

RESIDENTIAL ENVIRONMENT OF THE ELDERLY PEOPLE IN SPAIN. TOWARDS A MUNICIPAL CATEGORIZATION*

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INTRODUCTION

In developed societies the population ages as a sign of demographic maturity, with biological time being associated with better living conditions and the population living longer (Sancho, 2005). One of the essential reference points of this ageing process in better conditions is having a home, as a space for physical, emotional, family and social relationships (Rojo et al., 2002), adapted to the needs and desires of the residents (Harrison, 2004; Bratt, 2002) and through which the adult finds the maximum satisfaction value for living (Phillips, 2005). In addition, the home acquires contents for the person by being situated in a larger area (district and local community), with physical and social characteristics that do not belong to their exclusive domain but which are of public or general use and necessary for maintaining the resident's identity and well-being (Fernández-Mayoralas et al., 2004). In this context, life satisfaction is related to what is obtained from the use and enjoyment of the home and its environment, influenced by elderly people's life cycle and the degree to which their expectations are fulfilled.

This paper aims to assess elderly people's living conditions in Spain and check whether there are any differences in the quality and satisfaction with the residential environment based on personal, residential and habitat size factors, taking the municipal area as the geographical context.

SOURCES OF ANALYSIS AND METHODOLOGY

Assessing the residential environment's objective and subjective aspects entails using indicators that include the measurement of the physical aspects of the place in which the person lives and residents' perceptions of their living space. This dual approach forms part of

the analytical baggage of life satisfaction and quality studies. Their relationships are studied in the bibliography and discussions over their importance and pre-eminence are commonplace in scientific forums. Furthermore, people's sociodemographic characteristics (age, gender, household, health, income, etc.) are habitual factors that help to assess the suitability of the home and urban environment, especially among the elderly. All are instruments necessary for a multivariate analysis of the complex functioning of human behaviour in the geographic and social environment.

Based on the 2001 Population and Housing Census (<http://atrios.ine.es/censo/es/inicio.jsp>), objective and subjective information was applied to sociodemographic characteristics, the household, amenities, characteristics and evaluation of the residential environment; this information was measured on a metric scale for people aged 65 or over living in their main family home, with the municipality (8,108 cases) being the study area.

To achieve the proposed objectives, a descriptive analysis was firstly produced from the interpretation of contingency tables. The typology of Spanish municipalities according to their size, sociodemographic characteristics of the elderly population and quality of residential space was profiled by applying multivariate statistical techniques. A Factor Analysis (FA) was therefore carried out with the sociodemographic information and residential characteristics in order to examine the relationships between the vast number of variables, considered simultaneously, and condense its information into a reduced set of non-correlated factors, with minimum loss of this information. The factor scores for each main component in each municipality are the basis for the non-hierarchical Cluster Analysis (CA), which aims to determine similarities between municipalities to group together those with similar profiles in the same cluster, as well as obtain maximum heterogeneity with municipals of other clusters. The results of this classification were validated using Discriminant Analysis (DA). With the previous results, a Multiple Correspondence Analysis (MCA) was finally applied to check the relative hypothesis to the existence of sociodemographic differences and quality of the residential environment according to the municipality's size.

ELDERLY PEOPLE IN SPAIN: SOCIODEMOGRAPHIC AND RESIDENTIAL PROFILE

According to the 2001 census, 17% of the Spanish population is aged 65 or over, with 98% of this amount living in their main family home, i.e. ageing at home. The most prominent sociodemographic characteristics are the number of very elderly (43% are 75 or over), number of women (almost 6 out of every 10 are women), number of widows or widowers (31%), low educational level (44% have no education) and predominance of pensioners (76%). The high number of widows/widowers and single people explains the significant proportion of elderly people living alone (20%), an aspect which mainly affects women and the very oldest. However, the predominant household has 2 people.

Despite the fact that the proportion of old people living in rural municipalities is almost double that those in urban areas (28% vs. 15%), 7 out of every 10 old persons live in municipalities with more than 10,000 inhabitants. In this geographical context, more than half the population aged 65 or over does not live where they were born, being urban areas that have the most non-native population, including foreigners, with a predominance of men and younger elderly.

With regard to the characteristics and quality of the residential environment, most elderly people live in relatively new homes, in buildings with less than four floors and own their house (87%). Nine out of every ten have basic infrastructures in dwellings, while all 40% of this population also benefits from other installations such as central heating, hot water or gas. However, other services such as a lift, garage or concierge are only available to smaller numbers (29%, 19% or 7% respectively). In addition, most elderly people are not significantly aware of exterior problems that negatively affect their home. The most typical problems include lack of green spaces, lack of street cleaning and existence of outside noises, mentioned by 34%, 28% and 26% of residents respectively. In smaller percentages are problems such as crime or vandalism in the area (20%), pollution (17%) and poor communications (12%).

