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after Retirement in Europe**

Satisfaction with Daily Activities after Retirement in Europe¹

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Abstract

This paper analyses the determinants of satisfaction with daily activities among retirees aged 65 years or older in eleven European countries. We use data from the Survey of Health, Ageing and Retirement in Europe on self-assessed satisfaction with daily activities and anchoring vignettes to correct for potential differences in responses scales across countries and socio-demographic groups. On average, retired Europeans appear to be satisfied with their daily activities, but there are large differences across countries: respondents from Northern countries tend to be more satisfied than individuals from Central European or Mediterranean countries. Our analysis shows that correcting for response scale differentials alters the country ranking for satisfaction with daily activities but hardly affects the conclusions on the factors driving within country differences between socio-demographic groups.

Keywords: anchoring vignettes, response scale differences, ageing.

JEL codes: I30, J14.

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1. Introduction

Quality of life of the older part of the population has become a core topic in economics and social sciences (see, e.g., Motel-Klingebiel, Von Kondratowitz and Tesch-Römer, 2004). Quality of life can be seen as an aggregation of quality of several domains of life, such as economic welfare or financial situation, health, social contacts and family life, or quality of work or other daily activities, etc. (see, e.g., Van Praag, Frijters and Ferrer-i-Carbonell, 2003). With the ageing of the population, the interest has increased for quality of life of older age groups in particular, who are at larger risk of poverty and social exclusion (Tsakoglou, 1996). For Europeans older than 65 who rarely participate in the labour market, it has been shown that daily activities are among the most important factors driving life satisfaction (Mannell and Dupuis, 1996; Fernández-Ballesteros et al., 2001).

The measurement of well-being and its domains and the ability to compare measurements across populations and socio-economic groups is important for designing economic and social policies in an efficient way, as was emphasized in the influential report by Stiglitz et al. (2010), commissioned by the French president Sarkozy. For a long time, researchers in the social sciences have extensively used self-reported well-being to assess individual well-being. Many studies have shown that such measures are useful and contain relevant information to measure actual well-being (cf., e.g., Van Praag and Ferrer-i-Carbonell, 2008). However, even if individuals with similar backgrounds, values, and judgments may report subjective well-being in a comparable way, comparability requires much stronger assumptions once we attempt to compare well-being across different cultures or countries. The methodology of anchoring vignettes introduced by King et al. (2004) makes it possible to relax these assumptions.

In this paper we analyze satisfaction with daily activities of retirees in eleven European countries of ages 65 and older. We focus on international comparability and enhance comparability exploiting anchoring vignettes to correct for differences in response scales across countries and socio-economic groups, following the methodology of King et al. (2004): respondents are not only asked to evaluate their own daily activities, but also those of hypothetical persons briefly described in so-called anchoring vignettes. Systematic differences in the evaluations of the same hypothetical individuals by respondents in different cultures or socio-economic groups are used to identify systematic differences in response scales. While similar

studies have been performed for other important domains of quality of life,² satisfaction with daily activities has to our knowledge not yet been analyzed in this way.

Studies for general populations find that satisfaction with leisure activities is an important component of life satisfaction (Frijters, 2000). Van Praag et al. (2003) find larger effects of satisfaction with leisure for non-workers than for workers in Germany. A similar result is found by Van Praag and Ferrer-i-Carbonell (2008) for the UK, where, moreover, satisfaction with leisure use appears to have a stronger effect on satisfaction with life than satisfaction with the amount of leisure (though both are significantly positive). Frijters (2000) finds that Germans who are dissatisfied with their leisure time more often separate or divorce, showing that satisfaction with daily activities can also influence behaviour.

More specifically for the elderly, Chen (2001) finds that daily activities have an important effect on satisfaction with life after retirement and Nimrod (2007) emphasizes the importance of the specific nature of leisure activities for retirees' life satisfaction. McGuinn and Mosher-Ashley (2001) emphasize that self-generated leisure activities increase life satisfaction of the elderly in long term care facilities, while activities provided by the facility do not have a noticeable effect. Fernández-Ballesteros et al. (2001) conclude that an activity index based upon physical activity level, satisfaction with these activities, and social relationships, has a stronger impact on life satisfaction than other single factors such as health or demographic variables. Prieto-Flores et al. (2012, Table 4) find that satisfaction with leisure activities significantly contributes to life satisfaction of 65 and older residents of the Madrid province (Spain), but the effect is smaller than the effects of satisfaction with family, neighbourhood, finances or health.

Finally, Klumb and Maier (2007) find that the nature of daily activities is associated with survival in a German sample of persons aged 70 and over. They distinguish three types of activities: activities considered regenerative (resting, self-maintenance), productive activities that could also be outsourced to others (house work, gardening, helping others, etc.), and consumptive activities (meeting friends, physical exercise, reading, etc.) that cannot be outsourced. In particular, they find a strong positive association of longevity with consumptive activities such as socializing or reading a novel, suggesting a psychosocial pathway through quality of life.

This paper is organised as follows. Section 2 provides a brief description of the empirical model developed by King et al. (2004) to correct for differential item functioning (DIF). Section 3 presents the data and the variables used in the model and Section 4 presents estimation results. In

² See, e.g., Bago d'Uva et al. (2008) on health, King et al. (2004) on health and political efficacy, Kapteyn, Smith and van Soest (2007) on work disability, and Kristensen and Johansson (2008) on job satisfaction. Angelini et al. (2012) and Bonsang and van Soest (2012a, 2012b) analyze satisfaction with life satisfaction, social contacts, and job and income satisfaction using the same source of data that we use here.

Section 5, we present counterfactuals describing the distribution of satisfaction with daily activities if individuals from all countries were using the same response scale (i.e. the response scale of Germany). Finally, Section 6 concludes.

