

Aging in Europe: a cluster analysis of the elderly in 4 European countries according to their views on successful aging

Stéphane Sanchez^{a,b,*}, Anne S. Batti^a, Didier Armaingaud^b, Philippe Denormandie^b, Moustapha Dramé^c, Stéphane Hugon^d

Introduction: Concepts like “healthy aging,” “successful aging,” “aging with high functional ability” or “aging well” have been used increasingly in the last few years.

Objective: The main goal of our survey was to describe the representation of pleasure and their patterns in people aged 65 and older in 4 European countries. Our second aim was to study the characteristics of each country regarding successful aging.

Methods: This cross-sectional study including > 4000 seniors was based on an online survey conducted with people aged 65 and older in 4 European countries: France, Belgium, Italy, and Germany. Our sample was representative of the population aged 65 and older in each of the countries surveyed. The survey took place from August 20 to September 29, 2014.

Results: Cluster analysis led us to define 6 profiles of elderly people with regards to “living well, aging well.” The profiles ranged from “fragile and aged” to “familial hedonist” with “socially inclined” and “independent” elders falling in the middle. Groups were not evenly distributed across countries, suggesting geographic variations in the process of aging.

Discussion: “Aging well” is a complex concept, and people from different countries have varying expectations of successful aging.

Conclusion: Further studies are needed to determine how tailored interventions can best address the needs of elderly people with different views and expectations regarding successful aging.

Keywords: Elderly, Well-being, Europe, Social representations

Concepts like “healthy aging,” “successful aging,” or “aging well” have been used increasingly in the last few years. Initially described by Rowe and Kahn^[1,2], the concept of “successful aging” does not have a consensual definition. However, many authors agree on the importance of maintaining high physical and cognitive functions and of maintaining social relationships^[3,4]. Acknowledging the role of pleasure in living a good life, it seems legitimate to question the influence of aging on the notion of pleasure. The few studies focusing on pleasure in the elderly mostly measured quality of life^[5]. Paradoxically, pleasure patterns and representations are not frequently explored in the literature. Interventions based on pleasure or positive relationships

are effective strategies to increase well-being or prevent depressive symptoms^[6]. Knowledge about pleasure representations might help to improve Public Health policies. We hypothesized that knowledge about the different patterns of pleasure could help address the needs of the elderly population. We aimed to identify the representations of pleasure in an elderly population and find patterns which depended on their cultural environment. Here we focused on the role of the country. Our survey tried to capture the mindset of elderly people and to follow their evolution: were they fitting their age? Did they think they counted for society? What role did their family have in their lives? Were they prepared to lose their independence? What did the young think about this? This survey, named “The European barometer of successful aging” was realized by the Korean Institute for Healthy Aging and the Ipsos poll institute during the second half of 2014.

Our primary objective was to find profiles of elderly people with regards to successful aging in the population aged 65 and older in 4 European countries. The second aim of our study was to describe patterns specific to each country.

Methods

Population

Our sample included > 4000 seniors representative of the population aged 65 and older in 4 European countries: France (n = 1001), Belgium (n = 1014), Italy (n = 1009), and Germany (n = 993). The survey took place from August 20 to September 29, 2014. The quota method was applied to obtain a diverse sample capturing variations that occurred in the population. For instance, we wanted to include “young” and older retired people.

Sponsorships or competing interests that may be relevant to content are disclosed at the end of this article.

^aDepartment of Medical Information and Performance Evaluation, Troyes Hospital, Troyes, ^bKorian Institute for Healthy Aging, Paris, ^cDepartment of Research and Public Health, Reims and ^dCeaQ, Paris-V University, Paris, France

*Corresponding author. Address: Pôle IMEP, Hôpitaux Champagne Sud, 101 Avenue Anatole France, Troyes 10000, France. Tel: + 33625036892; fax: + 33325494881. E-mail address: stephane.sanchez@ch-troyes.fr (S. Sanchez).

