Life Satisfaction and Associated Factors Among People Aged 60 Years and Above in Six European Countries

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Abstract Life satisfaction is a concept frequently used to measure wellbeing of older people. However, there is still a lack of cross-national comparative research investigating factors associated with life satisfaction. There may be unique and common factors associated with life satisfaction across European countries. This study aimed to investigate life satisfaction among people aged 60–89 years in six

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European countries in relation to health problems, ADL capacity, self-esteem, social and financial resources. A cross-sectional study was performed, including 7,699 people aged 60–89 years, in Sweden, the UK, The Netherlands, Luxemburg, Austria and Italy, participating in the European Study of Adult Wellbeing, using questions from the Older Americans Resources and Services schedule, Multidimensional Functional Assessment Questionnaire, Life Satisfaction Index Z and Rosenberg's Self-esteem scale. Logistic regression analysis was performed to determine factors associated with life satisfaction in the six national samples. In cases where people were less satisfied with their life it was fairly satisfactory and unsatisfactory social contacts (Odds Ratio (OR) 1.5–13.8), poor financial resources (OR 1.7–15.1), feeling greatly hindered by health problems (OR 2.2–5.4) and self-esteem (OR 2.1–5.1) rather than the ability to perform activities of daily living and the extent of social contacts that gave the greatest risk of low life satisfaction in all the six European countries. There were both common and country-specific factors important for life satisfaction in the six European countries. However, the importance of satisfactory social contacts, financial resources, self-esteem and feeling hindered by health problems seems universal in the six included countries and thus important to target in preventive interventions.

Background

Life satisfaction is a concept frequently used to measure subjective wellbeing for older people (60 years and above) in recent last decades (Grann 2000; Pinquart and Sörensen 2000). However, due to variation in the characteristics of the included samples, e.g. age, gender or country, questions used, as well as indicators included, different factors have been found to be associated with life satisfaction. In addition, there is still a lack of cross-national comparative studies investigating several factors associated with life satisfaction (Diener and Diener 1995) using the same instruments at the same time. Accordingly, it is difficult to conclude whether there may be unique and common factors associated with life satisfaction across European countries. Knowledge about such differences and similarities across the countries may be useful in intervention addressing older people, showing whether the similarities or the differences dominate in the enlarged Europe.

Knowledge of what indicates older people's life satisfaction is important since losses related to declining health in advanced age may reduce the opportunity to live a good life. Life satisfaction refers to life as a whole (Bowling 1997), and it is thought to reflect a retrospective view of life (Mannel and Dupuis 1996). It has been defined as a global evaluation of the person's own life (Pavot et al. 1991) and is suggested to have similarities to quality of life (Mannel and Dupuis 1996). Further, Veenhoven (1984) suggested that life satisfaction resembles happiness. According to her, life satisfaction is the divergence between potentiality and actuality, i.e. the distinction between the opportunities for a good life (life possibility) and the good life itself (result of life) (Veenhoven 2000). Life satisfaction is used worldwide in research including older people (Baiyewu and Jegede 1992; Hillerås et al. 2001; Ho et al.

1995; Morgan et al. 1987; Neugarten et al. 1961; Vitterso et al. 2002; Wood et al. 1969) and is supposed to be a useful outcome variable in different countries.

It is well known that life satisfaction is related to different factors, although not often investigated at the same time. Farquhar (1995) identified several indicators important for older people's quality of life: health, ability to perform activities of daily living (ADL), social contacts and material circumstances. However, Farquhar did not include self-esteem as an indicator of quality of life, which may be a shortcoming because self-esteem has been found to relate to life satisfaction in other studies (Diener and Diener 1995). Population-based studies including samples of old people in the United States (Girzadas et al. 1993), in China (Ho et al. 1995) and in Canada (Michalos et al. 2000) demonstrated that health problems and impaired ability to perform ADL (ADL capacity) contributed to low life satisfaction. Further, it has been found in a Hong Kong Chinese sample (aged 70 years and above, $n=$ 1,557) (Ho et al. 1995) and in a Swedish sample (80 years and above, $n=212$) (McCamish-Svensson et al. 1999) that impaired ADL capacity was negatively associated with life satisfaction. In a Swedish study (aged 90 and above, $n=105$), the authors found that good vision, hearing, ADL capacity, feeling healthy and independent were important for high life satisfaction (Hilleräs et al. 2001). Also, it has also been found that low life satisfaction is related to advanced age (Borg et al. 2006), although age may be an indicator of other age-related factors. It is well known that the ADL capacity decreases and health problems increase with age, especially among those aged 80 and above (McCamish-Svensson et al. 1999; Molarius and Janson 2002; Persson et al. 2001). Thus there seems to be strong evidence that factors related to health, functional ability and the person's perception of health and independence play an important role in life satisfaction.

