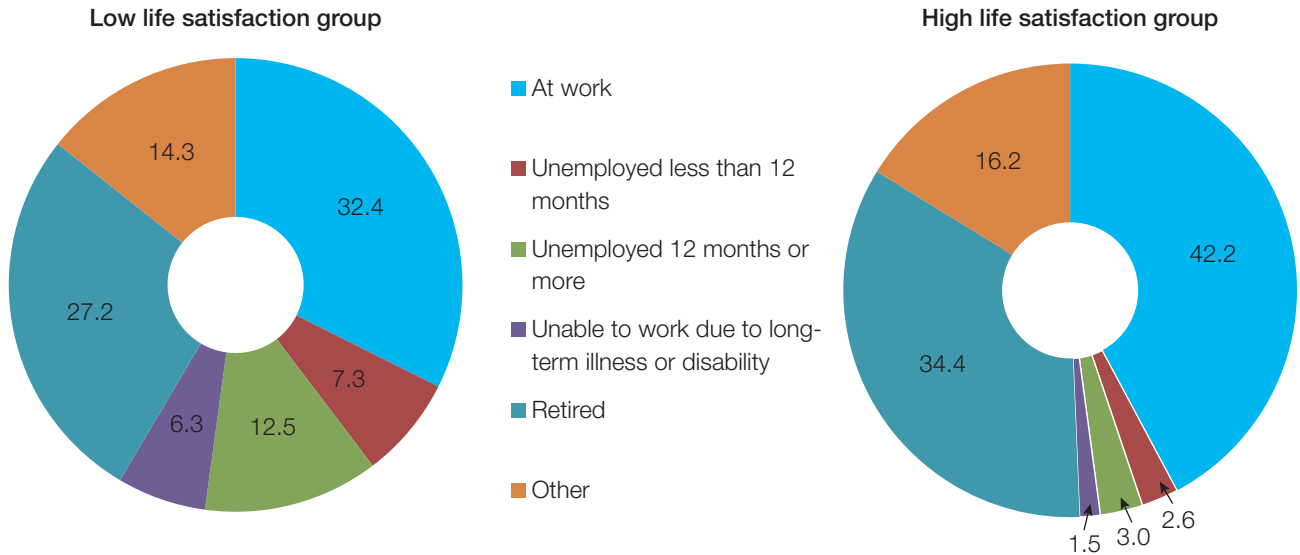
Type of factor	Characteristic associated with high life satisfaction	Characteristic associated with low life satisfaction
Employment status	At work as employee or employer/self-employed	Unemployed 12 months or more
Marital status	Married or living with partner	Separated or divorced and not living with partner
Education level	Tertiary education	
Income and material deprivation	Being in the highest income quartile	Being in the lowest income quartile
	A deprivation index of 0 (no reported deprivations)	A deprivation index score of 3 or more
Age	Aged 65 or over	Aged between 35 and 49
Accommodation	Own accommodation (with mortgage)*	Tenant in social housing
Health	Not at all limited in daily activities by illness or disability	Severely limited in daily activities by illness or disability

Note: * The fact that it is homeowners with a mortgage who are particularly well represented in the high life satisfaction group, rather than homeowners without a mortgage, may be a result of different housing systems in different countries (see Chapter 4 for more discussion).

Employment status and working conditions: Figure 16 shows how different working statuses are distributed across the high and low life satisfaction groups. The difference in the proportion of those at work, unemployed and retired across the two groups can be seen very clearly. The figure shows that 42.2% of people who rated their life satisfaction as 10 are at work, whereas only 32.4% of people who rated their life

satisfaction as 1–4 are at work. Looking at unemployment, 12.5% of the low scorers are unemployed, and have been so for 12 months or more, whereas only 3% of people with high life satisfaction are in this category. In addition, there is a much higher proportion of retirees in the high life satisfaction group: about a third of the people with high life satisfaction are retired compared to about a quarter in the low life satisfaction group.

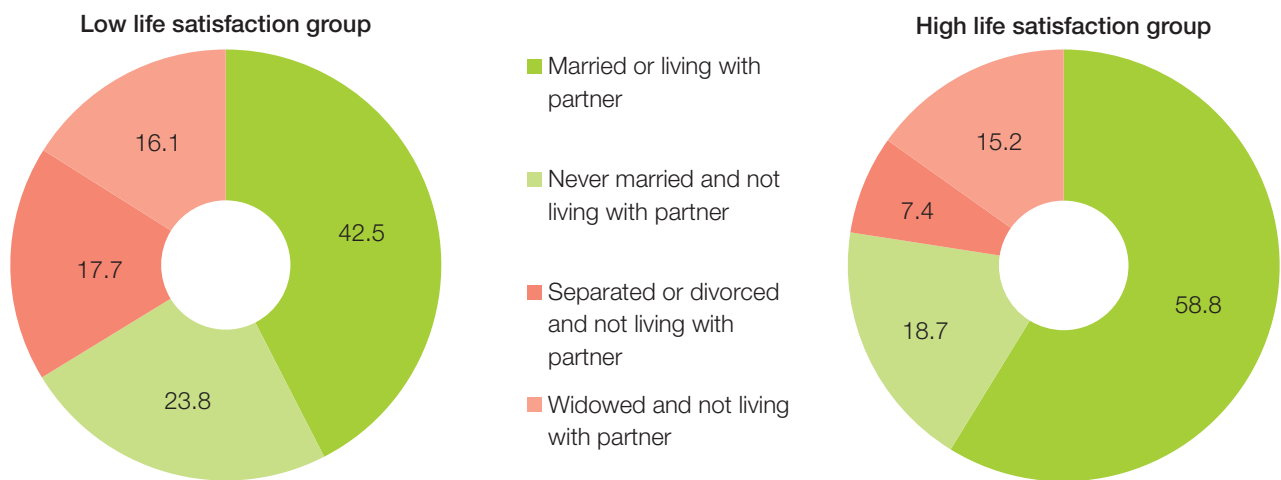
Figure 16: Working status among low and high life satisfaction groups (%)



Marital status: There are striking differences in the relationship characteristics of the people with high and people with low life satisfaction (Figure 17). Of the people who rate their life satisfaction as 10, 58.8% are married or living with a partner, compared to 42.5% of the people who rate their life satisfaction

as 1–4. In contrast, 17.7% of the people who rate their life satisfaction as 1–4 are separated or divorced and not living with a partner, compared to 7.4% of those who rated their life satisfaction as 10.

Figure 17: Marital status among low and high life satisfaction groups (%)



Education: Of those who rated their life satisfaction as 10, 20.6% had reached the first level of tertiary education compared to 11.8% of those who rated their life satisfaction as 1–4.

Income: While 20% of high life satisfaction scorers are in the bottom income quartile, 45% of the low life satisfaction scorers are in this quartile. Similarly, 59.1% of those scoring 10 for life satisfaction are in the top two income quartiles, while only 30.5% of people in the low life satisfaction category are in these quartiles.

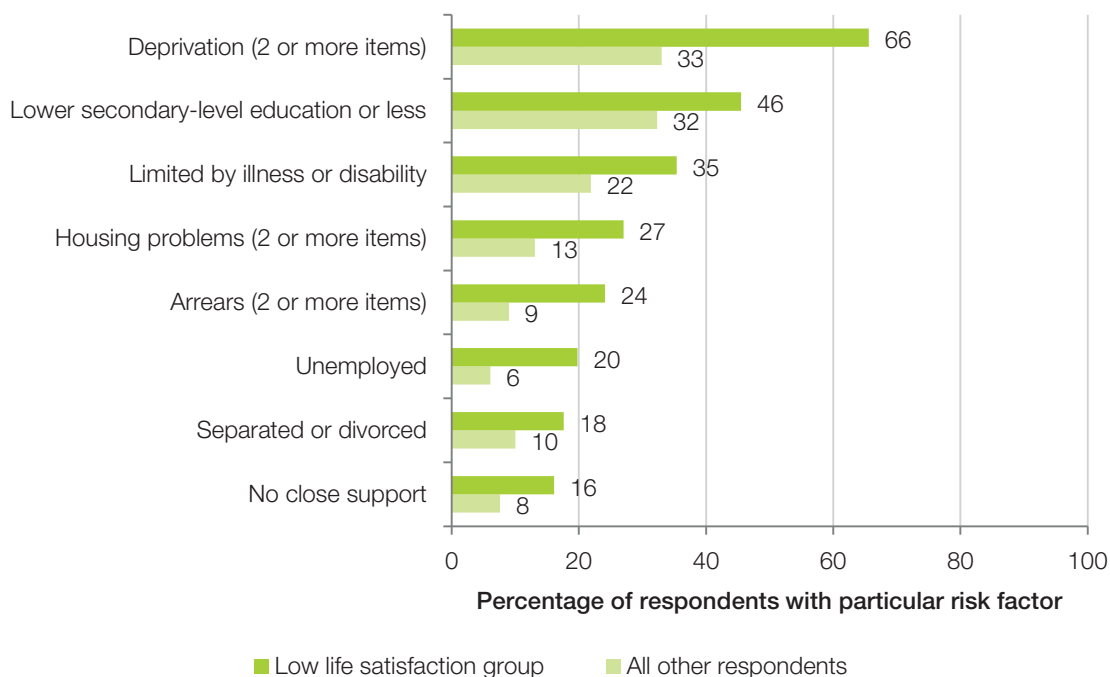
Accommodation: People with high life satisfaction are also more likely to own their accommodation (with a mortgage): 21.6% of this group own their accommodation, compared to 13.2% of those with low life satisfaction. People with low life satisfaction were more likely to be tenants in social, voluntary or municipal housing: they made up 19.3% of the low scorers compared to only 12.6% in the group with the highest life satisfaction.

Risk factors for low well-being

Demographic and socioeconomic factors clearly separate out people with poor well-being from people with high well-being. Might it be possible to identify a small number of clear and policy-relevant 'risk factors' that mark people out as being at risk of having low well-being? This would serve two purposes. First, it would clarify which factors policymakers should be looking for in attempting to identify people with low well-being. Second, it would provide a sense of how much can be done about improving population well-being. If a set of factors could be identified where at least one of which was relevant for every person with low well-being, this would be a very powerful tool.

Figure 18 looks at eight key risk factors and shows the proportion of people with low life satisfaction that suffer each one (compared to everyone else). Five of them were mentioned earlier in this chapter. The other three (housing problems, arrears and not having close support) will be discussed in more detail in Chapter 4. Of these factors, material deprivation seemed to be the most important – 66% of respondents with low life satisfaction could not afford at least two items on the material deprivation index. About 46% had completed no more than compulsory education (up to lower secondary education), and 35% were limited in their daily activities by illness or disability.

Figure 18: Risk factors among low life satisfaction group and all other respondents (%)



The analyses show that 90% of respondents with low life satisfaction suffered from at least one of these eight factors. Of the remaining respondents with low life satisfaction (370 people), 39% (144 people) reported having poor work–life balance, while a further 70 respondents had difficulties making ends meet (both variables will be discussed in more detail in Chapter 4). Once these two factors are considered, there were only

146 respondents with unexplained low life satisfaction out of a survey of over 36,000, highlighting that life satisfaction does indeed provide meaningful data about people's lives. It is also interesting to note that 29% of the respondents with low life satisfaction who did not have any risk factors lived in Austria or Germany.

Box 1: Who is socially excluded and who is stressed?

As well as looking at the characteristics of people with low life satisfaction, the study also looked to see if people who suffer particularly acute social exclusion or are very stressed had specific characteristics.

In terms of **social exclusion**, the following two contrasts were notable:

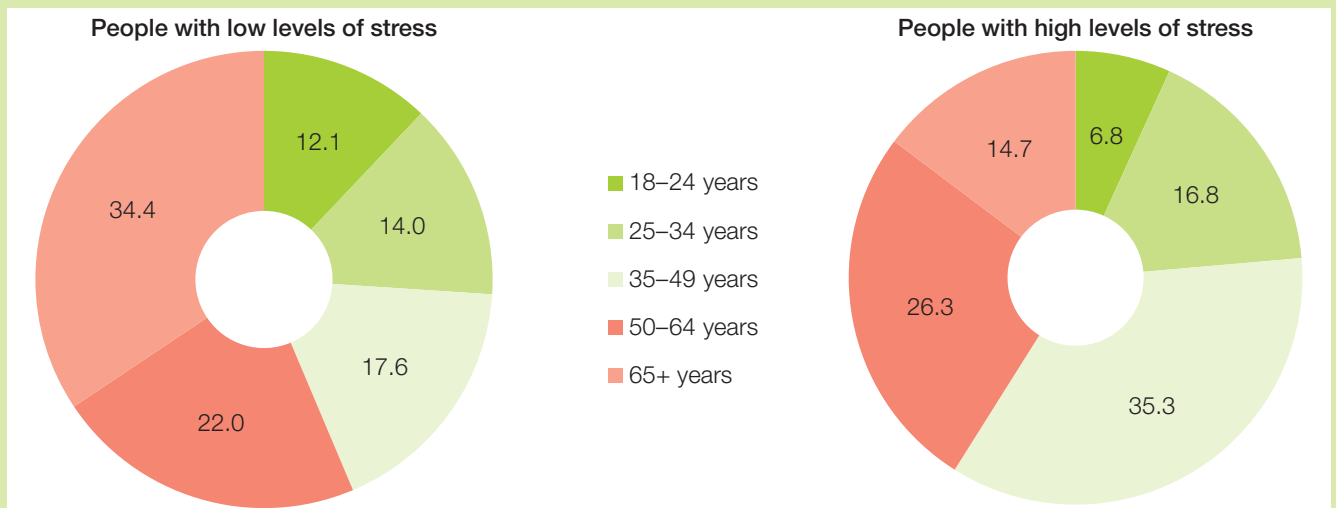
- **Long-term unemployed** people made up 11.1% of those with high social exclusion scores, compared with only 1.4% of those with low social exclusion scores.
- **Retired** people made up 33.7% of the group reporting high social exclusion, versus 20.9% of those reporting low social exclusion.

Other factors such as marital status, education and income followed a similar pattern to that seen with life satisfaction.

In terms of **stress**, the results diverged from those seen for life satisfaction on many counts:

- **Gender:** 58% of those with high levels of stress were women, compared with only 46.4% of those with low levels of stress.
- **Age:** People in the high-stress group were particularly likely to be middle-aged: 35.3% of people reporting high stress were aged 35–49, while only 17.6% of those feeling least stressed were this age (Figure 19). Conversely, 34.4% of the low-stress group were over the age of 65, while only 14.7% of the high-stress group were in this age category.

Figure 19: Age distribution among low-stress and high-stress groups (%)



Note: For more on the stress/busyness measure, see Chapter 1.

- **Marital status:** Unlike the pattern for life satisfaction, people who are more stressed are characterised by being married or living with a partner, while those who are less stressed are more likely to be single: 55.6% of people who are most stressed are married, compared to 48.2% of those feeling least stressed; 24.6% of people feeling least stressed are single compared with 18.8% of those who are most stressed.
- **Employment status and working conditions:** People who are more stressed are also more likely to be at work: 48.2% of the people who report high stress are at work, whereas only 37.8% of the people in the low-stress group are at work. People who are least stressed are also far more likely to be retired: 40% of people reporting least stress are retired, compared to 19% of the those feeling most stressed.

Inequality patterns in different countries

This chapter has shown that people with low well-being are distinguished by a range of factors including income, material deprivation, employment status, education, disability, marital status and age. However, these patterns are not the same everywhere. There are some inequalities between groups, in

terms of well-being, that are more acute in some countries than others. Table 6 considers some key demographic contrasts and groups countries according to the size of the inequality in well-being for each contrast – large difference, some difference or no significant difference.¹⁹ For income, unemployment and being limited by illness, the analysis looked at differences in life satisfaction. For gender and age, differences in hedonic well-being are analysed (the size of the differences is presented in brackets).²⁰

Table 6: Well-being differences for key demographic and socioeconomic factors

	Large difference	Some difference	No significant difference
Income (bottom vs top quartiles)	Bulgaria (2.1), Slovenia (1.9), Slovakia (1.7), Latvia, Romania, Greece (1.6), Czech Republic, Estonia (1.5), UK, Hungary, Portugal (1.4), Germany, Lithuania, Poland (1.3)	Sweden, Italy (1.0), Belgium, France (0.9), Finland, Spain, Malta, Luxembourg (0.8), Netherlands, Ireland (0.7), Cyprus (0.6), Denmark (0.3)	Austria
Unemployed (<12months) vs employed	Hungary, Germany (1.7), Luxembourg, Malta, Cyprus, Czech Republic (1.6), Netherlands, Romania (1.5), Portugal (1.3), Slovakia, Ireland, UK (1.2), Bulgaria, Estonia, France (1.1)	Greece (1.0), Latvia, Spain (0.9), Italy, Lithuania (0.8), Belgium, Slovenia, Denmark, Sweden (0.7), Poland (0.6)	Austria, Finland
Severely limited vs not limited	Slovakia (2.5), Czech Republic (2.3), Finland (2.1), UK (2.0), Germany (1.9), Romania, Estonia (1.7), Poland, Latvia, Slovenia (1.6), Italy, Lithuania (1.5)	Sweden, Denmark, Hungary, Bulgaria (1.3), Belgium, Greece (1.2), Netherlands (1.1), Portugal (1.0), France (0.9), Cyprus, Spain (0.7), Luxembourg (0.6)	Austria, Ireland, Malta
Women vs men	Cyprus (0.9), Romania (0.8), Portugal (0.6), Bulgaria (0.5), Sweden, Italy, France, Luxembourg, Netherlands, UK (0.4)	Latvia, Lithuania, Spain, Hungary, Belgium (0.3), Ireland, Poland, Denmark (0.2)	Czech Republic, Greece, Austria, Malta, Slovakia, Germany, Finland, Estonia, Slovenia
75+ vs rest of population	Bulgaria (1.1), Slovakia (1.0), Czech Republic (0.8), Romania, Slovenia, Lithuania, Cyprus (0.7)	Portugal (0.6), Estonia (0.5), Poland, Italy (0.4)	Netherlands, Hungary, Spain, Latvia, Germany, France, Malta, Greece, Finland, Belgium, Austria, Ireland (in UK, Sweden, Denmark, Luxembourg – 75+ have higher hedonic well-being)

Notes: Countries listed in order of the gap size.

Various findings emerge from Table 6 (see Eurofound, 2013a for more analysis of this type).

- Newer Member States dominate the table, with the most unequal country in each of the five rows being one of the EU12 countries (that joined the EU in 2004 or 2007). The differences are often stark. For example, being severely limited by health problems is associated with a 2.5-point disadvantage in terms of life satisfaction in Slovakia.

- EU15 countries are found to have large differences for all five inequalities, though. Greece, the UK and Germany all have large well-being differences between rich and poor. Germany, Luxembourg and the Netherlands all have high well-being inequality associated with unemployment. This is probably associated with the low levels of unemployment in those countries – previous research has highlighted that unemployment is most acutely felt when general

¹⁹ Education is not included here out of concern that subtle differences in how education levels are defined in different countries might skew the results.

²⁰ For hedonic well-being, the data are rescaled so that the sizes are comparable with those for life satisfaction.

unemployment rates are low (Luechinger et al, 2010; Di Tella et al, 2003 and 2001). Finland is ranked in the top three for inequality associated with disability – followed by the UK and Germany. In terms of gender, southern countries (including southeastern countries) are generally the most unequal, though surprisingly Sweden ranks fifth.

- Almost all countries have one large inequality, highlighting that very few can be complacent about inequalities in

well-being. The only exceptions are Austria, Belgium, Denmark and Spain. In the case of Austria, the differences between different groups are not even significant. Most of these are relatively small countries, but the finding that Spain has no major well-being inequalities is interesting given its economic difficulties.

Policy pointers

Well-being data highlight the plight of a few groups known to have low well-being: unemployed people, those with illnesses/disabilities that limit their activities, those on low incomes, those who are separated or divorced, and those with lower levels of education. But the data also highlight some results that may be surprising for those unfamiliar with the evidence on well-being – for example, the low well-being of middle-aged groups. For policymakers, it is important to know that these groups are in particular need of interventions to enhance well-being.

Digging down to the country level, it is possible to identify countries where inequalities in well-being are particularly acute. Countries that need to pay greater attention include:

- *Bulgaria* – the largest well-being differences between the top and bottom income quartiles, and between the oldest and the rest of the population.
- *Hungary* – the largest effect on well-being associated with unemployment, and one of the highest levels of general well-being inequality.
- *Slovakia* – the largest effect on well-being associated with suffering severe limitations from disability, and one of the largest well-being inequalities associated with age and income.
- *Cyprus* – the largest gender inequality in well-being, and one of the countries with the highest well-being inequality, despite a respectable average.
- *Romania* – the largest general well-being inequality, with the most satisfied 20% having a life satisfaction 6.6 points higher (scale of 1–10) than the least satisfied 20%.
- *UK* – despite high average levels of life satisfaction, the difference between the most satisfied 20% and the least satisfied 20% is 6.2 points (scale of 1–10). There are also particularly large losses in well-being associated with disability and low income.
- *Austria* – no differences between demographic groups were significant, and yet the difference between the most satisfied 20% and the least satisfied 20% was 6.1 points (scale of 1–10) – one of the highest levels. It is also worth noting that 9.2% of Austrians reported a life satisfaction score of 3 or less on the 10-point scale.

CHAPTER 4

Determinants of subjective well-being

Determinants of subjective well-being

The previous chapter mostly described patterns of well-being without going into much detail regarding explanations. This chapter begins to attempt to explain the variation in well-being using a range of variables describing people's conditions of life, and multivariate regression analysis (see Chapter 1). This is important as it shows what conditions are most critical in determining people's experiences of life. This information provides some answers to the questions about why people might have higher well-being than might be expected, and helps in identifying priority areas for policy.

The relationship between subjective well-being and the conditions of one's life is complicated. Van Praag et al (2003) suggest using a two-stage model. Specific factors (such as job security or the amount of time spent with one's family) determine one's satisfaction with the relevant domains (in these cases, job satisfaction and family life satisfaction). In turn, these factors determine overall life satisfaction. This approach will be deployed here, but the analysis will also look to see how the specific factors determine life satisfaction directly, as this will enable direct comparisons between them.

The chapter is divided into four sections. First, it looks at how the core demographic variables explored in Chapter 3 interact – to identify which are actually doing the work in terms of predicting life satisfaction. Then, following van Praag, the analysis explores how relevant satisfaction with different domains of life is in predicting life satisfaction and hedonic well-being. Thirdly, the variables identified as most important in predicting well-being will be analysed, looking at how they predict a range of subjective well-being measures. Finally, each quality of life domain (as defined by Eurostat's Quality of Life Expert Group) will be explored in greater detail, as will the individual indicators.

Demographic predictors of life satisfaction

Bivariate analysis like that presented in Chapter 3 makes it possible to see who has high well-being and who has low

well-being, but it does not help in understanding why they do. In a regression model, the analysis shows how well each factor predicts well-being. Table 7 presents a range of different demographic descriptors and the independent significant effect that they have on life satisfaction (Table A6 in Annex 3 presents the full regression results).²¹ These core demographic variables were included in all further analyses in this chapter.

Most of the factors discussed in Chapter 3 emerge again – with unemployment and being limited by health problems having the largest independent effects. The large effects of unemployment are interesting because they hold even after controlling for income. In other words, the importance of having a job, in terms of well-being, goes far beyond simply having an income. Academics have suggested that having a meaningful activity and having social networks may explain this finding (Powdthavee, 2012). The analysis also tested a model exploring whether living in a workless household was associated with low life satisfaction, given that different countries have different patterns of unemployment. In that model, the effect of unemployment was split. Living in a workless household was associated with a loss of 0.39 to life satisfaction, while the effect of one's own unemployment (of less than 12 months) was reduced to 0.63.

Carrying out multivariate regressions meant that two factors appear greatly diminished. Being a non-EU citizen was not significant in any models, suggesting that the low well-being of this group is due to other factors (such as having lower incomes). Education, an important factor in Chapter 3, was also less prominent here.

²¹ Age and income were also significant, though they are not presented here as they have been discussed at length in the third EQLS overview report (Eurofound, 2012).

Table 7: Independent effects on life satisfaction of a range of demographic variables

	Effect sizes	N
Unemployed 12 months or more	-1.24	1,588
Severely limited by health problems	-1.16	2,212
Unemployed less than 12 months	-0.82	1,365
Unable to work due to illness or disability	-0.65	896
Separated or divorced	-0.58	4,078
Widowed	-0.44	4,325
Limited to some extent by health problems	-0.44	5,297
Never married	-0.33	8,002
Single parent	-0.18	1,681
No secondary education	-0.18	3,393
Post-secondary education	0.10	10,009
Retired	0.20	9,506

Note: Q30 All things considered, how satisfied would you say you are with your life these days? Please tell me on a scale of 1 to 10, where 1 means very dissatisfied and 10 means very satisfied. N = number of respondents.

A review of European policy has highlighted two specific questions to be addressed with this data. First is the long-term impacts of youth unemployment. The effect of unemployment on present life satisfaction was similar for those aged 25 or under to the population at large. However, previous research has highlighted the scarring effect of youth unemployment on future well-being. Bell and Blanchflower (2011) analysed cohort data from the UK National Child Development Study (NCDS), finding that spells of unemployment before the age of 23 lower happiness at the age of 50; the extent of this decline in happiness increases with the number of months of unemployment as a youth.

A second issue is the policy push towards active ageing and later retirement (European Commission, 2012b; Eurofound, 2012b). As can be seen, overall, retirement has a positive and independent effect on life satisfaction. All else being equal, being retired is associated with higher well-being for the individual in question. This result from the EQLS corroborates a longitudinal study conducted in the UK that found mental health improved among civil servants after they retired (at the age of 60) (Mein et al, 2003). This means that policies that result in people retiring later may have a negative impact on well-being, at least during the extra years of work that those people then undertake. Furthermore, this is even the case when income loss is not controlled for. The reduced income associated with early retirement does have a detrimental impact on well-being, but not enough to remove the

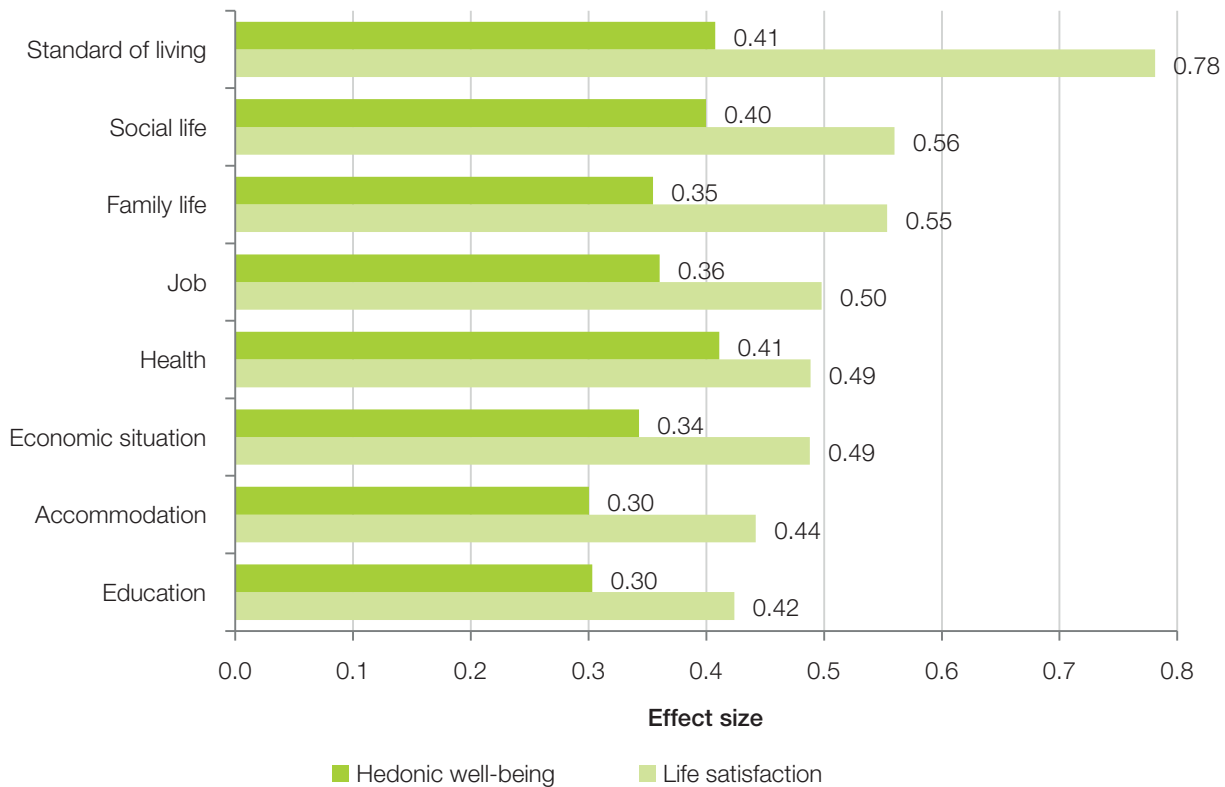
well-being benefit from being retired. Interestingly, the effect is different for different age groups. Very early retirement (before the age of 55) does not have a positive impact on life satisfaction – presumably because it is often associated with having a long-term illness or disability. Over the age of 65, there is no positive effect of retirement either. However, between the ages of 55 and 65 the positive effect of retirement is strong – 0.30 for those aged 55–60, and 0.25 for those aged 60–65. Effects are still significant when income is removed from the analysis. Policies that look to push the retirement age upwards should take this well-being impact into consideration.

Domain satisfaction contributions

Figure 20 shows the extent to which each of the eight domain satisfaction questions in the survey predict life satisfaction and hedonic well-being.²² Standard of living satisfaction is the strongest predictor of life satisfaction, followed by social life and family life. Education satisfaction is the weakest predictor. For hedonic well-being, health satisfaction is the strongest predictor, followed by standard of living and social life. Also, it is worth noting that the differences in effect sizes are not as sharp for hedonic well-being, and that, overall, domain satisfactions explain less variation in hedonic well-being than in life satisfaction.

