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Well-being of the older population in Europe and the U.S.

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Abstract

As longevity increases there is an increasing emphasis on understanding quality of life at older ages. Indicators of subjective well-being provide an indication of how people evaluate the quality of various aspects of their lives. Better understanding of how older people assess their lives is important in understanding the value of differing approaches to providing support for older populations. Because the broader social and economic context in which people live can have implications for quality of life in old age, this study explores variability in reported subjective well being in multiple countries belonging to different welfare regimes. Differences in subsidized services or cash transfer programs of welfare regimes are linked to variability in the resources available for citizens. The analysis uses nationally representative data for older Europeans and Americans to examine how life satisfaction, optimism, pessimism and depression differ among the oldest old living in 12 countries.

Keywords: well-being, Europe, the U.S., older population

Introduction

Increasing longevity has been experienced by almost all countries. During the last few decades there have been important increases in life expectancy at older ages so that there is an aging of the aged. Most people live long beyond their working years and the years in which they raise families (Crimmins, Preston et al. 2011). How this transformation of the duration of life related to the quality of life needs further investigation since individual's sense of well-being is an indicator of psychological adjustment and successful aging. There is a growing interest of policy makers and scientists in understanding how to improve quality of life at older ages.

Quality of life domains include indicators of health and well-being (Graham Beaumont and Kenealy 2004; Clarke and Smith 2011). Though much of the research on quality of life has focused on health, subjective assessments of psychosocial well-being also have positive and causal effects on longevity and physiological health (Diener and Chan 2011; Frey 2011). Research on international investigations has increasingly begun to draw upon the comparative examination in health outcomes and the type of welfare state regimes and their politics and policies (Navarro, Borrell et al. 2003; Bambra 2006). The broader political context on social benefits, such as disability or home care programs, varies across countries and welfare regimes, and may impact individuals' health by enhancing better or worse quality of life. Building on recent comparative analysis of cross-national and welfare regimes differences (Navarro and Shi 2001; Bambra 2006; Chung and Muntaner 2007; Stuckler, Basu et al. 2010), we examine differences in well-being of individuals aged 70 and older in twelve western, post-industrial democratic countries belonging to four different welfare regime types: Conservative; Liberal; Scandinavian; and Southern with two specific questions: 1) determine how satisfaction with life, depressive symptoms, and feelings of optimisms and pessimism differ for older individuals across countries grouped according to type of welfare regime; and 2) to identify how individual characteristics and macro indicators contribute to country or welfare regimes differences on psychosocial well-being. Macro-level characteristics are linked to micro-level of individuals, and we expect variations on the well-being of older adults between different countries and welfare regimes, but similarities among countries with the same welfare regime.

Analysis of harmonized data from Europe and the U.S. is now possible using representative datasets, with similar study design and comparable measures. Country-specific and types of welfare regime variation may help to more fully investigate how macro and social context factors may shape well-being of older adults in western developed countries, and clarify whether social networks, health and life circumstances function in similar ways in different settings and in relation to different outcomes.

Well-being differences between welfare state regimes and countries

Subjective well-being, such as life satisfaction, is generally expected to decline in advancing age, mostly due to debilitating health conditions, functional impairments, and personal losses during old age (Larson 1978; Smith, Borchelt et al. 2002; Easterlin 2010). However, individual and national level characteristics – such as welfare regimes - are important in successful aging and quality of life (Hank 2011). A recent German study concludes that life satisfaction declines rapidly and the lowest absolute levels of life satisfaction are recorded for the oldest old. However, once cohort effects are controlled for, life satisfaction remains remarkably constant across the lifespan (Gwozdz and Sousa-Poza 2010). Blanchflower and Oswald (2008) addressed that happy countries seem to have fewer blood pressures problems. Moreover, health problems and physical limitations can be potential sources of bias for older individuals, and detrimental health conditions, increased risk of frailty, loss of

functional capacity may affect the self-assessments both directly by reducing the level of life satisfaction and indirectly by pessimistically biasing the respondents responses (Smith 2001; Smith, Borchelt et al. 2002; Angelini, Cavapozzi et al. 2012). Age-related differences in well-being might be partly explained by individual-level factors. Spouses, as well as aspects of people's living situations, can play an important role when individual well-being is analyzed, and significant spousal effects on individual well-being could in part be dependent on spouses' health (Windsor, Ryan et al. 2009).