Another line of research in relation to older people's life satisfaction is concerned with socioeconomic factors such as the financial situation, social network and social support. In a Swedish study (aged 80 years and above, $n=212$), including variables such as children, siblings, friends, number of close friends, and satisfaction with friends, it was found that satisfaction with friends correlated positively with life satisfaction (McCamish-Svensson et al. 1999). In that study, however, only social support and health problems were included and hence the importance of ADL capacity and financial resources were overlooked. Across European countries there are both differences and similarities in social network and social support related to marriage and migration patterns (Wenger 1997). However, it is not clear whether the differences found in previous studies result from differences in definition or measurements or from behavioural differences between the countries since the researchers did not use the same measurements (Wenger 1997). It has previously been found that also financial resources are important for life satisfaction. Ho et al. (1995), for instance, found high financial resources, together with ADL capacity and high social support, to be positively associated with life satisfaction. European countries have differences in their social systems (Scharf et al. 2003) and social networks, and that may result in that the factors important for life satisfaction differ between countries.

In addition to factors related to perceived health, ADL capacity, social and financial resources the person's ability to deal with problems such as declining health may play an important role in perceived life satisfaction. Self-esteem is thought to be

a personality dimension (Blascovich and Tomaka 1991) reflecting a person's capacity to adapt to and cope with changes in life (Rosenberg 1965). High self-esteem has been shown in a Finnish interview study (n=300, aged 75–97 years) to have a positive association with life satisfaction (Sarvimäki and Stenbock-Hult 2000). It has been found that young people with high self-esteem were more assertive, independent, creative and more capable of finding solutions to problems than those with low self-esteem (Pervin and John 1996). This probably goes for older people as well since it has been found that self-esteem buffers the effects of increased health problems on life satisfaction in old age (Mannel and Dupuis 1996). Transitions in old age in terms of decreased ADL capacity may threaten autonomy as well as self-esteem. Not many studies hitherto have examined the relationship between self-esteem and life satisfaction in the older population. In addition, earlier studies have mainly included one country at a time and therefore the results may have limitations in terms of transferability to other countries. Life satisfaction has been shown to differ between the European countries (Christoph and Noll 2003; D'Andrea 1998). Factors important for life satisfaction may also differ and have a reciprocal relationship to each other. These underline the importance of including different factors associated with life satisfaction, and also investigating which of these factors are common to countries, and whether there may be country-specific factors. Such knowledge may be helpful in outlining preventive interventions. The aim of this study was to investigate life satisfaction among people aged 60–89 years in six European countries in relation to health problems, ADL capacity, social and financial resources, and self-esteem.

Materials and Methods

Sample

The sample of this study is a sub-sample of a cross-sectional and cross-national population-based study named European Study of Adult Wellbeing (ESAW) including 7,699 people living in six European countries. Data included in this analysis were collected in The Netherlands (n=1,163), Luxemburg (n=1,323), Italy (n=1,317), Austria (n=1,193), the United Kingdom (UK) (n=1,233) and Sweden (n=1,470) during 2001–2002.

The inclusion criteria for the analysis were: 60–89 years old, having answered the instrument Life Satisfaction Index Z (LSIZ) (Wood et al. 1969). A total 299 subjects were excluded (The Netherlands n=16, Luxemburg n=80, Austria n=64, UK n=82 and Sweden n=57) since they had not fully completed the instrument. This sub-sample was drawn from a main sample of 12,478 participants consisting of adult people aged 50–89 distributed among The Netherlands n=1,934, Luxemburg n=2,145, Italy n=2,018, Austria n=2,111, UK n=1,853, Sweden n=2,417 (Ferring et al. 2004). The age group 50–59 years was excluded since people of this age are mainly independent and healthy, and the age of 60 or 65 years is a common starting point for research on older people (Pickering et al. 2001).

   The countries included in ESAW were chosen to cover different countries in Europe from Sweden in the north to Italy in the south and the UK in the west (Scharf et al. 2003). A target sample of 2,000–2,400 stratified for age and gender and intended to be representative of the country (Ferring et al. 2003) was collected in each country. Respondents were selected from both rural and urban areas. In Sweden the sample was drawn from two southern counties. The final response rate was 41.4%. In the UK the sample was randomly selected so as to be representative of one city and one rural area. The final response rate was 49%. In The Netherlands, respondents were drawn from three rural/urban communities from each of the three main regions. In a total of nine sampling areas the final response rate was 56.7%. The Luxemburg sample was recruited taking into account the weight of the population living in the 13 districts of the country, grouped according to their population density and location in four sub-regions, of which two are rural (North and East) and two urban (South and West). The response rate was not available in Luxemburg. The Austrian sample was drawn from districts located in each of the nine federal states constituting the country, according to the weight of rural and urban population living there. Of those approached 88.0% choose to participate. In Italy the sampling procedure was carried out by choosing one metropolitan area, one or more urban areas and one or more rural areas and demographically subdivided thus: North-West, North-East, Centre, South and Islands. A total of 17 communities were selected. The final response rate was 46.0%.

Procedure

Data were collected through a self-report questionnaire including questions from the Older Americans Resources and Services schedule (OARS), Multidimensional Functional Assessment Questionnaire (OMFAQ) (Fillenbaum 1988). The questionnaire also included the instruments Self-esteem (Rosenberg 1965) and Life Satisfaction Index Z (Wood et al. 1969). Each country translated and back-translated the questionnaire into its native language, and adjusted questions about school system, distance and economy to agree with national systems and settings. In the ESAW countries, the questionnaire was administered to subjects face-to-face, by trained interviewers or sent by mail together with a letter of introduction and information that participation was voluntary. In Sweden questionnaires with internal dropouts were completed by telephone interview.