²² These coefficients are based on a method whereby mean domain satisfaction was entered into the regression, together with seven difference variables (for example, difference between family life satisfaction and mean domain satisfaction). As the strongest predictor was standard of living, all other coefficients were calculated in contrast to it. The coefficients for hedonic well-being are scaled to reflect the smaller R² of the regression on this outcomes variable. See Table A7 in Annex 3 for regression results on life satisfaction.

Figure 20: Independent effect sizes of domain satisfactions on life satisfaction and hedonic well-being (rescaled) (in points)



Notes: Q30 (for question wording, see note to Table 7). Hedonic well-being index (rescaled) – see Chapter 1 and footnote 22.

The effect size is the change in life satisfaction associated with a one-point difference in the independent variable in question, based on a linear regression model. So, an increase in satisfaction with social life of one point is associated with an increase in hedonic well-being of 0.4 points. As the satisfaction with social life scale runs from 1 to 10, its contribution to hedonic well-being can therefore vary by 3.6 points.

Main predictors of subjective well-being

Domain satisfaction questions are useful, but still leave unanswered the question of what exactly about each domain is important for well-being. Furthermore, domain satisfaction questions are affected by the same personality effects as other subjective well-being questions. So, someone who tends to look on the bright side is likely to report both higher life satisfaction and higher domain satisfactions than someone who is more pessimistic, creating a spurious correlation. That is why it is important also to ask more ‘objective’ questions, as these are less likely to be influenced by such positivity biases. As such, any correlations found here are more likely to be indicative of real effects. Furthermore, it is easier to consider how

policies might influence actual objective conditions than subjective judgements. As Eurofound has already highlighted, the EQLS data are most useful when objective and subjective data are explored together (Eurofound, 2012, p. 10).

Table 8 lists the top five predictor variables for life satisfaction and a broad range of other outcome variables (Table A8 in Annex 3 presents regression results in more detail). More details on the predictors can be found in the domain section below. In each case, the variables that explain the most variation are shown, not necessarily the ones that have the largest effect on any given individual. So, for example, the effect of being unemployed on any one person may be larger than the effect of a lack of time. But not having time affects more respondents, and so the effect size is larger. In essence, these data show where there is greatest possible opportunity for increasing well-being.

Table 8: Top predictors of each well-being outcome

Life satisfaction	Happiness	Hedonic
Deprivation index	Deprivation index	Self-assessed health
Self-assessed health	Self-assessed health	Severely limited by health
Making ends meet	Public service satisfaction	Limited to some extent by health
Public service satisfaction	Separated or divorced	Deprivation index
Work–life balance	Severely limited by health	Work–life balance
WHO-5	Social exclusion index	Eudaimonic measure
Self-assessed health	Deprivation index	Deprivation index
Severely limited by health	Work–life balance	Institutional trust
Limited to some extent by health	Contact with friends or siblings	Self-assessed health
Deprivation index	Self-assessed health	Difficulty making ends meet
Work–life balance	Accessibility of amenities	Work–life balance
Stress	Loneliness	Overall
Work–life balance	Widowed	Deprivation index
Deprivation index	Separated or divorced	Self-assessed health
Lack of time	Deprivation index	Work–life balance
Self-assessed health	Self-assessed health	Severely limited by health
Severely limited by health	Never married	Lack of time

Notes: Based on *T* values from parallel regressions. *T* values of objective predictor variables generated before subjective predictor variables included in regression.

Overall, health, material conditions and relationship factors are the most important, corroborating the findings for the domain satisfaction regressions, and previous research on the key predictors of well-being (Stoll et al, 2012; Blanchflower and Oswald, 2011; Dolan et al, 2008). Two variables (the deprivation index, which counts the number of items a household cannot afford, and self-assessed health) feature in the top five for all nine outcome variables analysed. Work–life balance features in the top five list in seven out of nine cases, and severely limited by health in five out of nine cases.

Other predictors that feature in the lists more than once include being limited to some extent by health problems (two out of nine cases) and lack of time (two out of nine cases). Contact with friends/siblings was the third strongest predictor of social exclusion, while being widowed was the strongest predictor of loneliness.

Other interesting findings from these regressions are highlighted below.²³

- As already noted, some predictors have an effect across the board, including the deprivation index and self-assessed health. Other predictors that affect all aspects of well-being include housing problems, being in arrears, doing sports, not receiving support from friends or family, lack of time, work flexibility, work–life balance and job insecurity.
- In contrast, some variables had an effect on some aspects of subjective well-being, but not on others. This is particularly important when no effect is found on life satisfaction, which is the most commonly used measure of subjective well-being. This is the case in the following examples.
 - Although being a single parent did not seem to have a significant independent effect on life satisfaction, it did significantly reduce hedonic well-being and increase stress/busyness.
 - Being a full-time homemaker has no significant effect on life satisfaction, and actually seems to be associated with higher scores on the WHO-5 index and lower stress/busyness. However, it is also associated with greater social exclusion and loneliness.

²³ When looking at this table and comparing effect sizes between different variables, it is again important to recognise that subjective predictor variables have a slight advantage over objective predictor variables as they are likely to be affected by the same personality factors that influence life satisfaction scores thus creating a spurious correlation. Table A8 in Annex 3 categorises variables as either objective (o), subjective (s) or somewhere in between (-).

- Living in a rented house is associated with a higher social exclusion index. However, once other factors are controlled for, living in social housing appeared to be positively associated with WHO-5 scores and negatively associated with stress/busyness levels.
 - Those attending religious services have slightly higher eudaimonic well-being but also report being more lonely.
 - Internet use is associated with lower social exclusion, but also lower WHO-5 scores, marginally lower levels of hedonic well-being and higher levels of stress/busyness.
 - Volunteering is associated with higher WHO-5 scores, marginally higher levels of eudaimonic well-being, but also higher levels of stress/busyness.
 - Accessibility of amenities does not independently predict life satisfaction, but does have a positive impact for all other outcome variables, particularly reducing social exclusion and stress/busyness.
 - While the negative effect from working long hours is only marginal on life satisfaction, when controlling for other variables, it persists and is strong for stress/busyness, hedonic well-being and the overall well-being index.
- Effects on stress/busyness ran opposite to the other well-being outcomes for many predictors, including long-term unemployment and the marital status variables.
 - Even when the direction of effects is consistent, one can compare their differential sizes. For example, local neighbourhood problems were most relevant for the social exclusion index, whereas work–life balance had the greatest effect on hedonic well-being.
 - Once other indicators had been included, particularly material deprivation, income ceases to be a predictor of many aspects of well-being. It is important to note that this happens even before subjective predictors such as ‘difficulty making ends meet’ were included. This does not mean that income is not important, just that its effect is mediated through other outcomes such as material deprivation, and these appear to be more important in understanding the effect on well-being.
 - In general, the regression models had a very good fit, meaning that, in using them, it was possible to explain a large amount of the variation in subjective well-being. For example, for the overall well-being index, 45% of the variation was explained by predictor variables.

These results are particularly useful in combination with those presented in Chapter 2 – showing which countries do particularly well or poorly on different aspects of well-being (see, for example, Table 3). For example, work–life balance is the second strongest predictor of the social exclusion index – which was noted to be unusually high in Cyprus, Poland and the Czech Republic. Meanwhile, health factors are the most important determinants of hedonic well-being, which is lower in southern European countries.

Differences between country clusters

The analysis also looked at how the most important predictors of life satisfaction differed between country clusters (see Chapter 2). Table 9 shows the top five predictors for each country cluster (Table A9 in Annex 3 shows the full regression results).²⁴

The deprivation index was the only variable within the top five for all seven country clusters, with self-assessed health and difficulty making ends meet appearing in six out of seven clusters (the exception in each case being the liberal cluster for self-assessed health and the corporatist cluster for making ends meet). Being severely limited by health or disability problems, public service satisfaction and institutional trust all also feature in the top five lists.

A few variables that were not so important when considering Europe as a whole emerge as important when looking at specific clusters. For example, trust in other people is in the top five for the corporatist, post-socialist corporatist and 2007 accession clusters. Not having close support and work flexibility are in the top five for the liberal cluster. Engaging in physical activities is in the top five for southern European countries. All these findings suggest these are particularly important determinants of well-being in those particular contexts.

Finally, it is important to note that all the top five predictors for life satisfaction in Europe as a whole are significant in each country cluster. There were a couple of exceptions where predictors had contradictory effects in different clusters – that is, increasing well-being in some countries, but decreasing it in others – but in none of these were both effects strongly significant.

²⁴ This analysis was also carried out country-by-country, but the relatively small sample sizes in some countries, coupled with the large number of variables included in the analysis, requires caution in the interpretation of some of the results.

Table 9: Top predictors of life satisfaction for each country cluster

Social democratic	Corporatist	Liberal
Severely limited by health	Deprivation index	Deprivation index
Self-assessed health	Self-assessed health	Making ends meet
Deprivation index	Public service satisfaction	Public service satisfaction
Institutional trust	Work–life balance	Work flexibility
Making ends meet	Trust in others	Lack of close support
Southern Europe	Post-socialist corporatist	Post-socialist liberal
Deprivation index	Deprivation index	Deprivation index
Public service satisfaction	Making ends meet	Severely limited by health
Making ends meet	Self-assessed health	Making ends meet
Physical activity	Religious attendance	Age
Self-assessed health	Trust in others	Self-assessed health
2007 accession cluster		
Deprivation index		
Making ends meet		
Self-assessed health		
Trust in others		
Public service satisfaction		

Policy pointers

The key determinants of subjective well-being are material deprivation, health and being limited by disability, work–life balance, public services and social relationships. As such, the evidence presented here suggests that the well-being of Europeans would benefit from:

- a focus on efforts to tackle poverty and integrating people with disabilities;
- strengthening the working hours directive, or other policies that could lead to reducing working hours and improving work–life balance;
- maintaining the quality of public services in the face of austerity, particularly, it seems, in southern Europe;
- recognising the importance of relationships to people’s well-being (see domain results below for more on this). It is proposed that the unintended well-being consequences of certain economic policies and urban planning should be considered. Meanwhile, it would seem that it is in the liberal cluster that social support is most important.

Domains of predictors

In this section, the analysis explores the eight quality of life domains as identified by Eurostat and examines the differential effects of the different predictor variables on life satisfaction. Each domain begins with a table summarising the directions and sizes of the various effects. If a factor was associated

with significant increases in life satisfaction, it is presented in a green box with upward arrows. If a factor was associated with significant decreases, it is in an orange box with downward arrows. The shade of colour and the number of arrows indicate the strength of the effect. Where there was no effect, the box is left in grey.

Material living conditions (including housing)

Income (log, equivalised, PPP) ↑↑↑		Deprivation index ↓↓↓	
Situation compared to 12 months ago ↑↑↑	Expected financial situation ↑↑↑	Difficulties making ends meet ↓↓↓	
Owning house with a mortgage ↓	Renting (landlord) ↓↓↓	Renting (social housing) ↓↓↓	Overcrowding (objective) --
Housing problems – lack of space ↓↓↓	Housing problems – rot ↓↓↓	Housing problems – damp ↓↓↓	Housing insecurity ↓↓↓
Housing problems – no indoor toilet --	Housing problems – no bath/shower ↓↓	Housing problems – lack of outside space ↓↓	

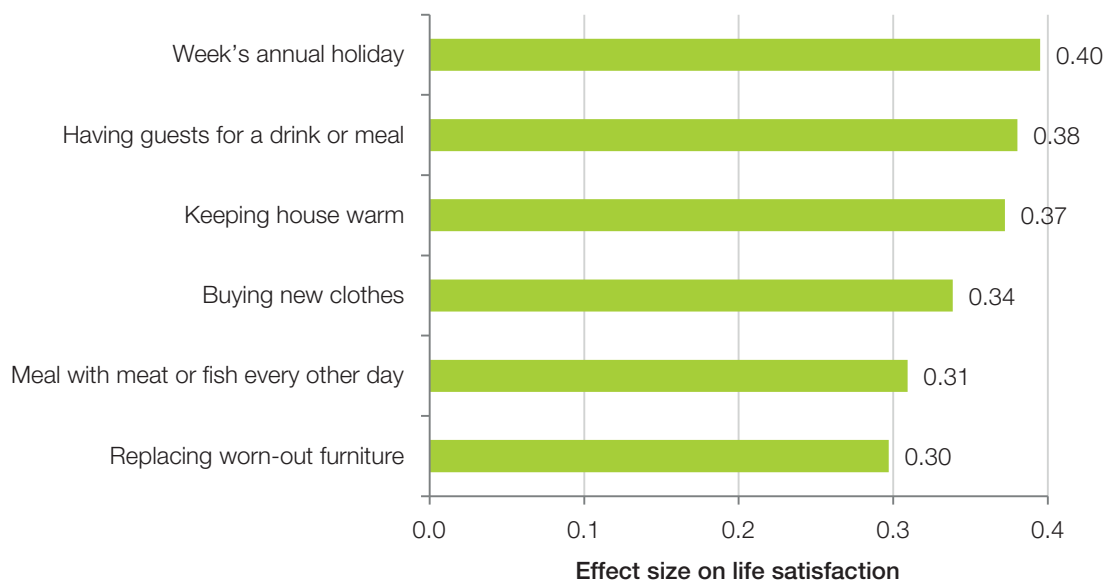
In the current economic context, it is important to stress the importance that material living conditions play in determining well-being. As already highlighted, the deprivation index (a count of the number of items that a respondent reports they cannot afford) is the single strongest predictor of life satisfaction and the overall well-being index. If a respondent reports not being able to afford all six of the items in the index, then their life satisfaction can be expected to be 2.1 points lower than a person who could afford all six, holding all other variables constant. In other words, the single thing that could be done to improve the average levels of life satisfaction in a country would be to ensure that nobody suffers from material deprivation.

Combined with the other variables on material living conditions listed above, 20% of the variation in life satisfaction can be explained. When they are all controlled for, over two-thirds (70%) of the variation between countries is explained, highlighting that material conditions are by far the strongest factor determining variation in life satisfaction between countries.

As noted in the Introduction, well-being analysis can also help identify policy priorities within general areas. This domain looks at three sets of issues: the elements of the deprivation index, tenure and housing problems.

With regard to the deprivation index, the largest effects were for the two items in the index related to social life (see Figure 21). Not being able to afford a week's annual holiday, which was the case for 37% of respondents overall, and up to two-thirds of respondents in many eastern European countries, was associated with a drop in life satisfaction of -0.40. The second largest effect was from not being able to afford to have guests round for a meal or drink (-0.38). This pattern is different to the results found when carrying out bivariate analyses just looking at individual deprivation items and life satisfaction (see third EQLS overview report: Eurofound, 2012). Because all deprivation items are included in one model, it is possible to see their differential and independent effects. It is important to note that it is not just a matter of seeing larger effects for 'less basic' items. The proportion of respondents not able to replace worn-out furniture was twice that for those who could not afford to have guests round, yet the effect of the latter on life satisfaction was much greater. Rather, it highlights the importance of social elements of poverty, reinforcing the European Council's definition of poverty to include cultural and social concerns, and stressing the importance of social inclusion (European Commission, 2012b).

Figure 21: Independent effects on life satisfaction of not being able to afford various items (in points)

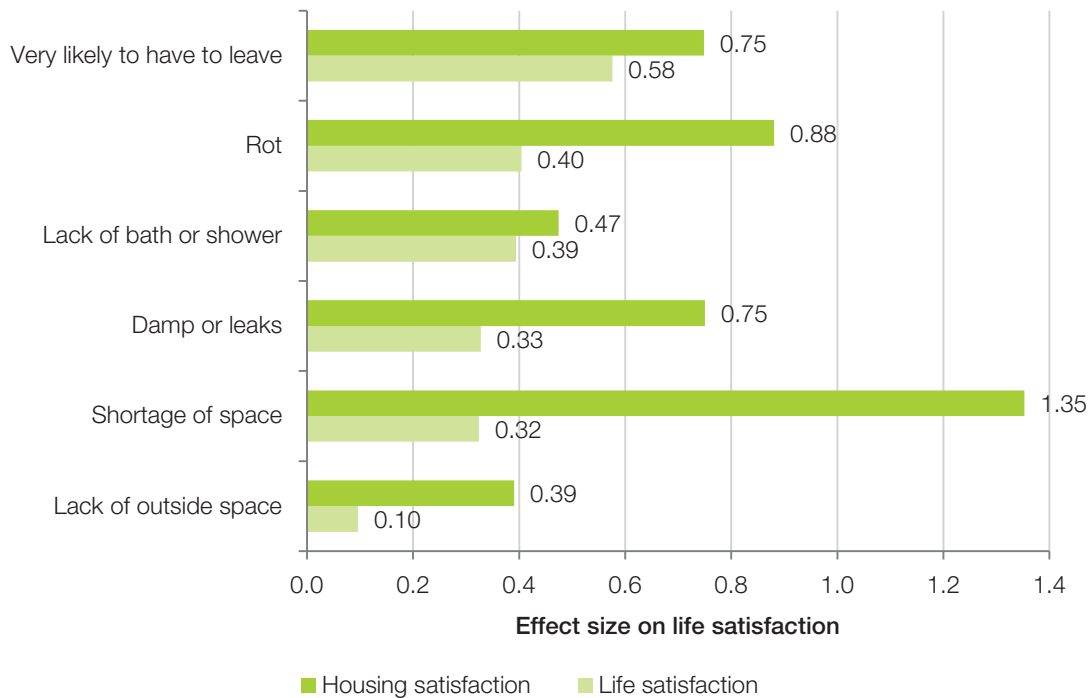


With regard to tenure, the main difference is between respondents who own their house (with or without a mortgage) and those who rent (from landlords or social housing). Even so, there is a marginally significant deficit in life satisfaction for people who own a house with a mortgage, versus those who own the house outright. Interestingly, if country dummy variables are not controlled for then the opposite is seen – owning a house with a mortgage appears to result in higher life satisfaction than owning one without a mortgage. However, this can be explained by the high levels of outright ownership existing in central and eastern Europe. For example, in Bulgaria, the country with the lowest average life satisfaction, 87% of the population own houses without a mortgage, versus only 3%

with a mortgage. By contrast, in Denmark, the country with the highest levels of life satisfaction, only 12% own houses outright, whereas 49% own a house with a mortgage. This is a clear example of the importance of looking at individual-level data. If one were to look only at the national averages, one might surmise that mortgages are preferable to outright ownership, as the countries with the greatest rates of outright ownership have the lowest levels of life satisfaction.

Figure 22 shows the independent negative effects of six housing problems in the survey on both life satisfaction and housing satisfaction (the seventh problem – not having an indoor toilet – did not emerge as significant for either).

Figure 22: Independent effects of housing problems on life satisfaction and housing satisfaction (in points)



Feeling that you are likely to have to leave home within the next six months had the strongest effect on life satisfaction, with the difference between feeling that it is quite likely to have to leave one's accommodation versus quite unlikely costing 0.52 points in terms of life satisfaction. On average, 5.7% of respondents felt that it was either very or quite likely they would have to leave their accommodation, ranging from 13.7% in Greece to only 2.1% in the Netherlands. Interestingly, Denmark also scores poorly on this measure, with 5.4% feeling that it was very likely they would have to leave their accommodation, the same proportion as in Greece.

Whether one will have to leave one's accommodation is a somewhat subjective judgement. Of the more 'objective' physical problems, rot, which affected 9% of respondents across Europe, had the biggest impact on life satisfaction. The proportions suffering from this problem are as high as 26% in Latvia and 25% in Greece. But with respect to housing satisfaction, the biggest problem appears to be shortage of space (which affected 15% of respondents), reducing housing satisfaction by 1.35 on a scale of 1 to 10. This suggests that respondents, when asked about housing satisfaction thought more about overcrowding, whereas when not consciously drawn to think about housing, it was housing insecurity and rot that had a bigger impact on their experience of life.

Policy pointers

Policymakers are right to target material deprivation, and should note that the effect of material deprivation on well-being is greater than that of income. Furthermore, material deprivation is not just about the basics – being able to engage in social and leisure activities is also important.

Regarding housing, it appears that well-being may be improved by policies that improve the situation for those renting and protect people against housing insecurity. Of a range of housing problems, rot and a lack of bath/shower appear to be the strongest contributors to reduced life satisfaction – rot in particular could potentially be targeted by local government interventions.

Productive and valued activities

Temporary contract (<12 months) ↓↓↓↓	Temporary contract (>12 months) --	Temporary contract (agency) --	Self-employed --
Apprenticeship ↓↓	No written contract ↓↓	Working hours ↓↓	Work flexibility ↑↑↑
Work–life balance ↓↓↓↓	Job insecurity ↓↓↓↓		

In the Eurostat Quality of Life framework, this domain focuses exclusively on work – with other productive activities such as volunteering and caring for others included in the domain ‘Leisure and social interactions’ below. Methodologically, this is useful, as the analyses can focus on only those in paid labour.

For those who are in a job, work often takes up half of the waking day during the week. As such, the conditions of work play an integral role in people’s experience of life. For employers, and the wider economy, the benefits of ensuring well-being at work include increased productivity and retention (Bevan, 2010; Ford et al, 2011).

Previous research has highlighted that the five most important work factors that determine well-being are: working hours, sense of control, job fit and skill use, positive managerial behaviour and social relationships at work (Mahony, unpublished). The EQLS includes questions on working hours and work flexibility (which is part of control), as well as questions on job security and work–life balance. The data suggest some tensions with policies striving to increase labour market flexibility, by favouring temporary contracts, and increase work intensity.

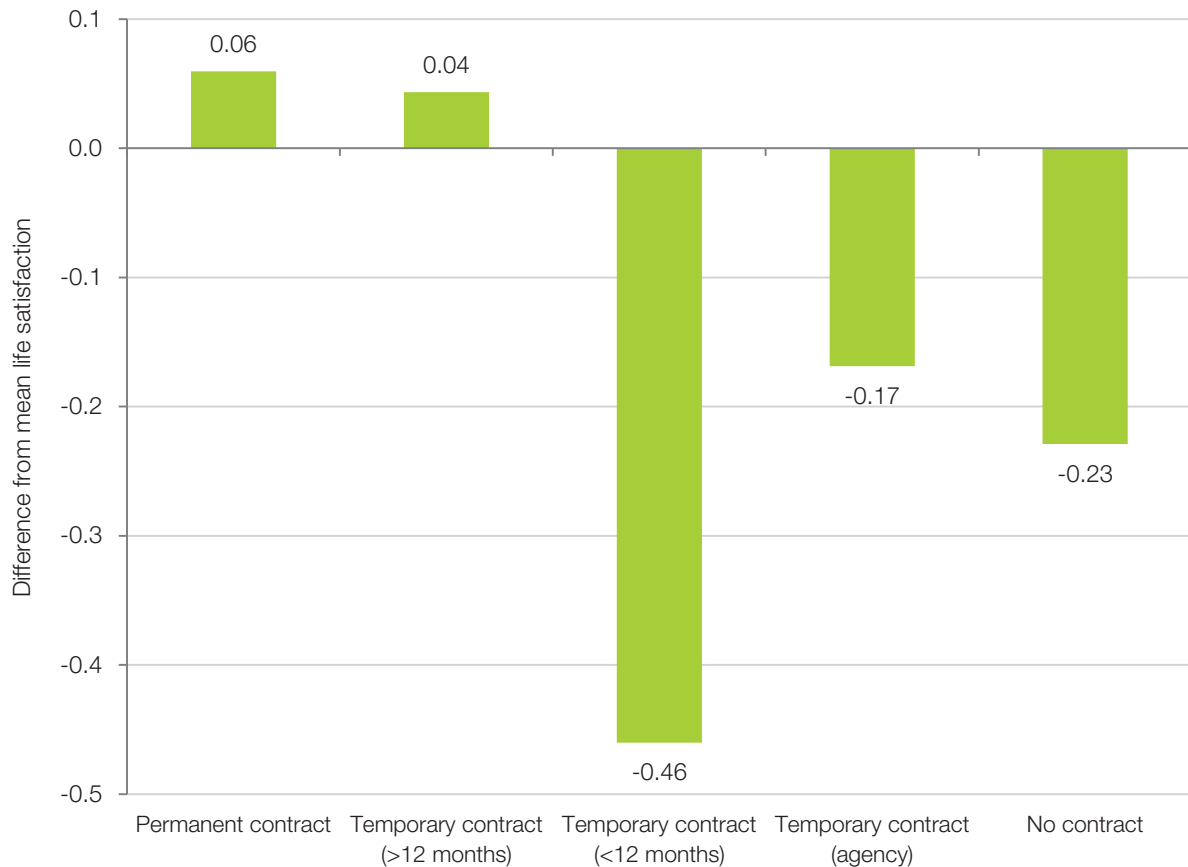
Adding these variables to core demographic variables almost doubles the amount of variation in individual life satisfaction that

can be explained, to 19%. Alone, job variables can explain 44% of the variation in life satisfaction between countries (for those in jobs, of course), highlighting their relevance to well-being.

Of the more objective variables, the most important predictor of life satisfaction is contract type. It is already known that workers on temporary contracts have a level of income 14% lower than those on permanent contracts, once other factors are controlled for (European Commission, 2012b). Figure 23 shows that such contracts are also associated with a life satisfaction penalty *beyond* any impact resulting from the lower income. Having a temporary contract of less than 12 months has the largest negative impact – the difference in life satisfaction between people on temporary contracts and those on permanent contracts is 0.5 points. This is particularly worrying in the current economic context, when the majority of new jobs being created are with temporary contracts.

There is also a significant reduction in life satisfaction associated with having no written contract. However, being on a contract through an employment agency does not seem to be associated with significantly lower life satisfaction. Also, being on a temporary contract of more than 12 months seems to have no negative impact on life satisfaction whatsoever.

Figure 23: Difference from mean life satisfaction of people with different contract types (after controlling for other variables) (in points)



Self-assessed job security was also very important, the difference between reporting that one is very unlikely and very likely to lose their job is associated with a 0.9-point difference in life satisfaction. Overall, 13% of respondents reported that they felt they were very likely or likely to lose their job in the next six months. The highest rates were in Greece (31%) and Latvia (25%).

The third factor of interest was working hours. The third EQLS overview report found lower life satisfaction among those working long hours (Eurofound, 2012, p. 23). This relationship held, even after other variables had been controlled for (Figure 24). The highest levels of life satisfaction were found among those working 26–40 hours. Above that life satisfaction begins to decline (the one point above the x-axis for those working 51–55 hours is based on quite a small sample of respondents). The relationship remained significant even when excluding the top income quartile from the analysis, demonstrating that lower working hours are not just a luxury for the rich.

In terms of work flexibility, being able to take a day off at short notice was the most important factor, corresponding with a

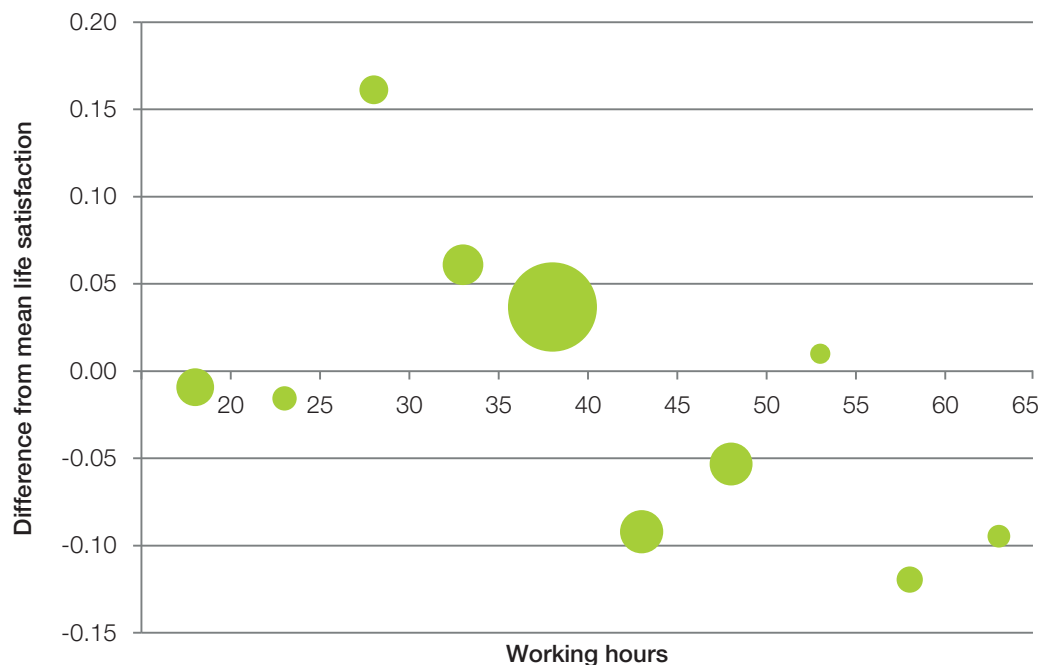
life satisfaction increase of 0.3 points. Being able to vary one's start and finish times increased life satisfaction by 0.2 points. However, being able to accumulate overtime hours to take time off later had no effect.

The survey also includes four items about work–life balance, which were combined into a synthetic indicator. Of the four, the strongest predictor of life satisfaction was an item asking about work interfering with family responsibilities. The work–life balance synthetic variable was, in turn, strongly predicted by working hours and work flexibility.²⁵ It is likely that the effect of working hours on life satisfaction is mediated by the work–life balance synthetic variable, as its effect disappears from regression analysis when the synthetic variable is also included.

As already noted in Chapter 3, unemployment has a huge impact on life satisfaction, associated with a drop of 0.8, or 1.2 when unemployment has lasted over 12 months.

²⁵ For example, the difference between working 35 hours and 55 hours a week is associated with a decrease of half a standard deviation in the work–life balance measure.