Generally speaking, men benefit from more favourable residential conditions than women, being the last ones more likely to mention problems related to the negative impact of outside public space. The younger elderly enjoy better objective residential conditions (property, modernity, facilities); however, with regard to the influence of the environment on perceived problems in the home, the old-old are more satisfied than the young-old.

All the residential aspects considered are closely related to the residential area and location of the home, as a result of which habitat size-related differences observed are significant. Consequently, residents in rural areas have larger (but older) homes in lower, more accessible buildings, but with fewer amenities. Furthermore, these rural residents notice fewer problems in their homes resulting from the area where they live, as a result of which, it is only problems related to the lack of a bathroom or toilet inside the house and poor external communications that proportionally exceed elderly residents in urban areas.

SOCIODEMOGRAPHIC AND RESIDENTIAL LATENT STRUCTURES

The FA on sociodemographic variables (percentage of elderly, gender, marital status, relationship between birthplace and residents, level of education, relationship with activity) offers a factor solution that explains 71% of the total cumulative variance in 6 factors: 'diversity of origin', 'femininity and widowhood', 'low level of education', 'pensioners vs. retired people', 'marital status' and finally 'foreigner status and a high level of education'.

With regard to the residential structure, variables related to the size of the house, household, type of occupancy, amenities in the home and building, age, number of floors in building and perception of problems in residential environment were selected. This set of variables can be broken down into 12 components (71% of the cumulative variance): 'building height', 'infrastructures', 'satisfaction with environment', 'large households', 'type of occupancy in building', 'home and building amenities', 'small houses', 'medium-size houses', 'accessibility in building', 'average age of the house', 'recent build' and 'communications in the area'.

Having obtained the matrix of underlying relationships between the variables from the two previous factor analyses, 18 components were produced; the factor scores for each municipality in each factor make up the database for classifying Spanish municipalities according to sociodemographic and residential profiles based on the CA.

EXISTENCE OF UNIFORM MUNICIPAL GROUPS

The CA on sociodemographic variables defines 6 homogeneous groups of municipalities (table 4), with 97.4% of the cases correctly classified (according to the DA validation). When observing the score of each component in each cluster, the importance of the diversity of origin and foreigner status factors in each of them were deduced, obtaining values way above or way below the average, depending on the case.

Cluster 2 groups together municipalities where a highly proportion of elderly people born abroad reside, with very high education levels and a marital status of separated or divorced (foreigner status factor with a very high positive score). Cluster 4 is close to the above cluster in terms of foreign population presence, but it also has a native or national population (born in a different municipality and province in the same or different autonomous region). In any case, it is a population with a medium or high level of education and lower ageing rate than the above group. Cluster 5 is defined by the high level of national people but born outside the municipality of residence, a lower ageing rate, second degree education level, a mostly married population with few single people, in accordance with the lower ageing rate.

The rest of the clusters are characterised by a strong presence of elderly people born in the same municipality of residence, having a high ageing rate and not having been in secondary or higher education, as indicated by the negative scores of the foreigner status and medium/high education level factor.

The classification of municipalities according to residential factors (table 5) shows 7 clusters and was validated through DA, indicating that 96% of cases are correctly classified. The most numerous clusters are 4, 3 and 6. The first includes elderly people in individual households but living in medium to large houses, of average age and recent build, with an ownership type of occupancy and low level of amenities. Cluster 3 is characterised by houses and buildings with heating, a garage and telephone lines, and an average height building. Group 6 includes municipalities with a predominance of residents in large, relatively old houses.

The rest of the clusters make up less than 22% of municipalities in total. The residential profile of cluster 7 is highlighted by the small house size (although households are individual) and lack of basic amenities (heating, telephone lines etc) and comfort. Cluster 5 includes elderly people in individual household and rental housing lacking basic amenities, although they are of recent build. Cluster 1 includes large size households and Cluster 2 is defined by the old people with a low perception of their environment resulting from the negative impact of the exterior with regard to the perception of different problems.

DISCOVERING THE RELATIONSHIPS BETWEEN SOCIODEMOGRAPHIC AND RESIDENTIAL PATTERNS ACCORDING TO HABITAT SIZE

The relationship of Spanish municipalities according to their ageing and residential environment was studied using MCA, by associating categories that report the group of belonging with each set of clusters (6 sociodemographic profile clusters and 7 on the characteristics and quality of the residential environment), as well as the size of the

municipality of residence. This model has been interpreted taking into account the retained dimensions and contribution of each variable in each dimension (table 6). The solution obtained shows two dimensions that jointly account for almost 59% of the variance (67% for the first dimension and 50% for the second). The distribution over the two dimensions map (figure 1) shows that the residential profile and the size of municipality describes a V-shaped silhouette, indicating its spreading over both dimensions and its high degree of discrimination. The sociodemographic profile lies close from the origin and positions itself especially on the first retained dimension, with less variability over dimension 2 and also a relatively smaller power of discrimination.