Measurements

The OARS is a multidimensional functional assessment instrument in five areas–social, economic, mental and physical health and activities of daily living – and comprises questions about health problems, ADL capacity, social and financial resources. The OARS has been tested in the United States regarding validity and reliability in people aged 62 years and over (Fillenbaum 1988). Health problems included questions about vision, hearing and diseases (from a standardised list of 27 common diseases of older people) and were measured with single items. Feeling

hindered by health problems in daily living was measured by the single item if health problems stood in the way of daily living.

ADL capacity – the ability to perform instrumental activities of daily living (IADL) and personal activities of daily living (PADL) – was assessed using OARS-IADL (use telephone, get to places outside walking distance, go shopping, prepare meals, do housework, take medication and handle money) seven items, total score 0–14 and OARS-PADL (eat, dress, take care of appearance, walk, get in and out of bed, bath, and get to the bathroom), seven items, total score 0–14. Each item scores 0–2 (0 unable to do, 1 with help, and 2 without help, except the last one which has the alternatives no, using aids and yes). A new ordinal variable, based on the original OARS scoring algorithm including IADL and PADL, was constructed, with five categories: no, mild, moderate, severe and total impairment. Test–retest for OARS-IADL in an older community and institutional sample at five weeks has been shown in a previous study to be $r=0.71$ (Fillenbaum 1985). Cronbach's alpha (Cronbach 1951) for total IADL and PADL was 0.88 for the whole sample, distributed in the sample of The Netherlands 0.75, Luxemburg 0.91, Italy 0.93, Austria 0.81, UK 0.88 and Sweden 0.88.

Social resources were measured using six single items aggregated to two indexes. The first index, "Extent of contacts," included questions of how many people do you know well enough to visit, times talked or times spent with somebody in the past week, with the values few, adequate, and extensive. The second index "Satisfaction with social contacts" included questions of someone to confide in, feeling lonely, and see relatives as often as wanted to, with the values unsatisfactory, fairly and very satisfactory according to the original algorithms (Fillenbaum 1988). The financial resources index, including four single items was constructed in the same way, and resulted in a new ordinal variable with three levels: poor, fair and good.

Self-esteem was measured using Rosenberg's self-esteem scale (Rosenberg 1979) consisting of 10 items, five positively keyed and five negatively keyed on a five-point scale ranging from strongly disagree to strongly agree, with a neutral value in the middle. The negatively keyed items were recoded and the 10 items were summarised, with scores ranging from 10 to 50. A higher score indicates a higher level of self-esteem. Cronbach's alpha for the whole sample was 0.82, distributed as follows among the individual countries: The Netherlands 0.79, Luxemburg 0.85, Italy 0.83, Austria 0.83, UK 0.82 and Sweden 0.78.

A standardised instrument Life Satisfaction Index Z (LSIZ) (Wood et al. 1969) was added to the questionnaire to measure the subject's level of life satisfaction. LSIZ includes 13 positively and negatively loaded items and is a shortened form of Neugarten's Life satisfaction index A (LSIA) original instrument with 20 items (Neugarten et al. 1961). The total score ranges from 0 to 26, with a higher score indicating higher life satisfaction. Cronbach's alpha in the present sample was 0.77, distributed as follows: The Netherlands 0.72, Luxemburg 0.76, Italy 0.75, Austria 0.76, UK 0.78 and Sweden 0.81. Values based on the average score for LSIZ have previously been computed in a study including $n=1,042$ people in the UK (men 406, women 636, 507 aged 65–74 and 535 aged 75 years and above, with those in institutional care excluded). The average mean score for LSIZ differed between those aged 65–74 (17.1) and 75+(16.4) (Morgan et al. 1987). Cronbach's alpha in that sample was 0.74.

Analysis

Sample descriptions, health problems, ADL capacity, social and financial resources are presented with descriptive statistics for each country. Life satisfaction, self-esteem and number of diseases are described with median and quartiles as the data were not normal distributed (Altman 1991). Chi-squared test was used to test differences between the countries on nominal data, non-parametric one-way analysis of variance – the Kruskal–Wallis test – on ordinal and interval data (Altman 1991). These analyses were used for the guidance of differences between countries, since Altman (1991) recommended not doing statistical comparison between more than five groups. Multiple regression analysis was used to identify factors associated with low life satisfaction. As the variables included were judged as not normally distributed the logistic regression analysis (enter) was chosen, with life satisfaction as dependent variable. To explore differences between the countries the regression analysis was repeated for each country. Hosmer and Lemeshow goodness-of-fit was used to test the model for each country (Hosmer and Lemeshow 2000), giving the results: The Netherlands 0.67, Luxemburg 0.41, Italy 0.27, Austria 0.33, UK 0.22 and Sweden 0.87. In the multiple regression analysis the 25th percentile, i.e. values over 14 for high life satisfaction, was used as a reference value. In the analysis gender, age and country were controlled, and women, the youngest age group and The Netherlands sample were used as a reference. Before the independent variables were entered in the analysis, self-esteem was dichotomised with the 25th percentile, i.e. values over 36 for high self-esteem as reference. The ordinal variable measuring ADL capacity with five alternatives was merged into three alternatives, excellent, mild/moderate and severe/total impairment, with excellent as reference. For the other categorical variables the response alternative with the smallest membership for low life satisfaction was chosen as the reference (Polit 1996). To reduce the risk of covariance in the regression models independent variables with correlations Spearman's rho (r_s)>0.4 were excluded. The correlation between feeling hindered by health problems and ADL capacity varied yet between the countries; from $r_s=$ 0.36 in the Austrian sample to $r_s=0.49$ in the Italian sample. Collinearity diagnostics (VIF) was used controlling for multicollinearity between the independent variables and was shown to be acceptable ($1>VIF<2$). The results are shown as odds ratios (OR) with 95% confidence intervals (CIs). Statistical analyses were carried out using Statistical Package for the Social Sciences (SPSS) for Windows 15.0.1.