Figure 24: Difference from mean life satisfaction versus working hours (after controlling for other variables)



Note: Bubble sizes represent the number of respondents working that number of hours.

Policy pointers

The largest impact on well-being in the field of work is of course unemployment – this has to be a priority. But job security and work–life balance factors were also found to be important. The improvement in well-being found to be associated with the difference between a temporary contract and a permanent contract is greater than that found to be associated with the difference between unemployment and a temporary contract of less than 12 months. As the majority of new jobs currently being created in the EU are with temporary contracts, this is a worrying result.

Work flexibility and working hours were confirmed to be important determinants of life satisfaction, with those working 41 hours or over per week seeming to have lower well-being. Incentives for businesses to ensure lower working hours might therefore increase well-being. For example, in 2008, the national governments in Germany, Austria and Belgium paid firms to put staff on shorter working hours, rather than making them unemployed, and topped up salaries to compensate for some of the loss in income. This is likely to have had a much less detrimental effect on workers' well-being than if

they were forced to enter unemployment. And it also meant that the workers were ready to return to full-time employment when the economy started to recover (Traynor, 2012).

However, labour market economics is a complex area, and caution is needed before drawing any strong conclusions with regard to policies related to either labour flexibility or working hours. It is important to acknowledge that this analysis is limited to analysing the relationship at one point in time, and only for the people directly affected. Further work is necessary to model the net impact of labour market policies on well-being, including indirect and long-term effects. For example, what if the short-term impact of reducing working hours was to improve well-being, but the long-term impact was to reduce productivity, competitiveness, economic output and thereby ultimately well-being? Similarly, raising the threshold for people entering paid work, by regulating contracts might result in an increase in unemployment. The well-being loss from this might offset any gain achieved for those in work.

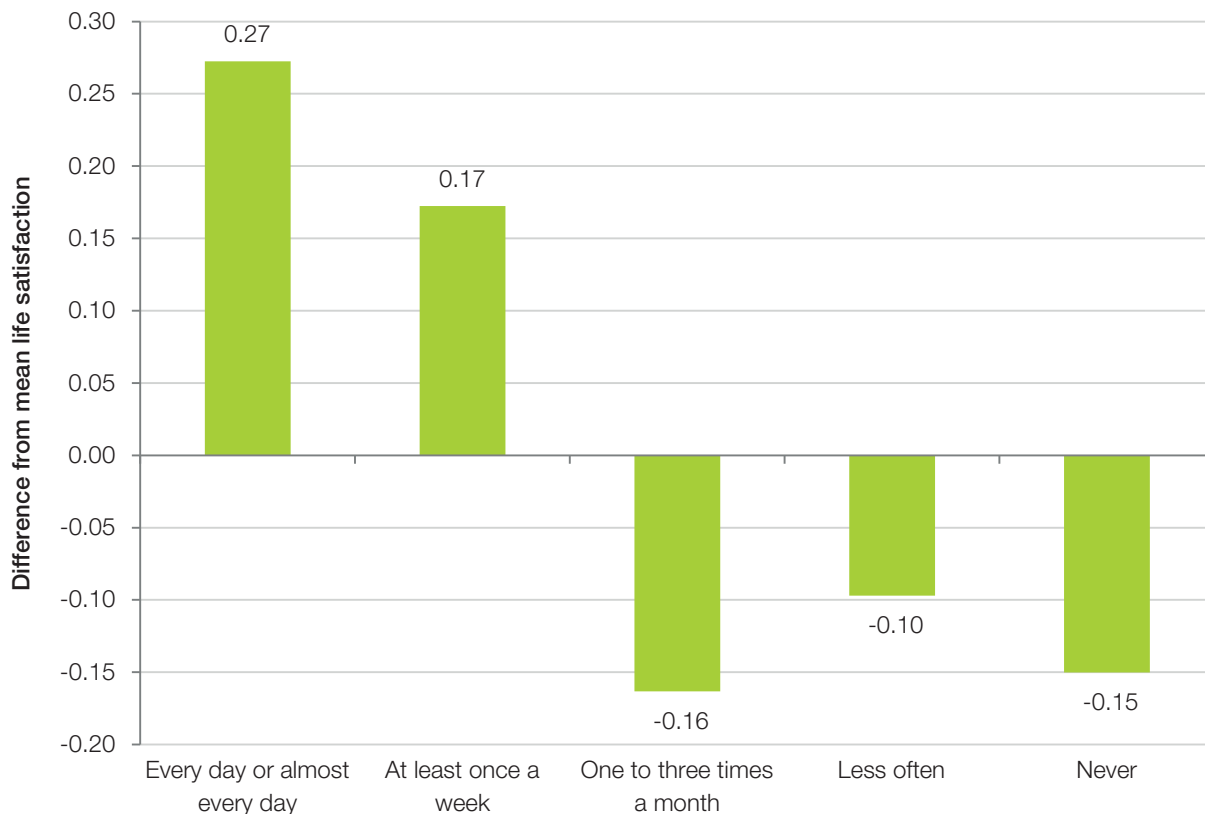
Health

Severely limited by health problems ↓↓↓↓	Limited to some extent by health problems ↓↓↓↓	Unable to work because of illness / disability ↓↓↓↓	Self-assessed health ↑↑↑
Sport ↑↑↑			

As already noted, health is one of the key determinants of subjective well-being, and the analysis has highlighted the strong negative impacts of being limited by health problems and being unable to work because of illness or disability. Self-assessed health is also known to be strongly associated with well-being, being the second strongest predictor of life satisfaction overall.

The only other health-related item included in the analysis was related to frequency of physical activity and sport. Figure 25 shows the difference from the mean for people who do sports at different intensities, controlling for other variables.

Figure 25: Differences from mean life satisfaction for people with different intensity of physical activity (in points)



In other words, there is a 0.4-point increase in life satisfaction associated with moving from doing physical activity less than once a week, to doing it every day or almost every day. Across Europe, 60% of respondents reported doing physical activity less than once a week, with percentages ranging from 27% in

Finland to 88% in Bulgaria. In southern Europe, where physical activity was found to be one of the top five predictors of life satisfaction, rates of non-activity ranged from 63% in Spain up to 79% in Greece.

Policy pointers

Aside from highlighting the plight of people with severe illnesses or disabilities, the EQLS also reveals clear well-being opportunities in the field of physical activity. Policy interventions

could be targeted at education, or, for example, in the promotion of active transport modes.

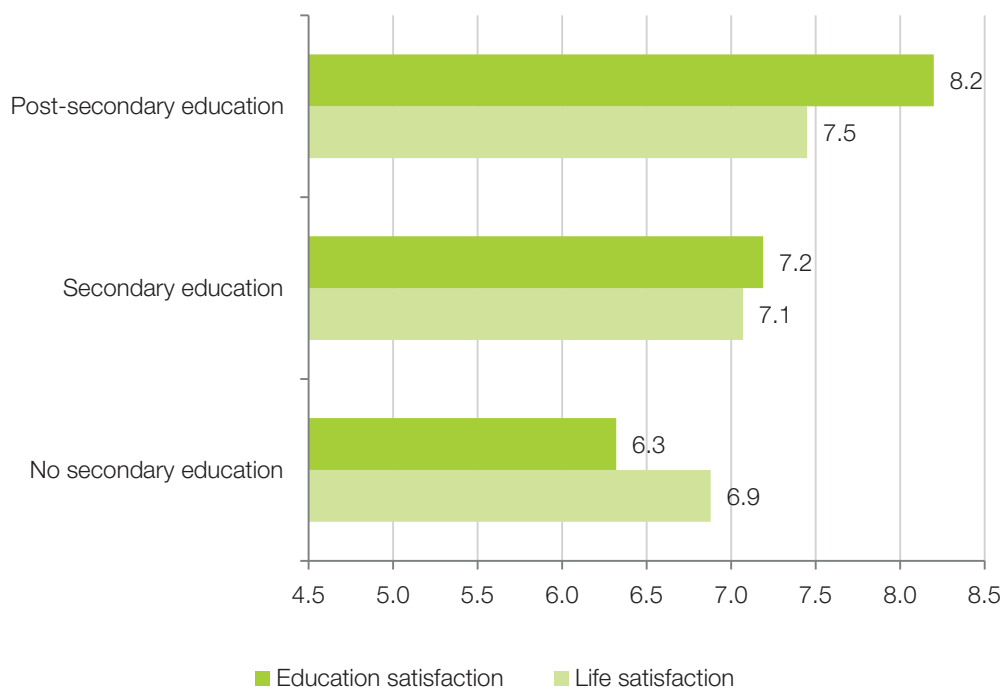
Education

Post-secondary education ↑↑ No secondary education ↓↓↓

This domain is not covered extensively by the EQLS report, the only relevant well-being driver being level of education. Figure 26 shows life satisfaction and education satisfaction for

people in three categories: not having a complete secondary education, having a secondary education and having post-secondary education.

Figure 26: Mean life satisfaction and education satisfaction for people with different levels of education (scale of 1–10)



While the differences in life satisfaction are sharp, previous research has suggested that it is mostly explained by differences in income and health – that is, people with a higher education have higher levels of life satisfaction purely because they have higher incomes and better health (Dolan et al, 2006; Diener et al, 1999). This study found that income and health alone were not enough to explain the differences in life satisfaction of people with different incomes, but that including other factors (for example, material deprivation and housing problems) did explain the differences.

That said, education still had an independent effect on other outcome variables including hedonic well-being, the social exclusion index, eudaimonic well-being, stress/busyness and loneliness. The effect on eudaimonic well-being is the largest.

Policy pointers

The enabling effects of education in terms of helping individuals achieve higher well-being through decent living conditions and good health should not be forgotten, particularly where they can be deployed to reduce social inequalities and promote social mobility.

As a measurement lesson, it is important to highlight that several measures of well-being are capturing effects not seen when using life satisfaction, which underlines the importance of using multiple measures.

Leisure and social interactions

Never married ↓↓↓	Separated / divorced ↓↓↓	Widowed ↓↓↓	Children (number of) ↑↑↑
Contact with friends (face-to-face) ↑↑↑	Contact with siblings (face-to-face) ↑↑	Contact with parents (face-to-face) --	Contact with children (face-to-face) --
Contact with friends (indirect) ↓↓	Contact with siblings (indirect) ↑↑	Contact with parents (indirect) --	Contact with children (indirect) --
Support (with money) ↑↑↑	Support (around the house) ↑↑	Support (someone to talk to) ↑↑	Support (advice) ↑
Support (looking for job) --	Not enough time for family ↓↓↓	Not enough time for social contact ↓↓↓	Trust in other people ↑↑↑
Sport ↑↑↑	Club or society social activities ↑↑↑	Internet use ↑↑	Religious services ↑↑
Caring for elderly/disabled ↓↓	Caring for children ↑↑	Housework (hours) ↑	Housework (more than fair share) ↓↓↓
Volunteering --	Commuting ↓		

The EQLS includes a broad range of questions on people's social life and use of time. In many ways, this is the area that policymakers know least about, and yet social interaction is considered by some academics to be the single most important determinant of well-being (Diener and Seligman, 2002). In terms of social life, policymakers may be wary of intervening too directly, but should be aware of the side effects of other policies on these issues, including policies relating to working hours, geographical labour mobility (Layard, 2005) and inequality. Meanwhile, there are other areas where policymakers may be able to intervene directly, such as promoting volunteering, tailoring support for people without social networks, and providing facilities and opportunities for different activities.

In this dataset, social and leisure variables explain 13% of the variation in individual life satisfaction. Across countries, 46% of the variation in life satisfaction can be explained by social and leisure factors.

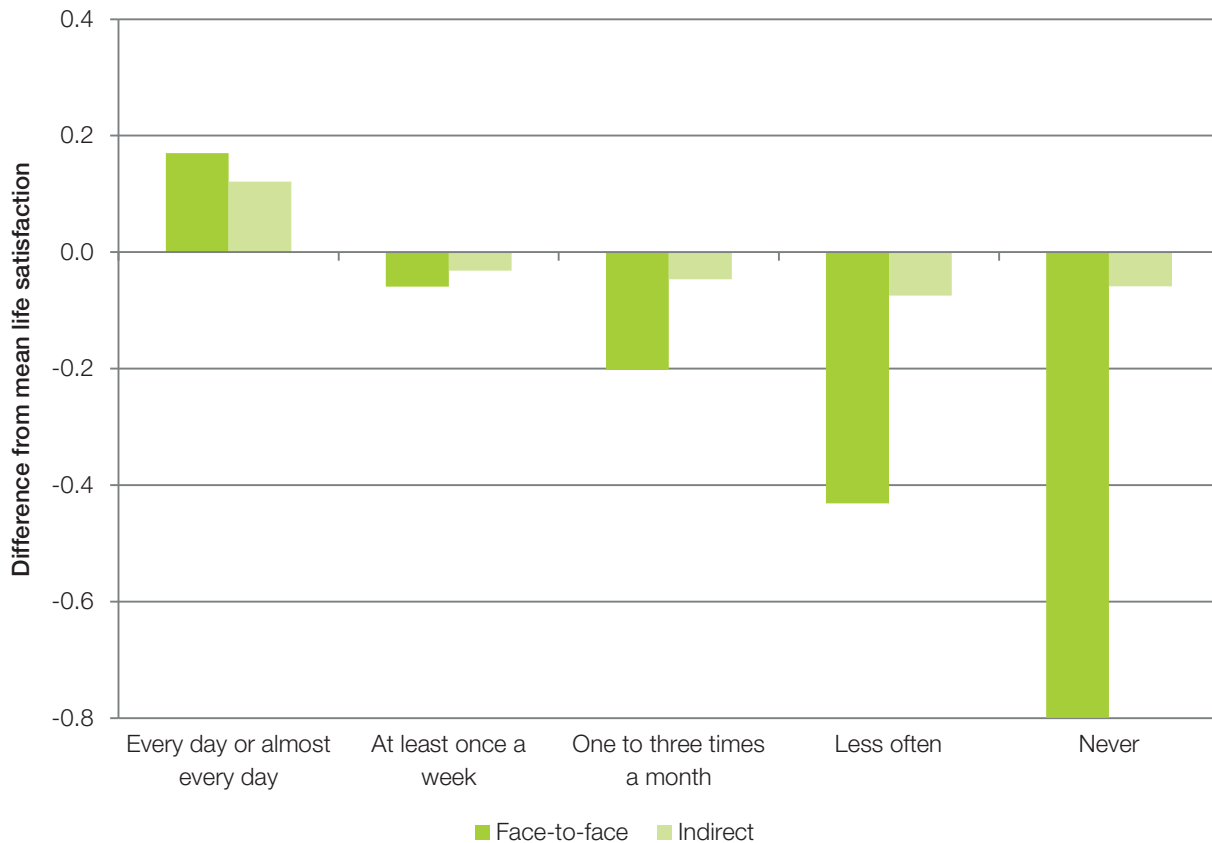
Aside from marital status, the most important social life items were related to access to close support. Researchers distinguish between four types of social support – emotional, tangible, informational and companionship (Wills, 1991). The items in the third EQLS cover all these four domains (with two

'tangible' items – financial, and help around the house), and allow one to distinguish between social support provided by friends or family and that provided by institutions. All aspects of social support proved to be important to life satisfaction with the exception of informational support. The strongest effect came from not having anyone to help around the house when ill, followed by not having anyone to help out financially if necessary. Combined overall, not having any support for all five items was associated with a total decrease in life satisfaction of 1.2 points.

The analysis also looked at the difference between people who were able to rely on friends or family for support and those who needed to rely on institutional support. When looking at this by item, there was only one area of support where having institutional support was significantly less beneficial for well-being – that of having someone to give advice on personal or family matters.

Actual frequency of social contact was also significant in predicting life satisfaction. Most important was contact with friends or neighbours. Figure 27 presents differences from the mean life satisfaction, both in terms of face-to-face contact or indirect contact (via phone, internet or post).

Figure 27: Differences from mean life satisfaction for people with different levels of face-to-face or indirect contact with friends or neighbours (in points)



As the figure shows, face-to-face contact is a far more powerful determinant of life satisfaction than indirect contact – with the difference in life satisfaction between people who never have face-to-face contact and those who have everyday contact being 1.0. All differences in Figure 27 for face-to-face contact were significant. For indirect contact, the only significantly different group were those who have contact every day or almost every day.

Apart from friends and neighbours, the only other type of contacts that were associated with life satisfaction were those with siblings. Contact with children and parents made no difference to life satisfaction, when contact with other groups was controlled for, whether this was face-to-face or indirect.

Moving beyond close networks, trust in other people in general was also a strong determinant of life satisfaction. The difference between someone who reported the minimal level of trust in other people and someone who reported the highest level of trust was associated with a difference in life satisfaction of 0.6 points.

The last set of social life items explored were also subjective – whether respondents felt they wanted more time to spend with family or social contacts. These two items were significant. Combined, people who said they did not have enough time for both family and social contacts reported a life satisfaction level of 0.4 points less than people who reported having time for both.

When explaining variation in satisfaction with social life, the patterns were very similar, with face-to-face contact with friends and neighbours the strongest predictor, and important effects evident for not having social support. One difference is that indirect contact with friends was also positively associated with social life satisfaction.

Unsurprisingly, when predicting family life satisfaction, face-to-face contact with parents and children did enter the regression significantly. However, it is interesting to note that it was still contact with friends and neighbours that was the strongest predictor of family life satisfaction.

In addition to social life, there were several other questions that asked people about their time use including commuting

time, social and political activities, housework and caring for others. Some of the results in this domain were quite counterintuitive. For example, while feeling that you did more than your fair share of housework was a strong negative predictor of life satisfaction (associated with a drop of 0.3 points), actual reported hours doing housework had a marginally significant positive correlation with life satisfaction.

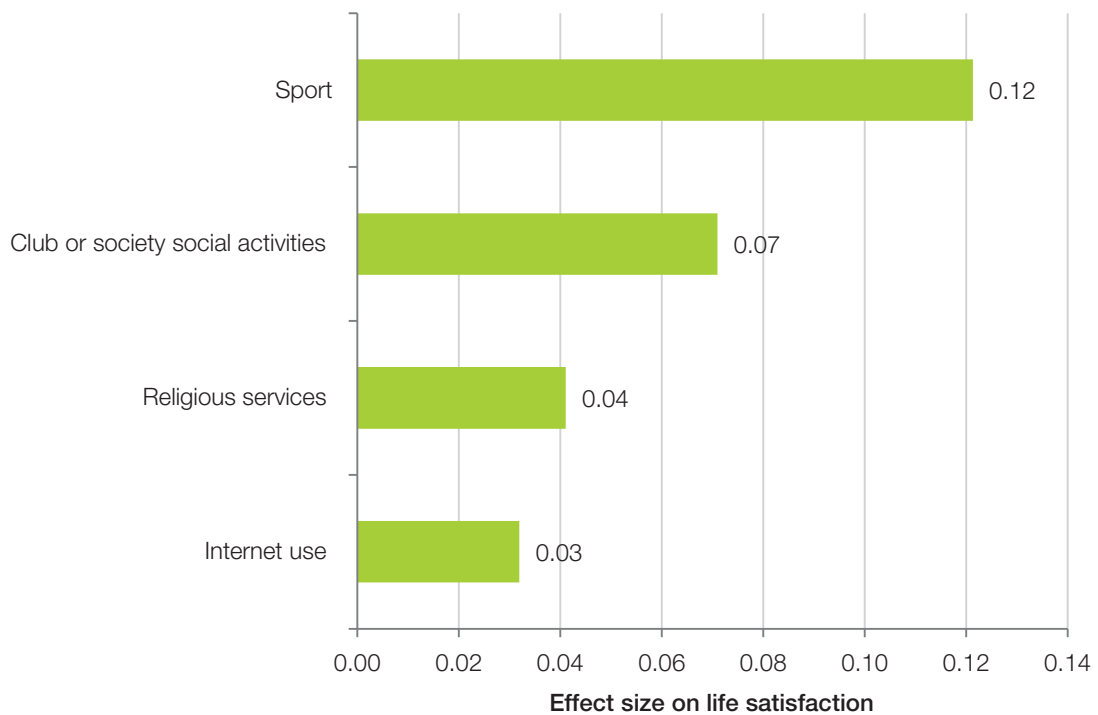
Caring for elderly persons or people with disabilities was negatively correlated with life satisfaction, such that someone spending 25 hours a week doing so would have a level of life satisfaction 0.1 points lower than someone who did not care for anyone elderly or with a disability. Conversely, hours spent caring for children was actually positively associated with life satisfaction, though again, the effect was small – someone spending 11 hours or more caring for children would have a life satisfaction of 0.16 points higher than someone who does not care for any children. It is plausible that the effect is associated with a positive sense of purpose resulting from raising children. Indeed, the effect of caring for children on responses to the question about feeling that what one does is worthwhile is twice as strong as that on life satisfaction. In view of this, policies that ensure that parents are able to spend some time with their children should have a moderate positive effect on

parental well-being. While the effect on life satisfaction holds for both men and women, it appears to be strongest for men at work, highlighting the importance of paternal leave and maternal leave, and flexible working hours for both genders. The effect was not significant when looking only at women at work, suggesting that they are probably struggling to juggle work and childcare commitments. Of course, there is a separate debate about what is best for the children, where risks have been identified with childcare starting at too early an age (UNICEF, 2008).

More importantly, the data highlight the need to provide support for those caring for people who are elderly or have disabilities, which appears to have a greater well-being burden. This finding should be combined with the evidence from the EQLS that it is often elderly people and those with disabilities who themselves are providing care for other people in a similar situation (Eurofound, 2013a).

The strongest effects on life satisfaction, however, in this domain, were the frequencies of various activities, including physical activity (mentioned earlier), social activities in clubs or societies, internet use and religious services. Figure 28 shows the relative strengths of each of these activities in predicting life satisfaction.

Figure 28: Effect sizes on life satisfaction of frequencies of different activities (in points)



Notes: See Figure 20 for an explanation of effect sizes. In this case, a one-point increase in frequency of sport or physical activity is associated with a 0.12-point increase in life satisfaction. Frequencies were assessed on a five-point scale from 'never' to 'every day'.

The study shows a small, but significant effect of commuting time on life satisfaction, with people commuting up to 30 minutes a day for a round trip having higher life satisfaction than people travelling over 30 minutes a day (a difference of 0.08 points). Other researchers have found stronger effects (Kahneman et al, 2004; Stutzer and Frey, 2008). The findings also show a marginally significant negative relationship between commuting time and satisfaction with social life. This supports previous research by Putnam (2000), which suggests

that increasing commuting time is associated with a lowering of involvement in community affairs.

Previous research has reported a significant positive relationship between volunteering and life satisfaction. In particular, Meier and Stutzer (2008) found that life satisfaction rose with the frequency of volunteering. While the analysis did not find an effect on life satisfaction, it did find a significant relationship with the WHO-5 index.

Policy pointers

The policy pointers related to this domain can be divided into proactive pointers – policies that can be enacted to increase well-being – and defensive pointers – identifying policies that risk leading to *decreases* in well-being.

With regard to the former, potential interventions include:

- increasing support for those without social networks, particularly support around the house, and having someone to talk to. This could be delivered directly by the state, or provided by the voluntary sector;
- fostering opportunities for physical activity, for example through active transport interventions;
- setting up clubs and societies;
- providing support for people who have to care for elderly/disabled people – the well-being evidence indicates that policymakers should pay particular attention to this, and that it should not be overshadowed by the debate on giving support to people providing childcare.
- promoting volunteering.

With regard to the potential risks to well-being highlighted in this section, potentially harmful impacts include:

- geographical labour mobility on social networks, particularly related to family, and particularly given that indirect contact does not have the same positive well-being value as actual face-to-face contact. There is also evidence that geographical mobility is associated with lower trust and sense of empowerment (David et al, 2010; DiPasquale and Glaeser, 1999; Soroka et al, 2003);
- longer working hours, in terms of limiting the time that people have for discretionary activities;
- inequality, in terms of decreasing social trust (Helliwell, 2006, 2003; Helliwell and Putnam, 2004).

In all cases, the need to consider the well-being impacts of these policies is evident. It may be that in some cases the inclusion of well-being in the policy assessment might shift the weight of argument for or against such policies. In other cases, it may be possible to apply supplementary policies to mitigate negative effects on social relationships.

Finally, social relationships go beyond family – in fact, it is often contact with friends that is most important for well-being. This should not be conflated with family policy.

Economic and physical safety

Arrears in payments ↓↓↓↓

Crime and vandalism ↓↓↓↓

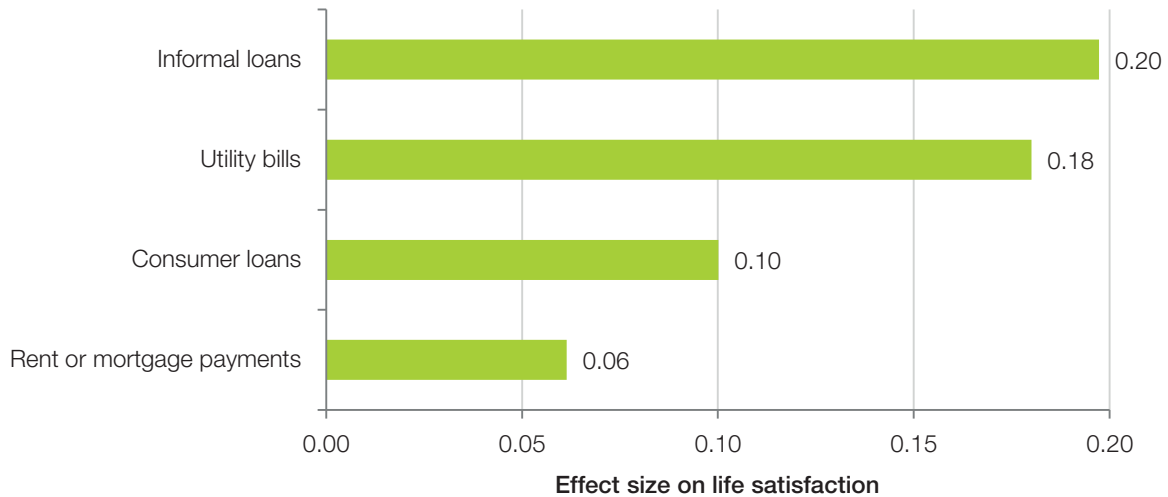
The domain of economic and physical safety relates to security and the vulnerability of one's situation. The potential and fear of something negative happening (for example, facing the repercussions of not resolving a debt, or becoming the victim of a crime) is almost as bad as the event actually happening.

Uncontrollable debts, or arrears, have been known to have a strong negative impact on mental health (Cummins et al, 2004). Here, the most severe impacts were from informal loans (-0.20) and utility bills (-0.18; see Figure 29). There was no

significant effect from consumer loans or rent/mortgage payment arrears, when all items were included together (although all items were significant predictors of life satisfaction when tested separately).

It is worth linking these results to those found when looking at housing tenure – for instance, other factors controlled for, living in a house with a mortgage did convey a slight negative effect on life satisfaction, but not as large an effect as living in rented accommodation.

Figure 29: Effect sizes on life satisfaction of different types of arrears (in points)



Crime and vandalism is included in the survey in a series of questions about the local environment. Perceiving a problem with crime is associated with a large 0.7-point drop in life

satisfaction – it is the most important neighbourhood problem in terms of life satisfaction.

Policy pointers

The evidence here provides some interesting lessons in terms of the negative impacts of debt. On the one hand, the negative impacts of holding debts point to the need to regulate the credit market in general, and to provide financial literacy for those at risk of getting into debt. On the other hand, regulations might drive people away from consumer loans and towards

informal loans, which actually have the largest negative effect on life satisfaction.

The results also highlight the importance of tackling crime for people's well-being.

Government and public services

Satisfaction with:			
Education service ↑↑↑	Health service ↑↑↑	Childcare services ↑↑↑	Pension ↑↑↑
Social care ↑↑	Public transport ↑↑	Housing service --	
Trust:			
Police ↑↑↑	Local authorities ↑↑↑	Legal systems ↑↑	
Government ↑↑	Parliament --	Press --	

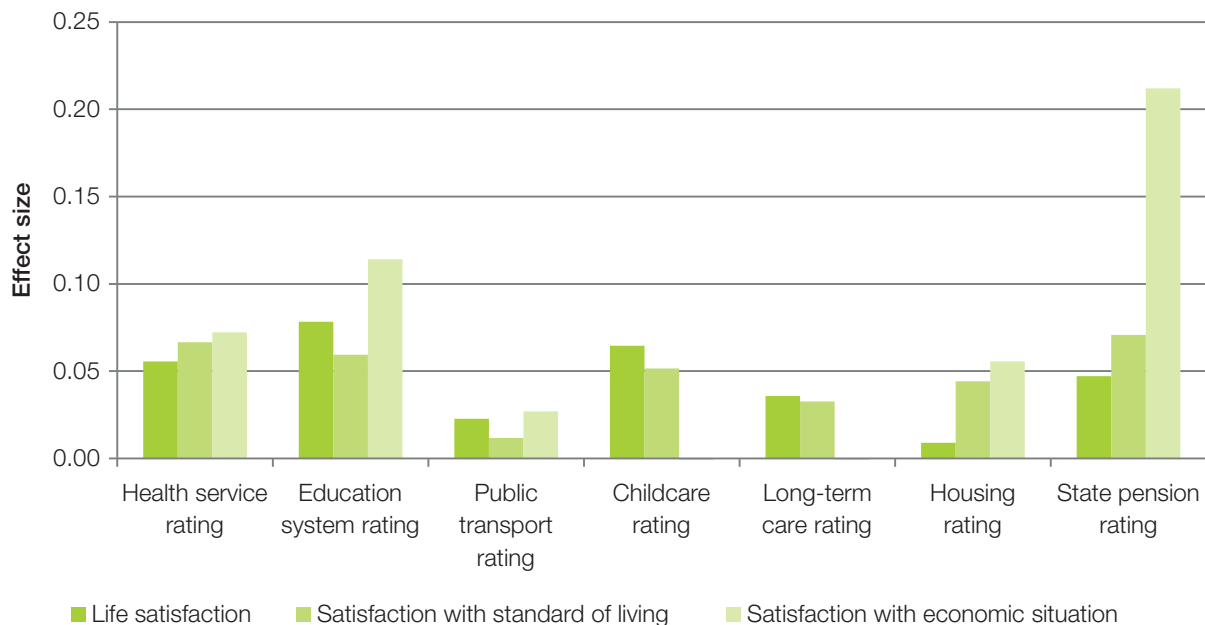
Within this domain, the analysis looks at two sets of variables – satisfaction with public services and trust in institutions.