Welfare regimes are part of the actual delivery of services, such as education, health or social services. For instance, the Scandinavian welfare states have higher levels of social expenditure; the Conservative countries are more inclined to fund cash benefits than welfare services; and the Liberal countries are divided into two sub-groups: prepared to spend a little more on services and consistently low in all forms of social expenditure (Castles 1999). Therefore, citizens in different regime types have very different experiences and different expectations regarding the welfare policies the state may provide to its citizens (Arts and Gelissen 2002), and in practice, welfare provision varies extensively between countries of the same regime type (Kasza 2002).

The generosity of state programs - such as unemployment benefits, health insurance, family support, pensions, health care or elderly care - may be an important factor the quality of individuals' lives. Types of welfare regimes vary within Europe, and between Europe and the U.S. There is considerable cross-national variation in the extent and type of protections offered with the U.S. generally having a less generous welfare system according to the level of de-commodification (Esping-Andersen 1999). In the context of welfare provision, de-commodification is the degree to which welfare services are free of the market, particularly in terms of pensions, unemployment benefits and sickness insurance, and occurs when a service is rendered as a matter of right, and when a person can maintain a livelihood without reliance on the market (Esping-Andersen 1990). Liberal welfare regimes, such as the U.S., represent the least de-commodified class of nations, while in social demographic regimes, such as Sweden, the level of de-commodification is high. Because of de-commodification is inversely related to socioeconomic hardship, population health should be better and health inequalities smaller in welfare regimes that have higher levels of social protection than in others (Brennenstuhl, Quesnel-Vallée et al. 2011). For instance, better self-perceived health is found in Scandinavian welfare regimes in comparison to Southern welfare regimes (Eikemo, Ringdal et al. 2008). Moreover, GDP per capita which reflects a country's economic well-being (Chung and Muntaner 2007) is highly correlated with a number of health outcomes. For instance, high levels of stress are found in high-GDP countries (Ng, Diener et al. 2009).

As discussed, individuals and national differences in psychosocial well-being have been investigated (Inglehart, Foa et al. 2008), but many have not evaluated differences across cultures with comparable measures in nationally representative samples of older adults. *How does the older population feel about quality of life in the last years of their lives?* For instance, some of these works use data from representative national surveys to test individual and societal-level effects, but using few harmonized measures or a very general measure of quality of life across countries (Knesebeck, Wahrendorf et al. 2007; Inglehart, Foa et al. 2008). Other studies use comparable and multiple measures but only from few countries with small samples in Europe which are not generalizable to other cultures, such as the United States (U.S.) (Malgarini, Pugno et al. 2009). Also often when multiple countries are used, country specific variation is not examined (Litwin 2009). Multi-country studies in psychosocial well-being are intriguing but it is hard to know if these kinds of findings are credible for several reasons. For instance, language differences raise the worry about question wording, and if the translation is

consistently to ensure the variations in reported well-being are meaningful; or cultural differences may accentuate these differences (in some countries it may be less acceptable to accept certain levels of well-being). Ploubidis, Dale et al. (2012) documented that about a quarter of the overall variation in later life health in Europe appears to be due to country level differences, and the type of welfare state regime appeared to account for approximately half of the national-level differences of health inequalities between European countries (Eikemo, Ringdal et al. 2008). Well-being is as important dimension of quality of life as health is, but few studies have been investigated the differences on welfare regime and psychosocial well-being at older ages.

Data, measures and methods

Data

This study uses data from surveys that were harmonized to allow comparable analyses: the Survey of Health, Ageing and Retirement in Europe (SHARE) for 11 continental European countries and the Health and Retirement Study (HRS) for the U.S. Both surveys provide information on demographic, health, psychosocial, economic and social support variables for individuals aged 50 and over. Because the aim of this study is to characterize psychosocial well-being in the oldest segment of the population, we focus on respondents who were 70 years of age or older between Americans and Europeans.