Results

In all ESAW countries 50.5% of the participants were aged 69 or younger. The samples differed regarding age in that the sample from Sweden had the most (22.6%) and the sample from Luxemburg the fewest (12.2%) participants aged 80 and above. The Swedish sample also had a higher share of men (53.6%) than the other countries (39.0–46.5%). The samples from Sweden (31.4%) and The Netherlands (31.3%) had a higher share of those living alone, especially compared to the samples from Luxemburg (25.0%) and Italy (23.7%) (p-value<0.001). Across the countries five samples scored life satisfaction levels ranging in median between

18 and 19 ($q_1=13-q_3=22$), whereas the Italian sample scored a level of life satisfaction of 15 ($q_1=11-q_3=19$) (*p*-value<0.001) (Table 1).

ADL Capacity and Health Problems

Between 61.3 and 72.9% of the participants stated an excellent ADL capacity, indicating an independent life. The sample of The Netherlands (89.1%) had the highest share of excellent or mildly impaired ADL capacity compared to the Swedish sample with the lowest share (78.9%) (*p*-value<0.001). The samples from The Netherlands, Italy and the UK had the highest frequencies of those who did not feel hindered by their health problems (45.2–50.8%) compared to the other countries (36.8–42.3%) (*p*-value<0.001). However, the sample from the UK, besides having those with the highest frequency of not feeling hindered, also had the highest frequency of those who felt greatly hindered by health problems (21.0%). The UK sample stated the best eyesight (19.2%) and together with the Luxemburg sample the best hearing ability (22.8 and 19.9%) compared to the other countries (3.8–14.5% vs. 10.9–18.5%). The numbers of self-reported diseases ranged from the median of one for The Netherlands sample to the median of two in the other country samples (*p*-value<0.001) (Table 2).

Table 1 Sample descriptions, life satisfaction and self-esteem in the six European countries

	The Netherlands $n=1,163$	Luxemburg $n=1,323$	Italy $n=1,317$	Austria $n=1,193$	UK $n=1,233$	Sweden $n=1,470$
Gender %						
Male	46.5	40.5	43.1	39.0	45.3	53.6
Female	53.5	59.5	56.9	61.0	54.7	46.4
Age %						
60–69	48.4	62.0	48.4	53.4	51.1	41.0
70–79	36.8	25.8	37.0	32.4	36.4	36.4
80–89	14.8	12.2	14.6	14.2	12.5	22.6
Living condition %						
Living alone	31.3	25.0	23.7	28.0	29.5	31.4
Education %						
Primary school left at age 11–12	17.0	23.4	48.2	14.9	3.6	35.8
Secondary school left at age 14–16	45.8	22.6	20.2	40.4	66.7	15.2
High or vocational school left at age 18–19	15.9	46.5	22.9	31.7	11.9	26.0
College or above	21.3	7.5	8.7	13.0	17.8	23.0
Life Satisfaction Index Z median (q_1-q_3)	19 (15–22)	18 (14–21)	15 (11–19)	18 (14–22)	19 (16–22)	18 (13–21)
Self-esteem median (q_1-q_3)	40 (37–42)	42 (38–46)	40 (36–44)	44 (39–48)	40 (36–43)	41 (35–45)

Chi-squared test was used for nominal data and non-parametric one-way analysis of variance – the Kruskal–Wallis test – for ordinal and interval data between the countries. *P*-values<0.001 in all variables. *q*=quartile