Satisfaction with public services explains 9% of the variation in individual life satisfaction. All services were significant predictors of life satisfaction when entered separately, but housing service satisfaction ceased to be significant when all services were entered together. Education, health and childcare service satisfaction are the most important determinants of life satisfaction.

The analysis also explored the relationship between these drivers and satisfaction with the economic situation in the country,

and with the satisfaction with standard of living. While the pattern for standard of living satisfaction was not that dissimilar from overall life satisfaction, it was interesting that ratings of public services played a very different role when it came to satisfaction with the economic situation. Figure 30 shows the effect sizes for each public service on life satisfaction, satisfaction with standard of living and satisfaction with economic situation. It is worth noting that public service satisfaction explains more of the variation in satisfaction with the economic situation than with the other two variables, suggesting that it is more related to perceptions of the wider economy (for further analysis, see Eurofound, 2013b).

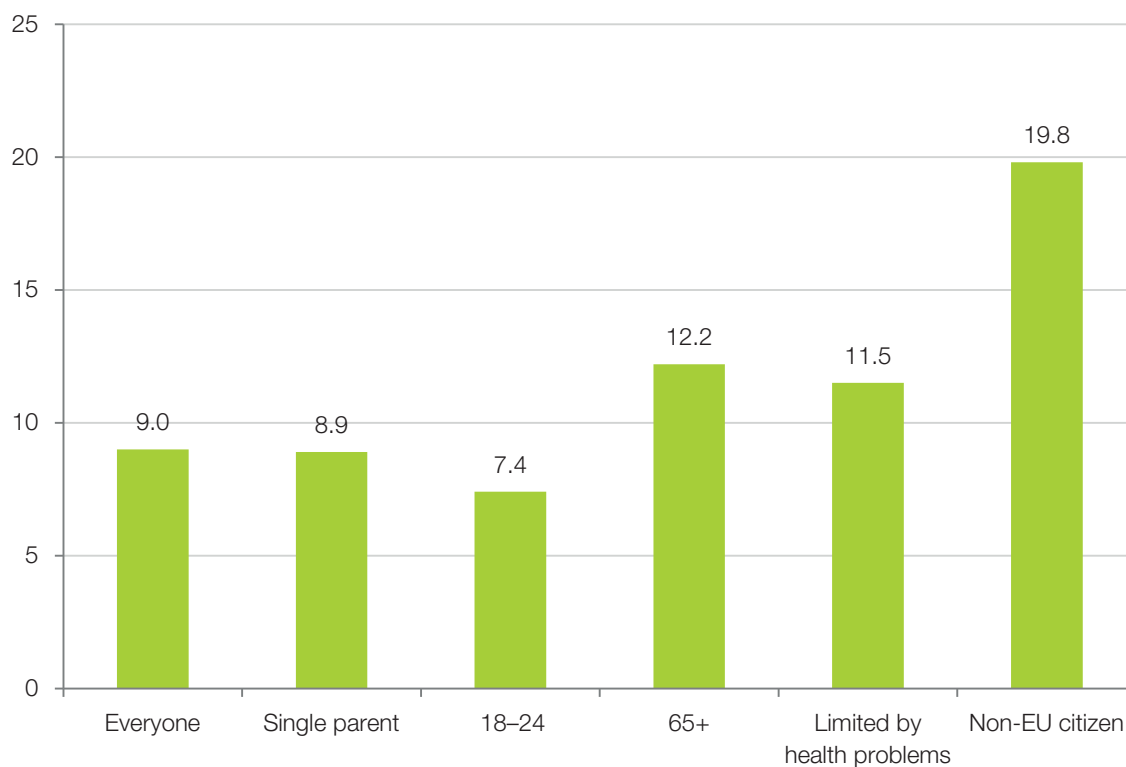
Figure 30: Effect sizes of satisfaction with public services on life satisfaction, satisfaction with standard of living and satisfaction with the economic situation (in points)



The patterns also differ for different population groups. Figure 31 shows the amount of variation in life satisfaction explained by satisfaction with public services for a selection of different groups. As can be seen, a larger proportion of the variation is explained in the cases of respondents over 65, those limited by health problems and those who do not have EU citizenship. The services that are most important also vary from group to

group. For those over 65, unsurprisingly, health and pension services are most important. For those aged 18 to 24, education services are most important. Interestingly, for those who are not EU citizens, social care services are by far the most important.

Figure 31: Amount of variation in life satisfaction (R^2 values) explained by satisfaction with public services for different demographic groups (%)



Institutional trust variables explained 8% of the variance in life satisfaction. However, in this case, two items appeared not to be important to life satisfaction – trust in the parliament and trust in the press. For example, when creating a synthetic indicator for average institutional trust excluding these two institutions, this appeared to be a slightly better predictor of life satisfaction than a synthetic indicator that included them. Of those that were significant, by far the strongest predictors

were trust in the police and trust in local authorities, suggesting that people are more affected by those institutions with which they have a more direct experience.

It is also worth noting that, when carrying out analysis at the country level, Transparency International's corruption perceptions index (2012) is the only variable that significantly predicts average life satisfaction once GDP has been controlled for.

Policy pointers

Public services are important to the well-being of the population, and particularly to those in vulnerable situations such as seriously ill/disabled people, migrants and elderly people.

Well-being may be improved by raising trust in institutions, particularly the police and local authorities. The question remains as to whether trust in these two more proximal institutions can lead to any improvement in the level of trust in more distal ones such as government and legal systems.

Natural and living environment

Crime and vandalism ↓↓↓↓	Poor drinking water ↓↓↓↓	Litter ↓↓↓↓
Noise ↓↓↓↓	Air quality ↓↓	Congestion --
Accessibility of amenities ↑↑↑↑	Urbanisation ↓↓↓↓	

Three sets of variables describing the local neighbourhood and environment were available in the survey – level of urbanisation, accessibility of various amenities and services, and a set of six neighbourhood problems. Together, they explained 4% of the variation in life satisfaction. This is lower than some of the other variable sets, but it is worth noting that this domain featured less ‘subjective’ variables, and therefore does not suffer

from the positivity biases that might drive up the correlations in other domains.

Figure 32 presents the differences from mean life satisfaction for respondents living in different levels of urbanisation for both the EU15 and the newer EU12 countries.

Figure 32: Differences from mean life satisfaction of people living in different urban categories (in points)



In the EU15, living in cities and medium-to-large towns was associated with a loss of life satisfaction of 0.3 points compared with living in the open countryside.²⁶ Even so, it is

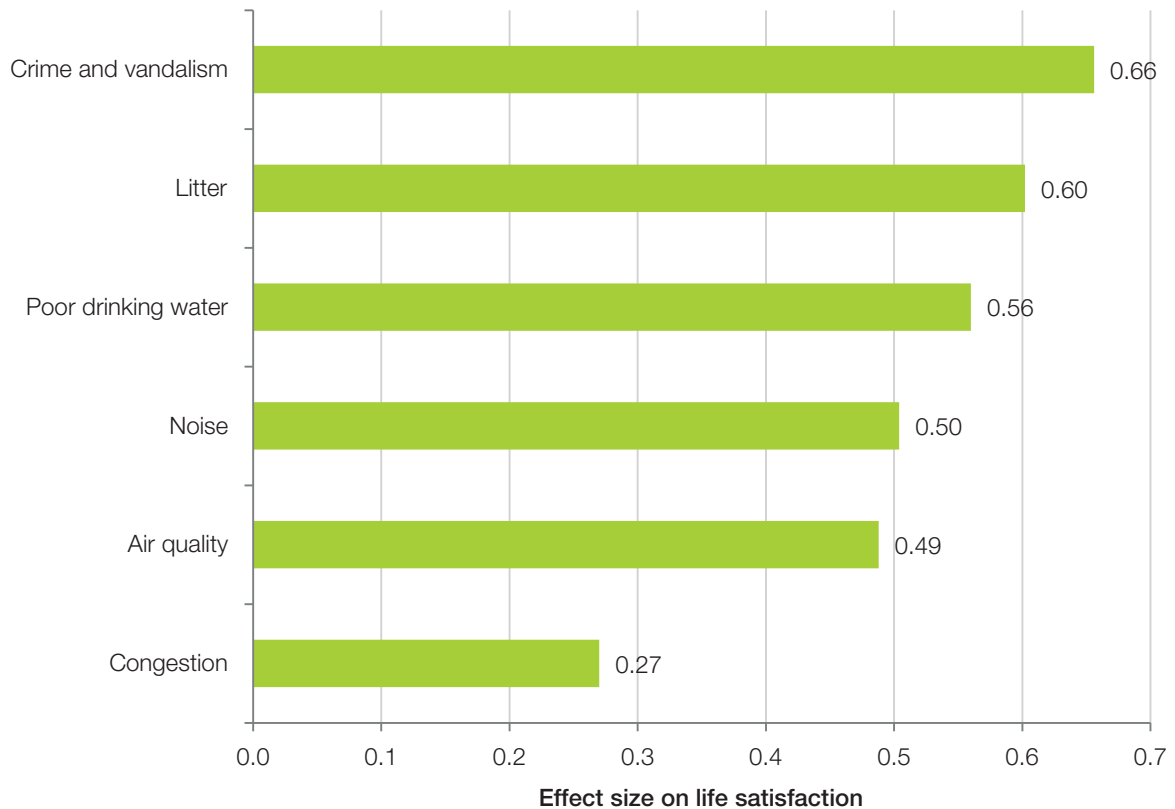
important to note that the urban/rural differences were not significant in the newer EU12 countries.

²⁶ The graph presents the results after controlling for other variables such as income and employment. However, even if one does not control for these variables, but only controls for basic demographics, such as age and marital status, one finds a significant advantage for those living in villages/small towns and the open countryside.

Figure 33 presents the differential impact of each of the six local neighbourhood problems. The figures shown represent the difference one would expect between someone reporting no problems and someone reporting major problems in each of the six areas.

As can be seen, and as noted in the 'Economic and physical safety domain', the biggest impact on life satisfaction comes from problems with crime and vandalism (almost 0.7 points).

Figure 33: Effect sizes on life satisfaction of various neighbourhood problems (in points)

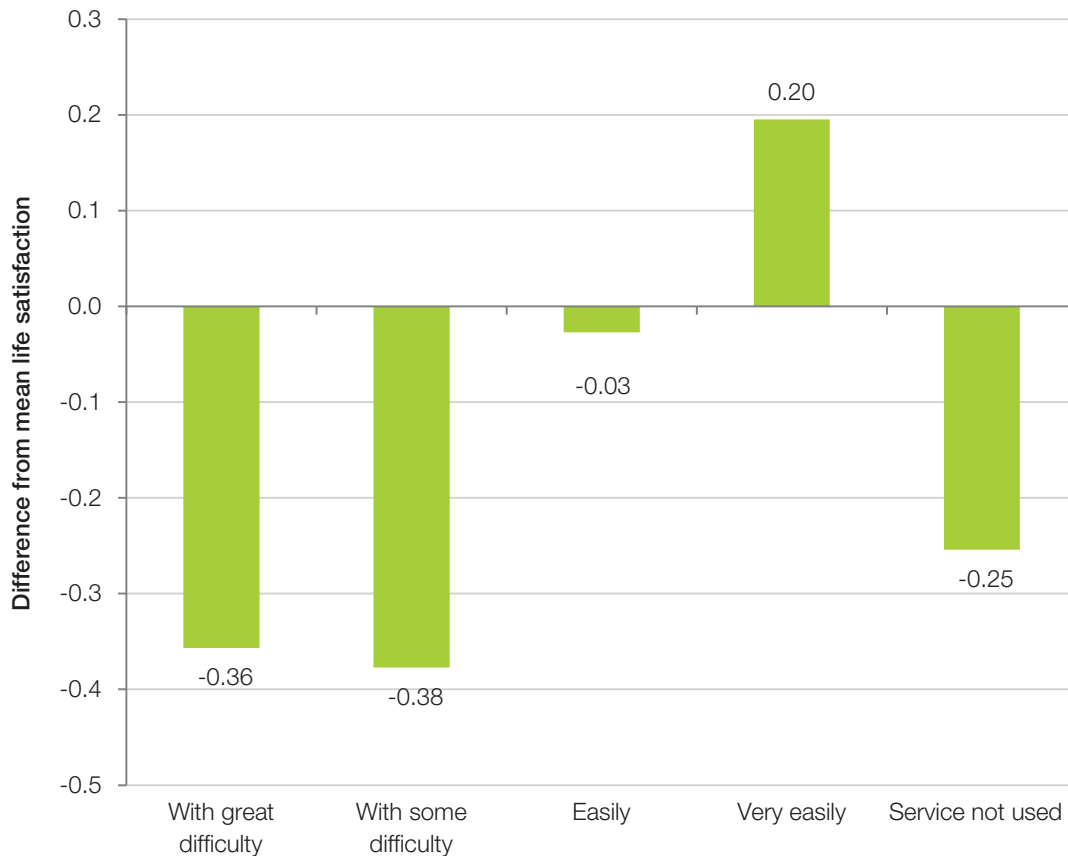


While the impact from congestion is significant when considered on its own, when it is included in a regression with any other item from this set, it stops being significant. This suggests that it does not have any independent impact on life satisfaction and that the correlation is simply due to response biases.

The other set of items in this section were five questions on accessibility of amenities. Combined, they represent a

significant predictor of life satisfaction. Of the five amenities, the largest predictor of life satisfaction was accessibility of recreational or green spaces. Figure 34 shows that, all else being equal, people who can access such amenities only with difficulty had a level of life satisfaction 0.6 points lower than people who can access them very easily. Overall, 13% of respondents had difficulty accessing such amenities across Europe, ranging from 24% in Greece to 3% in Denmark.

Figure 34: Differences from mean life satisfaction for people with different levels of access to recreational or green spaces (in points)



The other two amenities that played a significant role were banking services and public transport. Accessibility of culture and postal services were significant when entered into

regression separately, but not when the items were entered into regression simultaneously with the other items in this set.

Policy pointers

The data highlight the independent positive effect of living in more rural areas. This may be used in a couple of ways. First, the findings convey the importance of maintaining opportunities for living in rural areas – particularly in terms of ensuring there are employment opportunities and access to amenities. Secondly, the analysis highlights the opportunity to identify the elements of rural life that increase people’s well-being, to see if lessons can be learned for more urban contexts. Access to green space and sense of community are likely to play a role in this.

The data also provide clear indicators of the kind of neighbourhood problems that influence well-being, with crime and vandalism being the most important. This provides some indications towards funding priorities for local and central governments, particularly in a context of constrained public budgets. That said, litter, water and air quality are all significant predictors of life satisfaction. Finally, the data also show that accessibility of amenities is important – local authorities have a role, through planning policy, to ensure that amenities such as banking facilities and public transport are available to all.

Effect sizes compared to income

The sizes of many of these effects can be compared with the size of income effects, by comparing B coefficients, as shown

in Table 10. So, for example, being a single parent has the same negative impact on life satisfaction as having an income 25% lower. Not having any contact with friends (compared to having contact once a week) is associated with a loss in life satisfaction equivalent to having an income 75% lower, that is dividing one's income by four.

Table 10: Impacts on life satisfaction of various factors equivalised to percentage loss in income

	Equivalent income loss
Deprivation – six items	99%
Having five housing problems	89%
Deprivation – two items	81%
Being unemployed (versus having a job)	80%
Never having contact with friends (versus at least once a week)	75%
Being separated or divorced	62%
Being widowed	60%
Deprivation – one item	56%
Never having been married	54%
Being unable to work due to long-term illness or disability	51%
Never participating in sports (versus at least once a week)	48%
Being employed (versus being retired)	46%
Living in a larger urban area (versus in the open countryside)	45%
Not having close support on one of five items	42%
Having one housing problem	35%
Arrears – one item	29%
Being a single parent	25%
Living in a larger urban area (versus in a village or small town)	24%
Never attending religious services (versus at least once a week)	20%

Notes: Based on B coefficients for regression on life satisfaction including a range of variables. B coefficient for income derived in a separate regression. Logarithm of income equivalised, and PPP used.

CHAPTER 5

Protective factors

Protective factors

For some variables, there is a strong and well-established negative relationship with subjective well-being. For example, low income, unemployment, divorce and poor health are known to be some of the most important drivers of low well-being (Stoll et al, 2012; Dolan et al, 2008). However, there may be other factors that can 'protect' against the negative impact of these conditions. For example, the negative impact of a very low income may be mitigated somewhat if an individual has strong social relationships. Such interactions provide policymakers with both a more nuanced picture of which population groups suffer low well-being and an indication of which factors may protect these groups from low well-being. This chapter explores whether there is empirical evidence of these protective factors.

To do this, the analysis first looked to the well-being literature to generate some hypotheses of protective factors. These hypotheses were then tested by carrying out regressions that include interaction variables (for example, Extremera et al, 2009; Boyce et al, 2010; Hurley and Kwon, 2012; see Annex 2). By carrying out this kind of analysis, it is possible to see whether the effect of an independent variable (such as income) on life satisfaction is moderated or modified by the effect of another variable (such as strong social relationships).

This involved testing several hypotheses for protective factors:

- that lack of debt, job security, strong family and social relationships, being married and active leisure time are protective against a low income;
- that being married, volunteering, strong family and social relationships and active leisure time are protective against being unemployed;
- that a high level of satisfaction with the quality of national health services, strong family and social relationships and

being married are protective against having a physical or mental health problem, illness or disability;

- that strong family and social relationships, being employed and active leisure time are protective against being divorced.

The chapter only reports those results that were found to be significant. If a hypothesis is not discussed, this means that the variable was not found to be significantly protective.

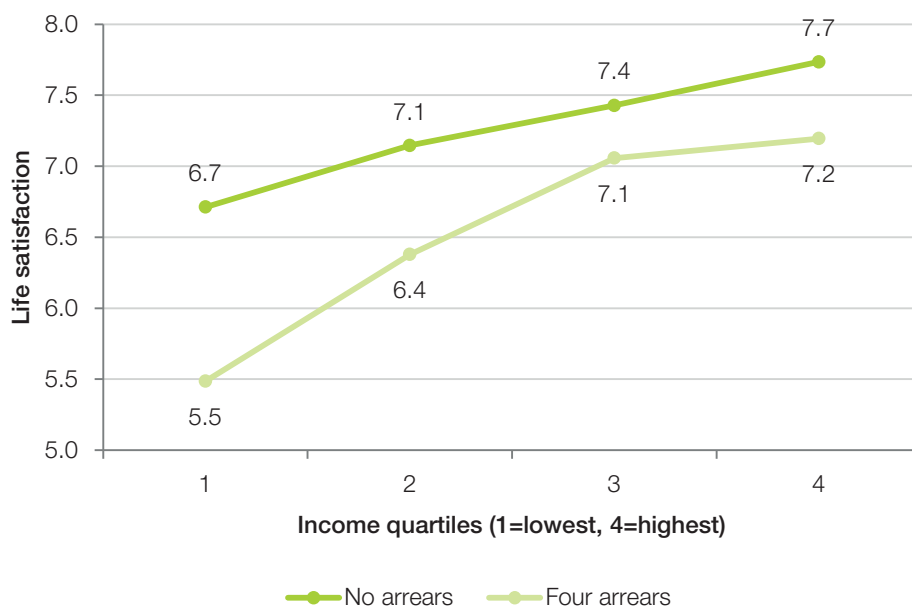
Protective factors against the well-being impact of low income

No debt

The analysis involved testing the hypothesis that not having any debt may be a protective factor against low income. Debt is a well-known cause of low mental health; for example, credit card debt is associated with lower well-being (Brown et al, 2005; Cummins et al, 2004), and Chapter 4 highlighted its detrimental impact on life satisfaction.

Figure 35 shows that not being in debt did appear to be a protective factor against low income. People in the lowest income quartile who reported that they had four types of arrears had an average life satisfaction of 5.5 out of 10, whereas those in the same income quartile who had no arrears had an average life satisfaction of 6.7 out of 10. That is a 1.2-point difference. By the time one reaches the highest quartile the detrimental impact of debt is less important – there is a difference of 0.5 points in life satisfaction between those in the highest income quartile who have no debt (7.7 out of 10) and those who have four types of debt (7.2 out of 10).

Figure 35: Life satisfaction for different income quartiles, for respondents with no arrears versus those with four arrears (scale of 1–10)



The protective relationship of having no debt is visible even when compared to people who report only one count of debt. For those in the bottom income quartile, even just having arrears of one type reduces life satisfaction by 1.2 points. This strongly highlights the importance of having policies that particularly help people on low incomes to avoid falling into debt of any kind. Policies like this may help to mitigate the negative well-being impact already associated with a low income. Meanwhile, the effect of debt on people with higher incomes, while still important, is less dramatic.

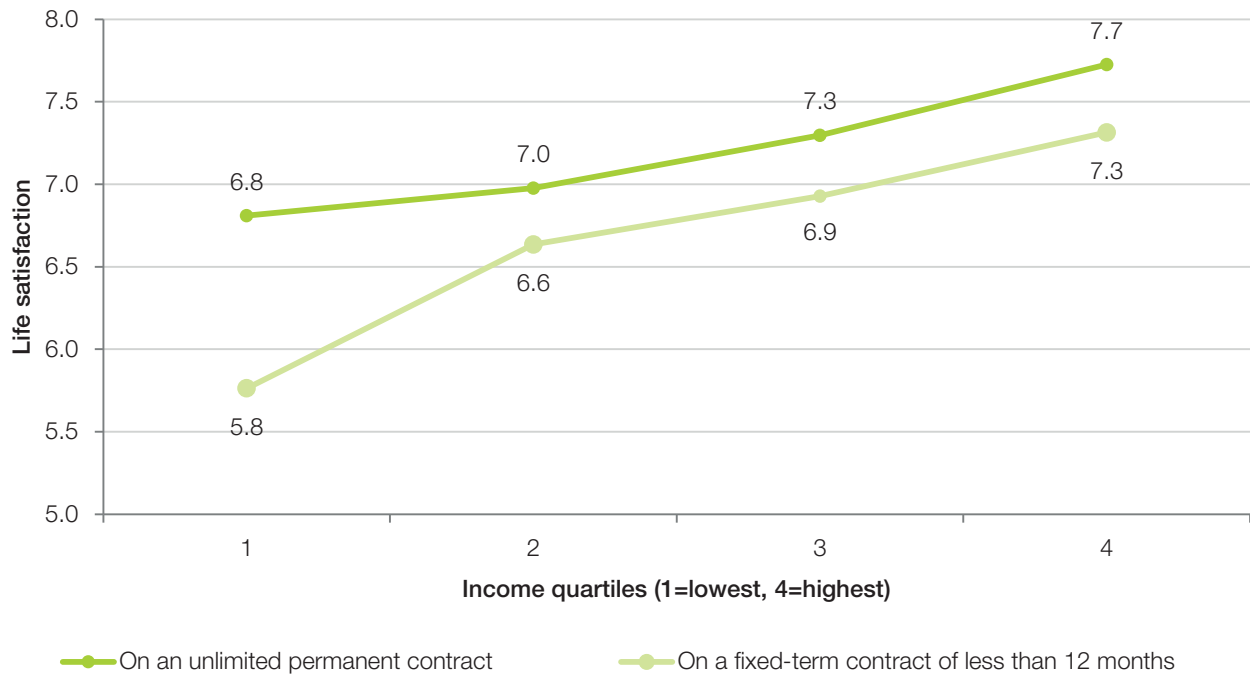
Job security

Well-being research has already shown that job insecurity is linked to low well-being (Blanchflower and Oswald, 2011), but could high levels of job security be protective against the well-being impact of low incomes? If so, this may point to policies that prioritise security and stability at work for those on lower wages.

Figure 36 illustrates how a more secure employment contract can protect people from the negative impact on life satisfaction of having a low income. Those people in the lowest income quartile with an unlimited permanent contract reported an average life satisfaction of 6.8 out of 10. People in the same income quartile but who were on a fixed-term contract of less than a year reported an average life satisfaction of 5.8. That is a 1.0-point difference in life satisfaction. Interestingly, the life satisfaction of people in the lowest income quartile who were on a fixed-term contract of less than a year was actually lower than the life satisfaction of those people in the same income quartile who did not have a written contract (which was 6.6 out of 10).

This evidence supports policies that aim to promote permanent and fixed-term contracts of more than a year, and raises concerns about policies that may increase the volume of workers on temporary contracts. There is potential for policies to make a huge difference.

Figure 36: Life satisfaction for different income quartiles, for respondents on a permanent contract versus those on a temporary contract of less than a year (scale of 1–10)



Strong family relationships

There is plenty of evidence that good social relationships are associated with higher levels of life satisfaction, a finding replicated in the analysis of the second round of the EQLS (Eurofound, 2010) and in analyses of the US General Social Survey, the German Socio-Economic Panel and the World Values Survey (Bartolini and Bilancini, 2010). There is also some evidence to suggest that good social relationships can buffer the negative impact of stress (Huppert 2004; House et al, 1988).

The testing here focused on the hypothesis that good family and social relationships may be a protective factor among those people with a low income.

Figures 37 and 38 show that more frequent face-to-face contact with parents and more frequent face-to-face contact with siblings were both factors that protected against the effects on well-being of having a very low income.²⁷ Seeing family often can help to reduce the negative impacts of a low household income. This has implications for economic policies that encourage high levels of geographic mobility and flexibility in the workforce. Interestingly, the frequency of people's face-to-face contact with friends or neighbours, which was one of the stronger predictors of life satisfaction in Chapter 4, did not offer a specific protective effect for those on low income (it contributes to life satisfaction for people in all income quartiles).

²⁷ Note that the question specifically asks respondents to exclude contact with family members with whom they actually live.

Figure 37: Life satisfaction for different income quartiles, for different frequencies of face-to-face contact with parents (scale of 1–10)

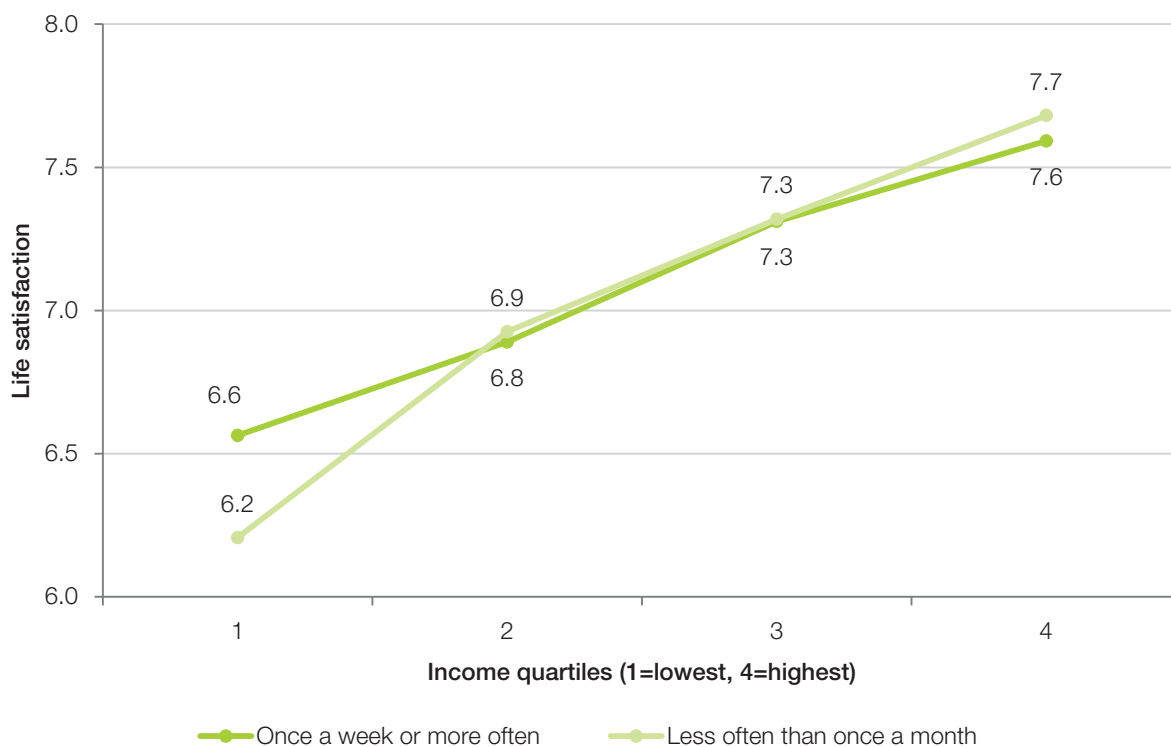
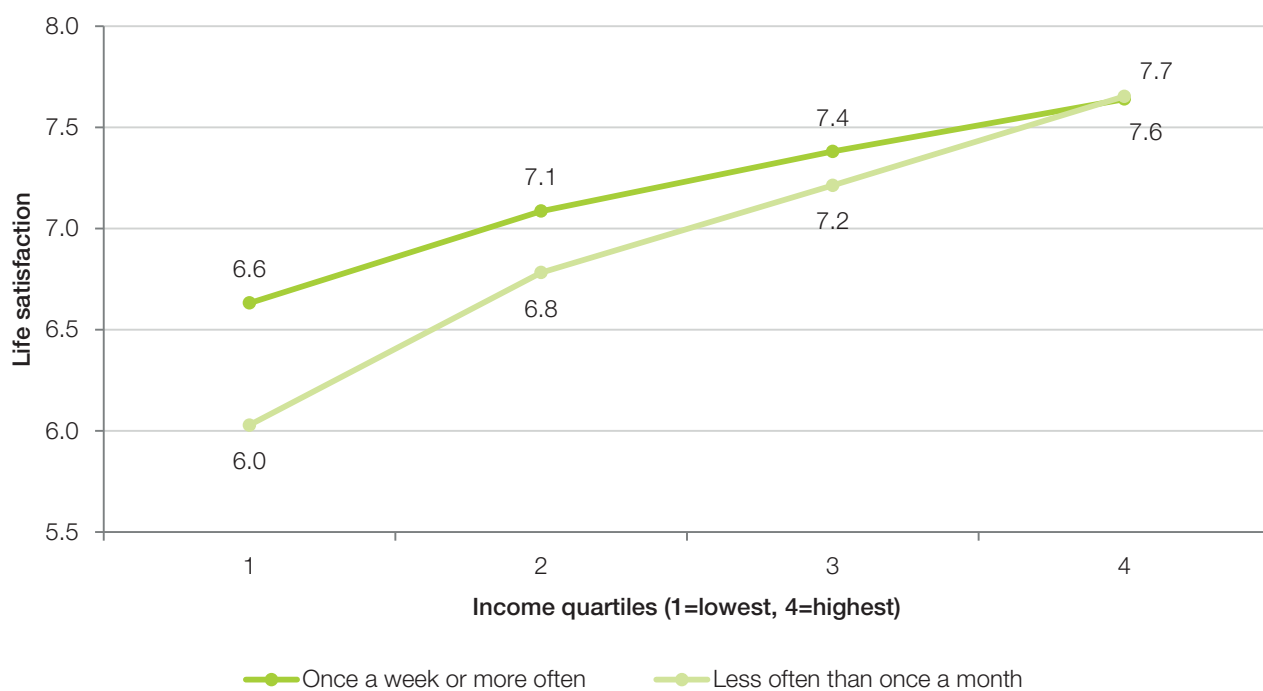


Figure 38: Life satisfaction for different income quartiles, for different frequencies of face-to-face contact with siblings (scale of 1–10)



Activities

Participation in sports or physical exercise, and participation in social activities of a club, society or an association, were significantly protective against low income, though the effects were less striking.