2. The model

We use the so-called chopit model introduced by King et al. (2004) and applied in most other studies using anchoring vignettes. The ordinal nature of self-assessed satisfaction with daily activities s_i (varying from one (very dissatisfied) to five (very satisfied)) is taken into account using an ordered response model: we define a latent satisfaction variable (s_i^*) as:

$$s_i^* = X_i\beta + \varepsilon_i \quad (1)$$

where X_i is a vector of explanatory variables including country dummies, gender, years of education, etc., and β is a vector of unknown parameters. The error term ε_i is assumed to be drawn from a standard normal distribution, independent of X_i . Reported satisfaction s_i is a categorical variable based upon the latent s_i^* :

$$s_i = j \quad \text{if} \quad \tau_i^{j-1} < s_i^* \leq \tau_i^j,$$

If the thresholds between categories are the same for all respondents ($\tau_i^j = \tau^j$ for all i, j) then this gives the standard ordered probit model for ordered categorical outcomes. In the chopit model, however, the thresholds are allowed to vary with respondent characteristics X_i :

$$\begin{aligned} \tau_i^1 &= X_i\gamma^1, \\ \tau_i^j &= \tau_i^{j-1} + \exp(X_i\gamma^j), \quad j = 2,3,4. \end{aligned}$$

The exponential is taken to make sure that the thresholds are increasing. The vectors $\gamma^1, \gamma^2, \gamma^3, \gamma^4$ consist of unknown parameters. To identify $\beta, \gamma^1, \dots, \gamma^4$, additional information is used in the form of vignette evaluations V_i^k ($k=1, \dots, L$), where L is the number of different vignettes evaluated by each respondent. These are modelled as follows:

$$\begin{aligned} V_i^{*k} &= \theta^k + v_i^k, \\ V_i^k &= j \quad \text{if} \quad \tau_i^{j-1} < V_i^{*k} \leq \tau_i^j, \end{aligned}$$

where V_i^k is the evaluation of vignette k by respondent i , and the v_i^k are error terms, assumed to be normally distributed with mean 0 and variance σ_v^2 , independent of each other, of ε_i , and of X_i .

There are two main identifying assumptions underlying this model. The first is “response consistency”: a given respondent uses the same scales τ_i^j for self-reports and vignettes

evaluations. The second assumption is “vignette equivalence”: there should be no systematic differences in the interpretation of a given vignette between respondents with different characteristics X_i (so that V_i^{*k} does not vary with X_i). These assumptions have been tested in existing studies, with mixed results (see, e.g., van Soest et al. 2011 or Bago d’Uva et al. 2011). Following most of the literature applying anchoring vignettes, we take these assumptions for granted in the current paper.

3. Data

3.1. *The sample*

The empirical analysis is based on data from the COMPARE sample which is part of the second wave (2006-2007) of the Survey of Health, Ageing and Retirement in Europe (SHARE). SHARE includes extensive survey information on health, employment, financial situation, family and activities of a representative sample of the 50+ populations in 15 European countries (Börsch-Supan et al, 2005, 2008). The COMPARE sample is a representative subsample of SHARE in 11 countries where respondents were asked self-assessments and vignette evaluations of satisfaction with different domains of life (see van Soest 2008 for details).

The total COMPARE sample includes about 7,000 individuals in Belgium, the Czech Republic, Denmark, France, Germany, Greece, Italy, the Netherlands, Poland, Spain, and Sweden. For the analysis, we restrict our sample to not working individuals of ages 65 and over.³ After deleting a few observations with missing or unreliable values for the variables used in the analysis, our final sample includes 2,660 individuals.

3.2. *Satisfaction with daily activities*

The question about satisfaction with daily activities is asked as follows:

Self-assessment:

How satisfied are you with your daily activities (for example, your job, if you work)?

Very dissatisfied/ Dissatisfied/ Neither satisfied, nor dissatisfied/ Satisfied/ Very satisfied

The distribution of reported satisfaction with daily activities is reported on the top of Table 1 (a.). The country-level distributions do not differ markedly from each other. Most respondents report that they are satisfied with their daily activities. Denmark and Sweden have the largest

³ Working individuals of age 65 more represented only 1.5% of the original sample. Respondents younger than 65 got vignettes on job satisfaction instead of the daily activities other than work that we are interested in.

share of older individuals reporting that they are very satisfied. At the other end, 27 per cent of the 65+ non-workers in Poland report they are not or not at all satisfied with their daily activities.

Immediately after this self-assessment, respondents were asked to report the satisfaction of two individuals different hypothetical situations, described as follows:

Vignette 1:

Mike has been retired for five years. He quit his job as soon as he could. He enjoys spending most of his time with friends and family and watches TV when he sometimes gets bored. How satisfied do you think Mike is with his daily activities?

Very dissatisfied/ Dissatisfied/ Neither satisfied, nor dissatisfied/ Satisfied/ Very satisfied

Vignette 2:

Sally has been retired for five years. Although she enjoys spending time with her children and grandchildren, she still misses the contacts with her colleagues and would have liked to keep working. How satisfied do you think Sally is with her daily activities?

Very dissatisfied/ Dissatisfied/ Neither satisfied, nor dissatisfied/ Satisfied/ Very satisfied

Tables 1 (b. and c.) show that the distributions of the vignette evaluations vary substantially across the eleven countries. For example, Danish respondents often give quite positive ratings (“very satisfied” or “satisfied”) to the first vignette. This suggests that the higher self-reported level of satisfaction observed in Denmark may (partly) be due to differences in response scales (DIF). Greek respondents are very positive about the second vignette. Italian respondents tend to give negative evaluations for both vignettes, suggesting that self-assessments underestimate the Italians’ actual satisfaction with daily activities compared to other countries.

