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Examining Retirement Housing Preferences Among International Retiree Migrants

Karen M. Gibler
Department of Real Estate, Georgia State University, P.O. Box 3991, Atlanta, GA 30302-3991; E-mail: kgibler@gsu.edu

Paloma Taltavull
Instituto Interuniversitario de Economía Internacional and Departamento de Análisis Económico Aplicado, University of Alicante, Apdo. Correos 99, 03080 Alicante, Spain; E-mail: paloma@ua.es

José Manuel Casado-Díaz
Instituto Interuniversitario de Economía Internacional and Departamento de Análisis Económico Aplicado, University of Alicante, Apdo. Correos 99, 03080 Alicante, Spain; Email: jmcasado@ua.es

Mari Angeles Casado-Díaz
University of West England, Bristol, UK; E-mail: Maria.Casado-Diaz@uwe.ac.uk

Vicente Rodriguez
Higher Council for Scientific Research, Pinar 25, 28006 Madrid, Spain;
E-mail: rodri@ieg.csic.es

Housing demand models based on individual consumer's utility function reflect preferences about the structure and lot, neighborhood, and location as related to socioeconomic characteristics of the occupants. As a growing proportion of aging residents in many countries are undertaking late life moves, their preferences will have an influence on destination housing markets. We examine the characteristics, attitudes and preferences about retirement housing among immigrant retirees currently living in traditional housing in a retirement destination in Alicante, Spain. Using results from a survey of German and British retirees living in the region, we find through logistic regression that preference for retirement housing is associated with aging and gaining access to in-home support services.

Keywords
Housing preferences; Demographic trends; Seniors housing

1. Introduction

Housing demand models tend to focus on socioeconomic characteristics to explain relationships and variance among the bundles of housing characteristics chosen by consumers. However, attitudes and preferences may lead to different choices among consumers who are in the same stage of the life cycle with similar economic resources. Although preferences and housing choices of elderly homeowners vary, most previous economic and housing research have grouped them together under the life cycle theory (Artle and Varaiya, 1978; Modigliani, 1986), labeling them as dissavers whose housing purchases are behind them. Increasing international retirement migration (Warnes, 1994; Williams et al., 1997) creates an influx of home purchasers and their associated tastes and preferences. With the growing aging population in most parts of the world, the impact that decisions of older residents have on the housing market is increasing.

The migration of retired elderly has been studied most extensively in the U.S. and to a more limited extent in Australia and Europe (see, for example, Fournier et al., 1988; Frey et al., 2000; Haas and Serow, 1993; Hazelrigg and Hardy, 1995; Hoggart and Buller, 1995; Myklebost, 1989; Rodríguez et al., 2005; Serow, 2001; Stimson and Minnery, 1998; Williams et al., 1997). Once settled, many of the migrants plan to remain permanently in their retirement destination (Betty and Cahill, 1999; Casado-Díaz, 2006; Stoller and Longino, 2001; Warnes et al., 1999) yet little is known about local moves after retirement.

As part of each late life move, the resident has a choice among housing types. In addition to traditional housing, a range of retirement housing options has been developed to serve this market. Ranging from independent living to assisted living, to life care communities, they offer a variety of housing styles and support service options. The demand for housing adapted to the needs of this specific market segment will affect local housing market dynamics, especially in areas where retirees are concentrated.

The aging population and variety of retirement housing options provide a rich opportunity to examine a traditional housing demand model to identify which consumer characteristics are the best predictors of retirement housing preference. This investigation is especially of interest in areas that are home to a large proportion of older residents, such as the coastal region of Spain. According to the municipal registers (Padrón), there were more than 137,000 foreigners aged 50 and older registered in Alicante in 2006, of which 46% were UK citizens and 17% Germans. Since 1998, the registered British population aged 50 and older has grown by more than 270% while the German population aged 50 and older has grown by 148%. Registered British and German residents account for almost 15% of the total provincial population aged 50 and older. Foreign residents aged 65 and older comprise more than three-fourths of the elderly population in seven communities (Instituto Nacional de Estadística, 2006).

Little research has examined the likelihood of retirement community interest and preferences among these retirees who have already made the first amenity move and none has been found regarding international retiree migrants. This group has already self-selected to break ties with their previous home; they do not have local family members who can provide informal support and care.

The purpose of this paper is to examine the characteristics, attitudes and preferences of retirees living in a retirement destination community about retirement housing. We endeavor to use a housing demand model to predict who will prefer this type of housing in an international retirement destination. The results will provide better understanding of the housing demand model as applied to an aging population as well as provide guidance for housing developers in the local market.