Protective factors against the well-being impact of illness

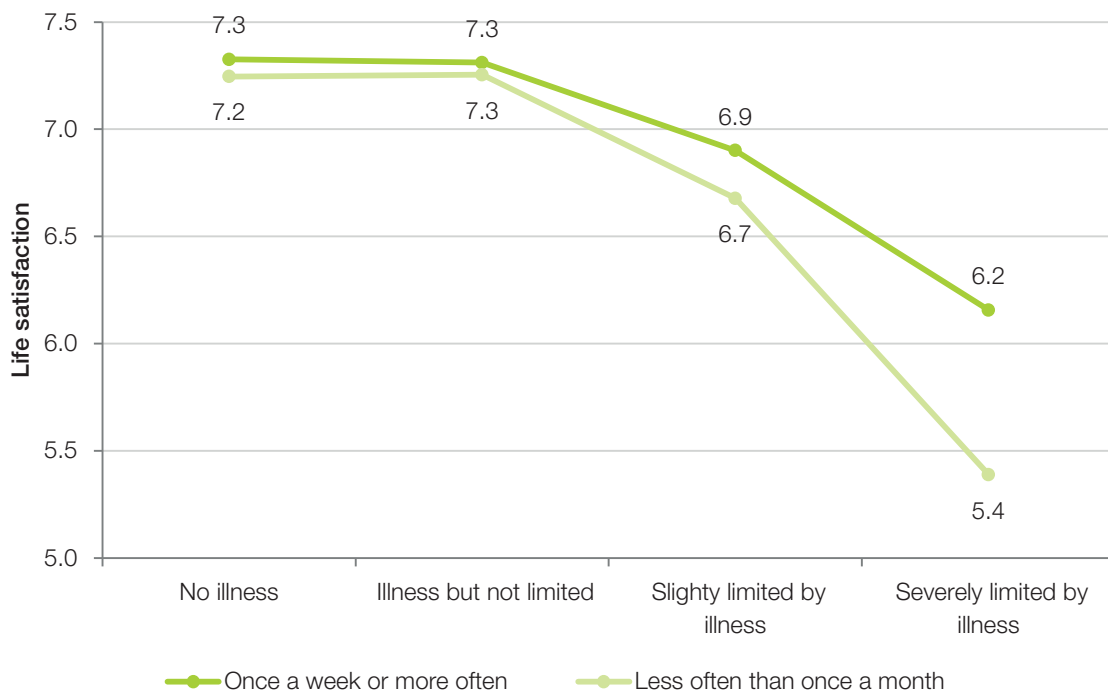
Strong family and social relationships

For the same reasons as with low income, the analysis tested whether frequent face-to-face contact with friends

and family are protective factors when an individual is severely limited by physical or mental problems, illnesses or disability.

The analysis showed that there is a significant protective effect of face-to-face contact with siblings, friends and neighbours, as well as being married/living with a partner, on the life satisfaction of those people who are severely limited by illness. For example, Figure 39 shows that the life satisfaction of someone severely limited by illness but who has face-to-face contact with their children once a week or more is 0.8 points higher than someone with the same level of illness but who only sees their children less than once a month. For people who have no illness, this difference is only 0.1 points.

Figure 39: Life satisfaction for different degrees of limitation by illness, and for different frequencies of face-to-face contact with one’s children (scale of 1–10)



Similarly, those people who are severely limited by illness who have more frequent face-to-face contact with their sibling(s) have a life satisfaction 0.3 points higher than people with the same illness level but who do not see their sibling more than once a month. Frequent contact with friends and neighbours follows a similar pattern and can be translated into a significant

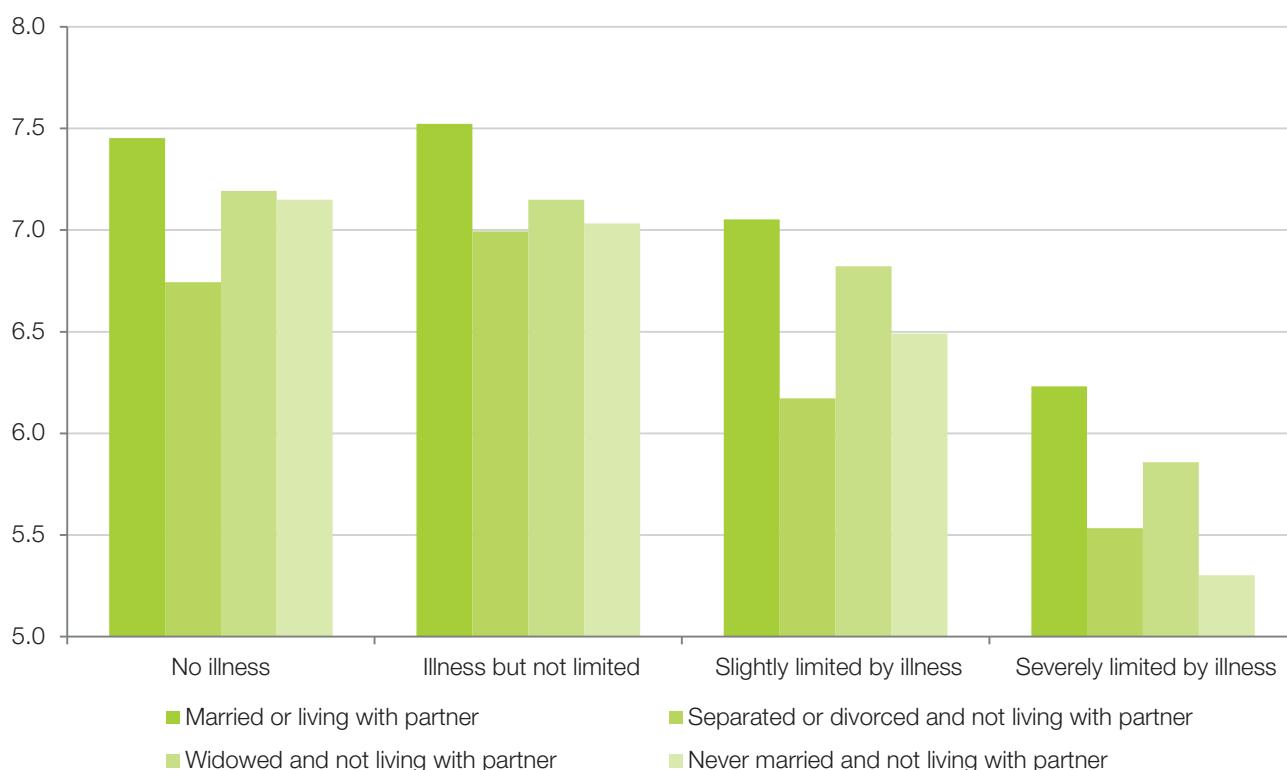
benefit in life satisfaction terms of 0.9 points for those severely limited by illness.

These findings point to the importance of frequent face-to-face contact with children, siblings and friends and neighbours for those people who have a severe physical or mental problem,

illness or disability. This has implications not only for economic policies that impact on geographic mobility of the workforce, but also points to policies that support the kind of informal care and support that many people may be providing to friends and families with illnesses.

Figure 40 shows the protective well-being effect that being married or living with a partner can give to people who are severely limited by illness.

Figure 40: Life satisfaction for different degrees of limitation by illness, and different marital statuses (scale of 1–10)



The mean life satisfaction of people severely limited by illness is 6.2 if they are married or living with a partner compared to 5.3 if they have never been married and are not living with a partner and 5.5 if they are separated or divorced and not living with a partner. This is a difference of 0.9 points in life satisfaction between those who are married and those who have never been married, and 0.7 points between those who are married and those who are separated or divorced. It is important to emphasise that the married category includes people who are not married but are living with a partner, and the three other categories include people who are not living with a partner. This seems to suggest that it is not being married as such that protects against the negative well-being effects of poor health, but having the kind of close support associated with living with a partner.

For those people who have no illness, the ‘benefits’ of being married are not as great: there is a difference of 0.3 points in life satisfaction between those people with no illness who are

married, and those who have never married and do not live with a partner.

Protective factors against the well-being impact of unemployment

Although analyses were carried out for a range of factors – being married, volunteering, participation in social activities, and frequent face-to-face contact with family, friends and neighbours – none were significantly protective against the very large negative well-being impact of being unemployed. This finding in itself has important policy implications: if there is no way to temper the destructive impact of unemployment on well-being, then minimising unemployment must remain a priority in national and European employment policy.

Protective factors against the well-being impact of divorce

When testing the hypotheses that strong family and social relationships, being employed, and active leisure time were protective against the well-being impact of being divorced, it emerged that the only protective factor that was significant was participation in social activities.

For those who are divorced and not living with a partner, the difference between participating in the social activities of a

club, society or an association once a week or more, versus less frequently than once a month is equivalent to a difference in life satisfaction of 0.9 points. The analysis also showed that this level of social participation was a protective factor for those who are widowed and not living with a partner.

Additional analysis was conducted to test whether being employed and more frequent contact with friends and neighbours, parents, children and siblings were significantly protective against the well-being impact of being divorced but there was no evidence to suggest that this was the case.

Policy pointers

The policy pointers pertaining to this chapter relate to groups that are already particularly vulnerable to experiencing low levels of well-being, because they have low incomes, are unemployed, have physical and/or mental problems, illnesses or disabilities, or are divorced.

With regard to policies targeted at these groups, the well-being evidence points towards interventions such as:

- policies that specifically target people on low incomes to help them to avoid getting into debt;
- providing a framework that works towards ensuring less precarious employment for those on low incomes;
- fostering opportunities for physical activity, for example through active transport interventions;

- setting up clubs and societies and prioritising policies that increase accessibility for all members of the community;
- considering the effects of geographical labour mobility on social networks, particularly family networks, and particularly the likely effects on the frequency of face-to-face contact with family. Face-to-face contact with family appears to protect against many of the factors that decrease well-being among the most vulnerable groups in society.

In all cases, as with other policy areas, the well-being evidence presented here needs to be considered alongside other effects, such as those on productivity and unemployment rates.

It emerged from the analysis that there were no protective factors against the negative well-being impact of unemployment, which emphasises the need to prioritise policies that reduce unemployment.

CHAPTER 6

Changes in well-being since 2007

Changes in well-being since 2007

The period leading up to the third wave of the EQLS in 2011 represents the most marked economic downturn in Europe since the Great Depression, with declining industries, rising unemployment rates and mounting public debt. Austerity programmes are in place everywhere. One might expect these events to have had a sharp impact on people's well-being. However, as Eurofound (2009) has argued, subjective well-being measures may not be the most sensitive to economic conditions. Indeed, while some measures of subjective well-being show significant falls in many countries, life satisfaction has risen overall in Europe since 2007, including in some countries that have supposedly been worst hit by the economic crisis, such as Spain and Italy.

This chapter starts by presenting background macroeconomic data for Europe as a whole, and then for different countries. It then presents a picture of the changes in subjective well-being in Europe between 2007 and 2011, exploring different patterns for different countries and country clusters (as defined in Chapter 2), different measures and for different demographic groups.

Efforts are then made to weave these two types of data (macroeconomic and subjective) together to build an understanding of why well-being has changed in the way it has where it has.

Macroeconomic and socioeconomic development: 2007–2011

The financial and economic crisis reached its peak in 2009 when the GDP of the EU27 went down by 4.3% (compared with the previous year), transforming the real economy visibly and forcing most European Member States to radically restructure public finances. Europe's economy has drastically changed between the two EQLS waves in 2007 and 2011: unemployment, perhaps the most visible factor of the crisis, rose from 7.2% to 9.7%; the real GDP growth rate reached only 1.5% in 2011 compared to 3.2% in 2007; total social expenditure of the EU27 reached 29.3% of GDP compared to 26.1%

in 2007; and the total EU27 public deficit grew from 0.9% of GDP to 4.4% of GDP.

Table 11 shows how these indicators have changed in each country. In the social democratic countries, the economic impact of the crisis seems to be rather moderate: the GDP growth rates decreased on average by 1.4 percentage points, while unemployment rates increased slightly, as did the risk of poverty and social exclusion. Net disposable household income grew by between 2.5% in the Netherlands and 21.5% in Sweden.

The same is true for the corporatist cluster. GDP growth rates decreased only slightly, unemployment rates even fell in Germany and remained stable in Belgium and Austria. Net disposable income increased by between 7.7% in Austria and 10.4% in Belgium.

The liberal regime shows considerable decreases of GDP growth rates, rapidly rising unemployment (up to 15% in Ireland) and also decreasing net incomes.

In both the southern European and the post-socialist liberal regime, the situation of the labour market deteriorated severely between 2007 and 2011. Unemployment rates grew by up to 13.4 percentage points in Spain and 11.5 percentage points in Lithuania. However, with the exception of Greece all countries of the southern European and the post-socialist liberal regime show a moderate to slow income growth with the highest rates in Lithuania and Cyprus. The risk of poverty and exclusion, however, increased in most of the southern European and post-socialist liberal countries.

In the post-socialist corporatist countries, the situation in the labour market deteriorated slightly in most countries except Poland. In Poland, poverty was significantly reduced since 2007, but it increased in Hungary and Slovenia. The highest growth rates of net disposable income are observed in the Czech Republic (+25.7%) and Slovakia (+33.5%). Incomes also grew considerably in Poland and Slovenia, while they remained nearly unchanged in Hungary.

Finally, the 2007 accession cluster, which includes the poorest Member States (Bulgaria and Romania), shows progress on the poverty front: the risk of poverty or social exclusion declined by 11.6 percentage points in Bulgaria and by 5.6 percentage points in Romania. There are no data on net disposable income available for either country. However, gross

incomes increased considerably in Bulgaria (2007–2010) but decreased slightly in Romania. In both countries, GDP growth rates of 2007 (+6.5%) decreased in 2011 by about 4.5 percentage points. Unemployment rose in Bulgaria by 4.4 percentage points.

Table 11: Macroeconomic and socioeconomic developments in the welfare regimes, by country, 2007–2011

	GDP growth rates		Unemployment		Poverty or social exclusion		Net disposable household income
	2011	Change 2007–2011	2011	Change 2007–2011	2011	Change 2007–2011	Change 2007–2011
	% change on previous period	percentage points	% of population (15–74)	percentage points	% of population	percentage points	%
EU27	1.5	-1.7	9.7	+2.5	24.2	-0.2	4.5
Social democratic							
DK	1.1	-0.5	7.6	+3.8	18.9	+2.1	14.7
FI	2.8	-2.5	7.8	+0.9	17.9	+0.5	18.4
NL	1.0	-2.9	4.4	+0.8	15.7	0.0	2.5
SE	3.7	+0.4	7.8	+1.7	16.1	+2.2	21.5
Corporatist							
AT	2.7	-1.0	4.2	-0.2	16.9	0.2	7.7
BE	1.8	-1.1	7.2	-0.3	21.0	-0.6	10.4
FR	1.7	-0.6	9.6	1.2	19.3	0.3	8.7
DE	3.0	-0.3	5.9	-2.8	19.9	-0.7	8.5
LU	1.7	-4.9	4.8	0.6	16.8	0.9	
Liberal							
IE	1.4	-4.0	14.7	+10	NA	NA	-5.3
UK	0.9	-2.7	8.0	+2.7	22.7	0.1	-8.4
Southern European							
CY	0.5	-4.6	7.9	+3.8	23.5	-1.7	12.5
EL	-7.1	-10.6	17.7	+9.4	31.0	+2.7	-11.7
ES	0.4	-3.1	21.7	+13.4	27.0	+3.9	3.9
IT	0.4	-1.3	8.4	+2.3	28.2	+2.2	1.3
MT	1.6	-2.5	6.5	0.0	21.4	+2.0	1.1
PT	-1.6	-4.0	12.9	+4.0	24.4	-0.6	5.1
Post-socialist corporatist							
CZ	1.9	-3.8	6.7	1.4	15.3	-0.5	25.7
HU	1.6	1.5	10.9	3.5	31.0	1.6	0.9
PL	4.3	-2.5	9.6	0.1	27.2	-7.2	17.8
SK	3.2	-7.3	13.6	2.4	20.6	-0.7	33.5
SI	0.6	-6.4	8.2	3.3	19.3	2.2	10.1

	GDP growth rates		Unemployment		Poverty or social exclusion		Net disposable household income
	2011	Change 2007–2011	2011	Change 2007–2011	2011	Change 2007–2011	Change 2007–2011
	% change on previous period	percentage points	% of population (15–74)	percentage points	% of population	percentage points	%
EU27	1.5	-1.7	9.7	+2.5	24.2	-0.2	4.5
Post-socialist liberal							
EE	8.3	+0.8	12.5	+7.9	23.1	+1.1	5.3
LV	5.5	-4.1	16.2	+9.7	40.1	+4.4	0.8
LT	5.9	-3.9	15.3	+11.5	33.4	+4.7	13.4
Accession countries							
BG*	1.7	-4.7	11.3	+4.4	49.1	-11.6	36.1
RO**	2.2	-4.1	7.4	+1.0	40.3	-5.6	-1.9

Notes: NA = not available.

* For Bulgaria only gross disposable income available (2007–2010).

** For Romania only gross disposable income available (2007–2011).

Source: Eurostat database

The poor economic climate is visible in the results of the EQLS, when looking at two indicators – the number of items that households are unable to afford (the deprivation index) and the assessment of how difficult it is to make ends meet (Table 12).

Table 12 shows that the percentage of Europeans who could afford all items on the deprivation index list fell from 62% in 2007 to 55% in 2011. Meanwhile, only 25% of Europeans say that their household is able to make ends meet very easily or easily, compared with 33% in 2007.

Table 12: Deprivation and making ends meet, 2007–2011

Deprivation	2007	2011	Difference % points
Deprivation	% of population		
No item	62.2	55.0	-7.2
1–3 items	28.1	31.6	3.5
4–6 items	9.7	13.5	3.8
<i>Mean number of deprivations</i>	1.0	1.2	0.3
Making ends meet	% of population		
Very easily / easily	33.1	25.3	-7.8
Fairly easily / with some difficulty	53.7	57.6	3.9
With or with great difficulty	13.3	17.1	3.8
<i>Mean score</i>	3.1	3.4	0.2

Source: EQLS, 2007 and 2011

Europeans were also less optimistic in 2011. Some 26% strongly disagreed or disagreed when asked if they were optimistic about the future, which was four percentage points higher than in 2007. Meanwhile, 34% of the European population said that the financial situation of their household was worse than 12 months previously, while only 11% said that it was better now. Similarly, around 30% expect their financial situation to deteriorate for the 12 months to come, while 15% expect the situation to improve.

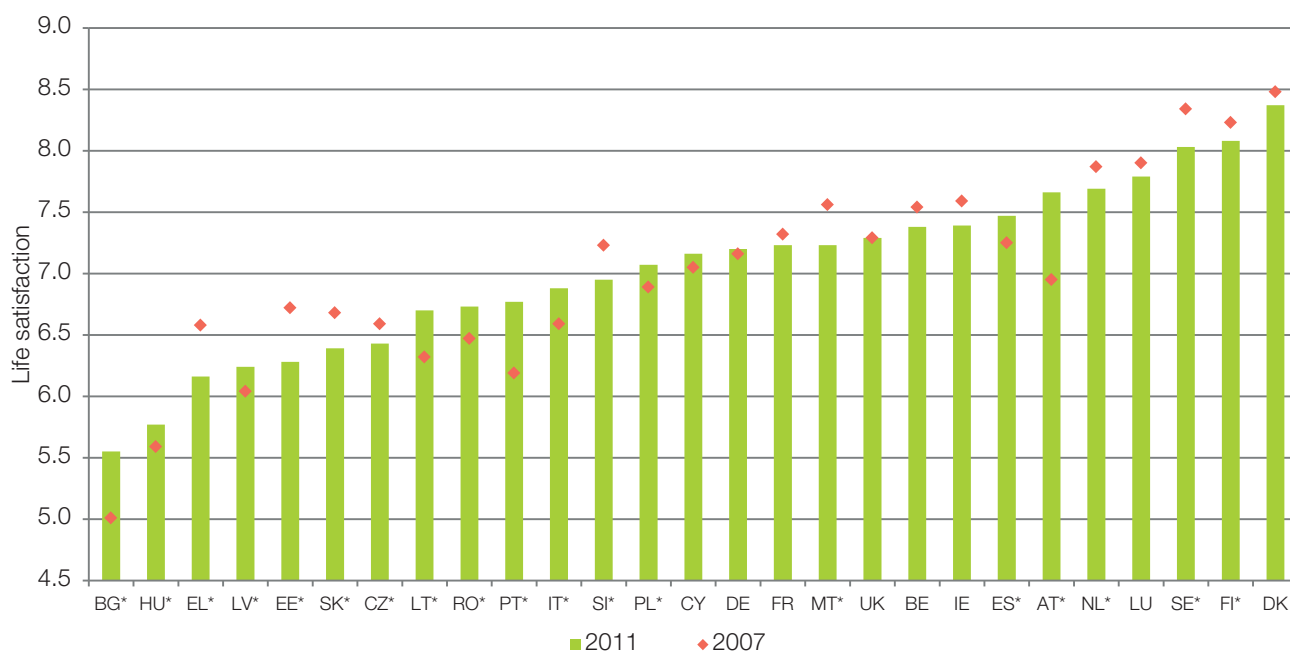
Changes in well-being since 2007

How do these changes compare with changes in subjective well-being? Figure 41 shows life satisfaction in 2007 and 2011.²⁸ Overall, life satisfaction rose across Europe, from 7.0 in 2007 to 7.1 in 2011. However, there were different patterns for different countries. The eight countries with the highest average life satisfaction in 2007 all saw drops in 2011. In four cases

(Sweden, Finland, the Netherlands and Malta), these drops were significant. This was despite the relatively benign economic climate in these countries. However, at the same time, many countries that previously had lower levels of well-being (Bulgaria, Hungary, Italy, Latvia, Lithuania, Poland, Portugal and Romania) have seen their life satisfaction increasing. In some newer Member States (for example, Bulgaria, Latvia, Lithuania and Poland), this represents the continuation of a trend that had begun before 2007. In the cases of Italy and Portugal, as well as Spain (which also saw a significant increase in life satisfaction), the rise happened despite apparently severe economic difficulties.

Overall, however, there are mild correlations between the changes in life satisfaction for each country and the changes in macroeconomic conditions – the countries that have suffered the biggest deteriorations tending to be the ones that saw decreases in life satisfaction, or the smallest increases.²⁹ For example, the three countries whose GDP growth rates fell most sharply (Greece, Slovakia and Slovenia) all suffered significant declines in life satisfaction.

Figure 41: Life satisfaction as measured in 2007 and 2011, by country (scale of 1–10)



Note: * The change is significant at the 0.05 level.

In Table 13, the data also include changes in other subjective well-being outcomes and material deprivation for all EU countries clustered by welfare regime. When life satisfaction is put alongside other well-being indicators, the picture for Europe looks less healthy. Overall, happiness decreased across Europe, while the social exclusion index rose. There was no significant change in the WHO-5 index in either direction.

Furthermore, if one creates a synthetic indicator combining the happiness measure and life satisfaction, there was no significant change either. In other words, subjective well-being was stagnant in Europe.

Looking at the data by country, a few clear winners appear – specifically Denmark, Austria, Italy, Portugal, Bulgaria and

²⁸ See Eurofound (2013c) for an analysis of the change from 2003 to 2007.

²⁹ The correlation between change in life satisfaction and change in GDP growth rate was $R = 0.31$, and between change in life satisfaction and change in poverty rate it was $R = -0.45$.

Romania. These countries all see significant improvements in some or all areas of subjective well-being, without seeing any concomitant falls. Poland also does not suffer any significant fall in well-being, though it only sees a significant increase in life satisfaction.

At the other end of the spectrum, Finland, the Netherlands, Sweden, Belgium, Luxembourg, the UK, Greece, Malta, the Czech Republic, Slovenia, Slovakia, and Estonia all suffer significant falls in at least two measures. In the cases of the Netherlands, Sweden and Greece, there are significant drops in well-being in all measures. Meanwhile, Germany and France fare reasonably well, each seeing a significant fall in only one subjective well-being measure.

Looking at the country clusters, the social democratic regime sees a significant fall in all four well-being measures. The corporatist, liberal, post-socialist corporatist and post-socialist liberal welfare regime countries also fare poorly overall. The only country cluster that does well overall is the 2007 accession regime (Bulgaria and Romania). Surprisingly, southern

Europe also does well in terms of life satisfaction and the WHO-5, though it suffers a significant increase in perceived social exclusion, as do most parts of Europe.

How do these patterns compare with the macroeconomic story? Two anomalies are most striking. First, there have been consistent falls in subjective well-being in the social democratic countries (with the exception of Denmark) despite a relatively benign economic climate. Most notable in this respect is Sweden, which saw a decrease in life satisfaction of 0.3 points, despite a 21.5% increase in median household income, and the fact that the growth rate in 2011 was actually slightly higher than that in 2007. As has been suggested elsewhere, this may be the result of *perceived* dangers/risks of the economic crisis (Eurofound, 2012). However, it may also reflect other changes in social democratic regimes not covered by these data, such as a new increase in economic inequality in the Nordic countries (OECD, 2011). Secondly, the severe economic problems in southern Europe are not reflected in the subjective well-being patterns – which are generally positive in the region (with the exception of Greece).

Box 2: A question of survey design

Why has happiness fallen more consistently than life satisfaction? One potential explanation may unfortunately be related to questionnaire design. Responses to the overall life satisfaction question are influenced by what questions come before in the survey. In the 2007 EQLS, life satisfaction directly followed the social exclusion index items, which are all negatively worded. In 2011, however, a question on feeling close to people in one's local area was inserted between the social exclusion index questions and the life satisfaction question. This positively worded question might have reset people's responses, meaning that they responded more positively to the life satisfaction question. This change in response bias might have offset the fall in well-being that was seen in other indicators such as the happiness question.

Table 13: Changes in four subjective well-being measures and reported material deprivation, by country and country cluster, 2007–2011

	Overall life satisfaction	Happiness	WHO-5 index	Social exclusion index	Deprivation
Social democratic regime					
DK	-	-	↑	↓	↑
FI	↓	↓	-	-	-
NL	↓	↓	↓	↑	↓
SE	↓	↓	↓	↑	↑
Corporatist regime					
AT	↑	↑	↑	↓	-
BE	↓	↓	-	-	↑

	Overall life satisfaction	Happiness	WHO-5 index	Social exclusion index	Deprivation
DE	-	-	↓	-	-
FR	-	↓	-	-	↑
LU	-	↓	-	↑	-
Liberal regime					
IE	↓	↓	↓	-	↑
UK	-	↓	↓	-	↑
Southern European regime					
CY	-	-	↑	↑	-
EL	↓	↓	↓	↑	↑
ES	↑	-	-	↑	↑
IT	↑	-	↑	-	↑
MT	↓	↓	↑	↑	-
PT	↑	↑	↑	-	↑
Post-socialist corporatist regime					
CZ	-	↓	-	↑	↑
HU	-	-	↓	-	-
PL	↑	-	-	-	↑
SI	↓	↓	↓	-	-
SK	↓	↓	-	-	↑
Post-socialist liberal regime					
EE	↓	↓	-	↑	↑
LT	↑	↓	-	-	-
LV	↑	↓	-	-	-
Accession countries					
BG	↑	↑	↑	↓	-
RO	↑	-	↑	↓	-
Social democratic regime					
Social democratic regime	↓	↓	↓	↑	↑
Corporatist regime					
Corporatist regime	-	↓	↓	-	↑
Liberal regime					
Liberal regime	-	↓	↓	-	↑
Southern European regime					
Southern European regime	↑	-	↑	↑	↑
Post-socialist corporatist regime					
Post-socialist corporatist regime	-	↓	-	-	↑
Post-socialist liberal regime					
Post-socialist liberal regime	-	↓	-	-	↑
Accession countries					
Accession countries	↑	-	↑	↓	-

Note: All changes shown are significant at the 0.05 level. Green = positive change, red = negative change

Meanwhile, in central and eastern European countries, the patterns seem more coherent. Romania and Bulgaria have seen improving living conditions, and this has been matched by increasing subjective well-being. Meanwhile, the post-socialist liberal countries have suffered considerably from the crisis, and this is matched by generally declining subjective well-being.