< Insert Table 1 about here >

3.3. *Explanatory variables*

In addition to country dummies, the econometric model includes socio-demographic characteristics like gender, age, marital status and years of education. Two indicators of health are used: the number of self-reported symptoms of the respondent and the number of chronic diseases.⁴ Income is measured as the logarithm of reported monthly net household income last

⁴ *The number of symptoms* is measured using the following question: For the past six months at least, have you been bothered by any of the health conditions? Pain in your back, knees, hips or any other joint; Heart trouble or angina, chest pain during exercise; Breathlessness, difficulty breathing; Persistent cough; Swollen legs; Sleeping problems; Falling down; Fear of falling down; Dizziness, faints or blackouts; Stomach or intestine problems, including constipation, air, diarrhoea; Incontinence or involuntary loss of urine; Other symptoms, not yet mentioned.

month, adjusted by PPP.⁵ Moreover, we added several variables related to family ties: the number of children, a dummy for individuals having a co-residing child, and the (log of) number of annual contacts with children.⁶ A potentially important activity for older individuals consists in looking after grandchildren. We therefore include an additional dummy “Looking for grandchildren” that is equal to one if the respondent reports having looked after his or her grandchildren during the last twelve months without the presence of the parents.

To measure the involvement of the older individuals in non-professional activities, we added a set of dummies related to different types of activities. Following Klumb and Maier (2007), these can be distinguished in productive activities - “Doing voluntary or charity work”, “caring for a sick or disabled adult” and “providing help to friends or neighbours” - and consumptive activities - “attending an educational or training course”, “going to a sport, social or other kind of club”, “taking part in activities of a religious organization”, and “taking part in a political or community-related organization”. The data do not provide information on how much time is spent on these activities. Nor do they contain information on regenerative activities (and it seems safe to assume that everyone spends at least some time on activities like resting or self-maintenance).

Table 2 presents the country specific means of the explanatory variables. The large differences across countries in many of these variables are in line with existing findings based upon the first wave of SHARE administered in 2004. See, for example, Hank (2007) for co-residence and contacts with children, Hank and Buber (2009) for looking after grandchildren, and Hank and Stuck (2008) for voluntary or charity work, caring for a sick or disabled person, and helping family, friends or neighbours. These studies are not directly comparable and give different means than in our Table A1 mainly because we study a specific age group and a different set of countries, but the general finding of huge cross-country variation is the same.

< Insert Table 2 about here >

The number of chronic diseases is measured using the number of the following conditions reported by the respondent: Did your doctor ever told you that you had any of the following conditions: A heart attack including myocardial infarction or coronary thrombosis or any other heart problem including congestive heart failure; High blood pressure or hypertension; High blood cholesterol; Diabetes or high blood sugar; Chronic lung disease such as chronic bronchitis or emphysema; Asthma; Arthritis, including osteoarthritis, or rheumatism; Osteoporosis; Cancer or malignant tumour, including leukaemia or lymphoma, but excluding minor skin cancers, Stomach or duodenal ulcer, peptic ulcer; Cataracts; Hip fracture or femoral fracture.

⁵ See the appendix of Bonsang and van Soest (2012a) for details on measurement issues regarding household income.

⁶ The number of annual contacts with the children is the sum of contacts with all children using the following question: During the past twelve months, how often did you have contact with «child name», either personally, by phone or mail: Daily (365/year); Several times a week (156/year); About once a week (52/year); About every two weeks (26/year); About once a month (12/year); Less than once a month (6/year); Never (0/year).

4. Results

Table 3 presents the parameters of the country dummies estimated for several ordered probit and chopit specifications. Columns (i) to (iii) are standard ordered probit models for self-assessed satisfaction with daily activities with thresholds that do not vary across countries or with individual characteristics; the other columns are the estimates of the corresponding β parameters in equation (1) of the chopit model. Columns (i) and (iv) are the results of specifications where X includes country dummies only. Germany is taken as the benchmark. Column (i) shows that the 65+ in Denmark, Sweden and the Netherlands report the highest satisfaction with their daily activities. On the opposite end, respondents from Poland, Greece, Italy, and the Czech Republic report being the lowest satisfaction levels. Comparing with the results of the chopit model in column (iv), however, shows that the ranking of the countries is strongly affected by differences in response style across countries. Denmark changes from first to third position, after Sweden and the Netherlands. At the lower end the position of Greece and Poland compared to other countries including the benchmark (Germany) becomes even worse. This is also the case for Czech Republic and Spain. On the other hand, the difference between Italy and Germany largely vanishes. These shifts in the country ranking are in line with what we saw in the vignette evaluations (Tables 1b. and 1c.). For example, Danish respondents tend to give positive ratings, and correcting for this worsens the position of Denmark. Italians, on the other hand, tend to give rather negative evaluations, and correcting for this improves the rank of Italy.

< Insert Table 3 about here >

Columns (ii) and (iii) (for probit) and columns (v) and (vi) (for chopit) present the results for models including additional controls. Models (ii) and (v) add gender, age, years of education, partnership status, (the log of) household size, (the log of) household income, the number of chronic diseases and the number of symptoms. In Models (iii) and (vi), we also include children-related variables: the number of children, a dummy indicating whether the individual co-resides with one of their children, and the (log of) number of annual contacts with all the children. We also include a set of dummies indicating whether the respondent is involved in several types of activities or not.

For the chopit model, the introduction of the standard control variables affects the coefficients on the country dummies (column (v)). The most noticeable changes are found in the two Central European countries and in Spain. The dummies for Spain and the Czech Republic are no longer significant at the five per cent level, implying that, keeping socio-economic and health variables constant, there are no significant differences in satisfaction between these countries and Germany. This suggests that the difference in genuine satisfaction (corrected for DIF) between

Germany and Spain or the Czech Republic can mainly be explained from differences in demographics, income, and health. Satisfaction of a Polish respondent remains significantly worse than of a similar German respondent, but the difference is much smaller than according to the model with country dummies only in column (iv). Greece remains the country with the worst satisfaction levels.