We use the first wave of SHARE collected in 2004. SHARE countries include: Austria; Belgium; Denmark; France; Germany; Greece; Italy; Netherlands; Spain; Sweden; and Switzerland. The SHARE self-administrated questionnaire with psychosocial questions was given to each respondent after the main interview was completed. Response rates for this section range from a low of 70 percent in Sweden and a high of 93 percent in Greece. The average response rate was about 74%. The HRS began collecting information on psychosocial characteristics of older adults in 2006. Respondents in one-half of HRS households were randomly selected to complete the self-administrated psychosocial questionnaire in 2006. The data and extensive documentation are available at the respective websites (http://share-dev.mpisoc.mpg.de/ and http://hrsonline.isr.umich.edu/). A total of 11,585 individuals aged 70 years and older were included in the analysis for the 12 countries.

Measures

Psychosocial Well-being: Life Satisfaction, Depressive Symptoms, Optimism and Pessimism

Life satisfaction is used as our general measure of subjective well-being to evaluate the life situation of the respondents. Respondents in both surveys were asked how satisfied they are with their life in general. Response options were somewhat different on the surveys. SHARE responses are: very satisfied = 1, somewhat satisfied = 2, somewhat dissatisfied = 3, and very dissatisfied = 4. HRS responses were: strongly agree = 1, somewhat agree=2, slightly agree = 3, strongly disagree = 4, somewhat disagree=5, slightly disagree = 6. In both, SHARE and HRS, we grouped the satisfied or agreement responses (1 and 2 for SHARE, and 1, 2 and 3 for HRS) versus the non-satisfied or non-agreement responses (3 and 4 for SHARE, and 4, 5, and 6 for HRS) into a binary variable, with 1 indicating the positive response option.

Depressive symptoms, our emotional state variables, were measured with six items. Respondents were asked how often they experienced the following feelings over the last week: (1) I felt depressed, (2) I felt that

everything I did was an effort, (3) My sleep was restless, (4) I felt lonely, (5) I felt sad, and (6) I couldn't get going. SHARE response options were almost all of the time = 1, most of the time = 2, some of the time = 3, and almost none of the time= 4. HRS response options were all of the time=1, most of the time=2, some of the time =3, a little of the time=4, none of the time= 5. For both, SHARE and HRS, we considered the most severe response - all of the time - as an indication that a symptom was present. We constructed a depressive score indicating whether a person had any depressive symptoms. We then convert into a binary variable with 1 indicating any depressive symptoms, and 0 none.

We used 2-item scales for optimism and pessimism. Optimism was indicated by responses to the following statements: in uncertain times, I usually expect the best; I am always optimistic about my future. These two optimistic items are general situations. The two items used to create a pessimism scale were: I hardly ever expect things to go my way; I rarely count on good things happening to me. These two pessimistic items are based on individual feelings. SHARE response options were strongly agree, agree, neither agree, neither disagree, disagree and strongly disagree. HRS response options were strongly agree, somewhat agree, slightly agree, slightly disagree, somewhat disagree, strongly disagree. Responses were dichotomized for each of the 2-items. For all questions, "strongly agree" equals 1 and the rest of the responses equal 0. Appendix Table 1 details the survey items that were used for the construction of these measures, as well as question wording.

Demographic and Socio-economic variables

We first examine differences in demographic, socioeconomic characteristics, living arrangements and health status by country. We include age, sex, number of years of education, marital status, and living arrangements in our analyses. These indicators are measured similarly in both surveys. Age is a continuous variable. Gender is a binary variable, with men in the reference category. We also indicate living arrangements by a dichotomous variable, living with a spouse or not. We include indicators of whether there is a child living in the household. Health status is assessed with the number of co-morbidities and the number of limitations in activities of daily living (ALDs) and instrumental activities of daily living (IADLs). Information on the presence of six chronic diseases is reported in response to the question, "Has a doctor ever told you that you had any of the following conditions? (Heart disease, stroke, lung disease, hypertension, and cancer)". In addition, we utilize indicators of difficulty with six ADLs (dressing, walking, bathing, eating, getting in and out of bed, and using the toilet), and difficulty with seven IADLs (using a map, preparing hot meals, shopping, making phone calls, taking medications, doing work around the house or garden and managing money).

Country-level variables

Information on Gross domestic product (GDP) was taken from Eurostat (Eurostat, 2011). The volume index of GDP per capita in Purchasing Power Standards is expressed relative to the European Union (EU-27) average set to equal 100. Thus, this is included in our analysis to remove economic wealth of welfare states from being a factor that can be associated with population health outcomes.