The paper is organized as follows. First, we explain how housing attributes define the form of the demand equation used to explain behavior in the housing market. Next, we discuss previous research concerning housing preferences of aging consumers, especially those related to retirement housing. Then, we explain the data used for this analysis. The next section develops the model to be estimated and the methodology for using it. The results of the analysis follow. Then, the final section discusses the results and draws conclusions.

2. Housing Demand Model

The basis for most housing demand studies is the individual consumer's utility function that reflects the preferences of consumers for housing in relationship to all other products. Households want to maximize their utility from housing and non-housing goods subject to internal and external constraints. Housing is comprised of a bundle of characteristics from which utility is derived. Demand and pricing models attempt to translate product attributes into preferences and the associated quantity demanded at all possible prices. These housing characteristics may be aggregated into three major categories: structure and lot (Hoang and Wakely, 2000), neighborhood environment and quality (Lee et al., 1994) and location or accessibility (Balchin et al., 1995).

The characteristics of consumers affect their housing preferences and the relative utility derived from housing characteristics. Research show that there are constraints other than income within the utility maximization model, including the sociological attributes of households (size, composition), resources (economic other than income, such as wealth and non-economic, such as information and experience), preferences, and priorities (Wong, 2002). The tastes, preferences, priorities and aspirations of households are important influences on the level and pattern of housing consumption. Incorporating information about consumer attitudes, preferences, and perceptions into economic models of housing demand is critical to any reduction of the large margin of unexplained variance in housing consumption behavior (Megbolugbe et al., 1991). If we can determine characteristics to define homogeneous subgroups of

consumers who have similar tastes and preferences in housing, then we can substitute these characteristics in the demand equation.

As Megboluge et al. (1991) explain, studies have included a vector of household characteristics (demographics, including age, marital status, and household composition) to capture life cycle differences in consumer preferences unrelated to income and price factors. However, more research is needed to analyze the variability of housing consumption and preferences among groups of consumers within each stage of the life cycle. This will allow the incorporation of relevant socioeconomic and lifestyle variables and processes directly into the housing demand equation rather than using a set of demographic variables as proxies for assumed economic behavior. This may be especially important when studying demand for seniors housing, a dwelling that consumers evaluate based on the services provided as well as the dwelling characteristics, neighborhood, and location.

Some studies have evaluated attitudes and preferences about housing, but included consumers of all ages (Kaynak and Meidan, 1980; Freiden and Bible, 1982; Kaynak, 1985; Shlay, 1986; Nelson and Rabianski, 1986). Shlay has determined that the micro desires of individuals for housing and neighborhood, and the macro forces that shape metropolitan housing markets, appear intimately connected. The work of Kaynak and Meidan in multiple cities in two countries find varied lists and importance rankings of housing attributes, indicating difficulty in identifying a uniform set of attributes that can be used in determining the value of real estate across all markets. This reinforces the need to better understand local markets and the salient characteristics to consumers in each market.

None of these studies focus on the older, post retirement stage of the life cycle. If the aging population is heterogeneous, then a range of preferences may exist and aging consumers will express these differences in their housing choices, assuming products are supplied that match the preferences of the market segment (Michelson, 1977).

Brown and Moore (1970) state that the urban population can be differentiated on social, economic and location dimensions according to their differing sets of environmental needs. This differentiation is directly applicable to the definition of systematic differences between the aspiration regions of intended movers. They suggest that surveys be used to gather data to identify relevant variables describing the aspirations of movers. Among the factors suggested as influential in determining selection of a new residence are accessibility (shopping, recreation, public transport), physical characteristics of the neighborhood (physical condition, privacy, beauty), services and facilities (public utilities, protective services), social environment (neighborhood prestige, socioeconomic composition), and individual site and dwelling characteristics (value, maintenance cost, size, design, state of repair).

3. Late Life Housing Demand

As a growing proportion of aging residents in many countries are undertaking late life moves, their influence on the housing market is increasing. Late life movement is seen as a process (Litwak and Longino, 1987) where relatively young, healthy retiree couples with sufficient resources move to a smaller owned or rented independent retirement home either in the same town or a retirement destination. Widowhood and/or chronic health problems may trigger an assistance move either to a home close to children who provide informal support, to cohabit with adult children in their home, or to supportive housing, such as an assisted living community. Some aging residents may consider a retirement housing move a preemptive, anticipatory move before such a trigger occurs. Older residents commonly move to adjust their housing and location to more convenient, lower cost, or easier to manage dwellings and locations. Friedrich and Warnes (2000) point out the need for greater research attention to such late life housing adjustment moves.