Table 2 Health problems and ADL capacity in the six European countries

	The Netherlands $n=1{,}163$	Luxemburg $n=1{,}323$	Italy $n=1{,}317$	Austria $n=1{,}193$	UK $n=1{,}233$	Sweden $n=1{,}470$
How is your eyesight? %						
Excellent	14.5	8.7	6.5	3.8	19.2	9.1
Good	56.8	42.5	39.4	33.4	56.0	39.1
Fair	24.8	38.7	36.7	48.5	18.8	43.4
Poor	3.7	9.9	17.0	14.2	5.8	8.1
Totally blind	0.2	0.2	0.4	0.1	0.2	0.3
How is your hearing? %						
Excellent	16.5	19.9	10.9	16.1	22.8	18.5
Good	48.0	42.4	45.0	40.0	44.1	35.5
Fair	25.4	28.5	28.6	29.7	22.1	30.4
Poor	10.1	9.2	15.3	14.1	10.4	15.5
Totally deaf	–	–	0.2	0.1	0.6	0.1
Feeling hindered by health problems in daily living? %						
Not at all	45.2	38.2	50.8	36.8	45.5	42.3
A little	40.3	45.5	34.4	47.5	33.5	42.6
A great deal	14.5	16.3	14.8	15.7	21.0	15.1
Number of diseases median $(q_1–q_3)$	1 (0–3)	2 (1–3)	2 (1–4)	2 (1–4)	2 (1–4)	2 (0–9)
ADL capacity %						
Excellent	63.4	62.2	70.1	61.3	72.9	65.6
Mild impairment	25.7	18.1	18.3	23.4	14.8	13.3
Moderate impairment	9.0	13.5	5.9	12.8	6.9	17.9
Severe impairment	1.1	2.4	2.6	1.1	3.4	1.4
Total impairment	0.8	3.8	3.1	1.4	2.0	1.8

Chi-squared test was used for nominal data and non-parametric one-way analysis of variance – the Kruskal–Wallis test – for ordinal and interval data between the countries. P-values<0.001 in all variables. $q=$quartile

Extent of and Satisfaction with Social Contacts

Overall in the participating countries the respondents stated a high level of confidence in others (93.0%) and met their relatives and friends as often as they wanted (77.2%). The Luxemburg (83.8%) sample together with the Swedish (83.5%) sample stated more often that they saw relatives and friends as often as they wanted than the other countries did (72.2–75.3%) (Table 3). In the six countries five of them had a high frequency of contacts (64.4–76.3%), i.e. talked to someone daily or more frequently, whilst the Swedish sample stated the lowest frequency of contact with family and friends (35.9%). More people in the Italian and UK samples (34.7–37.7%) had spent time with someone in the past week daily or more than The Netherlands, Luxemburg and Austrian samples (27.8–29.4%) and the Swedish sample (12.7%) (p-value<0.001). The participants hardly ever found themselves lonely (64.5–79.3%) except for the Italian sample (54.2%) (p-value<0.001). The Luxembourg and The Netherlands respondents stated the highest levels of satisfactory social contacts (60.6–64.0%) compared to the Swedish, the UK, the Austrian (53.4−58.0%) and the Italian sample (40.1%) (p-value<0.001).

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Table 3 Extent of and satisfaction with social contacts in the six European countries

	The Netherlands n=1,163	Luxemburg n=1,323	Italy n=1,317	Austria n=1,193	UK n=1,233	Sweden n=1,470
How many people do you know well enough to visit in their homes? %						
Five or more	91.7	68.7	76.8	77.0	84.1	77.6
Three to four	5.2	16.1	14.2	15.4	8.5	12.6
One to two	2.1	10.2	7.5	6.0	5.3	6.6
None at all	1.0	5.0	1.5	1.6	2.1	3.2
About how many times did you talk to someone in the past week? %						
Daily or more	75.8	64.4	76.3	64.9	74.0	35.9
2–6 times	22.0	28.2	17.3	30.6	23.5	47.9
Once	1.8	6.4	5.6	4.2	1.8	13.8
Not at all	0.4	1.0	0.8	0.3	0.7	2.4
How many times during the last week did you spend some time with someone who does not live with you? %						
Daily or more	27.8	28.5	34.7	29.4	37.7	12.7
2–6 times	52.1	36.6	37.2	49.7	44.0	46.9
Once	10.5	25.8	18.3	15.3	11.3	30.0
Not at all	9.6	9.1	9.8	5.6	7.0	10.4
Do you have someone you can trust and confide in? %						
Yes	93.0	96.6	85.0	97.9	97.1	89.7
Do you find yourself feeling lonely? %						
Almost never	79.3	71.6	54.2	64.5	71.3	65.9
Sometimes	16.1	21.9	30.8	31.4	21.3	24.2
Quite often	4.6	6.5	15.0	4.1	7.4	9.9
Do you see your relatives and friends as often as you want? %						
Yes	75.3	83.8	72.2	72.3	73.8	83.5
Extent of social contacts %						
Extensive	82.3	65.2	73.9	78.3	82.4	57.5
Adequate	9.5	14.7	11.7	10.6	9.1	19.0
Few	8.2	20.1	14.4	11.1	8.5	23.5
Satisfaction with social contacts %						
Very satisfactory	60.6	64.0	40.1	53.4	57.5	58.0
Fairly satisfactory	35.2	32.7	47.8	43.7	38.1	35.5
Unsatisfactory	4.2	3.3	12.1	2.9	4.4	6.5

Chi-squared test was used for nominal data and non-parametric one-way analysis of variance – the Kruskal–Wallis test – for ordinal data between the countries. P-values<0.001 in all variables.