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Healthy Aging Research (2018) 7:e19

Received 13 July 2017; Accepted 7 February 2018

Published online 21 March 2018

<http://dx.doi.org/10.1097/HXR.000000000000019>

Table 1
Population characteristics.

Characteristics	Group 1: Anxious (N = 700) (%)	Group 2: Carefree and Solitary (N = 801) (%)	Group 3: Carefree and Well Surrounded (N = 898) (%)	Group 4: Farsighted and Well Surrounded (N = 575) (%)	Group 5: Reclusive in Suffering (N = 422) (%)	Group 6: Family (N = 620) (%)	Total (N = 4017)
Country							
Germany	15.2	32.7	20.6	11.7	12.3	7.5	993
Belgium	15.8	24.1	21.6	12	11.2	15.4	1014
France	20.2	18.3	29.3	12.7	8.9	10.7	1001
Italy	18.6	4.9	17.9	20.8	9.8	28	1009
Sex							
Male	21.3	20.5	20.3	14.3	13.2	10.3	1710
Female	14.5	19.5	23.9	14.3	8.6	19.3	2307
Age (y)							
65–69	19	23.8	28.5	18.4	5.8	4.6	1281
70–74	20.2	25.8	25.4	12.5	9	7.2	791
75–79	15.2	17.6	19.8	13.1	11.4	22.8	1143
> 80	15.4	11.3	13.1	11.4	18.3	30.5	802
Number per household							
Living alone	16.8	24.1	22.9	14.5	10.1	11.4	1136
≥ 2	17.7	18.3	22.1	14.2	10.7	17	2881
Marital status							
S/t single	14.6	19.4	19.8	12.6	12.4	21.2	1555
S/t couple	19.2	20.3	23.9	15.4	9.3	11.8	2462
No. grandchildren							
None	15.3	24.7	17.1	13.8	14	15.1	1025
At least 1	18.1	18.3	24.2	14.5	9.3	15.6	2992
Place of residence							
Apartment	16.6	20.5	20	15.7	10.9	16.3	2030
House	18.4	19.6	25	12.9	10.1	14	1964
Level of education							
Low	14.5	14	16	9.3	14.4	32	1242
Medium	18.4	20.2	25.2	16.1	9.7	10.4	1682
High	19.2	26.3	25.2	17.3	7.6	4.4	1093
Income							
Low	16.6	20.3	17.3	12.1	13.2	20.6	1298
Medium	20.7	17.6	24.3	15	10.5	11.9	1168
High	15.9	20.8	25	17.8	9.2	11.3	810

The features used for quota sampling were age, sex, region. Quotas were defined according to the sociodemographic structure of the population aged 65 and older in each of the countries surveyed, based on official national statistics.

The access panel of the Ipsos institute

The questionnaires were given through the Access Panel Online enrolled by IIS (Ipsos Interactive Services). The access panel is a diverse panel of individuals homogeneously divided on the national territory and who accept to participate in market studies regularly. This panel has existed for 12 years. This panel counts more than 600,000 individuals for whom extremely precise data have been collected in addition to the data used for the defining quotas (eg, size of household, level of earnings, level of education, number of children, etc.). This method guarantees a very high level of representativity on most of the data (age, sex, socioprofessional category, agglomeration category, and region). Many quality controls were conducted during all the steps of the survey.

Quality tests

Quality analysis was conducted at every step of the data collection and during all the online interviews with the CONFIRM-IT

software. This system provides an automated control of the questionnaire, minimizing coding errors (the system prohibits multiple answers when only one is necessary), allowing random ordering of the questions (to prevent bias due to the order of the questions), to control the coherence of some questions, and allowing quota control in real time. The software is ISO 9001 certified (2008).

Questionnaire writing process

The questionnaire was designed by the Korian Institute for Healthy Aging, a society working with gerontologists and patients to study all aspects of aging and predict the future of health care for the elderly. A sociologist helped in designing the questionnaire. The questionnaire contained 25 items related to pleasure.