Finally, comparing columns (v) and (vi) shows that the involvement in non-professional activities can explain part of the difference in satisfaction with daily activities between Germany and Northern countries (Sweden, Denmark and the Netherlands).

Table 4 presents in the parameter estimates for the ordered probit (first column) and the chopit model (second and further columns) including all the explanatory variables (the model for which the coefficients on the country dummies are in columns (iii) and (vi) of Table 3). For the chopit model, column 2 of Table 4 presents the estimates of β in the equation for genuine satisfaction, while the remaining columns show the threshold parameters γ^j , $j = 1,2,3,4$.

< Insert Table 4 about here >

Most of the parameter estimates in the first and second column are similar and do not differ significantly. The corrections for DIF therefore mainly affect the coefficients on the country dummies, not those on individual and family characteristics or productive or consumptive activities. Satisfaction with daily activities is found to decrease with age (faster according to the chopit model than according to ordered probit) while there are no significant effects of gender, education, or income. Some of these results are different from those of Palomar Lever (2004) and Van Praag et al. (2003) for adults of all ages. Palomar Lever (2004) finds a positive effect of income on satisfaction with leisure activities for Mexican adults, while Van Praag et al. (2003) find no significant effect of income on satisfaction with leisure in Germany. On the other hand, Van Praag et al. (2003) find that males are significantly more satisfied with leisure than women and a significantly negative effect of education; they also find a significant U-shaped age pattern that would imply an increasing age effect for the age range that we consider. This confirms that the determinants of satisfaction with daily activities for the 65+ can be quite different from the factors that drive satisfaction with leisure for a general adult population, justifying a separate analysis of the 65+.

The number of reported symptoms has a strong negative and significant impact on satisfaction with daily activities. Family composition variables, on the other hand, only have small effects. The number of contacts with children is positive and marginally significant.

A stronger and significant positive effect is found for looking after grandchildren. In fact, as expected, satisfaction with daily activities is positively related to participation in most non-professional activities, especially helping friends or neighbours, attending training or educational courses, going to a sport or social club, and taking part in religious activities. Although not directly comparable, this is broadly in line with Chen (2001) who finds a strong positive and significant effect of leisure activities on satisfaction with life of the 60+ in Taiwan. Consumptive activities like going to a sports or social club tend to have a larger effect than productive activities like caring for a sick or disabled person, supporting the argument of Fernández-Ballesteros et al. (2001) that consumptive activities have a positive influence on longevity through a psychosocial pathway. On the other hand, helping friends and neighbours, usually characterized as a productive activity, has the strongest effect. Perhaps this is because older individuals derive inherent utility from this activity and the social interaction it involves so that it is more similar to a consumptive activity rather than a purely productive activity that could be outsourced.

5. Counterfactuals

In this section we simulate counterfactual distributions of satisfaction with daily activities using the parameter estimates of the chopit model. First, we simulate satisfaction levels for all respondents using the thresholds estimated for their own country of residence. The resulting distributions, illustrated in Figure 1, are similar to the observed distributions in the data, indicating that the model is able to reproduce the observed distribution of self-assessed satisfaction with daily activities.

< Insert Figure 1 about here >

To illustrate the consequences of cross-country differences in reporting behaviour for the cross-country comparison, the second simulation produces the hypothetical (“counterfactual”) distribution of satisfaction in each country using the thresholds that a similar respondent in the benchmark country (Germany)⁷ would use (Figure 2). This simulation therefore shows the differences across countries that remain when cross-cultural differences in evaluation norms (thresholds) are eliminated.

< Insert Figure 2 about here >

The results are largely in line with the country dummies in Table 3, but not completely. The conceptual difference is that the country dummies corresponding to the best performing

⁷ For each respondent, we replace the thresholds by thresholds of a German respondent with the same individual characteristics. The alternative of always using the response scales of the average German respondent gives very similar results.

model in columns (iii) and (vi) of Table 3, should be interpreted as cross-country differences with all the explanatory variables kept constant, whereas in the simulations we use the actual values of the covariates for each respondent in each country. For example, going to a sports or social club is more common in Denmark and Sweden than in any other country (Table 2) and has a significant positive effect on satisfaction with social activities (Table 4). This increases (genuine) average satisfaction with daily activities in Denmark and Sweden (irrespective of response scales) compared to other countries.

Correcting for differences in response scales changes the cross-country ranking of the distributions. Denmark seems the most satisfied country in Figure 1, but is outperformed by both Sweden and the Netherlands in Figure 2, after the correction. The reason is, as discussed before, the fact that Danish respondents tend to use very positive evaluations. Using their own thresholds, 83 per cent of Danish respondents are satisfied or very satisfied, but using German thresholds, this would fall to 76 per cent. France moves in the opposite direction: using their own (rather negative) evaluations, only 66 per cent of the French are satisfied or very satisfied (Seventh in the country ranking), but using German thresholds, this would increase to 72 per cent (rank four). Nothing changes for Poland and Greece: they remain the two countries with the lowest satisfaction with daily activities.