The analysis also looked at changes in satisfaction with various domains of life for Europe as a whole (Table 14). Scores for

satisfaction with accommodation and with social life increased by 0.1 points, while there was no change in satisfaction in relation to two domains: education and standard of living. The mean level of satisfaction with family life and health declined by 0.1 points. In 2011, the EQLS also asked Europeans about their satisfaction with the economic situation in their country. This item shows by far the lowest average score (4.1).

Table 14: Satisfaction with various items, 2007–2011

Satisfaction with:		2007	2011	Difference
Q30	Life	7.0	7.1	0.1
Q40a	Education	7.2	7.2	0.0
Q40b	Job	7.1	7.4	0.3
Q40c	Standard of living	6.9	6.9	0.0
Q40d	Accommodation	7.6	7.7	0.1
Q40e	Family life	7.9	7.8	-0.1
Q40f	Health	7.3	7.3	-0.1
Q40g	Social life	7.2	7.3	0.1
Q40h	Economic situation	-	4.1	-

Notes: Apart from the question on 'life satisfaction' (Q30), the results are based on the responses to Q40: 'How satisfied are you with each of the following?' Figures presented are the mean scores on a 10-point scale. Apparent similarities in the table are due to rounding of figures.

Changes for different demographic groups

As well as exploring different patterns for different countries, the analysis explores how the crisis has affected different population groups. Have certain population groups been affected more by the crisis than others? Does increasing life satisfaction in transitional economies affect different age groups in different ways? The study first looks at the EU as a whole, before looking at these patterns in different country clusters.

Table 15 illustrates changes in four subjective well-being indicators for the EU27 as a whole. The pattern is consistently negative for the 18–24 age group and for the 50–64 age group. Both show deterioration in happiness and the WHO-5. The older group, furthermore, reported considerable increases in perceived social exclusion. People in the lowest income quartile also fare poorly, with significant decreases in happiness and the WHO-5, as do students. The income quartile that fares best is the third quartile, with significant increases in life satisfaction and the WHO-5, and only a small decrease in happiness.

Table 15: Changes in well-being, by demographic group, 2007–2011

	Life satisfaction	Happiness	Social exclusion index	WHO-5 index
Age category				
18–24	-	-0.1	-	-0.2
25–34	0.2	-	-	0.3
35–49	-	-0.1	0.2	0.2
50–64	-	-0.2	0.2	-0.2
65+	0.2	-0.1	-	0.3
Total	0.1	-0.1	0.1	0.1
Marital status				
Married or with partner	0.1	0.0	0.1	0.2
Separated or divorced	0.3	0.1	-0.2	0.4
Widowed without partner	0.4	0.1	-0.2	0.2
Never married and no partner	0.1	-0.1	0.1	0.0
Employment status				
At work (employee / employer / self-employed)	0.1	-0.1	-	0.1
Unemployed <12 months	0.1	0.1	-	0.2
Unemployed >12 months	0.2	-0.1	-	0.6
Unable to work	0.1	-0.2	-	-
Retired	0.2	-0.1	-	0.2
Homemaker	0.1	-0.1	0.4	0.2
In education / student	-	-0.1	-	-0.1
Other	-	-0.3	-	-
Income quartiles				
Lowest quartile	-	-0.2	-	-0.3
Second quartile	0.1	-0.2	-	-
Third quartile	0.1	-0.1	-	0.3
Highest quartile	-	-0.1	-	0.1

Note: All changes shown are significant at the 0.05 level. Green = positive change, red = negative change.

Patterns in different welfare regimes – age groups

Both improvements and deteriorations in life satisfaction affect age groups differently according to welfare regime: deteriorations in the social democratic regime were experienced mostly by the 25–34 age group, which had decreases in life satisfaction and happiness and also reported the highest increases of social exclusion, while in the liberal regime drops in well-being were the most pronounced for people in late working life aged between 50 and 64. This group saw falls in life satisfaction, happiness and the WHO-5 from 2007 to 2011. Conversely, people aged 65 and older in the liberal regime had increased life satisfaction and lowered feelings of social exclusion. In Greece, the youngest age group (18–24) and people in their early (25–34) and late (50–64) working life experienced the biggest drops in well-being.

Improvements in life satisfaction and happiness, however, were particularly reported by the middle-aged (35–49) and the old-aged group (65+) in the southern European regime. Both groups also saw significant increases in the WHO-5, while the youngest age group in the southern countries saw no changes in life satisfaction and happiness but increased feelings of social exclusion.

Positive change in life satisfaction in the Baltic countries (post-socialist liberal) is observed above all in the youngest age group (18–24), while happiness decreased for people aged 65 or older. Most pronounced increases in life satisfaction in Romania and Bulgaria (2007 accession cluster) were experienced by young people aged 18–24 and 25–34. Those in

the latter age group in the accession countries also had the biggest drops of perceived social exclusion and the largest increases of the WHO-5.

Patterns in different welfare regimes – employment status

In the southern European cluster, people at work enjoyed some of the biggest increases in life satisfaction, happiness and the WHO-5. In the 2007 accession cluster, people in education or students also experienced clear improvements in well-being. In the southern European cluster, retired people were also among those who improved their well-being considerably, with higher values of life satisfaction and the WHO-5 than in 2007. The large decrease in life satisfaction affected practically all groups in Greece.

Patterns in different welfare regimes – income

Some very interesting developments can be observed by looking at income quartiles. Looking at Europe overall, there is an indication that the crisis was having a differential effect on the well-being of people in different income quartiles – with improving well-being for the third quartile and the largest deterioration for people in the bottom quartile. Looking at different country clusters (Table 16), this pattern is particularly characteristic of two country clusters – the liberal countries and southern Europe (including Greece).

Table 16: Changes in well-being, by country cluster and income quartile

		Social democratic regime	Liberal regime	Southern regime	Post-socialist liberal regime	Accession countries	Greece
Measure	Income quartile						
Life satisfaction	Lowest	-	-0.4	-	-	0.7	-1.0
	Second	-	-	-	-	0.4	-0.7
	Third	-0.2	-	0.2	-	0.5	-
	Highest	-	0.2	0.3	-	-	-

		Social democratic regime	Liberal regime	Southern regime	Post-socialist liberal regime	Accession countries	Greece
Measure	Income quartile						
Happiness	Lowest	-0.3	-0.4	-	-	-	-1.0
	Second	-0.2	-	-0.2	-	-	-1.0
	Third	-0.3	-	0.2	-	-	-0.6
	Highest	-0.2	-	-	-	-	-0.7
Social exclusion index	Lowest	0.5	-	-	-	-0.5	1.6
	Second	0.7	-0.5	0.5	-	-1.1	1.1
	Third	0.8	-	-0.5	-	-0.7	-
	Highest	0.3	-	-0.4	-	-1.0	1.5
WHO-5 index	Lowest	-	-1.0	-	-	1.6	-1.4
	Second	-	-	0.7	-	1.4	-
	Third	-	-	1.5	-	1.2	-
	Highest	-	-	0.6	-	0.8	-

Note: All changes shown are significant at the 0.05 level. Green = positive change, red = negative change.

For example, in Greece, average life satisfaction fell by 1.0 for people in the bottom quartile, and 0.7 for people in the second quartile, while it did not fall significantly for the top two income quartiles. For happiness, the two lowest income quartiles have bigger drops than the third and the top income quartiles. For the WHO-5 indicator, falls were only significant for the lowest income quartile.

In the rest of southern Europe, significant increases in life satisfaction and happiness, and decreases in the social exclusion index are found only in the top two income quartiles. The second income quartile suffered significant increases in social exclusion and decreases in happiness. In other words, it is not true to say that southern European countries are enjoying increasing well-being despite the economic crisis. Rather, higher income quartiles are enjoying increasing well-being in those countries, whereas the bottom half of society is either

remaining constant or indeed suffering deteriorating well-being (see Table 17).

A similar pattern can be seen in the liberal cluster. For example, the bottom income quartile in the liberal cluster saw a significant drop in life satisfaction of 0.4, while the top quartile saw a significant increase in life satisfaction of 0.2. Similarly, happiness and the WHO-5 fell significantly only for those in the bottom quartile.

These patterns are not seen across Europe. For example, in the 2007 accession cluster, the opposite has taken place, with the greatest increases in life satisfaction and the WHO-5 enjoyed by the bottom income quartile. In the social democratic regime, decreases in happiness appear to have affected all income quartiles evenly.

Table 17: Groups with rising and falling well-being, by country cluster

	Groups with rising well-being	Groups with falling well-being
Social democratic regime		Age group 25–34
		Never married without partner
		Singles / couples
Liberal regime	Age group 65+	Age group 50–64
	Widowed people	Never married without partner
		Single parents
	Highest income quartile	Lowest income quartile
Southern European regime	Age groups 35–49, 65+	Age group 18–24
	Separated or divorced	
	Singles / single parents / couples	Couples with children
	People at work	
	Short-term unemployed	
	Third / highest income quartile	Second income quartile
Post-socialist liberal regime	Age group 18–24	Age group 65+
	Short-term / long-term unemployed	
	People in education / students	
Accession countries	Age groups 18–24, 25–34	
	Separated or divorced	
	Couples with children	
	Short-term / long-term unemployed	
Greece		Age groups 18–24, 25–34, 50–64
		Married / divorced / never married
		Couples
		People at work
		Short-term / long-term unemployed
		Lowest / second income quartile

Linking changes in life satisfaction with other changes

The EQLS includes a rich selection of information that might help explain the changes in life satisfaction from 2007 to 2011. Including this information in multivariate regression helps in exploring why life satisfaction increased for some people, particularly those in southern Europe.

Controlling for demographics and core variables (see Chapter 4), people in the EU27 in 2011 had a life satisfaction score of 0.05 points higher than people in 2007 with the same characteristics (Table 18). In southern Europe, the difference was 0.12, and in the 2007 accession cluster it was 0.06. Including four indicators of material living conditions into the regression model, the impact of the year is reduced, but not eliminated, particularly in the 2007 accession cluster. In other words, some of the increase in life satisfaction in the 2007 accession cluster can be explained by improvements in reported material living conditions.

Table 18: Determinants of life satisfaction (change): Adjusted beta-coefficients

	EU27	Social democratic regime	Liberal regime	Southern European regime	Post-socialist liberal regime	Accession countries
Adjusted R ²	30.10	18.5	30.5	17.6	23.3	24.0
EQLS 2011	0.05	-	0.08	0.12	-	0.06
Material deprivation	-0.11	0.10	-	-0.08	-0.06	-
Accommodation problems	-0.11	-	-0.06	-0.10	-0.07	-0.12
Making ends meet	-0.31	0.04	-	-0.18	-0.37	-0.31
Inability to pay utility bills in time	0.07	-	0.10	-	0.08	0.11

Notes: OLS regression model, unweighted, all coefficients shown are significant at the 0.05 level.

Demographics and core variables included in the regression are: gender; age; household structure; education level; employment category; marital status; number of children; limited by physical or mental health problems; household income (equivalised).

Other variables that were found partly to explain the increase in life satisfaction in southern Europe were the domain satisfactions – with large increases in satisfaction with social life, family life and accommodation. Social and family life satisfaction between them explain over half of the increase in life satisfaction. Might it be that, despite the economic crisis, people's family and social lives have improved in southern European countries (again, excluding Greece) and that this has more than compensated for the economic hardship? For example, Stefano Bartolini argues that changes in social capital explain changes in subjective well-being better than economic indicators do (Bartolini and Bilancini, 2010). However, one should be somewhat wary about over-interpreting these results. It was not possible to compare more 'objective' social indicators between the survey waves, and any biases influencing life satisfaction responses might also be influencing responses to other satisfaction questions.

Conclusions

The preliminary finding of a significant increase in life satisfaction in Europe may be surprising at first sight, but further analysis reveals nuances and details that provide more clues.

- The increase in life satisfaction came alongside an increase in perceived social exclusion and a decrease in reported happiness. It was not possible to explain the different directions of change for life satisfaction and happiness, but the difference highlights the importance of looking at more than one indicator when assessing subjective well-being. In this context, it suggests that well-being did not increase across Europe overall between 2007 and 2011, and that social exclusion indeed increased.
- The pattern varied considerably across Europe. While significant increases in well-being were seen in southern Europe (with the exception of Greece) and in the 2007 accession cluster of Bulgaria and Romania, all other clusters saw a

general decrease, particularly the social democratic cluster, but also the corporatist and the liberal clusters. Overall, the pattern is intuitive – with countries that have suffered the biggest falls in GDP growth also suffering significant decreases in life satisfaction. This applies both between and within clusters. For example, Poland and Germany do better than many of their neighbours both in terms of macroeconomic measures and subjective well-being measures.

- However, there are some apparent anomalies – specifically the rising life satisfaction in many southern European countries, and the declines in life satisfaction in the social democratic countries (with the exception of Denmark), despite relatively mild economic difficulties.
- The pattern also differed according to demographic and socioeconomic groups. In terms of age, it appeared to be people at both ends of the working-age population that suffered the most, namely those aged 18–24 and those aged 50–64. Students also suffered significant decreases in subjective well-being.

- In terms of income, the well-being gap between the richest and poorest in southern Europe, liberal countries and post-socialist liberal countries increased. Indeed, with the exception of the 2007 accession cluster, the well-being of those in the bottom income quartile did not increase anywhere under any measure.

In summary, the economic crisis may not be affecting everyone's well-being equally, nor all aspects of well-being. It is the poorest people in Europe, particularly in southern Europe, the post-socialist liberal countries and the liberal countries, that are suffering the most in terms of personal subjective well-being. A sense of social exclusion is affecting a broader constituency. Furthermore, while the social democratic countries appear to be doing well on standard macroeconomic measures such as GDP and median income, the data for subjective well-being suggest a growing disquiet in those countries that is affecting most socioeconomic groups.

Policy pointers

In many countries, the economic crisis is affecting the well-being of lower income groups more than wealthier groups. As well as defying the EU's stated intentions of reducing inequality, this pattern could potentially lead to growing instability and social strife – something that is already happening in southern Europe, where the phenomenon is strongest. National and European policymakers should therefore work to ensure that the pains of the crisis are shared more equally (European Commission, 2012b, p. 11).

The results also provide a warning signal for social democratic countries. While GDP growth and income growth has not been damaged as much in these countries, subjective well-being has fallen on all measures and across the income spectrum. Might this also be associated with the rising inequality in many of these countries?

Meanwhile, the increases in well-being in Bulgaria and Romania show that economic improvements there are bearing rewards. Most promising is that it is the lower income quartiles that are seeing the fastest rises in well-being. Nevertheless, Bulgaria is still the country with the lowest well-being in Europe and obviously has some way to go.

Falling well-being among those aged 18–24 and those aged 50–64 might reflect a situation where these two groups are being squeezed out of the labour market. Youth unemployment is already a key priority in EU policy – these results highlight its relevance to well-being. For those aged 50–64, falling well-being is particularly worrying given their low starting point. In the liberal regime, where this group are among the most affected, measures should be taken to address their needs and to assure that their skills and experiences can be fruitfully used as a social and economic resource.

CHAPTER 7

Conclusions

Conclusions

The collection of well-being data on a large scale is now becoming established. This report has attempted to link the findings of well-being research with a wide range of policy areas, something that to date has not happened enough. Well-being data alone cannot result in policy decisions. But the findings highlighted in this report all provide important evidence to be considered in policymaking. Sometimes the findings support existing policies. At other times, they highlight potential difficulties with dominant thinking. Where the latter is the case, it should not be expected that the results change policy overnight. Nonetheless, if well-being is to be taken seriously, then it is exactly in these areas where the greatest consideration should be given to the evidence, and where the greatest efforts should be made to develop the overall picture of well-being, by bringing together longitudinal data, and by modelling indirect and long-term effects.

Who has low well-being?

First, this report identified the countries that have low or decreasing well-being. For instance, Bulgaria, Greece and Hungary were found to have the lowest levels of life satisfaction in Europe (see Chapter 2). Cyprus and Latvia also have particularly low scores on several measures of overall well-being. Meanwhile, certain countries do poorly on particular aspects of well-being – for example, high levels of stress and busyness are found in France, high levels of loneliness in Italy and low levels of vitality in the UK. The analysis in Chapter 6, which looked at changes since 2007, sounds warning bells for Finland, the Netherlands and Sweden – all having falling subjective well-being scores despite the effects of the economic crisis appearing relatively benign. It is Estonia and Greece, however, that have suffered the sharpest falls in well-being since 2007.

Specific population groups with low or falling well-being have also been identified. Targeted policies may be helpful to improve the well-being of these groups. The study identified a few groups as having consistently low well-being: unemployed people; people with illnesses or disabilities that limit their daily activities; people with lower levels of education; people who are separated or divorced; and people in the bottom income quartile (Chapter 3). It also confirmed earlier findings that Europeans aged 35–50 have the lowest well-being, with both younger people and older people enjoying higher levels. The data also

show that people living in rural areas have higher well-being, particularly in the older EU15 Member States.

Meanwhile, the trend analysis showed that the rather confused pattern in terms of changes in average well-being since 2007 hides a much clearer pattern in many parts of Europe, when one breaks the analysis up into income quartiles (Chapter 6). Doing so reveals that lower income quartiles have suffered the highest well-being declines, while the top income quartiles have seen their well-being rise in several countries, including in southern Europe.

The well-being of students, those aged 18–24 and those aged 50–64 has also fallen since 2007. In the latter case, this is particularly the case for countries in the liberal cluster (Ireland and the UK).

In considering specific countries, the analysis looked at where inequalities in well-being are the largest. For example, the largest well-being difference between the top and bottom income quartiles are to be found in Bulgaria, although the difference has decreased since 2007. Cyprus suffers the largest inequality in well-being between men and women, while it is in Slovakia that people with severe limitations from health problems suffer the largest well-being penalty. Overall, the highest amount of well-being inequality was found in Romania – with the most satisfied 20% of the population reporting average life satisfaction (on a scale of 1–10) that was 6.6 points higher than the least satisfied 20%.

Who has high well-being?

Well-being data are not just about identifying problems – they can also help identify models of success. At the national level, it is the countries in the social democratic cluster – Denmark, followed by Finland, Sweden and the Netherlands – that have the highest levels of well-being on most measures. The Netherlands also has the lowest level of well-being inequality in Europe. It is important to note that these countries do not perform well just because they are wealthy. Denmark and Sweden have lower GDPs per capita than Ireland, and Finland has a lower GDP per capita than Germany. Meanwhile, further down the spectrum, Poland scores much higher in life satisfaction than Hungary, despite having a slightly lower level of GDP per capita. These differences provide important lessons.

Whereas policymakers seeking to maximise GDP might look to Germany, Hungary and Ireland for lessons, those seeking to increase well-being would do better looking at Denmark, Finland, Poland or Sweden.

In the economic crisis, few countries can be said to be doing well in terms of well-being. While the countries in the southern European cluster, with the exception of Greece, have seen average well-being rise, this rise has benefited only higher income quartiles. Beyond that group, only five countries have seen relatively positive well-being transformations since 2007. Bulgaria and Romania have seen increases in well-being, and these rises have been greatest in lower income quartiles. Austria has seen large increases in well-being, but there is reason to suspect that the results for Austria in 2007 may be an anomaly. The only other countries to do relatively well are Denmark and Poland.

In Chapter 5, analysis of individual-level data helped to explore protective factors – characteristics associated with having relatively high well-being despite suffering from some risk factor, such as low income or bad health. Protective factors against low income and poor health included not being in debt, having a permanent employment contract, engaging in physical activity or social activities, and having regular face-to-face contact with family members. Policymakers can use these findings to ensure that relevant policies focus on those who would benefit from them most.

What are the key policy areas for well-being?

As outlined in Chapter 4, the key determinants of subjective well-being are: material deprivation, health and being limited by disability, work–life balance, public services and social relationships. As such, the evidence presented here suggests that the well-being of Europeans would benefit from:

- a focus on efforts to tackle poverty and integrate people with disabilities;
- strengthening the working hours directive, or other policies that could lead to reducing working hours and improving work–life balance;
- maintaining the quality of public services in the face of austerity, particularly, it seems, in southern Europe;
- recognising the importance of relationships to people's well-being. For example, social support is weakest in countries in the liberal cluster. It is proposed that the unintended well-being consequences of certain economic policies should be considered.

What specific lessons can be drawn for well-being?

Chapter 4 also provided a wealth of more detailed lessons related to specific policy areas and the eight domains of quality of life covered in the research. Some of the most interesting lessons are noted below. They are structured according to standard policy areas so that the improvement of well-being can be considered as one objective among several across *all* the policy areas mentioned below.

Macroeconomic policy

- Well-being evidence suggests a clear benefit of reducing income inequalities within a country. The relationship between income and well-being is one of diminishing returns, meaning that income increases for poorer people will have a larger well-being benefit than income increases for wealthier people. The fact that material deprivation was a much stronger predictor of well-being than income highlights that it is the bottom of the distribution where material gains are most likely to be important for well-being. Furthermore, evidence exists of a correlation between inequality and trust in others – a factor that was shown to strongly determine well-being in the EQLS. Rising inequality may be an explanatory factor behind falling well-being in the countries belonging to the social democratic cluster, despite rising average incomes.
- Being unemployed has one of the biggest negative effects of any single factor on well-being. This highlights the importance that macroeconomic policy should place on reducing unemployment.

Labour market policy

- The report points to a distinction between the well-being relevance of reducing unemployment versus increasing employment. While those who are unemployed or unable to work have very low well-being, students, retired people and homemakers do not suffer any overall well-being penalty. In fact, all other things being equal, retirement had a positive impact on well-being for those aged 55 to 65, compared with people at work (though this pattern was not found in the clusters formed from central and eastern European countries). The argument for raising the retirement age is grounded in concerns about maintaining economic activity, which in turn has an effect on well-being. Further analysis is necessary to understand the longer-term and indirect effect that changes to retirement policy can have on well-being. Only then can one assess the relative importance of the potential negative effect on well-being found in this

study. It may be that the net long-term effect on well-being of increasing the retirement age is positive.

- There is a large well-being penalty for people on temporary contracts of less than 12 months. Indeed the difference in life satisfaction between being on a permanent contract and being on a short-term temporary contract is bigger than the difference between being on a short-term temporary contract and being unemployed. Again, long-term and indirect effects need to be considered, but the findings do highlight the need to evaluate the balance of the positive and negative impacts of changes to labour market policy.
- Work flexibility, work–life balance and working hours were confirmed to be important determinants of life satisfaction, with those working over 41 hours a week seeming to suffer in terms of their reported well-being. Most likely, the negative effects on well-being of working long hours are mediated by having less time to spend on social interactions and leisure activities – two of the strongest drivers of well-being. The evidence suggests that policies to curtail the numbers of people working very long hours would increase average well-being.
- Given the vital importance of personal relationships, caution is needed when it comes to policies designed to increase economic activity and productivity as these might have unintended consequences. For example, what is the impact of increasing geographical labour mobility in terms of social networks, family and neighbourhood belonging? Based on available evidence, it is important to consider the wider implications for subjective well-being, and the trade-offs implied by particular approaches, at an early stage in the policy design process.

Social protection and social care

- Material deprivation is not just about the basics – being able to engage in social and leisure activities appears to be as important, if not more so.
- It is important to provide support for people who have to care for elderly or disabled people, especially in the demographic context of population ageing.
- Not having support from social networks has a strong effect on well-being. State provision of such support can help, but is not always a substitute for more personal support. An area where it is of particular importance, and where institutions may be able to contribute, is support with housekeeping when people are too ill or frail to manage by themselves.

Local government, planning and transport

- The data highlight the independent positive effect on well-being of living in more rural areas. This knowledge enables urban policymakers to examine which positive elements of rural life may be transferable to urban contexts. For example, access to green space was found to be a strong predictor of life satisfaction. The findings also highlight the importance of maintaining opportunities for living in rural areas, particularly in terms of ensuring there are employment opportunities.
- The research provides clear indicators of the kind of neighbourhood problems that influence well-being: crime and vandalism being the most important. This provides some indications towards policy priorities for local and central governments, particularly in a context of reducing fiscal space. Even so, litter and water quality are both significant predictors of life satisfaction.
- Three findings were relevant in relation to transport planning. First, noise and poor air quality had important detrimental impacts on well-being. Second, aside from recreational and green space, one of the most important amenities for well-being was access to public transport. Third, physical activity had a surprisingly strong positive effect on well-being. These three findings combined point towards transport policy that provides greater public transport facilities and facilitates more active transport modes such as cycling and walking.

Regional policy

- Well-being data can provide evidence of ‘black spots’ – areas with lower well-being – which might not necessarily have been identified using other data. This process of identification may be useful for decisions about where to direct resources, both at the national and the EU level. For example, people living in urban areas reported having lower well-being than might be anticipated using standard objective measures.

Culture and citizen engagement

- Besides physical activity, attendance of club or society social activities also had a positive effect on well-being, while access to cultural amenities was a significant predictor. The challenge during difficult economic times is not to lose sight of the importance of providing opportunities for those kinds of cultural and social activities.
- The findings point to a positive effect of volunteering on the mental well-being index (WHO-5). Providing opportunities

to volunteer may also be important in helping achieve other policy goals, such as providing the care and social support that have been noted to be important.

Education

- Physical activity is a habit learned young – as such, it is a central part of the school day, both encouraging children to use active travel to get to school, and in terms of timetabled activities within school.
- Being in arrears was one of the key characteristics of people with low well-being, and not being in arrears was found to be an important protective factor for those on low incomes. Financial literacy training might help people understand the risks and pitfalls of getting into unmanageable debt.
- Education was not found to be an independent predictor of life satisfaction, once other factors were controlled for (though it did predict other measures of well-being such as the elements of the eudaimonia index). Nevertheless, it is an important predictor of income and health – both of

which are very relevant to well-being. Access to education plays an important role in ensuring the social mobility that will guarantee that those born into lower-income families do not stay at the bottom of the ladder.

Finance and banking

- Access to banking services was, perhaps surprisingly, a significant predictor of life satisfaction. This is particularly relevant in a context where many services are moving away from the high street and onto the internet.
- Aside from financial literacy education (as mentioned above), another way to tackle debt may be through policies aimed at reducing the unsustainable use of personal loans. Often, those on low incomes are only able to access credit at very high rates of interest or through more informal arrangements. The data from this study highlighted that having such informal loans is actually the biggest predictor of low well-being.

Bibliography

All Eurofound publications are available at www.eurofound.europa.eu

- Abdallah, S. (2011), *Cultural biases in measuring well-being*, Produced as part of the contract 'Analysis, implementation and dissemination of well-being indicators', Eurostat.
- Abdallah, S. (2012), *Inequalities and disparities*, Produced as part of the contract 'Analysis, implementation and dissemination of well-being indicators', Eurostat.
- Abdallah, S. and Mahony, S. (2012), *Stock-taking of subjective well-being*, e-Frame deliverable 2.1, a collaborative project funded by the European Commission under the FP7 programme, new economics foundation (nef), London.
- Abdallah, S. and Stoll, L. (2012), *Review of individual-level drivers of subjective well-being*, Produced as part of the contract 'Analysis, implementation and dissemination of well-being indicators', Eurostat.
- Bartolini, S. and Bilancini, E. (2010), 'If not GDP, what else? Using relational goods to predict the trends of subjective well-being', *International Review of Economics*, Vol. 57, No. 2, pp. 199–213.
- Bech, P. (1998), *Quality of life in the psychiatric patient*, Mosby-Wolfe, London.
- Bell, D. and Blanchflower, D. (2011), 'Youth unemployment in Europe and the United States', *IZA Discussion Paper*, No. 5673, IZA, Bonn.
- Bevan, S. (2010), *The business case for employee health and wellbeing – A report prepared for Investors in People*, The Work Foundation, London.
- Blanchflower, D. G. and Oswald, A. J. (2011), 'International Happiness: A New View on the Measure of Performance', *Academy of Management Perspectives*, Vol. 25, No. 1, pp. 6–22.
- Boulanger, P.-M., Lefin, A.-L., Ruwet, C., Bauler, T., Gerard, A., Prignot, N. et al (2011), *Towards theoretically sound and democratically legitimate indicators of wellbeing for Belgium*, Science for a Sustainable Development, Belgian Science Policy, Brussels.
- Boyce, C. J., Brown, G. D. A. and Moore, S. C. (2010), 'Money and happiness: Rank of income, not income, affects life satisfaction', *Psychological Science*, Vol. 21, No. 4, pp. 471–475.
- Brown, S., Taylor, K. B. and Wheatley Price, S. (2005), 'Debt and distress: Evaluating the psychological cost of credit', *Journal of Economic Psychology*, Vol. 26, No. 5, pp. 642–666.
- Centre for Well-Being (2011), *Measuring our progress: The power of well-being*, nef, London.
- Clark, A. E., Frijters, P. and Shields, M. A. (2008), 'Relative income, happiness, and utility: An explanation for the Easterlin paradox and other puzzles', Vol. 46, No. 1, pp. 95–144.
- Council of the European Union (2006), *Renewed EU Sustainable Development Strategy*, Brussels.
- Cummins, R. A., Eckersley, R., Kai, L. S., Okerstrom, E., Davern, M. and Woener, J. (2004), *Australian Unity Well-being Index Survey 11, Report 11.0, The Well-being of Australians – Personal Financial Debt*, Australian Centre on Quality of Life, Melbourne.
- David, Q., Janiak, A. and Wasmer, E. (2010), 'Local social capital and geographical mobility', *Journal of Urban Economics*, Vol. 68, No. 2, pp. 191–204.
- Davies, J. (2009), 'Wealth and economic inequality', in Salvendy, W., Nolan, B. and Smeeding, T. M. (eds.), *The Oxford handbook of economic inequality*, Oxford University Press, Oxford, pp. 127–149.
- Deci, E. L. and Ryan, R. M. (1980), 'Self-determination theory: When mind mediates behavior', *Journal of Mind and Behavior*, Vol. 1, No. 1, pp. 33–43.
- Department of Health (2009), *New horizons: A shared vision for mental health*, Department of Health, London.
- Diener, E., Kahneman, D., Tov, W. and Arora, R. (2010), 'Income's association with judgements of life versus feelings', in Diener, E., Helliwell, J. and Kahneman, D. (eds.) *International differences in well-being*, Oxford University Press, Oxford.