The 12 countries were classified into four classes of welfare regimes using the Esping-Andersen typology (Esping-Andersen 1990) with the addition of the Southern model because of the unique features of Southern European countries (Ferrera 1996; Bambra and Eikemo 2009). The *Conservative welfare regime* includes

countries with medium levels of social benefits which are related to a person's position in the labor market and within the family. The *Liberal welfare regime* is characterized by means-tested programs and modest universal benefits, and a deregulated labor market. The *Scandinavian welfare regime* has high levels of social rights, with full benefits and services, universalistic welfare, and an interventionist state. The *Southern welfare regime* is a highly fragmented social protection system, with a high variance in the level and provision of welfare. Table 1 indicates the categorization of individual countries, welfare regimes and GPD. The southern European countries (Greece, Spain and Italy) are the countries with lowest GDP and the U.S. has the highest GDP.

[Insert Table 1 about here]

Statistical analysis

We used logistic regressions to examine differences of the prevalence of quality of life measures by welfare regime. Each welfare regime is introduced as a binary variable. The conservative welfare regime is the reference category. We estimate three models. We first examined the psychosocial variation adding the types of welfare regimes in order to see how our psychosocial variables vary welfare regimes (Model 1). Thereafter, using Model 1 as a baseline, we add our socio-demographic variables, living arrangements and health conditions in order to see how our psychosocial variables vary by individual socio-demographic characteristics (Model 2). Model 3 adds GDP, as our macro variable. We find the same pattern of results using multilevel analysis. All calculations were performed using the STATA 12.1 statistical package (Stata and StataCorp 2009). All analyses are weighted using baseline sample weights.

Results

Sample characteristics

Table 2 shows the demographic, socio-economic, living arrangements and health characteristics of the sample by welfare regime. Women made up the majority of the sample. There are clear differences by welfare regime. The mean age among the Liberal and Scandinavian welfare regimes is 78; persons in the Conservative or Southern regime are almost a year younger on average. Educational differences across welfare regimes are substantial. Conservative and Liberal regimes are the welfare states where older persons are more likely to have higher levels of education. In the remaining welfare states, 74% or more had less than a high school level of education (less than 12 years of education). About half of the sample had a spouse at the time of the survey. The highest percent of adults with children in the household is in the Southern welfare regime (30%), while between 14% and 18% of adults had children in the household in the Conservative and Liberal welfare states. Scandinavian welfare states had the lowest number of children in the household (2%). All welfare regimes had about the same percentage of persons with at least 1 ADL or IALD limitation; percentage of co-morbidities is about the same across welfare regimes, with higher chronic conditions in the Southern welfare regime.

The prevalence of quality of life measures of the sample are also presented in Table 2. The Liberal and the Southern welfare regimes report lower levels of life satisfaction (85%); followed by the Conservative welfare regime (91%); and the highest levels of life satisfaction is reported in the Scandinavian countries (96%). The frequency of having a depressive symptom, and reaffirming what Crimmins, Kim et al. (2011) addressed, was highest in Spain, Greece and Italy (the Southern welfare regime) while in the U.S. (Liberal regime) reports the

lowest prevalence of having a depressive symptom. Optimism is higher than pessimism in all welfare regimes. Scandinavian welfare regime reports the highest level of optimism and the highest level of pessimism. The Southern welfare regime reports the lowest level of optimism and the Liberal lowest level of pessimism. To sum up, people who live in countries with liberal welfare regimes have low life satisfaction and depression, and high optimism. In the other three welfare regimes in Europe, being satisfied with your life and being optimistic, and having depression operates in opposite ways. From higher to lower rates of life satisfactions and being optimistic and from lower to higher rates of depression are shown for Scandinavians, Conservatives and Southern regimes. There is less variability in pessimism across welfare regimes. Scandinavian and Conservative, in one side, and Liberal and Southern in minor percentage in the other side, have about the same levels of pessimism.