< Insert Figure 3 about here >

The third simulation consists in producing the hypothetical (“counterfactual”) distribution of satisfaction in each country using the thresholds of the benchmark country (Germany) but also using the German equation for genuine satisfaction (that is, setting the country dummies of the main equation to zero). As a result, the only source of cross-country differences is the cross-country variation in the distribution of the covariates X . This counterfactual is presented in Figure 3 and shows that the first position is now held by the Netherlands while Sweden and Denmark come second and third, respectively. The Netherlands does so well because they often participate in various satisfaction enhancing activities (volunteer or charity work, going to sports or social clubs, looking after grandchildren), but particularly also because they have fewer health problems than any other country (the lowest means numbers of symptoms and chronic diseases). Poland and the Czech Republic are at the bottom end, largely because these are the countries where health problems are most common. Greece jumps from the last to the sixth position. Apparently the reason that the Greeks do poorly after correcting for differences in reporting behaviour is not due to their health, activities, or other characteristics, but in the way these characteristics map into satisfaction with daily activities (the unexplained or “residual” component of the difference with the other countries; the difference between Figures 2 and 3).

6. Conclusion

This paper analyses the satisfaction with daily activities of retirees aged 65 and older in eleven European countries. On average older Europeans report that they are quite satisfied with their daily activities, but there are substantial differences across European countries: respondents from Northern countries tend to report a high level of satisfaction while the lowest levels are found in Central and Southern European countries. Correcting for response style differences affects the country ranking of satisfaction with daily activities. For instance, Denmark drops from the first to the fourth place once we control for differential item functioning and the situation of Poland and Greece becomes even worse. Health as well as the involvement in taking care of grandchildren and (other) non-professional activities is found to be an important determinant of satisfaction with daily activities and explains part of the difference in satisfaction between across countries.

Correcting for response scale differences has much less effect on the estimates of what drives within country differences in satisfaction with daily activities between socio-demographic groups than it has on the cross-country differences.

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Tables and Figures

Table 1. Percentage distribution of self-assessed satisfaction with main activity and vignettes

	Very dissatisfied	Dissatisfied	Nor satisfied, neither dissatisfied	Satisfied	Very satisfied
a. Self-assessed satisfaction with main activity					
Sweden	0	3	14	60	23
Denmark	0	5	9	54	31
Netherlands	1	2	13	67	16
Germany	2	7	15	65	11
Belgium	2	6	17	57	18
France	2	5	27	56	10
Poland	10	17	23	39	10
Czech Republic	2	9	26	55	8
Italy	2	11	26	54	7
Spain	2	13	16	57	12
Greece	0	13	47	32	9
Total	2	8	20	55	15
b. Satisfaction with main activity vignette 1					
Sweden	1	4	32	57	8
Denmark	0	2	15	62	21
Netherlands	0	1	33	58	8
Germany	0	5	26	59	10
Belgium	0	6	27	52	15
France	2	9	25	58	7
Poland	1	7	22	63	7
Czech Republic	0	7	30	48	15
Italy	0	10	27	57	5
Spain	0	7	18	63	12
Greece	0	5	29	44	22
Total	0	6	26	56	12
c. Satisfaction with main activity vignette 2					
Sweden	0	34	54	12	0
Denmark	0	26	53	19	1
Netherlands	0	30	56	15	0
Germany	1	36	48	14	1
Belgium	1	29	49	18	3
France	2	48	41	10	0
Poland	1	32	45	22	1
Czech Republic	1	28	46	24	1
Italy	1	52	36	11	1
Spain	1	30	35	32	3
Greece	0	23	44	30	2
Total	1	33	46	19	1

Note: COMPARE sample of SHARE 2007. Non-working individuals aged 65 or older.

Table 2. Descriptive statistics

	All countries	Sweden	Denmark	Netherlands	Germany	Belgium	France	Poland	Czech Republic	Italy	Spain	Greece
Woman	54%	52%	58%	52%	53%	55%	57%	55%	60%	49%	52%	53%
Age	73.4	73.9	73.5	72.6	72.8	73.8	74.4	73.6	73.4	72.0	74.4	74.7
Years of education	9.7	9.7	11.9	9.9	11.7	10.7	10.6	7.1	10.6	6.8	5.6	7.2
Household size	1.9	1.8	1.7	1.8	1.8	1.8	1.7	2.6	1.8	2.3	2.4	1.8
Monthly household income (in Euros. PPP corrected)	1,456	1,873	1,488	1,940	1,900	1,515	1,803	752	927	1,550	1,182	1,158
Number of symptoms	2.2	2.0	1.7	1.3	2.0	2.4	2.4	3.5	2.7	2.2	2.2	2.1
Number of chronic diseases	2.1	2.0	2.3	1.5	1.8	2.0	1.8	2.6	2.3	2.3	2.2	2.0
Living in a couple	68%	75%	71%	71%	74%	65%	59%	68%	60%	77%	69%	59%
Number of children	2.2	2.2	2.3	2.2	2.1	2.2	1.9	2.8	1.9	2.2	2.7	1.8
Co-residing with children	12%	2%	3%	3%	5%	8%	8%	34%	10%	29%	31%	16%
Number of contacts with children(per year)	307.9	313.2	292.7	328.1	276.7	272.6	212.7	310.1	229.8	420.2	408.1	411.7
<u>Non-professional activities:</u>												
Looking after grandchildren	31%	46%	40%	47%	26%	30%	29%	25%	17%	31%	21%	30%
Voluntary/charity	12%	27%	21%	27%	11%	14%	20%	2%	2%	7%	4%	2%
Caring for sick/disabled	5%	6%	4%	13%	7%	6%	9%	2%	4%	3%	1%	3%
Helping friends/neighbours	13%	33%	17%	16%	13%	15%	20%	3%	11%	7%	3%	5%
Education/Training	4%	13%	5%	5%	2%	5%	4%	0%	2%	1%	3%	2%
Going to sport/social club	18%	32%	38%	30%	20%	19%	26%	1%	10%	9%	3%	5%
Attending religious activities	12%	16%	7%	12%	11%	10%	14%	9%	9%	8%	10%	37%
Taking part to organizations	4%	9%	4%	4%	5%	10%	4%	1%	2%	2%	1%	3%
Number of observations	2.660	199	361	135	351	336	133	175	362	284	150	174

Note: COMPARE sample. Non-working individuals aged 65 and older.