- Diener, E., Larsen, R. J., Levine, S. and Emmons, R. A. (1985), 'Intensity and frequency: Dimensions underlying positive and negative affect', *Journal of Personality and Social Psychology*, Vol. 48, No. 5 pp. 1253–1265.
- Diener, E. and Seligman, M. (2002), 'Very happy people', *Psychological Science*, Vol. 13, No.1, pp. 81–84.
- Diener, E., Suh, E. M., Lucas, R. E. and Smith, H. L. (1999), 'Subjective well-being: Three decades of progress', *Psychological Review*, Vol. 5, No. 1, pp. 1–31.
- DiPasquale, D. and Glaeser, E. (1999), 'Incentives and social capital: Are homeowners better citizens', *Journal of Urban Economics*, Vol. 45, No. 2, pp. 354–384.
- Di Tella, R., MacCulloch, R. J. and Oswald, A. J. (2001), 'Preferences over inflation and unemployment: Evidence from surveys of happiness', *American Economic Review*, Vol. 91, No. 1, pp. 335–341.
- Di Tella, R., MacCulloch, R. J. and Oswald, A. J. (2003), 'The macroeconomics of happiness', *The Review of Economics and Statistics*, Vol. 85, No. 4, pp. 809–827.
- Dolan, P., Peasgood, T. and White, M. (2006), *Review of research on the influences on personal well-being and application to policy making*, Defra, London.
- Dolan, P., Peasgood, T., and White, M. (2008), 'Do we really know what makes us happy? A review of the economic literature on the factors associated with subjective wellbeing', *Journal of Economic Psychology*, Vol. 29, No. 1, pp. 94–122.
- Esping-Andersen, G. (1990), *The three worlds of welfare capitalism*, Polity Press, Cambridge.
- Eurofound (2003), *Monitoring quality of life in Europe*, Publications Office of the European Union, Luxembourg.
- Eurofound (2009), *Second European Quality of Life Survey: Quality of life in Europe 2003–2007*, Publications Office of the European Union, Luxembourg.
- Eurofound (2010), *Second European Quality of Life Survey: Subjective well-being in Europe*, Publications Office of the European Union, Luxembourg.
- Eurofound (2012a), *Income from work after retirement in the EU*, Publications Office of the European Union, Luxembourg.
- Eurofound (2012b), *Third European Quality of Life Survey – Quality of life in Europe: Impacts of the crisis*, Publications Office of the European Union, Luxembourg.
- Eurofound (2013a), *Third European Quality of Life Survey – Quality of life in Europe: Quality of society and public services*, Publications Office of the European Union, Luxembourg.
- Eurofound (2013b), *Third European Quality of Life Survey – Quality of life in Europe: Social inequalities*, Publications Office of the European Union, Luxembourg.
- Eurofound (2013c), *Third European Quality of Life Survey – Quality of life in Europe: Trends 2003–2012*, Publications Office of the European Union, Luxembourg (in press).
- European Commission (2009), 'GDP and beyond: Measuring progress in a changing world', COM(2009) 433 final, Brussels.
- European Commission (2010), 'Europe 2020: A strategy for smart, sustainable and inclusive growth', COM(2010) 2020 final, Brussels.
- European Commission (2011), 'Annual Growth Survey 2012', COM(2011) 815 final, Brussels.
- European Commission (2012a), *2013 Management Plan*, Directorate General for Agriculture and Rural Development, Publications Office of the European Union, Luxembourg.
- European Commission (2012b), *Employment and social developments in Europe 2011*, Directorate General for Employment, Social Affairs and Inclusion, Publications Office of the European Union, Luxembourg.
- European Commission (2012c), 'Moving youth into employment', COM(2012) 727 final, Brussels.
- European Commission (2013), *Towards social investment for growth and cohesion – including implementing the European Social Fund 2014–2020*, COM(2013) 83 final, Brussels.
- Eurostat (2009), *Eurostat feasibility study for well-being indicators*, Publications Office of the European Union, Luxembourg.
- Eurostat (2013), 'Quality of life indicators', available at http://epp.eurostat.ec.europa.eu/portal/page/portal/quality_life/introduction
- Extremera, N., Durán, A. and Rey, L. (2009), 'The moderating effect of trait meta-mood and perceived stress on life satisfaction', *Personality and Individual Differences*, Vol. 47, No. 2, pp. 116–121.

- Ford, M. T., Cerasoli, C. P., Higgins, J. A. and Decesare, A. L. (2011), 'Relationships between psychological, physical, and behavioural health and work performance: A review and meta-analysis', *Work and Stress: An International Journal of Work, Health and Organisations*, Vol. 25, No. 3, pp. 185–204.
- Foresight Mental Capital and Wellbeing Project (2008), *Final project report – Executive summary*, The Government Office for Science, London.
- Gakidou, E. E., Murray, C. J. L. and Frenk, J. (2000), 'Defining and measuring health inequality: An approach based on the distribution of health expectancy', *Bulletin of the World Health Organization*, Vol. 78, No. 1, pp. 42–54.
- Hák, T., Janoušková, S., Abdallah, S., Seaford, C. and Mahony, S. (2012), *Review report on Beyond GDP indicators: categorisation, intensions and impacts, Final version of BRAINPOoL deliverable 1.1*, A collaborative project funded by the European Commission under the FP7 programme (Contract no. 283024).
- Helliwell, J. F. (2003), 'How's life? Combining individual and national variables to explain subjective well-being', *Economic Modelling*, Vol. 20, No. 2, pp. 331–360.
- Helliwell, J. F. (2006), 'Well-being, social capital and public policy: What's new?' *Economic Journal*, Vol. 116, No. 510, pp. C34–C45.
- Helliwell, J. F. and Putnam, R. D. (2004), 'The social context of well-being', *Phil Trans R Soc Lond*, Vol. 359, pp. 1435–1446.
- Helliwell, J. and Wang, S. (2012), 'The state of world happiness', in Helliwell, J., Layard, R. and Sachs, J. (eds.), *World happiness report*, Earth Institute, Columbia University, New York.
- House, J. S., Landis, K. R. and Umberson, D. (1988), 'Social relationships and health', *Science*, Vol. 241, pp. 540–545.
- Huppert, F. A. (2004), 'A population approach to positive psychology: The potential for population interventions to promote well-being and prevent disorder', in Linley, A. and Joseph, S. (eds.), *Positive psychology in practice*, John Wiley & Sons Inc., New Jersey.
- Huppert, F. A. and So, T. (2013), 'Flourishing across Europe: Application of a new conceptual framework for defining well-being', *Social Indicators Research*, Vol. 110, No. 3, pp. 837–861.
- Hurley, D. and Kwon, P. (2012), 'Results of a study to increase savoring the moment: Differential impact on positive and negative outcomes', *Journal of Happiness Studies*, Vol. 13, No. 4, pp. 579–588.
- Kahneman, D., Krueger, A. B., Schkade, D. A., Schwarz, N. and Stone, A. A. (2004), 'A survey method for characterizing daily life experience: The day reconstruction method', *Science*, Vol. 306, No. 5702, pp. 1776–1780.
- Keyes, C. (2002), 'The mental health continuum: From languishing to flourishing in life', *Journal of Health and Social Behaviour*, Vol. 43, No. 2, pp. 207–222.
- Krueger, A. B., Kahneman, D., Fischler, D., Schkade, D., Schwarz, N. and Stone, A. (2009), 'Time use and subjective well-being in France and the U.S.', *Social Indicators Research*, Vol. 93, No. 1, pp. 7–18.
- Layard, R. (2005), *Happiness: Lessons from a new science*, Penguin, London.
- Lucas, R. E., Clark, A. E., Georgellis, Y. and Diener, E. (2003), 'Reexamining adaptation and the set point model of happiness: Reactions to changes in marital status', *Journal of Personality and Social Psychology*, Vol. 84, No. 3, pp. 527–539.
- Luechinger, S., Meier, S. and Stutzer, A. (2010), 'Why does unemployment hurt the employed? Evidence from the life satisfaction gap between the public and the private sector', *Journal of Human Resources*, Vol. 45, No. 4, pp. 998–1045.
- Mahony, S., *Well-being at work: A review of the literature (unpublished)*.
- Meier, S. and Stutzer, A. (2008), 'Is volunteering rewarding in itself?', *Economica*, Vol. 75, No. 297, pp. 39–59.
- Mein, G., Martikainen, P., Hemingway, H., Stansfeld, S. and Marmot, M. (2003), 'Is retirement good or bad for mental and physical health functioning? Whitehall II longitudinal study of civil servants', *Journal of Epidemiology and Community Health*, Vol. 57, No. 1, pp. 46–49.
- Michaelson, J., Abdallah, S., Steuer, N., Thompson, S. and Marks, N. (2009), *National accounts of well-being: Bringing real wealth onto the balance sheet*, nef, London.
- Michalos, A. C. (1985), 'Multiple discrepancies theory (MDT)', *Social Indicators Research*, Vol. 16, No. 4, pp. 347–413.

- OECD (2011), *Divided we stand: Why inequality keeps rising*, OECD Publishing, Paris.
- OECD (2013), *OECD Guidelines on Measuring Subjective Well-being*, OECD Publishing, Paris.
- Oishi, S. (2010), 'Culture and well-being: Conceptual and methodological issues', in Diener, E., Helliwell, J. and Kahneman, D. (eds.), *International differences in well-being*, Oxford University Press, Oxford.
- Oishi, S., Kesebir, S. and Diener, E. (2011), 'Income inequality and happiness', *Psychological Science*, Vol. 22, No. 9, pp. 1095–1100.
- ONS (2011), *Measuring subjective well-being*, Office for National Statistics, London.
- Powdthavee, N. (2012), 'Jobless, friendless and broke: What happens to different areas of life before and after unemployment?', *Economica*, Vol. 79, No. 315, pp. 557–575.
- Proctor, P., 'Subjective well-being', in Michalos, A. (ed.), *Encyclopaedia of Quality of Life and Well-being Research*, Springer Publishing Company, New York (in press).
- Putnam, R. (2000), *Bowling alone: The collapse and revival of American community*, Simon and Schuster, New York.
- Russell, J. A. (1980), 'A circumplex model of affect', *Journal of Personality and Social Psychology*, Vol. 39, No. 6, pp. 1161–1178.
- Ryan, R., Huta, V. and Deci, E. (2008), 'Living well: A self-determination theory perspective on eudaimonia', *Journal of Happiness Studies*, Vol. 9, No. 1, pp. 139–170.
- Seligman, M. E. (2011), *Flourish: A new understanding of happiness and well-being – and how to achieve them*, Nicholas Brealy Publishing, London.
- Soroka, S., Helliwell, J. and Johnston, R. (2003), 'Measuring and modelling trust', in Kay, F. and Johnston, R. (eds.), *Diversity, social capital and the welfare state*, University of British Columbia Press, Vancouver, BC.
- Stiglitz, J., Sen, A. and Fittoussi, J. P. (2009), *Report by the Commission on the Measurement of Economic Performance and Social Progress*, Paris.
- Stoll, L., Michaelson, J. and Seaford, C. (2012), *Well-being evidence for policy: A review*, nef, London.
- Stutzer, A. and Frey, B. S. (2008), 'Stress that doesn't pay: The commuting paradox', *Scandinavian Journal of Economics*, Vol. 110, No. 2, pp. 339–366.
- Thiry, G., Paris, S., Sébastien, L., Bauler, T. and Lacroix, V. (2013), *Characterizing demand for 'Beyond GDP'*, BRAINPOoL deliverable 2.1, a collaborative project funded by the European Commission under the FP7 programme (Contract no. 283024), ULB, Brussels.
- Thompson, S. and Marks, N. (2008), *Measuring well-being in policy: Issues and applications*, nef, London.
- Transparency International (2012), *Corruption perceptions index 2012*, Transparency International, Berlin.
- Traynor, I., *The Guardian* (2012), 'Spain looks to Vienna and Berlin for answers to jobs crisis', 30 May.
- UK Civil Service, 'Wellbeing and policymaking – an update from Sir Jeremy Heywood', available at <http://www.civilservice.gov.uk/news/wellbeing-and-policy-update>.
- UNICEF (2008), *The child care transition, Innocenti Report Card 8*, UNICEF Innocenti Research Centre, Florence.
- Van Praag, B. M. S., Frijters, P. and Ferrer-i-Carbonell, A. (2003), 'The anatomy of subjective well-being', *Journal of Economic Behaviour and Organization*, Vol. 51, No. 1, pp. 29–49.
- Vaughan-Whitehead, D. (ed.) (2012), *Work inequalities in the crisis: Evidence from Europe*, International Labour Organization, Geneva.
- Veenhoven, R. (2002), 'Why social policy needs subjective indicators', *Social Indicators Research*, Vol. 58, No. 1, pp. 33–45.
- Whelan, C. T. and Maître, B. (2010), 'Welfare regime and social class variation in poverty and economic vulnerability in Europe: An analysis of EU-SILC', *Journal of European Social Policy*, Vol. 20, No. 4, pp. 316–332.
- Wilkinson, R. and Pickett, K. (2009), *The spirit level: Why equality is better for everyone*, Penguin Books, London.
- Wills, T. A. (1991), 'Social support and interpersonal relationships', in Clark, M. (ed.), *Review of Personality and Social Psychology: Prosocial Behavior*, Vol. 12, Sage, Newbury Park, CA.
- Winkelmann, L. and Winkelmann, R. (2010), 'Does inequality harm the middle class?', *Kyklos*, Vol. 63, No. 2, pp. 301–316.

Annex 1: Determinants of subjective well-being explored

Table A1: Determinants of subjective well-being explored

Determinants of well-being	Survey questions
Demographics and core variables	
Gender	HH2a
Age	HH2b
Household structure	HH2-3
Education level	Q48
Employment category	HH2d
Marital status	Q31
Number of children	Q32
Limited by physical or mental health problems	Q43, 44
Household income (equivalised)	Q63, 64 and HH2-3
Citizenship	Q67
Material living conditions	
Affordability of basic goods (including keeping house warm, holidays, furniture, meals, clothes, having friends round)	Q59a-f
Arrears (on rent or mortgage, utility bills, consumer credit, informal loans)	Q60a-d
Being able to make ends meet	Q58
Comparative financial situation (vs one year ago)	Q65
Expected future financial situation	Q66

Determinants of well-being	Survey questions
Housing	
Tenure type	Q18
Overcrowding (objective measure)	Q17 and HH2–3
Housing problems (including shortage of space, rot, damp, lack of toilet, bath/shower, or place to sit outside)	Q19a–f
Housing insecurity	Q20
Working conditions and hours	
Self-employment	Q2
Contract type (temporary, permanent, informal)	Q3
Public or private sector	Q6
Working hours	Q7, Q7b
Working flexibility (including varying hours, accumulating time off in lieu, taking days off)	Q13a–c
Desired working hours	Q8
Subjective assessment of working hours	Q11
Work–life interference	Q12a–c
Job security	Q15
Government and public services	
Satisfaction with public services (including health, education, public transport, childcare, social care, housing and pensions)	Q28a–f
Trust in institutions (including parliament, legal systems, press, police, government and local government)	Q53a–f
Social interactions	
Face-to-face contact (with children, parents, siblings, friends)	Q33a–d
Phone/email/postal contact (with children, parents, siblings, friends)	Q34a–d
Support (including when ill, in need of advice, help looking for a job, someone to talk to, financial)	Q35a–e
Wanting more time (for family, friends and hobbies)	Q39a–c
Activities and time use	
Attending religious services	Q21a
Using internet	Q21b
Physical activity	Q21c
Organised social activities	Q21d
Volunteering	Q22a–e
Political activity	Q23a–d
Domestic labour (including caring for children, cooking/housework, and caring for elderly or disabled people)	Q36a–c

Determinants of well-being	Survey questions
Commuting time	Q52
Subjective assessment of housework	Q38
Local environment	
Rural/urban	Q49
Access to amenities (including postal services, bank, public transport, culture, green space)	Q51a–e
Noise pollution	Q50a
Air quality	Q50b
Drinking water quality	Q50c
Crime, violence or vandalism	Q50d
Litter on the streets	Q50e
Other	
Subjective health	Q42
General trust	Q24

Table A2: Key country-level indicators

	Life expectancy at birth – women, 2010	Life expectancy at birth – men, 2010	Infant mortality rate, 2010	Unemployment rate, 2011	Long-term unemployment rate, 2011	Education attainment – upper secondary, 2010	Corruption perceptions index, 2011*	Human development index, 2011**	Population density, 2011	GDP per capita in PPS, 2010	GINI coefficient, 2010	Real GDP Growth Rate, 2011
DK	81.4	77.2	3.4	7.6	1.8	68.5	9.4	0.895	128.7	31,000	26.9	1.1
FI	83.5	76.9	2.3	7.8	1.7	76.4	9.4	0.882	17.6	28,100	25.4	2.8
SE	83.6	79.6	2.5	7.5	1.4	74.7	9.3	0.904	22.9	30,300	24.1	3.7
LU	83.5	77.9	3.4	4.8	1.4	71.1	8.5	0.867	196.0	66,300	27.9	1.7
NL	83.0	78.9	3.8	4.4	1.5	68.1	8.9	0.910	492.2	32,500	25.5	1
AT	83.5	77.9	3.9	4.2	1.1	76.9	7.8	0.885	101.8	30,800	26.1	2.7
ES	85.3	79.1	3.2	21.7	9.0	51.6	6.2	0.878	91.8	24,500	33.9	0.4
IE	83.2	78.7	3.8	14.4	8.6	70.2	7.5	0.908	65.4	31,100	33.2	1.4
BE	83.0	77.6	3.6	7.2	3.5	67.4	7.5	0.886	358.7	29,000	26.6	1.8
UK	82.6	78.6	4.3	8.0	2.7	75.9	7.8	0.863	254.2	27,400	33.0	0.9

	Life expectancy at birth – women, 2010	Life expectancy at birth – men, 2010	Infant mortality rate, 2010	Unemployment rate, 2011	Long-term unemployment rate, 2011	Education attainment – upper secondary, 2010	Corruption perceptions index, 2011*	Human development index, 2011**	Population density, 2011	GDP per capita in PPS, 2010	GINI coefficient, 2010	Real GDP Growth Rate, 2011
MT	83.6	79.2	5.5	6.5	3.0	30.4	5.6	0.832	1316.4	20,100	28.4	1.6
FR	85.3	78.3	3.6	9.7	4.0	68.2	7.0	0.884	102.5	26,400	29.8	1.7
DE	83.0	78.0	3.4	5.9	2.8	78.6	8.0	0.905	229.0	28,800	29.3	3
CY	83.6	78.6	3.3	7.8	1.6	70.7	6.3	0.840	87.2	24,200	29.1	0.5
PL	80.7	72.1	5.0	9.7	3.6	82.2	5.5	0.813	122.1	15,300	31.1	4.3
SI	83.1	76.4	2.5	8.2	3.6	79.1	5.9	0.884	101.7	20,700	23.8	0.6
IT	84.6	79.4	3.4	8.4	4.4	53.8	3.9	0.874	200.7	24,600	31.2	0.4
PT	82.8	76.7	2.5	12.9	6.2	32.9	6.1	0.809	115.4	19,600	33.7	-1.6
RO	77.4	69.8	9.8	7.4	3.1	69.7	3.6	0.781	93.2	11,400	33.3	2.2
LT	78.9	68.0	4.3	15.4	8.0	83.1	4.8	0.810	52.4	14,000	36.9	5.9
CZ	80.9	74.5	2.7	6.7	2.7	85.6	4.4	0.865	136.2	19,400	24.9	1.9
SK	79.3	71.7	5.7	13.5	9.2	83.7	4.0	0.834	110.7	17,900	25.9	3.2
EE	80.8	70.6	3.3	12.5	7.1	81.6	6.4	0.835	30.9	15,700	31.3	8.3
LV	78.4	68.6	5.7	15.4	8.4	80.4	4.2	0.805	36.0	12,500	36.1	5.5
EL	82.8	78.4	3.8	17.7	8.8	61.3	3.4	0.861	86.4	21,900	32.9	-7.1
HU	78.6	70.7	5.3	10.9	5.2	75.7	4.6	0.816	107.5	15,800	24.1	1.6
BG	77.4	70.3	9.4	11.2	6.3	74.1	3.3	0.771	69.1	10,700	33.2	1.7

Note: All data are from Eurostat, except where indicated. *Data from Transparency International. **Data from UNDP.

Annex 2: Statistical techniques used

This report is based on statistical analyses of EQLS data. Most of these analyses were carried out using SPSS statistical software. The descriptions below explain the principles behind these analyses.

Factor analysis

To examine whether different variables can be grouped together, factor analysis is conducted. Factor analysis is a statistical method used to discover if there are a few 'factors' that reflect the variations among a larger group of variables. This can happen when there are unobserved variables that explain variations in a larger set of observed variables. In this case, the variables 'load on' to the factors.

Factor analysis was used in this report to establish if any of the subjective well-being variables were related to each other. For example, when factor analysis was carried out on the third EQLS data, it was found that four variables – time pressure (Q29d), autonomy (Q29c), calm and relaxed (Q45b), and tense (Q46a) – loaded together on a factor. This means that this one factor – interpreted here as a 'stress and busyness' factor – could successfully explain variation in the four individual variables. Several other factors were discovered in the analysis, many of which were used to create synthetic variables (see synthetic subjective well-being indicators).

Standardising scores

Standardising scores is a statistical technique to allow comparisons to be made across different measures, by converting scores into the number of standard deviations an observation is above or below the mean. As there are now no scales attached to the measures, the two scores can be compared. This technique was used in the analysis for this report, for example in order to combine variables into synthetic subjective well-being indicators. Standardised scores are also known as z-scores.

Multivariate regression analysis

To assess the relative importance of different factors for subjective well-being, this report used multivariate regression analysis. Multivariate regression analysis examines the separate effects of a number of independent variables on a single dependent variable (for the purposes of this report, this was usually one of the measures of subjective well-being) to identify the factors that are statistically related, controlling for the effects of the other variables, and to compare their relative strength.

In addition to indicating the predictive value of the overall model, regression analysis indicates how well each independent variable predicts the dependent variable, controlling for each of the other independent variables. These are shown by the size of the B and beta coefficients – either non-standardised or standardised (see standardising scores) – the larger the coefficient, the stronger the effect of the independent variable in predicting the dependent variable.

In this report, regression analyses were carried out for several different dependent variables, including life satisfaction, perceived social exclusion, the WHO-5 mental well-being index, loneliness, hedonic well-being, eudaimonic well-being, stress and happiness. Independent variables included demographic, social, economic and other variables, all of which are listed in Annex 1.

Calculating interaction variables

In some cases, the effect of an independent variable on the dependent variable is moderated or modified by the effect of another variable. For example, the effect of income on somebody's life satisfaction may be moderated by the effect of their employment status. To test whether the interaction of these two variables (in this example the interaction between income and employment) is a good predictor of the dependent variable (in this example life satisfaction), an interaction variable is constructed. The interaction variable is the product of the original variables (income x unemployment). This interaction variable is then added to the regression analysis to see whether it is indeed a predictor of the dependent variable.

Interaction variables were used in this report to explore whether there are protective factors that moderate the negative effect on life satisfaction of having a low income (see Chapter 6).

Comparing means and t-tests

The comparison of means was used several times in this report, particularly when considering the patterns of different types of subjective well-being across the EU. Statistical software is used to compare the average value of a variable, for example life satisfaction or income, between different groups of respondents, for example by country, age group, or educational level. To assess whether the means of two groups are statistically different from each other, a t-test is carried out. This tests the difference between their means relative to the spread or variability of their scores and is used in this report in many cases when establishing that two averages are statistically different from each other. Unlike multivariate regression analysis, t-tests are *bivariate* – in other words, they ignore the effect of other variables that might be important in explaining a difference.

Residuals (difference from mean after controlling other variables)

The residual, for any given individual in the survey, is the difference between their reported well-being and the well-being they would be expected to have given the regression model – the difference from the mean for any individuals *after* controlling for other variables. This makes it possible to control for differences in a range of variables (depending on the analysis required) and a comparison between the well-being of different groups on a like-for-like basis to look at the effects of specific determinants. For example, groups of individuals with different levels of education may have different mean life satisfaction scores, but when other variables are controlled for, such as income and health, the residuals show the effect that education may have on life satisfaction beyond the other differences between the two groups, so the two groups compared are now the same in every respect *apart from* their level of education.

Calculation of means for quintiles

For the life satisfaction scale, the mean for quintiles was calculated. Since there are only 10 possible responses on the life satisfaction scale, it is rarely the case that response categories fit neatly into 20% bands. For example, if 15% of respondents respond 1–5, and 10% respond 6, then the mean life

satisfaction of the bottom quintile needs to be the average of those responding 1–5 and half of those responding 6.

Therefore, to calculate the mean, all respondents in each country were ordered by life satisfaction. Respondents with the same life satisfaction scores were ranked randomly. The rank function was used in SPSS to assign respondents into equally sized quintiles for each country. This was done with within-country weightings. In this way, all the quintiles for each country had the same $N + 1$. Mean life satisfaction scores were then calculated for each quintile for each country.

Mean pair distance

The mean pair distance is a measure of inequality within a population. For any given variable (for example life satisfaction), it is the average difference between two randomly selected people within the population. It can be calculated with a basic frequency table, simply working out all the differences between each pair of respondents, summing them all up, and dividing that by the number of possible combinations of respondents.

As is mentioned in Chapter 3, it is related to the Gini coefficient, which is widely used with income distributions. To calculate the mean pair distance from the Gini coefficient, one must simply multiply the Gini by twice the mean of the population. So if the Gini coefficient of income for a country is 0.3, and the mean income is €15,000, then the mean pair distance is €9,000. That means that if any two people in the population are selected, the average difference in income between them would be €9,000.

As discussed in Abdallah (2012), the mean pair distance is more appropriate for a measure such as life satisfaction because it is not a ratio measure. It is meaningful to say that €400 is twice as much as €200, but it is not meaningful to say that a life satisfaction score of 4 is twice as much as 2.

Weighting

For all cross-country analyses, `w5_EU27` was used. This weighting variable combines the within-country design weights with a weighting so that all data from each country are weighted according to the size of the country (so data from Germany are weighted higher than data from Luxembourg).

This method was also applied in cluster analyses where countries of different population sizes were pooled together and in order to ensure that small countries did not influence results unduly.

W4 was used for analyses whereby a separate figure for each country (or for one country only) was calculated.