Financial Resources

All countries estimated a better or roughly the same financial situation (90.3%) as others of the same age and expected to have enough money in the future (82.3%). The samples in Luxemburg (96.7%), The Netherlands (96.4%) and Austria (96.5%) reported better levels of financial resources meeting needs better than the Italian sample (82.6%). Further, among the six countries the Luxemburg and The Netherlands samples stated the best financial situation (86.0 and 83.8%) whereas the Italian sample stated the poorest (58.0%) (p-value<0.001) (Table 4).

Factors Associated with Low Life Satisfaction

In the analysis of the total sample adjusted for country differences, adequate or few extent of social contacts (OR 1.3, CI 1.0−1.6), unsatisfactory or fairly satisfactory

Table 4 Financial resources in the six European countries

	The Netherlands $n=1,163$	Luxemburg $n=1,323$	Italy $n=1,317$	Austria $n=1,193$	UK $n=1,233$	Sweden $n=1,470$
As compared to other people your age how are you financially? %						
Better	30.0	15.0	17.2	18.0	24.3	20.6
About the same	63.2	78.0	72.4	70.9	63.2	69.4
Worse	6.8	7.0	10.4	11.1	12.5	10.0
How well do feel your needs are met by financial resources you have? %						
Very well	32.3	44.5	12.0	38.1	29.6	27.3
Fairly well	64.1	52.2	70.6	58.4	61.4	62.3
Poorly	3.6	3.3	17.4	3.5	9.0	10.4
Do you usually have enough money to buy or obtain small luxuries? %						
Yes	90.5	89.6	66.8	84.2	82.9	74.3
At the present time do you feel that you have enough money for your needs in the future? %						
Yes	88.4	93.1	72.0	86.2	78.2	76.8
Financial resources index %						
Good	83.8	86.0	58.0	76.4	69.4	67.1
Fair	12.8	11.0	27.2	18.4	22.3	21.7
Poor	3.4	3.0	14.8	5.2	8.3	11.2

Chi-squared test was used for nominal data and non-parametric one-way analysis of variance – the Kruskal–Wallis test – for ordinal data between the countries. P-values<0.001 in all variables.

social contacts (OR 2.6–9.9, CI 2.2−13.1), fair (OR 1.8, CI 1.5−2.1) or poor financial resources (OR 4.9, CI 3.8−6.3), low self-esteem (OR 2.9 CI 2.5−3.4), feeling little (OR 1.6, CI 1.4−1.9) or greatly hindered by health problems (OR 3.0, CI 2.4−3.7), mild/moderate impairment in ADL capacity (OR 1.3, CI 1.1−1.6) or severe/total impairment in ADL capacity (OR 2.4, CI 1.7−3.6), gender (OR 0.8, CI 0.7−0.9) and countries; the Luxembourg sample (OR 1.6, CI 1.2−2.1), the Italian sample (OR 2.9, CI 2.2−3.8), the Austrian sample (OR 2.1, CI 1.6−2.8) and the Swedish sample (OR1.6, CI 1.2−2.1) were associated with low life satisfaction. In the analysis of each country separately four factors proved to be associated with low life satisfaction in all countries. The factors were unsatisfactory or fairly satisfactory social contacts (OR 5.8–13.8 and OR 1.5–3.6, respectively), poor financial resources (OR 1.7–15.1), feeling greatly hindered by health problems in daily living (OR 2.2–5.4) and low self-esteem (OR 2.1–5.1). Reduced ADL capacity was associated with life satisfaction in four of the six countries; in the samples from The Netherlands (OR 1.7−20.5), Austria (OR 1.6−3.3), the UK (OR 3.7) and Sweden (OR 2.4). Gender was associated with life satisfaction in only one country sample namely the sample from Austria (OR 0.6). Age and extent of social contact were not associated with life satisfaction in any of the country samples (Table 5).

Discussion

The results indicated that most of the people, 60–89 years of age, in the six ESAW countries were satisfied with their lives. However, the participants from Italy had significantly lower median level of life satisfaction than the other participating countries. In those cases where people were not satisfied with their lives it was unsatisfactory social contacts, poor or fair financial resources, feeling hindered by

Table 5 Logistic regression analysis of factors associated with low life satisfaction in six European countries