Table 3. Satisfaction with daily activities

	Baseline			Chopit model		
	(i)	(ii)	(iii)	(iv)	(v)	(vi)
Sweden	0.389*** (0.097)	0.446*** (0.100)	0.276*** (0.103)	0.519*** (0.121)	0.615*** (0.128)	0.366*** (0.134)
Denmark	0.514*** (0.082)	0.535*** (0.085)	0.452*** (0.087)	0.181* (0.098)	0.179* (0.104)	0.040 (0.108)
Netherlands	0.270** (0.110)	0.148 (0.113)	0.061 (0.115)	0.364*** (0.138)	0.272* (0.146)	0.132 (0.150)
Germany	-	-	-	-	-	-
Belgium	0.105 (0.083)	0.220*** (0.085)	0.173** (0.086)	-0.086 (0.098)	0.020 (0.103)	-0.059 (0.105)
France	-0.105 (0.110)	-0.018 (0.112)	-0.070 (0.113)	0.067 (0.132)	0.166 (0.137)	0.070 (0.140)
Poland	-0.629*** (0.100)	-0.263** (0.122)	-0.265** (0.122)	-0.706*** (0.116)	-0.310** (0.146)	-0.326** (0.149)
Czech R.	-0.225*** (0.081)	-0.023 (0.092)	0.005 (0.093)	-0.389*** (0.095)	-0.200* (0.111)	-0.181 (0.113)
Italy	-0.270*** (0.086)	-0.213** (0.094)	-0.242** (0.097)	-0.110 (0.102)	-0.004 (0.115)	-0.033 (0.119)
Spain	-0.138 (0.105)	-0.000 (0.118)	-0.022 (0.119)	-0.420*** (0.124)	-0.239* (0.142)	-0.278* (0.145)
Greece	-0.467*** (0.099)	-0.404*** (0.106)	-0.497*** (0.111)	-0.789*** (0.116)	-0.708*** (0.127)	-0.813*** (0.135)
Log-likelihood	-9110.9	-8913.2	-8867.6	-8961.0	-8726.9	-8643.0

Note: COMPARE sample of SHARE 2007. Non-working individuals aged 65 or older. Standard errors in parentheses. Number of observations: 2,660.

(*), (**), (***) : estimate is significantly different from zero at the 10%, 5%, or 1 %-level respectively.

Table 4. Determinants of satisfaction with daily activities

	Baseline	Chopit				
	Model	Satisfaction	Threshold	Threshold	Threshold	Threshold
	Satisfaction	Satisfaction	1	2	3	4
	equation (1)	equation (1)				
Constant	-	-	-2.664** (1.209)	-0.018 (0.685)	0.052 (0.462)	1.252*** (0.395)
Country:						
Sweden	0.276*** (0.103)	0.366*** (0.134)	-0.558** (0.256)	0.270* (0.148)	0.218*** (0.078)	-0.057 (0.067)
Denmark	0.452*** (0.087)	0.040 (0.108)	-0.647*** (0.249)	0.241* (0.143)	-0.016 (0.072)	-0.193*** (0.055)
Netherlands	0.061 (0.115)	0.132 (0.150)	-0.547* (0.305)	0.196 (0.179)	0.269*** (0.087)	0.004 (0.074)
Germany	-	-	-	-	-	-
Belgium	0.173** (0.086)	-0.059 (0.105)	-0.248 (0.156)	0.099 (0.102)	0.033 (0.068)	-0.232*** (0.056)
France	-0.070 (0.113)	0.070 (0.140)	0.009 (0.183)	0.126 (0.117)	-0.027 (0.091)	-0.030 (0.078)
Poland	-0.265** (0.122)	-0.326** (0.149)	0.032 (0.178)	-0.065 (0.128)	-0.073 (0.097)	-0.165** (0.082)
Czech Republic	0.005 (0.093)	-0.181 (0.113)	-0.402** (0.191)	0.191 (0.123)	0.036 (0.073)	-0.179*** (0.062)
Italy	-0.242** (0.097)	-0.033 (0.119)	-0.160 (0.192)	0.268** (0.125)	-0.007 (0.080)	-0.075 (0.067)
Spain	-0.022 (0.119)	-0.278* (0.145)	-0.487** (0.225)	0.271* (0.143)	-0.232** (0.107)	-0.109 (0.075)
Greece	- 0.497*** (0.111)	-0.813*** (0.135)	-0.956*** (0.355)	0.406** (0.196)	0.219*** (0.084)	-0.456*** (0.080)
Woman	-0.022 (0.047)	-0.013 (0.058)	-0.130 (0.093)	0.069 (0.057)	0.046 (0.038)	-0.024 (0.032)
Age	-0.004 (0.004)	-0.010** (0.005)	-0.004 (0.007)	-0.001 (0.004)	0.001 (0.003)	-0.003 (0.003)
Years of education	-0.002 (0.007)	0.003 (0.008)	-0.040** (0.018)	0.025** (0.010)	0.004 (0.006)	-0.001 (0.005)
Ln(household size)	-0.042 (0.115)	0.033 (0.137)	0.281 (0.175)	-0.134 (0.120)	-0.058 (0.094)	0.029 (0.082)
Ln(household income)	0.064 (0.071)	0.089 (0.087)	0.040 (0.146)	0.015 (0.091)	-0.024 (0.056)	-0.058 (0.047)
Number of symptoms	- 0.179*** (0.013)	-0.163*** (0.016)	0.045* (0.023)	-0.021 (0.014)	0.012 (0.010)	-0.008 (0.009)
Number of chronic diseases	-0.034** (0.016)	-0.022 (0.019)	0.006 (0.029)	0.006 (0.017)	-0.014 (0.012)	0.012 (0.011)
Living with a partner	0.075 (0.086)	-0.074 (0.104)	-0.124 (0.136)	-0.005 (0.092)	0.008 (0.071)	0.017 (0.062)
Number of children	-0.006 (0.018)	-0.006 (0.022)	-0.014 (0.032)	0.004 (0.020)	0.009 (0.014)	-0.004 (0.012)
Co-residing with child	0.040 (0.097)	-0.013 (0.116)	-0.183 (0.187)	0.114 (0.119)	-0.049 (0.081)	0.013 (0.066)
Contacts with children/100	0.023** (0.010)	0.021* (0.012)	0.003 (0.021)	0.001 (0.013)	-0.012 (0.008)	0.006 (0.006)