[Insert Table 2 about here]

Logistic regression

The logistic regression analyses for all well-being indicators are presented in Table 3a and Table 3b. The parameters were calculated using maximum likelihood, and all models estimates (odds ratios) are presented with 95% confidence intervals. Model 1 (Panel A in Table 3a) includes welfare regimes only and shows that the effects of being satisfied with your life is higher correlated with Scandinavian countries, while Liberal and Southern regimes have lower levels of life satisfaction relative to the Conservative countries. When the individual characteristics are controlled, being older, having more years of education and having a spouse are positively correlated with life satisfaction and having health problems, such as ADLS, IADLs or chronic conditions are negatively correlated (see Panel A, Model 2). Living in a Liberal or Scandinavian regime is linked to a lower probability of being depressed, while in the Southern countries the probability of being depressed is higher compared to the Conservative regime (Table 3b, Model 1). Being female, having more difficulties and more co-morbidities is positively correlated with being depressed, but having more years of education, a spouse or children in the household is less correlated (see Panel B, Model 2).

Being in the Liberal or Scandinavian regime increases the probability of being optimistic; however, being in a Southern regime reduces the probability of being optimistic relative to a Conservative regime (Table 3b, Model 1). When individual characteristics are added, being in the Liberal and Scandinavian still increases the probability of being optimistic, but significant results vanish for the Southern regime. Being optimistic is positively correlated with having children in the household but less correlated with having more ADLs or IADLs difficulties (see Model 2). Finally, Model 1 in Panel B shows that the probability of being pessimistic decreased, but not significantly, in the Liberal and Southern regime compared to Conservative countries and strongly increased for the Scandinavian regime. Individual adjustments significantly reduced the odds of being in a Southern regime, and strongly increased the odds of being in a Scandinavian regime. Higher levels of pessimism are positively related with having more ADL or IADL difficulties but less correlated with being older and higher number of years of education.

[Insert Table 3a and 3b about here]

Discussion

Adapting to population aging is one of the main challenges worldwide. Understanding the effects of aging on health needs will facilitate the implementation of policies that may convert a challenge into an opportunity. Belonging to a particular welfare regime may increase or decrease the relationship between health and quality of life. In this paper, we use national data from both the U.S. and Europe to argue that living in different welfare regime may cause differences in psychological well-being of the oldest individuals. Considering the demographic aging of European and American population, the objective of this study is to examine individual differences in psychosocial well-being for the oldest old using a binary model for understanding if these differences are caused mainly for individuals' characteristics or countries belonging to particular welfare regimes, or both.

Our findings provide evidence on two relevant aspects of how welfare state regimes impact on well-being of older population, relative to the conservative welfare regime, which is our reference category. First, in countries with traditional family models, like Spain, Italy and Greece, lower levels of life satisfaction and higher levels of depressive symptoms are identified. This is somehow surprising because the social networks of older persons in the Mediterranean countries are more familial in scope and in character (Litwin 2009) and having a partner is protective against depression (Buber and Engelhardt 2008), so better levels of life satisfaction and depression in advanced ages when you are accompanied were expected in these type of societies. However, it is also worthy to note that non-Mediterranean respondents report greater exchange of assistance outside the household (Solé-Auró and Crimmins 2012) and they may define boundaries of their family networks differently. In countries where their welfare regime offers generous benefits, like Denmark and Sweden, life satisfaction is higher relative to Conservative welfare regime. One possible explanation for this findings, as Rothstein (2010) addressed, is that countries with large and mostly universal welfare state programs also have high levels of social trust, happiness and social well-being. Being older, having more years of education and having a spouse is positively related to life satisfaction and suffering health problems reduces this subjective feeling. Being female and having health problems is highly correlated with being depressed; however, more years of education and having a spouse or child in the household is less correlated with being depressed. Second, countries with generous benefits are contradictory in the levels of optimism and pessimism, and we think this may be related to the items examined. As indicated above, optimisms items are more general situations and pessimism items are more individual feelings. People in the Scandinavian welfare regime have higher probability of being optimistic and pessimistic at the same time relative to the Conservative welfare regimes when individual characteristics are controlled. These contradictory responses are not easy to address. On the other hand, southern Europeans are less optimistic relative to those countries belonging to the Conservative welfare regime; and being in a Liberal welfare regime increases the probability of being optimistic relative to a Conservative welfare regime.