Annex 3: Results tables

Table A3: Country means for different subjective well-being measures

	Life satisfaction (scale of 1 to 10)	Happiness (scale of 1 to 10)	Loneliness (scale of 1 to 6)	Average domain satisfaction score (scale of 1 to 10)	WHO-5 mental well-being index (scale of 0 to 25)	Social exclusion index (scale of 0 to 20)	Hedonic well-being index (scale of 0 to 20)	Eudaimonic well-being index (scale of 0 to 12)	Stress and busyness index (standardised scores)
AT	7.66	7.69	1.71	7.79	16.57	3.51	14.66	8.96	-0.17
BE	7.38	7.60	1.92	7.16	16.23	5.36	14.57	8.05	-0.05
BG	5.55	6.29	2.16	5.84	16.03	6.79	13.62	8.02	0.08
CY	7.16	7.63	2.06	7.49	15.30	7.78	12.41	8.05	0.20
CZ	6.43	7.11	2.13	6.61	15.56	5.84	13.96	8.11	-0.06
DE	7.20	7.40	1.76	7.24	16.42	3.42	14.35	8.58	-0.09
DK	8.37	8.22	1.42	7.91	17.51	2.53	16.06	10.11	-0.41
EE	6.28	6.82	2.02	6.46	14.49	5.54	13.59	8.22	0.10
EL	6.16	6.49	2.52	6.31	14.39	6.16	10.95	5.84	0.50
ES	7.47	7.75	1.85	7.00	16.35	3.85	14.33	8.57	-0.12
FI	8.08	8.15	1.62	7.67	16.41	3.92	15.17	9.14	-0.25
FR	7.23	7.40	2.11	6.89	15.25	4.96	13.22	7.86	0.13
HU	5.77	6.86	2.17	6.27	15.27	4.75	12.94	7.49	0.21
IE	7.39	7.68	1.59	7.08	15.92	5.00	15.18	8.75	-0.14
IT	6.88	7.08	2.35	6.77	16.00	4.97	13.29	7.79	0.07
LT	6.70	7.00	2.01	6.43	14.54	5.56	13.18	8.15	0.09
LU	7.79	7.81	1.93	7.69	15.72	4.62	13.93	8.85	-0.01
LV	6.24	6.66	1.95	6.16	14.04	5.58	12.69	8.07	0.16
MT	7.23	7.24	1.85	7.24	14.39	5.55	13.17	8.72	0.07
NL	7.69	7.74	1.57	7.30	16.12	4.07	15.05	9.00	-0.26

	Life satisfaction (scale of 1 to 10)	Happiness (scale of 1 to 10)	Loneliness (scale of 1 to 6)	Average domain satisfaction score (scale of 1 to 10)	WHO-5 mental well-being index (scale of 0 to 25)	Social exclusion index (scale of 0 to 20)	Hedonic well-being index (scale of 0 to 20)	Eudaimonic well-being index (scale of 0 to 12)	Stress and busyness index (standardised scores)
PL	7.07	7.28	2.01	6.35	14.66	5.68	13.58	8.08	0.07
PT	6.77	7.23	1.99	6.68	16.38	4.60	14.03	7.48	-0.02
RO	6.73	6.99	2.16	6.94	14.31	5.67	13.01	8.65	0.10
SE	8.03	7.82	1.78	7.60	16.04	3.60	14.94	9.92	-0.25
SI	6.95	7.11	1.78	6.64	14.60	4.50	14.18	8.12	-0.09
SK	6.39	6.89	1.88	6.69	14.82	4.80	13.96	7.28	0.02
UK	7.29	7.62	1.75	7.01	14.64	5.36	14.41	8.24	-0.04

Table A4: Characteristics of high and low life satisfaction

	High life satisfaction		Low life satisfaction	
	N	%	N	%
Age of the respondent				
18–24	470	11.26	343	8.82
25–34	610	14.59	543	13.96
35–49	950	22.75	1,137	29.22
50–64	868	20.79	1,023	26.31
65+	1,279	30.61	844	21.69
Marital status	N	%	N	%
Married or living with partner	2,446	58.77	1,643	42.45
Separated or divorced and not living with partner	308	7.39	684	17.67
Widowed and not living with partner	631	15.16	622	16.06
Never married and not living with partner	777	18.68	922	23.81
Highest level of education completed	N	%	N	%
No education completed (ISCED 0)	95	2.27	75	1.92
Primary education (ISCED 1)	456	10.93	518	13.35
Lower secondary education (ISCED 2)	1,053	25.25	1,177	30.33
Upper secondary education (ISCED 3)	1,373	32.94	1,382	35.61
Post-secondary including pre-vocational or vocational education but not tertiary (ISCED 4)	247	5.93	231	5.95
Tertiary education – first level (ISCED 5)	861	20.65	458	11.79

	High life satisfaction		Low life satisfaction	
Tertiary education – advanced level (ISCED 6)	57	1.38	25	0.65
Completed education abroad	27	0.64	15	0.39
Urban/rural	N	%	N	%
The open countryside	466	11.16	343	8.85
A village or small town	1,704	40.8	1,509	38.89
A medium to large town	1,078	25.82	1,061	27.35
A city or city suburb	928	22.22	966	24.91
Employment status	N	%	N	%
At work as employee or employer/self-employed	1,763	42.19	1,260	32.41
Employed, on childcare leave or other leave	55	1.3	47	1.21
At work as relative assisting on family farm or business	29	0.69	17	0.44
Unemployed less than 12 months	111	2.65	283	7.28
Unemployed 12 months or more	127	3.03	486	12.5
Unable to work due to long-term illness or disability	61	1.47	247	6.35
Retired	1,439	34.44	1,057	27.17
Full-time homemaker/responsible for ordinary shopping and looking after the home	332	7.95	283	7.29
In education (at school, university, etc.) / student	219	5.23	145	3.73
Other	43	1.04	63	1.63
Of those who are at work, contract type	N	%	N	%
On an unlimited permanent contract	1,317	73.4	862	67.39
On a fixed-term contract of less than 12 months	78	4.37	106	8.31
On a fixed-term contract of 12 months or more	119	6.65	69	5.39
On a temporary employment agency contract	30	1.66	17	1.35
On apprenticeship or other training scheme	3	0.15	7	0.54
Without a written contract	117	6.54	113	8.85
Other	130	7.23	104	8.17
Likelihood of losing your job in the next six months?	N	%	N	%
Very likely	57	3.28	137	11.08
Quite likely	103	5.88	217	17.55
Neither likely nor unlikely	179	10.3	215	17.42
Quite unlikely	307	17.63	268	21.68
Very unlikely	1,096	62.91	399	32.27
Deprivation index	N	%	N	%
0	2,796	67.94	928	24.45

	High life satisfaction		Low life satisfaction	
1	445	10.82	316	8.32
2	405	9.83	504	13.28
3	207	5.02	561	14.77
4	150	3.64	564	14.85
5	64	1.55	515	13.58
6	49	1.2	408	10.74
Income quartiles	N	%	N	%
Lowest income quartile	631	20.01	1,427	44.97
Second income quartile	659	20.91	778	24.5
Third income quartile	781	24.76	489	15.41
Highest income quartile	1,083	34.33	480	15.13
Accommodation type	N	%	N	%
Own without mortgage (without any loans)	1,912	45.91	1,654	42.71
Own with mortgage	899	21.58	511	13.2
Tenant, paying rent to private landlord	637	15.3	778	20.09
Tenant, paying rent in social/voluntary/municipal housing	524	12.59	748	19.33
Accommodation is provided rent free	142	3.41	121	3.11
Other	50	1.21	60	1.56
Shortage of space in accommodation?	N	%	N	%
Yes	473	11.34	915	23.58
No	3,698	88.66	2,967	76.42
Self-rated health status	N	%	N	%
Very good	1,466	35.13	493	12.7
Good	1,568	37.59	1,170	30.14
Fair	942	22.59	1,225	31.57
Bad	150	3.61	657	16.92
Very bad	45	1.09	337	8.68
Frequency of participation in sports or physical exercise	N	%	N	%
Every day or almost every day	891	21.35	373	9.62
At least once a week	1,083	25.94	563	14.51
One to three times a month	273	6.53	256	6.6
Less often	438	10.5	567	14.61
Never	1,490	35.69	2,120	54.66

Table A5: Average life satisfaction and hedonic well-being for different population groups across Europe

	Life satisfaction	Hedonic well-being
Men	7.12	7.42
Women	7.11	7.10
Age		
<= 24	7.35	7.60
25–34	7.18	7.43
35–49	7.01	7.14
50–64	6.93	7.10
65–74	7.32	7.33
75+	7.20	7.14
Education		
Only compulsory or less	6.88	7.04
Completed secondary	7.07	7.25
Tertiary	7.45	7.50
Income quartile		
Lowest quartile	6.31	6.72
Second quartile	6.91	7.12
Third quartile	7.30	7.40
Highest quartile	7.67	7.57
Unemployed		
<12 months	6.26	6.98
>=12 months	5.61	6.68
Other		
Non-EU citizens	6.89	7.20
Slightly limited by illness	6.79	6.67
Severely limited by illness	5.88	5.76

Table A6: Regression models (core variables and complete) for life satisfaction

	Core variables			Complete model (only objective variables)			Complete model			Complete model (employed people)		
	Standardised coefficients	t	Sig.	Standardised coefficients	t	Sig.	Standardised coefficients	t	Sig.	Standardised coefficients	t	Sig.
Women (compared to men)	0.011	1.853	0.064	0.023	3.875	0.000	0.034	6.010	0.000	0.034	3.955	0.000
Age	-0.493	-12.794	0.000	-0.418	-10.811	0.000	-0.249	-6.685	0.000	-0.217	-3.897	0.000
Age (squared)	0.493	12.412	0.000	0.415	10.460	0.000	0.240	6.298	0.000	0.157	2.868	0.004
Single parent	-0.019	-3.061	0.002	-0.010	-1.738	0.082	-0.007	-1.231	0.219	0.008	0.864	0.388
No secondary education	-0.040	-5.749	0.000	-0.011	-1.520	0.129	-0.007	-1.051	0.293	0.010	1.102	0.270
Post-secondary education	0.022	3.268	0.001	0.000	0.047	0.963	-0.019	-2.864	0.004	-0.024	-2.539	0.011
<i>Employment status</i>												
Unemployed (<12 months)	-0.074	-12.569	0.000	-0.051	-8.818	0.000	-0.048	-8.682	0.000			
Unemployed (>12 months)	-0.121	-20.249	0.000	-0.070	-11.632	0.000	-0.064	-11.173	0.000			
Disability or long-term illness	-0.050	-8.068	0.000	-0.025	-4.047	0.000	-0.018	-2.962	0.003			
Retired	0.043	4.266	0.000	0.047	4.709	0.000	0.043	4.553	0.000			
Full-time homemaker	-0.008	-1.295	0.195	0.000	0.018	0.985	-0.008	-1.362	0.173			
Full-time student	0.006	0.925	0.355	0.007	1.093	0.275	-0.003	-0.410	0.682			
<i>Marital status</i>												
Separated or divorced	-0.092	-14.633	0.000	-0.056	-8.775	0.000	-0.048	-7.873	0.000	-0.078	-8.494	0.000
Widowed	-0.069	-9.622	0.000	-0.051	-7.156	0.000	-0.056	-8.327	0.000	-0.040	-4.821	0.000
Never married	-0.064	-8.608	0.000	-0.055	-7.466	0.000	-0.056	-7.948	0.000	-0.070	-7.096	0.000
Number of children	0.042	5.891	0.000	0.040	5.661	0.000	0.040	5.870	0.000	0.058	5.599	0.000
Severely limited by health	-0.138	-22.352	0.000	-0.097	-15.769	0.000	-0.025	-3.871	0.000	-0.003	-0.350	0.727
Limited to some extent by health	-0.078	-12.828	0.000	-0.047	-7.789	0.000	0.015	2.389	0.017	0.020	2.328	0.020

	Core variables			Complete model (only objective variables)			Complete model			Complete model (employed people)		
	Stand-ardised coeffi-cients	t	Sig.	Stand-ardised coeffi-cients	t	Sig.	Stand-ardised coeffi-cients	t	Sig.	Stand-ardised coeffi-cients	t	Sig.
Income (Log, PPP, equi-valised)	0.136	19.164	0.000	0.038	5.165	0.000	0.010	1.334	0.182	0.009	0.890	0.373
Citizen of a different EU country	0.007	1.259	0.208	0.019	3.420	0.001	0.011	1.967	0.049	0.020	2.489	0.013
Non-EU citizen	0.000	-0.061	0.951	0.021	3.679	0.000	0.001	0.159	0.874	0.007	0.902	0.367
<i>Home ownership (reference category owner without mortgage)</i>												
Owner (with mortgage)				0.008	1.164	0.245	0.021	3.036	0.002	0.009	0.815	0.415
Rent (private landlord)				-0.006	-0.858	0.391	0.012	1.696	0.090	-0.002	-0.184	0.854
Rent (social housing)				0.004	0.576	0.565	0.012	1.774	0.076	0.004	0.394	0.694
Housing problems				-0.072	-11.792	0.000	-0.046	-7.821	0.000	-0.043	-5.009	0.000
Deprivation index				-0.242	-33.462	0.000	-0.124	-16.203	0.000	-0.107	-10.157	0.000
Arrears				-0.060	-10.118	0.000	-0.038	-6.696	0.000	-0.032	-3.908	0.000
<i>Urbanisation (reference category medium town)</i>												
Countryside				0.030	4.615	0.000	0.024	3.674	0.000	0.010	1.046	0.296
Village or small town				0.023	3.344	0.001	0.017	2.557	0.011	0.009	0.843	0.399
Big city				0.007	0.992	0.321	0.015	2.344	0.019	0.020	2.046	0.041
<i>Activities</i>												
Religious services				-0.014	-2.193	0.028	-0.003	-0.524	0.600	-0.006	-0.652	0.515
Internet use				0.000	0.063	0.950	-0.012	-1.546	0.122	-0.021	-2.234	0.025
Sports				-0.058	-8.719	0.000	-0.040	-6.246	0.000	-0.037	-4.033	0.000
Social activities (club or society)				-0.022	-3.219	0.001	-0.020	-3.004	0.003	-0.017	-1.754	0.079
Volunteering				-0.011	-1.665	0.096	-0.013	-2.107	0.035	-0.027	-2.871	0.004

	Core variables				Complete model (only objective variables)				Complete model				Complete model (employed people)				
	Stand-ardised coefficients		t	Sig.	Stand-ardised coefficients		t	Sig.	Stand-ardised coefficients		t	Sig.	Stand-ardised coefficients		t	Sig.	
	Beta				Beta				Beta				Beta				
No social support from friends or family					-0.076	-9.260	0.000		-0.057	-7.296	0.000		-0.031	-2.661	0.008		
Receives organisational support					0.025	3.162	0.002		0.012	1.631	0.103		-0.001	-0.094	0.925		
Contact with friends/siblings					-0.065	-10.897	0.000		-0.051	-8.850	0.000		-0.036	-4.155	0.000		
<i>Subjective variables</i>																	
Housing insecurity									0.045	7.938	0.000		0.064	7.528	0.000		
Difficulty making ends meet									-0.134	-17.983	0.000		-0.118	-11.269	0.000		
Local neighbourhood problems									-0.029	-4.889	0.000		-0.027	-3.047	0.002		
Access to amenities									0.010	1.693	0.090		-0.011	-1.315	0.189		
Public service satisfaction									0.119	17.392	0.000		0.116	11.436	0.000		
Institutional trust									0.084	12.474	0.000		0.086	8.511	0.000		
General social trust									0.073	12.508	0.000		0.067	7.720	0.000		
Self-assessed health									-0.138	-18.549	0.000		-0.084	-8.742	0.000		
Lack of time									-0.053	-9.319	0.000		-0.042	-4.955	0.000		
<i>Job conditions</i>																	
Temporary contract (<12 months)													-0.027	-3.303	0.001		
Working hours													0.021	2.371	0.018		
Work flexibility													0.014	1.586	0.113		
Work-life interference													0.113	12.177	0.000		
Job insecurity													0.073	8.255	0.000		
R squared																	0.285
																	0.312
																	0.240
																	0.161

Table A7: Regression with life satisfaction as dependent variable and domain satisfactions as independent variables

	Unstandardised coefficients		Standardised coefficients	t	Sig.
	B	Std. error	Beta		
(Constant)	1.683	0.043		38.96	.000
Mean domain satisfaction	0.781	0.006	0.552	128.55	.000
Education satisfaction (difference to mean)	-0.357	0.008	-0.308	-46.75	.000
Job satisfaction (difference to mean)	-0.283	0.011	-0.139	-25.76	.000
Accommodation satisfaction (difference to mean)	-0.339	0.009	-0.241	-36.65	.000
Family life satisfaction (difference to mean)	-0.227	0.008	-0.164	-27.42	.000
Health satisfaction (difference to mean)	-0.292	0.008	-0.244	-38.84	.000
Social life satisfaction (difference to mean)	-0.221	0.009	-0.144	-25.40	.000
Economic situation satisfaction (difference to mean)	-0.293	0.008	-0.293	-38.03	.000

Note: These coefficients are based on a method whereby mean domain satisfaction was entered into the regression, together with seven other variables (for example, difference between family life satisfaction and mean domain satisfaction). As the strongest predictor was standard of living, all other coefficients were calculated in contrast to it.

Table A8: Regression results for different outcome variables

	Objective/ subjective	Life satis- faction	Happi- ness	Hedonic	WHO-5 mental well-being index	Social exclusion index	Eudai- monic	Stress	Loneli- ness	Average
Women (compared to men)	o	0.02	0.04	-0.05	-0.05	-0.01	0.00	0.06	0.01	-0.02
Age	o	-0.42	-0.48	-0.31	-0.13	-0.04	-0.41	0.25	0.13	-0.26
Age (squared)	o	0.41	0.46	0.35	0.13	-0.08	0.37	-0.34	-0.14	0.31
Single parent	o	-0.01	0.01	-0.02	-0.02	0.00	0.01	0.03	-0.01	-0.01
No secondary education	o	-0.01	-0.01	-0.03	-0.02	0.02	0.01	0.02	0.03	-0.02
Post-secondary education	o	0.00	0.01	-0.01	-0.01	-0.04	0.05	0.00	-0.01	0.02
<i>Employment status</i>										
Unemployed (<12 months)	o	-0.05	-0.02	-0.02	0.00	0.02	-0.03	-0.01	0.01	-0.02
Unemployed (>12 months)	o	-0.07	-0.03	0.01	0.02	0.06	-0.05	-0.03	0.00	-0.02
Disability or long-term illness	o	-0.03	-0.02	-0.01	-0.02	0.02	-0.01	-0.02	0.01	-0.02
Retired	o	0.05	0.02	0.05	0.06	-0.03	0.01	-0.14	-0.02	0.07
Full-time homemaker	o	0.00	0.00	0.00	0.02	0.02	0.00	-0.03	0.02	0.00
Full-time student	o	0.01	0.01	0.00	-0.01	-0.02	0.03	-0.02	-0.01	0.02
<i>Marital status</i>										
Separated or divorced	o	-0.06	-0.12	-0.02	-0.01	0.03	-0.02	-0.02	0.17	-0.05
Widowed	o	-0.05	-0.11	-0.05	-0.03	0.00	0.00	-0.02	0.24	-0.06
Never married	o	-0.05	-0.09	0.01	0.01	0.04	-0.01	-0.05	0.13	-0.03
Number of children	o	0.04	0.05	0.02	0.02	-0.02	0.02	0.01	-0.03	0.03
Severely limited by health	~	-0.10	-0.11	-0.19	-0.21	0.06	-0.08	0.14	0.10	-0.17
Limited to some extent by health	~	-0.05	-0.07	-0.14	-0.18	0.04	-0.05	0.11	0.06	-0.12
Income (Log, PPP, equivalised)	o	0.04	0.01	0.02	0.02	-0.04	0.02	-0.01	0.01	0.03
Citizen of a different EU country	o	0.02	0.01	0.00	0.02	0.00	0.02	0.00	0.01	0.01

	Objective/ subjective	Life satis- faction	Happi- ness	Hedonic	WHO-5 mental well-being index	Social exclusion index	Eudai- monic	Stress	Loneli- ness	Average
Non-EU citizen	o	0.02	0.01	0.01	0.03	0.01	0.08	-0.03	0.00	0.03
<i>Home ownership (reference category owner without mortgage)</i>										
Owner (with mortgage)	o	0.01	0.01	-0.01	-0.01	-0.01	0.01	0.01	0.01	0.00
Rent (private landlord)	o	-0.01	0.01	0.01	0.01	0.03	0.00	-0.01	0.02	-0.01
Rent (social housing)	o	0.00	0.01	0.02	0.03	0.03	0.01	-0.02	0.00	0.01
Housing problems	~	-0.07	-0.07	-0.06	-0.08	0.07	-0.06	0.07	0.03	-0.09
Deprivation index	~	-0.24	-0.22	-0.21	-0.19	0.21	-0.18	0.21	0.15	-0.27
Arrears	o	-0.06	-0.05	-0.06	-0.05	0.07	-0.04	0.07	0.04	-0.08
<i>Urbanisation (reference category medium town)</i>										
Countryside	o	0.03	0.02	0.02	0.03	-0.02	0.02	-0.02	0.00	0.03
Village or small town	o	0.02	0.03	0.02	0.00	-0.03	0.00	-0.02	-0.01	0.02
Big city	o	0.01	0.00	0.00	0.00	0.00	0.02	-0.01	-0.01	0.01
<i>Activities</i>										
Religious services	o	0.01	0.00	-0.01	0.00	0.01	0.02	0.01	0.03	0.00
Internet use	o	0.00	0.01	-0.02	-0.02	-0.03	-0.02	0.03	0.00	-0.01
Sports	o	0.06	0.05	0.07	0.09	-0.06	0.06	-0.07	-0.05	0.09
Social activities (club or society)	o	0.02	0.02	0.02	0.03	-0.03	0.03	-0.04	-0.02	0.04
Volunteering	o	-0.01	-0.01	-0.01	0.02	0.01	0.02	0.02	0.01	0.00
No social support from friends or family	~	-0.08	-0.10	-0.08	-0.05	0.10	-0.07	0.05	0.13	-0.11
Receives organisational support	~	0.03	0.04	0.03	0.01	-0.03	0.04	-0.02	-0.06	0.04
Contact with friends or siblings	o	0.07	0.08	0.08	0.09	-0.12	0.07	-0.07	-0.07	0.12
<i>Subjective variables</i>										
Housing insecurity	s	-0.04	-0.04	-0.04	-0.01	0.07	-0.04	0.04	0.04	-0.06
Difficulty making ends meet	s	-0.13	-0.11	-0.10	-0.10	0.06	-0.12	0.11	0.02	-0.12

	Objective/ subjective	Life satis- faction	Happi- ness	Hedonic	WHO-5 mental well-being index	Social exclusion index	Eudai- monic	Stress	Loneli- ness	Average
Local neighbourhood problems	~	-0.03	-0.01	-0.03	-0.01	0.07	0.00	0.04	0.01	-0.04
Access to amenities	~	0.01	0.01	0.03	0.03	-0.07	0.02	-0.06	-0.03	0.05
Public service satisfaction	s	0.12	0.13	0.09	0.11	-0.04	0.08	-0.09	-0.05	0.11
Institutional trust	s	0.08	0.03	0.03	0.01	-0.08	0.14	-0.07	-0.01	0.08
General social trust	s	0.07	0.06	0.04	0.05	-0.07	0.07	-0.04	-0.01	0.07
Self-assessed health	s	-0.14	-0.22	-0.26	-0.30	0.10	-0.13	0.19	0.14	-0.25
Lack of time	s	-0.05	-0.08	-0.11	-0.12	0.06	-0.05	0.15	0.07	-0.12
<i>Job conditions</i>										
Temporary contract (<12 months)	o	-0.05	-0.05	-0.03	-0.03	0.02	-0.01	0.02	0.02	-0.04
Working hours	o	-0.02	-0.03	-0.05	-0.03	0.01	-0.01	0.12	0.03	-0.04
Work flexibility	o	0.06	0.05	0.04	0.05	-0.08	0.08	-0.08	-0.04	0.09
Work-life interference	s	-0.12	-0.13	-0.24	-0.21	0.14	-0.12	0.31	0.13	-0.25
Job insecurity	s	-0.07	-0.07	-0.04	-0.03	0.09	-0.08	0.04	0.04	-0.08
R ² (everyone – all variables)		0.31	0.30	0.31	0.32	0.31	0.26	0.30	0.25	0.47
R ² (employed – all variables)		0.29	0.27	0.31	0.29	0.30	0.26	0.37	0.20	0.47

Note: Numbers are standardised beta coefficients. In the 'Objective/subjective' column, **s** indicates subjective, **o** indicates objective, and **~** indicates a variable that can be considered as somewhere in between.

Key:

	Positive effect*	Negative effect
Not significant at 0.05		
Significant to 0.01		
Significant to 0.001		
Significant to more than 0.001		

* For the columns 'Social exclusion index', 'Stress' and 'Loneliness', a positive effect means that this variable contributes to a decrease in the social exclusion index, stress or loneliness.

Table A9: Regressions with life satisfaction as dependent variable, by country cluster

	Social democrat	Corporatist	Liberal	Southern	Post-socialist corporatist	Post-socialist liberal	2007 accession cluster
<i>Women (compared to men)</i>	0.16	0.10	-0.03	0.22	-0.08	0.14	0.02
Age	0.00	-0.03	-0.08	-0.07	-0.08	-0.09	-0.05
Age (squared)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Single parent	0.05	-0.20	0.02	-0.05	-0.04	0.05	-0.16
No secondary education	0.14	-0.04	-0.16	0.00	-0.30	-0.06	0.08
Post-secondary education	0.11	0.01	-0.04	0.08	0.32	-0.08	0.02
<i>Employment status</i>							
Unemployed (<12 months)	-0.23	-0.83	-0.38	-0.27	-0.57	-0.04	-0.74
Unemployed (>12 months)	-0.60	-0.95	-0.48	-0.72	-0.10	-0.51	-1.16
Disability or long-term illness	-0.72	-0.24	-0.89	-0.11	0.42	0.26	-1.09
Retired	0.29	0.10	0.40	0.36	0.13	-0.04	0.26
Full-time homemaker	-0.25	0.13	-0.45	0.05	0.33	0.05	0.26
Full-time student	0.13	0.16	-0.43	-0.16	0.52	0.37	0.02
<i>Marital status</i>							
Separated or divorced	-0.27	-0.39	-0.46	-0.32	-0.33	-0.25	-0.20
Widowed	-0.21	-0.42	-0.15	-0.44	-0.25	-0.19	-0.26
Never married	-0.29	-0.20	-0.33	-0.46	-0.15	-0.24	-0.37
Number of children	0.07	0.07	0.08	0.07	0.09	0.05	0.03
Severely limited by health	-0.97	-0.71	-0.76	-0.81	-1.04	-0.94	-0.57
Limited to some extent by health	-0.43	-0.21	-0.17	-0.20	-0.38	-0.36	-0.16
Income (Log, PPP, equivalised)	0.07	0.11	0.11	0.03	0.11	0.13	0.08
Citizen of a different EU country	0.00	0.42	0.00	0.00	-0.43	-0.99	1.05
Non-EU citizen	-0.63	0.07	0.76	0.85	-1.29	-0.31	-0.37

	Social democrat	Corporatist	Liberal	Southern	Post-socialist corporatist	Post-socialist liberal	2007 accession cluster
<i>Home ownership (reference category owner without mortgage)</i>							
Owner (with mortgage)	0.03	0.02	-0.19	0.31	-0.18	0.15	0.16
Rent (private landlord)	-0.03	-0.06	-0.01	-0.11	0.00	-0.05	0.03
Rent (social housing)	-0.03	-0.12	0.37	-0.06	0.05	-0.13	0.17
Housing problems	-0.08	-0.17	-0.09	-0.17	-0.12	-0.07	-0.21
Deprivation index	-0.21	-0.28	-0.31	-0.28	-0.26	-0.34	-0.41
Arrears	-0.05	-0.11	-0.24	-0.15	-0.13	-0.22	-0.27
<i>Urbanisation (reference category medium town)</i>							
Countryside	0.11	0.18	0.35	0.07	-0.07	0.36	0.47
Village or small town	-0.02	0.09	0.19	-0.04	0.13	0.18	-0.34
Big city	-0.12	0.08	0.08	-0.17	0.30	-0.07	-0.30
<i>Activities</i>							
Religious services	-0.02	-0.04	0.03	0.04	-0.25	-0.17	-0.18
Internet use	0.03	-0.04	0.08	0.04	0.01	0.04	-0.02
Sports	-0.04	-0.08	-0.07	-0.16	-0.01	-0.06	-0.06
Social activities (club or society)	-0.01	-0.03	-0.08	-0.03	-0.01	-0.10	0.08
Volunteering	0.10	-0.19	0.19	-0.05	0.02	0.10	0.12
No social support from friends or family	-0.17	-0.13	-0.38	-0.27	-0.20	-0.22	-0.23
Receives organisational support	0.03	0.02	0.24	0.30	0.22	0.43	0.39
Contact with friends or siblings	-0.15	-0.22	-0.16	-0.12	-0.16	-0.22	-0.03
<i>Subjective variables</i>							
Housing insecurity	-0.02	0.17	0.18	0.19	0.18	0.08	0.15
Difficulty making ends meet	-0.16	-0.15	-0.26	-0.23	-0.34	-0.31	-0.44
Local neighbourhood problems	0.08	-0.22	-0.14	-0.22	-0.09	-0.31	-0.11
Access to amenities	0.12	0.02	0.18	0.05	-0.04	0.19	0.09
Public service satisfaction	0.07	0.17	0.19	0.17	0.12	0.11	0.13
Institutional trust	0.13	0.09	0.09	0.10	0.06	0.10	0.09
General social trust	0.05	0.09	0.03	0.05	0.10	0.06	0.09

	Social democrat	Corporatist	Liberal	Southern	Post-socialist corporatist	Post-socialist liberal	2007 accession cluster
Self-assessed health	-0.27	-0.31	-0.13	-0.26	-0.46	-0.26	-0.32
Lack of time	-0.11	-0.09	-0.14	-0.04	-0.10	-0.03	-0.06
<i>Job conditions</i>							
Temporary contract (<12 months)	-0.70	0.19	0.74	0.04	0.28	0.33	2.29
Working hours	-0.01	0.00	0.00	0.00	0.01	0.00	0.01
Work flexibility	-0.34	-0.02	-0.62	-0.24	-0.13	-0.40	0.06
Work-life interference	-0.54	-0.76	-0.35	-0.43	-0.44	-0.46	-0.76
Job insecurity	-0.17	-0.29	-0.18	-0.17	-0.35	-0.23	-0.36

Note: Numbers are standardised beta coefficients

Key:

	Positive effect	Negative effect
Not significant at 0.05		
Significant to 0.01		
Significant to 0.001		
Significant to more than 0.001		

HOW TO OBTAIN EU PUBLICATIONS

Free publications:

- via EU Bookshop (<http://bookshop.europa.eu>);
- at the European Union's representations or delegations. You can obtain their contact details on the Internet (<http://ec.europa.eu>) or by sending a fax to +352 2929-42758.

Priced publications:

- via EU Bookshop (<http://bookshop.europa.eu>).

Priced subscriptions (e.g. annual series of the *Official Journal of the European Union* and reports of cases before the Court of Justice of the European Union):

- via one of the sales agents of the Publications Office of the European Union (http://publications.europa.eu/others/agents/index_en.htm).



This report assesses the impact of the crisis on the subjective well-being of Europeans. In 2011, GDP per capita in 22 out of the then 27 EU Member States was below 2008 levels, and unemployment rates were higher in 25 out of the 27. These indicators demonstrate worrying trends, but the report goes deeper, trying to answer various questions: What is the real impact on people's lives? Who has been hit hardest? Where have there been positive well-being patterns? What explains the variation in well-being across Europe? How can policy increase or stem the fall in well-being in the future? It concludes that the crisis may not be affecting everyone's well-being equally, nor all aspects of well-being. Well-being has fallen in many EU countries, remaining highest in northern countries. However, falls in well-being in many western EU countries have been matched by increases in eastern countries. Population groups with low well-being include those limited by disability or illness and unemployed people.

ISBN 978-92-897-1120-3



9 789289 711203