Statistical analysis

For descriptive analysis, quantitative variables were expressed as means and SDs. Qualitative variables were presented as absolute frequencies with percentages. For the principal component analysis (PCA), we have constructed the typology with question 16 being the active variable (type of pleasures and relation to them).

We have constructed a principal component analysis from questions 6 (except item “doing my makeup”), 11, 12, 22, and 23 that served as active variables. As for illustrative variables we used questions 1, 2, 3, 4, 5, 7, 10, 13, 13bis, 14, 15, 16, 20, 21, 24, 25, and sociodemographic characteristics. Variables were scaled before they were entered in the PCA. The questions used as active variables were qualitative variables. They were transformed in quantitative variables as follows:

- Q6: Very often = 5/often = 3.5/sometimes = 2.5/never = 1.
- Q11: Nearly everyday = 5/at least once a week = 4/2–3 times a month = 3/once a month = 2/less than once = 1/never = 1.
- Q12: Nearly everyday = 5/at least once a week = 4/sometimes during the month = 3/sometimes during the year = 2/less often than the former = 1/never = 1.
- Q22: I like to do it and I do it nearly as much as I want to = 5/I like to do it but I do it less than I want to = 4/I practically never do it because I do not like to do it = 1/I never do it because I cannot do it = 2.
- Q23: Events mentioned = 5/events not mentioned = 1.

From that first PCA, a typology has been created by a method of hierarchical cluster analysis (HCA), using the Ward method. For the classes’ construction, consolidation iterations were realized to improve the homogeneity inside the classes. The level of statistical significance was set at 0.05. We used SPAD software to implement the PCA.

Results

Our population consisted of 4016 respondents across 4 countries. Population characteristics are described in Table 1. A total of 802 (20.0%) respondents were aged over 80. In total, 1136 (28.3%) lived alone. In all, 1555 (28.8%) were single. Half of the respondents lived in an apartment.

The PCA showed 6 groups. Table 2 shows how each group differs from the panel for selected qualitative variables. Table 3 shows group specificities for quantitative variables.

The “Anxious” group (n = 700; 17.4%) comprised people who did not often go on holiday (32.6%), were less prone to pleasure, felt useless, and were afraid to become a burden for their relatives (39.3% did not feel useful for their grandchildren). People from this group tended to think they could not rely on their family or on existing legislation, and had financial and health-related problems. Thinking about their future made them anxious. Anxiety made them seek information, for instance on the internet.

The “Carefree and solitary” (n = 80; 19.9%) group, with elders mostly from Belgium and Germany, was characterized by people less preoccupied by their usefulness to society and less dependent than the former. In all, 35.8% had a high level of education. They accepted their age and led an active life. This group was characterized by isolation (few contact with family), but this isolation was thought of as independence. They had better health and were less preoccupied about the future.

The “Carefree and well surrounded” (n = 575, 14.3%), respondents tended to be French (32.7%), in full possession of their faculties (88.5%), they enjoyed life (life was a source of pleasure for 48.8%), and actively engaged in social relationships with their family or others. This group was composed of “seniors” comfortable with their bodies, well surrounded, who fully enjoyed their retirement without thinking about the future.

Table 2

Qualitative characteristics of each group.