Studies of retirement housing preferences and residents have been concentrated in the U.S. where such developments have been available for decades and demand is growing (Smith and Mullen, 2007). However, because retirement housing is becoming more popular in other countries as well, research is needed to determine if the results of U.S. studies can be exported to explain the variance in tastes and preferences among aging residents in other countries, including those who migrate internationally at retirement.

The results of U.S. surveys have varied in their success in relating interest in retirement housing preferences to sociodemographic characteristics. Among the findings are greater interest in retirement housing among females who are better-educated, living alone and who have lived for a shorter time in their current residence. Some lifestyle characteristics (socially venturesome and security-minded) have also been related to interest in retirement housing (Loomis et al., 1989; Merrill and Hunt, 1990; Gibler et al., 1998b; Robison and Moen, 2000; Smith and Mullen, 2007). Those who expect to move, think the trigger will be when they need a home that requires less maintenance or if they suffer an illness (Carroll and Gray, 1985; Loomis et al., 1989; Merrill and Hunt, 1990). Similarly, in Australia, Gardner (1994) and Stimson and McCrea (2004) find that the most common reasons for retirement village residents leaving their previous home are dwelling and garden maintenance, and health issues. Gardner also identifies social isolation as a push. These works emphasize that different retirees feel different pressures/pushes.

A few studies have examined specific attribute preferences for retirement housing among the older population. In terms of location, residents want housing close to a grocery store, a pharmacy, medical facilities, and a beauty/barber shop (Regnier, 1987; Gibler et al., 1998b). In terms of retirement housing features, surveys show preferences for a garage, one or two bedrooms, an emergency call system, security system, kitchen, laundry, and recreation/exercise facilities (Carroll and Gray, 1985; Regnier, 1987; Merrill and Hunt, 1990). The services valued the most in retirement

facilities are security (Regnier and Gelwicks, 1981), healthcare, transportation options, meals, and housekeeping (Merrill and Hunt, 1990).

Lifecare or continuing care retirement communities present a special case of retirement housing. Parr et al. (1988) find those most interested in lifecare are older, females or married couples that are former professionals living in condominiums. According to Sheehan and Karasik (1995) and Krout et al. (2002), among the reasons residents consider a lifecare community is freedom from home upkeep and maintenance. Least important reasons for considering lifecare are convenience to family and educational opportunities, living alone after the death of a spouse and crime/safety (Sheehan and Karasik, 1995; Krout et al., 2002).

The marketing emphasis for lifecare communities is on the guaranteed availability of medical and nursing services that will allow residents to age in place; thus medical services and related costs become a focus for many potential residents (Tell et al., 1987; Parr et al., 1988; Kichen and Roche, 1990; Sheehan and Karasik, 1995; Krout et al., 2002) as well as supportive services to maintain independence (Kichen and Roche, 1990; Tell et al., 1987). Important in-unit attributes are safety features, such as an emergency call button and a kitchen (Gibler et al., 1998a; Parr et al., 1988). Parr et al. (1988) also find that potential residents want meal services, building security, housekeeping and transportation services, a shaded garden for walking, a receptionist, and planned social activities.

Haas and Serow (1993) report that North Carolina elderly migrants who had made a second retirement move are older, have been retired longer, and are more likely to be widowed than those who have only made one move after retirement. Second movers were pushed from one area because of a lack of medical facilities and pulled to another community by the availability of medical facilities and planned retirement communities.

4. Data

The data used in this analysis were collected as part of the research project called REVIcVAL (Retirados y Viviendas en la Comunidad Valenciana –Retirees and Dwellings in the Valencian Community) from March 2005 through March 2006. Residents completed written questionnaires in either English or German. The target sample consisted of British and German retirees (who comprise the majority of immigrants) age 50 and older who spend at least 3 months in Spain each year and own at least one property, each representing a different household. As no sampling frame of immigrants exists, the project used media outlets (newspapers and newsletters) as well as more than 40 associations and clubs to reach the study population to inform them of the research project and recruit participants. An attempt was made to obtain responses in proportion to the age, sex and geographic distribution of the population, as reported by the most recent census.

A total of 636 usable responses were obtained of which 427 respondents answered whether or not they would choose a retirement development if they could purchase another home in Spain, the rest being undecided. Of those responding, 22% said they would prefer to purchase a retirement home.