	The Netherlands n=799			Luxemburg n=905			Italy n=876			Austria n=839			UK n=926			Sweden n=1,336		
	Odds ratio (OR)	95% CI for OR	p-value	OR	95% CI for OR	p-value	OR	95% CI for OR	p-value	OR	95% CI for OR	p-value	OR	95% CI for OR	p-value	OR	95% CI for OR	p-value
Social contacts																		
Fairly satisfactory	3.6	2.2–5.8	<0.001	3.6	2.5–5.1	<0.001	1.9	1.4–2.7	<0.001	1.5	1.1–2.5	0.021	2.8	1.9–4.4	<0.001	3.3	2.4–4.5	<0.001
Unsatisfactory	11.7	4.0–33.5	<0.001	8.0	3.1–20.7	<0.001	5.8	3.1–10.9	<0.001	13.7	3.7–50.7	<0.001	12.6	5.0–31.4	<0.001	13.8	7.0–26.9	<0.001
Financial resources																		
Fair	2.2	1.2–3.9	0.010	2.6	1.6–4.3	<0.001							2.9	1.8–4.6	<0.001	1.6	1.1–2.2	0.008
Poor	5.6	2.1–14.9	0.001	3.9	1.4–11.3	0.012	1.7	1.1–2.8	0.031	2.8	1.3–5.8	0.006	15.1	7.8–29.3	<0.001	7.6	4.8–12.2	<0.001
Feeling hindered																		
A little							1.8	1.3–2.6	0.001				2.7	1.4–5.1	0.002	1.9	1.3–2.6	<0.001
A great deal	2.4	1.2–4.6	0.010	2.5	1.4–4.4	0.002	5.4	2.8–10.2	<0.001	2.2	1.3–3.8	0.003	2.9	1.7–4.8	<0.001	3.6	2.2–5.7	<0.001
Self-esteem	5.1	3.2–8.3	<0.001	2.3	1.5–3.4	<0.001	3.5	2.4–5.2	<0.001	2.1	1.4–3.2	0.001	4.0	2.6–6.2	<0.001	2.6	1.9–3.5	<0.001
Reduced ADL capacity																		
Mild/moderate	1.7	1.0–2.9	0.038							1.6	1.1–2.4	0.008						
Severe/total	20.5	1.9–218.9	0.012							3.3	1.0–10.8	0.045	3.7	1.5–8.7	0.003	2.4	1.0–5.7	0.039
Gender										0.6	0.4–0.9	0.009						

Confidence Interval (CI). Controlled for age and gender. Variables entered in the models: gender, age, social resources (extent of and satisfaction with social contacts), financial resources, self-esteem, feeling hindered by health problems and ADL capacity. Excellent ADL capacity, unhindered by health problems, high self-esteem, high extent and satisfied with social contacts, good financial resources, the youngest age group (60–69 years) and women were chosen as references.

health problems, and low self-esteem rather than ADL capacity and extent of contacts that imposed the greatest risk of low life satisfaction in the country samples. Country-specific factors, i.e. factors important for low life satisfaction in some of the countries, were reduced ADL capacity and being a woman. Thus, the study indicated that there are common as well as country-specific factors important for life satisfaction in the six European countries.

Differences were found in the dependent variable in that the median value of life satisfaction differed between the countries. The Italian sample reported a significantly lower median level of the dependent variable life satisfaction than the other participating countries. The finding that the Italian sample had lower life satisfaction than other European countries has been reported by D'Andrea (1998), Christoph and Noll (2003) and Delhey (2004). Also, the findings of lower education level, lower financial resources, and higher level of unsatisfactory social contacts in the Italian sample compared to the other countries explain the lower life satisfaction. It is thus probably true country differences in life satisfaction and not methodological problems that lead to the difference in the dependent variable. Methodological considerations in cross-national research are often focused on the interpretability of differences and alternative explanations for the results (van de Vijver and Leung 1997). Translation of the dependent variable LSIZ into different languages introduces the risk that items can be inadequately translated and thus results in inadequacy of the instrument. However, in the regression analyses the Hosmer and Lemeshow goodness-of-fit showed that the models did fit well in all included countries. This indicates that the measure of life satisfaction is relevant to use in a European context.

Covariance between included variables may be a problem when assessing concepts regarded as being close to each other (Bjorndal and Hofoss 1998), for instance self-esteem and life satisfaction. Self-esteem has previously been shown to be an important indicator of life satisfaction (Diener et al. 2003; Sarvimäki and Stenbock-Hult 2000), and is sometimes used as an indicator of wellbeing. Diener et al. (2003), however, suggest that self-esteem cannot be used as a single predictor of life satisfaction, since life satisfaction is multi-dimensional in its construction. In this study there was a correlation between LSIZ and self-esteem, but it varied between the countries (r_s=0.38−0.49). Thus, self-esteem seems to be important to include in investigation of life satisfaction, although not as a sole factor, but together with other factors of importance to life satisfaction. Reduced ADL capacity and feeling hindered by health problems may be difficult to separate for the older people themselves, and thus those two independent variables may also be at risk of covariance. The correlation between feeling hindered by health problems and ADL capacity, r_s=0.36−0.49, indicates that the size of the correlation between the variables vary in the including countries. Existing country differences in correlation between the variables may result in difficulties interpreting country differences in factors important to life satisfaction. However, there seems to be a distinct difference between being impaired in various ADL activities and actually feeling hindered in daily living, which justifies including both aspects.