Name of the Variable and Characteristic Modalities	% of the Modality in the Group	% of the Modality in the Sample
Group 1: Anxious		
Sex: male	52.2	42.6
Difficulties for going on holiday	32.6	24.3
Life is not a source of pleasure	19.9	13.7
> 4 elements adapted for dependence in the current habitation	31.1	23.8
Does not feel useful for grandchildren	39.3	31.7
Group 2: Carefree and solitary		
From Germany	40.5	24.7
Not concerned if he/she is useful for his/her children	18.8	10.0
Not concerned if he/she counts for his/her children	18.5	9.9
In full possession of their faculties	82.4	71.6
High level of education	35.8	27.2
Group 3: Carefree and well surrounded		
In full possession of their faculties	88.5	71.6
Feels useful, contributes to society	96.3	83.3
Life is a source of pleasure	48.8	30.9
Never feels lonely	65.2	47.6
Can often go on holiday	42.9	27.3
Group 4: Farsighted and well surrounded		
Feels useful, contributes to society	94.4	83.3
Taking into account public authorities’ fight against exclusion	24.3	13.5
Feels useful for grandchildren	40.5	28.6
From Italy	36.5	25.1
Taking into account public authorities’ management of the end of life	25.0	15.4
Group 5: Reclusive in suffering		
Difficulties for going on holiday	35.6	12.2
Not concerned with usefulness to his/her friends	22.0	5.1
Very difficult to make new relations, new contacts	28.2	8.6
Feels rather useless	24.4	7.0
Very difficult to refurbish their interior	44.4	21.6
Group 6: Family		
Low level of education	64.0	30.9
Widowhood	45.6	22.9
Woman—80 or older	28.9	11.3
Lives with more than 3 people	35.5	15.8
80 or older	39.4	20.0

People from the “Farsighted and well surrounded” group (n = 575; 14.3%) felt very useful for their families (40.5% felt useful for their grandchildren) and for society (94.4%), easily interacted with other people, had numerous leisure activities and often went on holiday. Italians were well represented in this group (36.5%). However, housing was often not adapted to the level of autonomy in this group. These well surrounded people often thought about their future but did not feel anxious about it because they felt prepared (for instance they could buy a new house if their house was not appropriate anymore).

The “Reclusive in suffering” group (n = 422; 10.5%) was composed of people for whom it was difficult to go on holiday (35.6%), who felt rather useless (24.4%), socially isolated, with a

Table 3
Group characteristics—quantitative variables.

Variables	Group		All Participants	
	Mean Score	SD	Mean Score	SD
Group 1: Anxious				
Finding informations on subjects that interest you	4.155	0.963	3.510	1.511
Web browsing	4.703	0.718	4.150	1.383
Lack of desire to go out	2.625	1.965	1.974	1.717
Sending mail	4.148	1.142	3.670	1.551
Real discussions—your family does not live with you	4.016	0.988	3.723	1.236
Group 2: Carefree and solitary				
Facial skin care, hand skin care	3.107	1.371	2.581	1.385
Taking care of yourself	4.316	0.952	3.807	1.414
Sending mail	4.208	1.092	3.670	1.551
Going to the restaurant	4.049	1.029	3.591	1.361
Web browsing	4.610	0.979	4.150	1.383
Group 3: Carefree and well surrounded				
Travelling to France, abroad/going away for the weekend	4.193	0.902	3.396	1.364
Real discussions—true friends	4.200	0.736	3.564	1.179
Going to the cinema, theater, concert, museum	3.868	1.262	3.066	1.486
Preparing a meal for your family or your friends	4.527	0.836	3.861	1.321
Taking care of yourself	4.493	0.920	3.807	1.414
Group 4: Farsighted and well surrounded				
Looking for informations on forums, chatting	3.515	1.366	1.805	1.332
Looking for health informations on websites	3.361	1.283	1.958	1.271
Going shopping online	2.891	1.277	1.788	1.113
Using Skype to communicate with your relatives	2.969	1.581	1.737	1.289
Listen to music, watch movies	3.335	1.488	1.960	1.444
Group 5: Reclusive in suffering				
Lack of desire to go out	2.555	1.950	1.974	1.717
Memory loss	1.737	1.551	1.481	1.301
Lack of ideas on what I could be doing	1.683	1.505	1.482	1.302
No. persons per household	2.155	1.140	2.003	1.083
Lack of contact with friends	1.730	1.545	1.572	1.401
Group 6: Family				
Older	78.838	6.470	74.074	6.675
Real discussions—health care professional	2.847	0.882	2.364	0.898
No. persons per household	2.424	1.208	2.003	1.083
Real discussions—your family does not live with you	4.202	0.966	3.723	1.236
Real discussions—caretakers	2.067	1.493	1.671	1.217

very restricted family. This group was older and had to face many health issues. Without people to support them, they had a tendency to close themselves to the outer world and face their pain alone.