Limitation:

Studies also show that subjective well-being questions are understood in a similar way across countries (Diener and Tov 2012), although there is some debate about the degree to which it is possible to directly compare results between different countries (Angelini 2008). Individual's response rates are also a limitation that markedly differed between countries. Non-response rates may bias estimates on individual and macro level, because non-response is generally higher in lower socioeconomic groups and in less healthy people (Cavelaars, Kunst et al. 1998).

Maybe it is time to add interventions to improve subjective well-being to the list of public health measures, and alert policy makers to the relevance of subjective well-being for health and longevity, because subjective well-being is something that is indeed desirable and beneficial.

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Table 1: Type and brief description of welfare state regimes

	Conservative	Liberal	Scandinavian	Southern
Welfare Regime[1]	Medium levels of de-commodification and benefits depends on a person's position in the labor market and within the family	Low levels of de-commodification, benefits are limited and means-tested and there is limited redistribution of incomes	High levels of de-commodification, high standards of meeting needs, high levels of redistribution, and generous benefits that are not means tested and not dependent on individuals contribution	Characterized by their fragmented system of welfare provision, which consist of diverse income maintenance schemes that range from the meager to the generous and welfare services, particularly the healthcare system, that provide only limited and partial coverage
Countries	Austria, Belgium, France, Germany, Netherlands, and Switzerland	U.S.	Denmark and Sweden,	Greece, Italy, and Spain
GDP	122.8	154	126	100.7

Source: (Esping-Andersen 1990); [1](Bambra 2011)

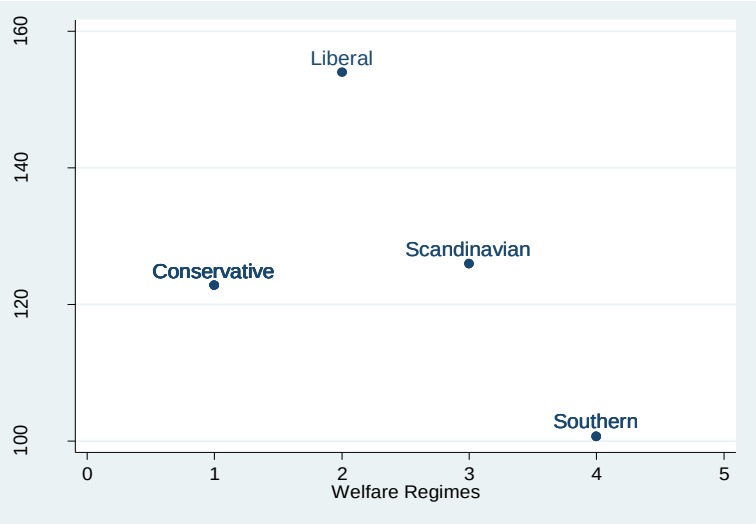

Table 2: National Sample sizes and sample Characteristics by welfare regime, Individuals 70+

Country	Conservative	Liberal	Scandinavian	Southern
N	4,568	3,161	1,430	2,426
Socio-demographic characteristics				
% Females	62.5	58.7	59.6	60.5
Mean Age	77.6	78.3	78.3	77.1
Education				
< HS	59.4	26.4	73.7	92.0
HS or more	40.6	73.6	26.3	8.0
Living arrangements				
Spouse	50.6	54.6	46.1	47.8
Children in the HH	13.9	17.8	2.3	30.1
Health problems				
1+ ADLs or IADLs	35.6	36.5	37.2	39.5
1+ comorbidities	63.5	63.7	63.5	65.1
Well-being				
Life Satisfaction	90.5	83.9	96.3	84.6
Depression	17.4	5.3	13.4	30.6
Optimistic	22.2	30.9	34.0	18.9
Pessimistic	10.1	8.5	13.0	9.9

Source: SHARE 2004 and HRS 2006.