The most important finding of this study was that out of four common factors associated with life satisfaction only national differences were found in poor financial resources. This implies that almost no national differences in factors

associated with life satisfaction were found in the six European countries. Accordingly, although differences in social and financial resources, health problems, ADL capacity and self-esteem were found between the countries, four factors explained low life satisfaction in all countries. Thus, when planning interventions to improve life satisfaction of older people, it seems essential to consider multiple factors, both personal and environmental. Unsatisfactory social contacts, low financial resources, feeling greatly hindered by health problems and low self-esteem were all associated with low life satisfaction in the ESAW countries. The findings that multiple factors contribute to increased risk of low life satisfaction confirmed previous research, although not in cross-national research (Ho et al. 1995). Delhey (2004) found in a European sample that low social resources together with low health and financial resources were associated with low life satisfaction. He as well as Ferring et al. (2004) did not, however, include self-esteem, which in this study was found to be important in explaining life satisfaction (OR 2.1–5.1). Although the four common factors importance for life satisfaction differed between the countries, the regression model showed that these factors entailed the highest risk (OR 1.5–15.1) of low life satisfaction, compared to factors unique to each country (Table 5). For instance, poor financial resources were more associated with low life satisfaction in the UK sample (OR 15.1) than in the Austrian (OR 2.8) and the Italian (OR 1.7) samples. One explanation of this trend might be that differences in the sampling collection procedure in the different countries may have resulted in differences in the financial characteristics of the samples. The cause of existing differences between these three countries in the common factors may however be difficult to explain with used design and further analysis is preferable.

Factors that seem to be specific for some of the participating countries were mainly related to ADL capacity and gender. It may well be that these factors are specific for the countries, although caution has to be exercised when drawing conclusions due to the low prevalence of people with reduced ADL capacity, especially people with severe/total impairment in ADL capacity, in most of the countries. For instance, The Netherlands had the healthiest sample and had a wide CI (1.9–218.9) for OR in the factor reduced ADL capacity, which indicates unreliability (Bjorndal and Hofoss 1998). A noteworthy finding was that the majority of participants were rather healthy and lived an independent life in their own homes, yet in spite of this half the sample stated that they felt hindered by health problems in daily living, and greatly hindered by health problems was one of the most important factors related to life satisfaction (OR 2.2–5.4). Several previous studies have shown that reduced ADL capacity is associated with low life satisfaction (Girzadas et al. 1993; Ho et al. 1995; Michalos et al. 2000). To our knowledge the finding that feeling hindered by health problems had a strong association with life satisfaction has not been reported before. Independence in terms of ADL capacity provides information only about the functional impairment, i.e. what the person cannot do, but not about how the person perceives the importance of being able to do the specific activity. Feeling hindered in daily living is perhaps more important for old people's life satisfaction than the ADL capacity per se. It may well be that feeling hindered is an earlier sign of reduced ADL capacity. Thus it seems worthwhile not only to focus on ADL capacity but also on the person's perception of health-related obstacles in daily living and address promotive interventions to these.

Although social contacts differed in structure, i.e. how often people talked to or spent time with family and friends, the respondents were mainly satisfied with their social contacts. Previously, differences have been found in social contacts across European countries (Walker 2005; Wenger 1997). It has been well documented that social relations provide support (Wenger 1997) and a sense of belonging that may buffer other factors that have a negative impact on people's wellbeing (Avlund et al. 2002; Pinquart and Sörensen 2000). In this study, there seem to be country specifics in social contacts. The Netherlands sample, the UK sample together with the Austrian sample had the highest share of people with extensive extent of social contacts (78.3−82.4%) while the Swedish sample had the lowest (57.5%). In the Swedish sample more respondents met relatives and friends as often they wanted than in The Netherlands sample. Seemingly, the Swedish sample had a lower proportion of social contacts but at the same time they were satisfied with the contacts they had. It was not the extent of contacts but satisfaction with social contacts which was associated with life satisfaction in all countries and thus should be taken into account in health care interventions.

As expected, self-esteem turned out to be important in explaining life satisfaction. Those with high self-esteem may be more equipped to manage transitions in old age and to compensate for the negative effect of poor health, health problems, reduced ADL capacity, unsatisfactory social contacts, and low financial resources. In this study low self-esteem increased the risk of low life satisfaction in all countries. Self-esteem has been suggested to be the heart of successful ageing (Schwartz 1975) and low self-esteem has been found to increase mortality among males aged 42–60 (Stamatakis et al. 2004). People with low self-esteem may be even more vulnerable at a time when self-care and improving health have been increasingly regarded as the individual's responsibility. Those with low self-esteem may not have the prerequisites to handle the health problems developing due to ageing. The findings indicate that not only actual physical health problems should be taken into account when outlining health care and preventive interventions, but also identifying those frail old people with low self-esteem and providing the extra support, information and training that they may need to overcome or adapt successfully to the obstacles that have arisen.

Conclusions

This study indicates four factors – satisfactory social contacts, financial resources, self-esteem and feeling hindered by health problems – to be significantly associated with life satisfaction in all six European countries whilst ADL capacity and gender differed between the countries in terms of their significance for life satisfaction. Age did not explain life satisfaction in any of the countries. The results are a contribution to the knowledge base for geriatric care, promotive and preventive, as well as to cross-national comparative studies validating the importance of these factors for life satisfaction. Feeling hindered by health problems seems to be an early sign of declining health; although the sample was rather healthy, half of the participants stated that health problems were an obstacle. This has not, to our knowledge, been reported before and indicates that feeling hindered by health problems develops

earlier than the actual reduced ADL capacity does, a stage in which preventive actions may be most effective. However, successful prevention depends on individual strength, which implies high self-esteem and needs to be taken into consideration when outlining preventive interventions.

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