At last the “Family” (n = 620; 15.4%) group had low educational achievements (64.0%), and a few health issues. People from this group were often widowed but lived with their family. Almost half of the group (45.6%) was Italian. They found it difficult to move out but were well surrounded. The central role of the family was the main trait of this group: social interactions

with the family were very frequent and these seniors often relied on their family to help them face their health issues.

European profiles are presented in **Figure 1**. Axis 2 is related to being more or less surrounded and axis 3 is related to being more or less confident with the future and autonomy. For instance, Germans were often in the “Carefree and solitary” or “Reclusive in suffering” group. Belgians were more frequently seen in the “Carefree and solitary” group. French people were divided in 2 groups, one that enjoyed life (Carefree and well surrounded), the other appearing to have high anxiety levels (“Anxious” group). At last Italians had a very specific profile with family playing a central role. Most Italians were in the “Farsighted and well surrounded” or “Family” groups.

Discussion

We used HCA to identify groups of elderly people according to their views on “living well, aging well” and their surroundings. Our approach enabled us to differentiate specific profiles, ranging from “fragile and aged” to “familial hedonist” with the “socially inclined” and the “independent” types falling in between. We showed geographical variations between profiles, with well surrounded Italians, French people divided between social life, pleasure and depression, Germans either isolated or independent, and the relatively independent Belgians. Our results seem consistent with data about the typology of pleasure in the elderly, especially the French survey about pleasure^[7]. Our survey showed a link between food-related pleasure and nutrition, also consistent with the literature^[8]. Artistic and cultural activities have a significant influence on quality of life, even though they do not usually impact health care outcomes related to chronic disease^[9]. Others surveys about the mindset of aging people can be linked to our typology of elders^[10]. Our results also suggest that having multiple social interactions is associated with a more positive perception of oneself and of aging. Those results are consistent with the literature about the link between depression and social interactions^[11,12]. Finally, the results of a French survey^[13] suggest that health status or age is not a significant predictor of spiritual well-being, which leads us to question the relative importance of subjective and objective dimensions of aging well.

Strengths and weaknesses

Our population consisted of a panel of individuals recruited by a poll institute in 4 European countries, and as such may not be representative of the elderly population worldwide. However, our approach was quite original. We explored the pleasure factor that plays an essential role for maintaining a good health and aging well^[5]. Our survey showed people over 65 consider pleasure in different ways, with profiles as diverse as hedonists, anxious elderly people who seek information online, those who enjoy a few selected activities, and those whose life revolves around their family. This approach does not claim to offer a definitive typology, as the classes could vary according to the choice of questions. However, our model offers a better understanding of pleasure in people older than 65 and could serve as a basis for improving the management of health facilities. Our study does not put undue emphasis on the distinction between the elderly and the 15–64 years old with regards to pleasure, but rather suggests that there is no generational split in