With regard to the relationships of the categories on the spatial map, different patterns commented on below can be differentiated, starting with the description along the upper left vertex of the map (i.e. coordinates $-6.00, 5.00$).

- a) Municipal type away from the centre of the Cartesian map (indicates a low frequency of cases) is defined around medium and large size open municipalities with high residential quality of the private area which contrasts with a low satisfaction with the exterior or public environment. Due to the large size of inhabitants, municipalities would be associated with general sociodemographic profiles.
- b) Municipal pattern with older non-native population, medium and high education level and married marital status. It would also include a foreign population with the highest education level and people with a separated-divorced marital status. The ageing rate is below the average at this age and the municipal size is between 20,001 and 50,000 inhabitants; the residential environment is of high quality.
- c) Small urban municipalities (10,001 to 20,000 inhabitants) and medium-sized (2,001 to 10,000 inhabitants), associated, on the one hand, with a sociodemographic profile characterised by a very high proportion of foreign elderly people, a high level of education and divorced-separated people above the national average, and, on the other, includes a high portion of native elderly people with a high ageing rate and low-level of education. From the residential point of view, the municipalities in this group are associated with high quality homes and buildings of a medium height.
- d) There is a series of categories with positive scores in dimension 1 and negative scores in dimension 2 centrally positioned in the map. These are rural municipalities between 501 and 2000 inhabitants with a high percentage of old people and indigenous population with a low level of education that receive retirement or widow's pensions. They live in very small or single households and in medium size or small houses, lacking basic facilities in both houses and buildings. From this it could be possible to infer a certain relationship between living alone in old age and lower quality homes. However, it should be remembered that the most common type of occupancy is ownership, through which the population can achieve a sense of «ontological security» in their daily lives (Dupuis and Thorns, 1998), since ownership would give confidence against any uncertainty in terms of a value of change or use and adaptation to personal circumstances.
- e) The rest of the categories, positioned on the positive part of the x and y axes, are associated with the smallest municipalities (up to 500 inhabitants) and with a high

ageing rate. These are native elderly people with no more than a primary level of education who receive widows or orphanage pensions. They live in single households and very old, large homes with a low level of amenities and type of tenure other than ownership. These characteristics lead to the conclusion that people in these municipalities live in unsuitable homes as they lack amenities and are not appropriate to the reduced size of household (single).

Classification of the municipalities according to the previous typology can be seen in the municipal scale map in figure 2. The general guidelines on the distribution of the municipal groups in Spain adapt to well-defined geographical facts. On the one hand, urban municipalities as either provincial or regional capitals or metropolitan areas (Madrid, Barcelona and Basque capitals, as well as other smaller metropolitan areas in Seville, Vigo, Oviedo-Gijón, etc.) appear clearly represented. A second group of municipalities with a notable degree of urbanisation is located in certain sections along coastal areas, with an urban economy based on tourism and services, especially in the Valencia section (including the city Valencia and its metropolitan area, continuing towards Murcia and the Malaga coast). The largest territory is made up of municipalities where relative ageing is highest and demographic and residential contrasts with urban areas are more evident: small northern municipalities; central mountain regions (Iberian sierras, both 'Mesetas'); municipalities situated in the middle of the southern peninsular (except some mountain populations in the Alpujarras in Almeria and Granada or the northern sierras of Alicante); scattered Galician population drift to medium-sized municipalities.

FUTURE RESEARCH

As with many other aspects related to the elderly population in Spain, studying residential satisfaction as a quality of life component opens many other lines of enquiry which have not been sufficiently explored yet. Apart from the conclusions provided in this research, it is currently possible to identify three aspects that require closer attention.

Undoubtedly the concepts of public space/private space within the framework of quality and satisfaction with the residential environment should be explored further, as well as validating the system of objective-subjective quality indicators in the residential environment looking at home (as an interior or private space) and district and local community (as public space) components, with both Spanish research contributions necessary for the international scientific debate.

These issues should also be reflected on to adapt research to develop social policies focused on maintaining the elderly person in their preferred living environment, either by adapting the private and public physical space, standardising home help or providing other sorts of help which benefits them.

Just as important finally is exploring the debate on house vs. home and residential environment conditions for elderly people as essential elements that affect the valuation of disability detection instruments and provision of help to overcome this problem in the personal, family and local community environment.