Table 3a: Logistic regression of life satisfaction and depression on individuals aged 70+

Panel A: Model for Life Satisfaction

	Model 1			Model 2			Model 3		
	Odds Ratio		CI	Odds Ratio		CI	Odds Ratio		CI
Welfare Regime									
Conservative (RF)									
Liberal	0.55	***	(0.44,0.70)	0.50	***	(0.39, 0.65)	0.24	***	(0.12, 0.47)
Scandinavian	2.76	***	(1.80,4.22)	2.72	***	(1.79, 4.13)	2.27	***	(1.49,3.47)
Southern	0.58	***	(0.43,0.77)	0.68	**	(0.50, 0.94)	0.90		(0.54,1.49)
Socio-demographic Characteristics									
Age				1.02	***	(1.00, 1.04)	1.02	***	(1.01, 1.04)
Sex				0.92		(0.75, 1.12)	0.92		(0.75, 1.12)
Years of Education				1.02	*	(1.00, 1.05)	1.02	*	(1.00, 1.05)
Living arrangements									
Spouse				1.38	***	(1.13, 1.69)	1.39	***	(1.13, 1.70)
Children in the hh				0.96		(0.77, 1.21)	0.96		(0.77, 1.21)
Health problems									
Number of ADL and IADL				0.81	***	(0.78, 0.85)	0.81	***	(0.78, 0.85)
Number of comorbidities				0.89	**	(0.81, 0.98)	0.89	**	(0.82, 0.98)
GDP							1.02	**	(1.00, 1.04)

Panel B: Model for Depression

	Model 1			Model 2			Model 3		
	Odds Ratio		CI	Odds Ratio		CI	Odds Ratio		CI
Welfare Regime									
Conservative (RF)									
Liberal	0.26	***	(0.21,0.33)	0.27	***	(0.21,0.36)	0.19	***	(0.11, 0.33)
Scandinavian	0.73	**	(0.56,0.96)	0.71	**	(0.53,0.95)	0.65	***	(0.49, 0.87)
Southern	2.09	***	(1.67,2.64)	1.77	***	(1.34,2.32)	2.00	***	(1.32, 3.06)
Socio-demographic Characteristics									
Age				1.00		(0.98,1.02)	1.00		(0.98, 1.02)
Sex				1.35	**	(1.07,1.69)	1.35	**	(1.07, 1.69)
Years of Education				0.94	***	(0.92,0.97)	0.94	***	(0.92, 0.97)
Living arrangements									
Spouse				0.57	***	(0.45,0.71)	0.57	***	(0.45, 0.71)
Children in the hh				0.69	**	(0.53,0.91)	0.69	***	(0.53, 0.91)
Health problems									
Number of ADL and IADL				1.23	***	(1.18,1.28)	1.23	***	(1.18, 1.28)
Number of comorbidities				1.15	*	(1.04,1.28)	1.15	**	(1.04, 1.28)
GDP							1.01		(0.01, 0.95)

Source: SHARE 2004 and HRS 2006. *Model 1* has welfare regime typologies only, while Model 2 includes individual level variables + Model 1. RF: Reference category.
Note: 95% confidence intervals in parentheses.
*p<.10; **p<.05; ***p<.001

Table 3b: Logistic regression of optimism and pessimism on individual aged 70+

Panel A: Model for Optimism

	Model 1			Model 2			Model 3		
	Odds Ratio		CI	Odds Ratio		CI	Odds Ratio		CI
Welfare Regime									
Conservative (RF)									
Liberal	1.56	***	(1.33,1.84)	1.53	***	(1.28,1.83)	1.02		(0.67, 1.54)
Scandinavian	1.80	***	(1.47,2.21)	1.86	***	(1.51,2.29)	1.69	***	(1.39, 2.06)
Southern	0.82	*	(0.65,1.03)	0.84		(0.66,1.08)	0.99		(0.68, 1.43)
Socio-demographic Characteristics									
Age				1.00		(0.99,1.01)	1.00		(0.99, 1.01)
Sex				1.12		(0.97,1.29)	1.12		(0.97,1.29)
Years of Education				1.01		(0.99,1.03)	1.01		(0.99,1.03)
Living arrangements									
Spouse				1.08		(0.94,1.26)	1.09		(0.93,1.26)
Children in the hh				1.30	***	(1.09,1.55)	1.30	***	(1.09,1.55)
Health problems									
Number of ADL and IADL				0.93	***	(0.89,0.97)	0.93	***	(0.89,0.97)
Number of comorbidities				1.00		(0.93,1.08)	1.00		(0.93,1.08)
GDP							0.06	***	(0.01, 0.37)