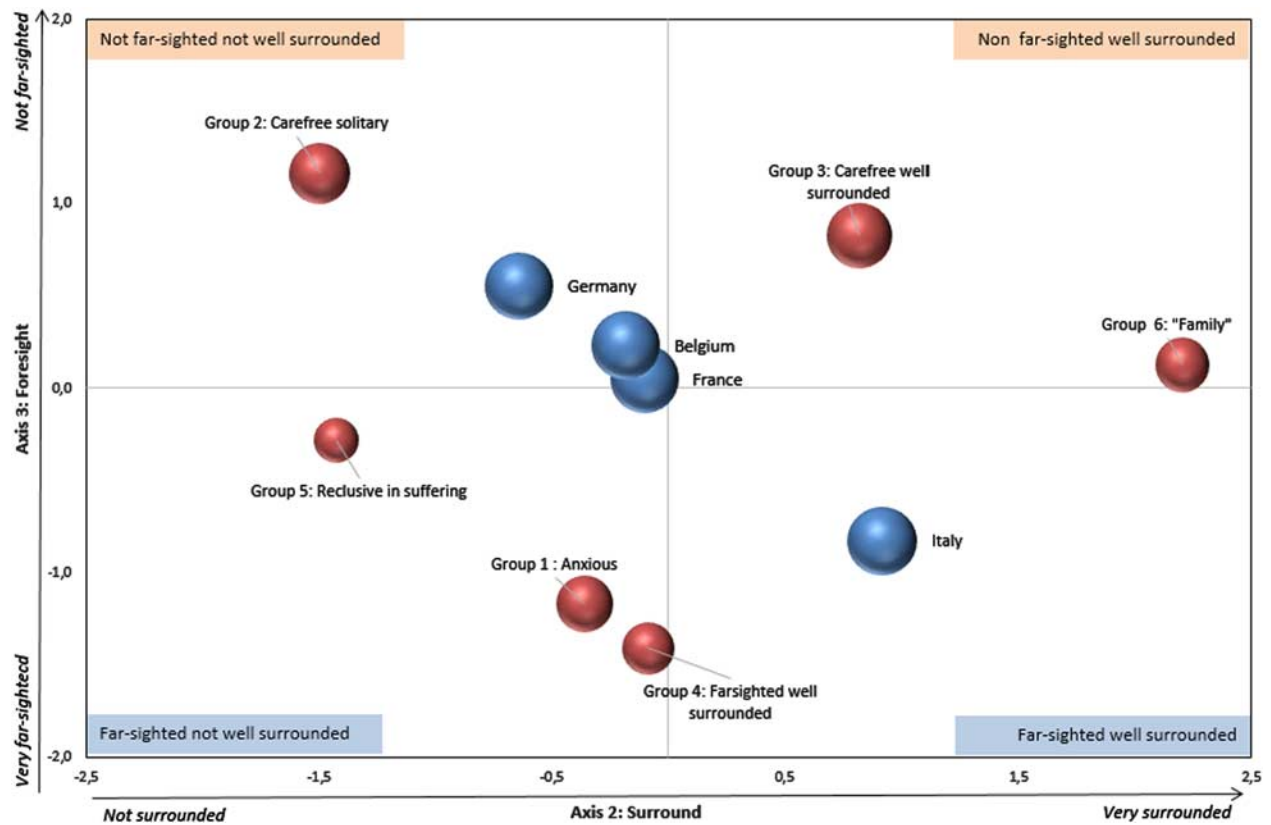


Figure 1. Principal component analysis showing groups depending on country.

the representations of pleasure and that the 15–64 age class have a simplified perception of how the elderly feel about aging well.

Finally, we acknowledge that others factors play a major role in successful aging. Recently, Stenholm et al^[14] survey explored aging and the emergence of comorbidity in retired and active people aged 65 or older in English speaking countries. Surprisingly, people aged 65 or older who were still working declined less rapidly than those who had retired. The results of others surveys are consistent with our exploration of pleasure in showing that social participation, social support, and social capital are associated with a better health^[15,16]. Our survey shows that pleasure in over 65 years old often stems from social interactions, which help people feel better about aging.

Further investigations are needed to explore interventions helping the elderly that suffer most to achieve a better quality of life based on their views and expectations.

Conclusions

Successful aging is a vast concept with multiple determinants, and the study of aging well should strive to understand the state of mind of the elderly. Understanding clusters of pleasure representations could lead to tailored interventions and better health care. A public health policy should account for links between health, social relationships, pleasure, and quality of life. This article could be a starting place to integrate the patient’s mindset in health care projects for successful aging.

Conflict of interest statement

The authors declare that they have no financial conflict of interest with regard to the content of this report.

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