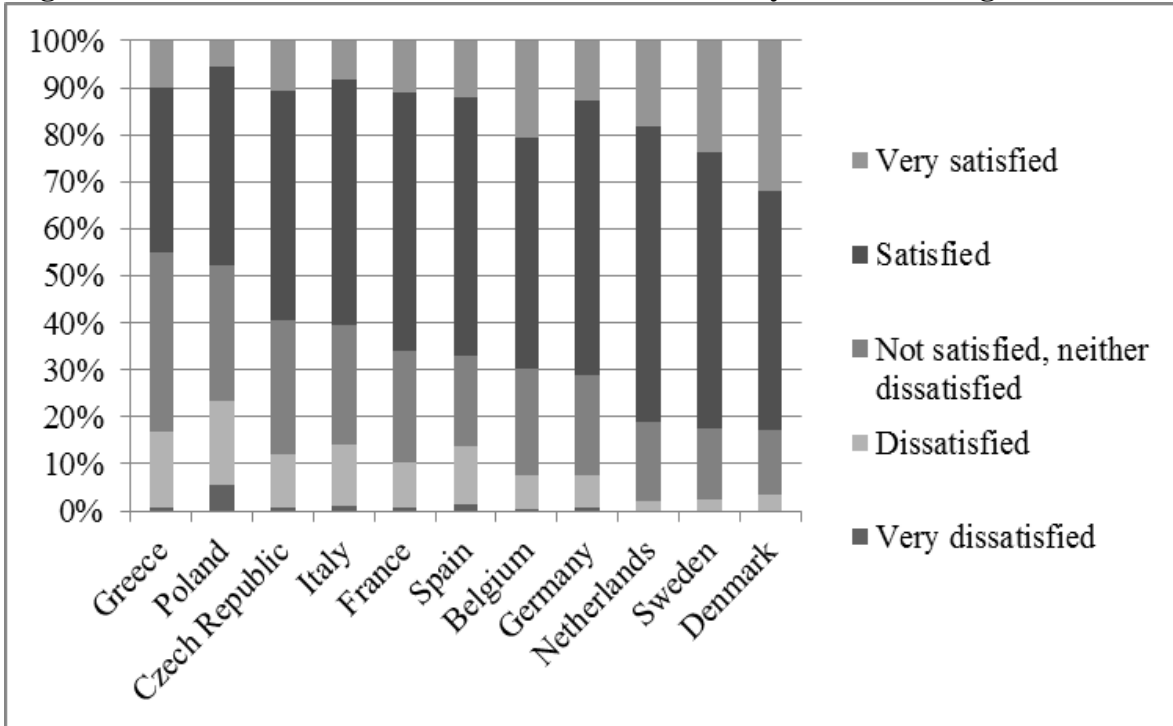
Table 4 (continued)

	Baseline	Chopit				
	Model	Satisfaction	Threshold	Threshold	Threshold	Threshold
	Satisfaction	Satisfaction	1	2	3	4
	equation (1)	equation (1)				
<u>Activities:</u>						
Looking after grandchildren	0.108** (0.052)	0.170*** (0.065)	-0.318* (0.183)	0.182* (0.109)	0.028 (0.043)	0.061* (0.035)
Voluntary/Charity	0.118 (0.075)	0.222** (0.098)	-0.061 (0.178)	0.093 (0.092)	-0.038 (0.061)	0.022 (0.048)
Caring for sick/disabled	-0.091 (0.101)	-0.036 (0.128)	0.236 (0.191)	-0.052 (0.115)	-0.171** (0.087)	0.046 (0.066)
Helping friends/neighbours	0.202*** (0.068)	0.422*** (0.090)	-0.017 (0.146)	0.024 (0.080)	0.081 (0.053)	0.111** (0.044)
Education/Training	0.206* (0.119)	0.387** (0.163)	0.277 (0.248)	-0.136 (0.138)	0.000 (0.093)	0.118 (0.078)
Going to sport/social club	0.295*** (0.061)	0.331*** (0.078)	-0.203 (0.168)	0.090 (0.091)	0.134*** (0.047)	-0.082** (0.039)
Attending religious activities	0.202*** (0.072)	0.203** (0.089)	0.087 (0.135)	-0.061 (0.078)	0.018 (0.055)	0.013 (0.047)
Taking part to organizations	0.279** (0.111)	0.238* (0.144)	-0.789 (0.509)	0.349* (0.209)	0.034 (0.087)	-0.032 (0.072)
Log-likelihood	-8867.6	-8643.0				

Note: COMPARE sample. Non-working individuals aged 65 and older. Standard errors in parentheses. Number of observations: 2,660.