Panel B: Model for Pessimism

	Model 1			Model 2			Model 3		
	Odds Ratio		CI	Odds Ratio		CI	Odds Ratio		CI
Welfare Regime									
Conservative (RF)									
Liberal	0.83		(0.65,1.05)	1.07		(0.82,1.41)	0.87		(0.47,1.60)
Scandinavian	1.33	**	(1.00,1.77)	1.39	**	(1.03,1.86)	1.32	*	(1.03,1.75)
Southern	0.98		(0.72,1.32)	0.56	***	(0.39,0.80)	0.61	*	(0.36,1.03)
Socio-demographic Characteristics									
Age				0.98	**	(0.96,1.00)	0.98	**	(0.96,1.00)
Sex				0.89		(0.71,1.11)	0.89		(0.71,1.11)
Years of Education				0.90	***	(0.87,0.92)	0.90	***	(0.87,0.92)
Living arrangements									
Spouse				0.84		(0.67,1.07)	0.85		(0.67,1.07)
Children in the hh				1.22		(0.94,1.59)	1.22		(0.94,1.59)
Health problems									
Number of ADL and IADL				1.07	**	(1.02,1.13)	1.07	**	(1.02,1.13)
Number of comorbidities				1.09		(0.98,1.21)	1.09		(0.98,1.21)
GDP							1.01		(0.99, 1.02)

Source: SHARE 2004 and HRS 2006. *Model 1* has individual level variables only, while Model 2 includes GDP + Model 1 and Model 3 includes welfare regime typologies + Model 1. RF: Reference category

Note: 95% confidence intervals in parentheses.

*p<.10; **p<.05; ***p<.001

Appendix

Table 1: Descriptions of the key variables

SHARE	HRS
Life Satisfaction	
Q-W: How satisfied are you with your life in general?	Q-W: Satisfied with life. How much you agree or disagree with the following statements: I am satisfied with my life
R: 1) very satisfied, 2) somewhat satisfied, 3) somewhat dissatisfied, and 4) very dissatisfied (very satisfied or somewhat satisfied =1, rest of the responses=0)	R: 1) Strongly disagree, 2) Somewhat disagree, 3) Slightly disagree, 4) slightly agree, 5) somewhat agree, 6) strongly agree (slightly agree, somewhat agree, or strongly agree=1, rest of the responses=0)
Depression	
Q-W: How often have you experienced the following feelings over the last week? I felt depressed, everything was an effort, my sleep was restless, I felt lonely, I felt sad, I couldn't get going.	Q-W: During the past 30 days, how much of the time did you feel…? I felt depressed, Everything was an effort, My sleep was restless, I felt lonely, I felt sad, I couldn't get going
R: 1) Almost all the time, 2) Most of the time, 3) Some of the time, and 4) Almost none of the time	R: 1) All of the time, 2) Most of the time, 3) Some of the time, 4) a little of the time and 5) none of the time
Optimism	
Q-W: Please tell us how much you agree or disagree with each statement for you personally. Expect the best: In certain times, I usually expect the best Well prepare for my future: I'm always optimistic about my future	Q-W: Please say how much you agree or disagree with each of the following statements. Expect the best: In uncertain times, I usually expect the best. Well prepare for my future: I'm always optimistic about my future
R: 1) Strongly agree, 2) Agree, 3) neither Agree or Disagree, 4) Disagree, 5) Strongly Disagree	R: 1) Strongly disagree, 2) somewhat disagree, 3) slightly disagree, 4) slightly agree, 5) Somewhat agree, 6) Strongly agree
Pessimism	
Q-W: Please tell us how much you agree or disagree with each statement for you personally. Things not go in my way: I hardly ever expect things to go my way Not good things: I rarely count on good things happening to me	Q-W: Please say how much you agree or disagree with each of the following statements. Things not go in my way: I hardly ever expect things to go my way Not good things: I rarely count on good things happening to me
R: 1) Strongly agree, 2) Agree, 3) neither Agree or Disagree, 4) Disagree, 5) Strongly Disagree	R: 1) Strongly disagree, 2) somewhat disagree, 3) slightly disagree, 4) slightly agree, 5) Somewhat agree, 6) Strongly agree

Source: SHARE 2004 and HRS 2006.
Note: Q-W: Question Wording; R: responses