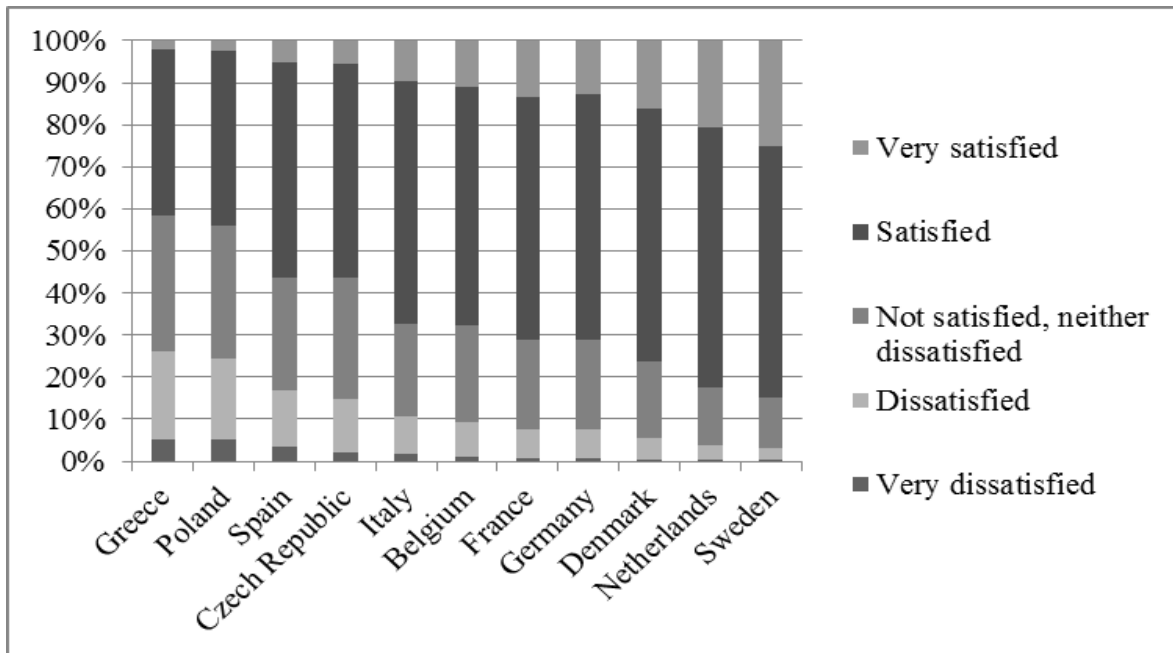
(*), (**), (***): estimate is significantly different from zero at the 10%, 5%, or 1 %-level respectively.

Figure 1. Predicted distribution of satisfaction with daily activities using actual thresholds



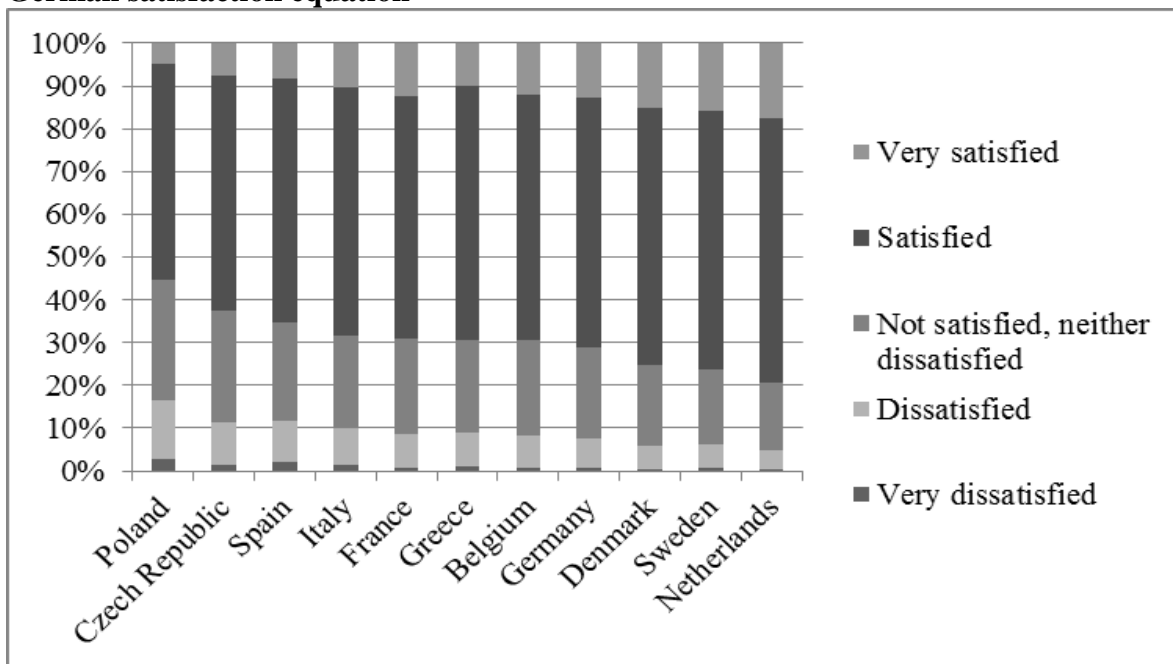
Note: COMPARE sample. Non-working individuals aged 65 and older. Countries are ranked according to the proportion of individuals reporting being satisfied or very satisfied.

Figure 2. Predicted distribution of satisfaction with daily activities using German thresholds



Note: COMPARE sample. Non-working individuals aged 65 and older. Countries are ranked according to the proportion of individuals reporting being satisfied or very satisfied.

Figure 3. Predicted distribution of satisfaction with daily activities using German thresholds and German satisfaction equation



Note: COMPARE sample. Non-working individuals aged 65 and older. Countries are ranked according to the proportion of individuals reporting being satisfied or very satisfied.