A total of 313 respondents answered all the questions from which the variables in this analysis are derived. Of these, 21% said they would prefer to purchase a retirement home, similar to the larger sample. The average age of these respondents is 66 years old. Most are married or living with a partner (83%) and live with one other person (wife, husband or partner), with just 9% living alone; thus even some of the single retirees are not living alone. Almost 60% of the respondents in the analysis are males. Most (57%) have completed a secondary or vocational/technical education, but not college. A combination of public and private pensions generates an average annual household income of 12,001 to 24,000EUR (€) for 43% of the households, as shown in Table 1.

Table 1 Characteristics of Respondents used in Logistic Regression Analysis

Characteristic	Percentage[1]	Mean
Nationality		
UK	75.4	
German	24.6	
Age		65.8
50-54	2.6	
55-59	17.3	
60-64	23.3	
65-69	28.4	
70-74	16.3	
75-79	9.6	
80 and older	2.5	
Marital status		
Married/partner	83.4	
Single/never married	2.2	
Widowed	9.6	
Divorced/separated	4.8	
Household size		1.96
Sex		
Male	59.1	
Female	40.9	
Education		
Primary compulsory	14.7	
Secondary vocational/technical	56.5	
Undergraduate college degree	18.2	
Graduate college degree	10.5	

(continue…)

Table 1 Continued

Characteristic	Percentage[1]	Mean
Annual household income		
Less than 12,000€	15.3	
12,001-24,000€	42.5	
24,001-36,000€	25.9	
36,001-50,000€	9.9	
50,001€ or more	6.4	
Most important source of income		
Private pension	43.8	
State pension	42.5	
Employment	4.8	
Other/no answer	8.9	
Years living 3+ months in Spain		9.45
5 years or less	42.2	
6-10 years	20.5	
11-15 years	11.8	
16-20 years	12.1	
more than 20 years	9.8	
No answer	3.5	
Housing type		
Apartment/flat	21.1	
Semi-detached house (1 storey)	2.6	
Semi-detached house (2 storeys)	14.1	
Chalet/villa	55.0	
Other/no answer	7.3	
Housing size		
Less than 75m^2	11.5	
75 to 100m^2	25.2	
100 to 150m^2	36.1	
150 to 200m^2	16.3	
200m^2 or more	10.5	
No answer	0.3	

[1] n = 313.

They started living in Spain at a median age of 58 and have lived there for an average of just over 9 years. Most people moved to Alicante close to the time of their retirement and immediately purchased a home. Thus, for most respondents the length of tenure in Spain (and most often their current home) is similar to the number of years that they have lived in Spain. Residents have chosen a range of housing styles, but the most common is the detached chalet or villa (55%). This is especially true for the more recent, younger arrivals. The size of most of their homes (61%) is estimated at 75 to 150 square meters.

Most residents (62%) do not expect to experience problems with aging in place in the near future. Few indicated that characteristics of their home (too many stairs, too large, too expensive to maintain, not well protected from crime, or too far from

medical care, shopping, and friends or family) would make it unsuitable for aging. The most common concern shown in Table 2 is the presence of stairs, which can hamper mobility, followed by large size, which translates into maintenance responsibilities. Home maintenance has been found to be important in preference and triggering movement to retirement housing in several earlier surveys conducted in other countries. Few of the respondents believe their current home is inconveniently located for the types of services that most retirement community residents believe is important to have in proximity.

Table 2 Respondent Evaluation of Current Housing for Aging in Place

Concern about Current House	Percentage[1]
As I get older, my current home may no longer be suitable because of:	
Too many stairs	27.5
Too large	22.4
Too far from shopping	13.7
Too far from medical care	11.5
Too far from friends/family	11.5
Too expensive to maintain	8.6
Not well protected from crime	7.0
I don't anticipate any problems in near future	61.7

[1] n=313

Since these seniors have already made an amenity retirement move to Spain, they may have already made adjustments in their housing to enable them to satisfy some of the needs that consumers express when choosing to purchase or rent specialized retirement housing. Residents were asked whether several relevant attributes (such as closer to family, housing maintenance costs, medical care) were important (translated to a 6 point scale from very important to not important at all) in attracting them to their current home. They were also asked for their preferences for their next home, neighborhood, and community in a series of scaled questions. The reverse coded results are presented in Table 3.

Opinions of residents vary widely. Every item received responses ranging from very important to not at all important with a limited number of "not sure." The most important pull factors attracting the migrants appear to be the cost of living (including housing cost), available medical care, and natural amenities. Ties to family and friends in Spain are relatively unimportant. If they were to move again, private car parking or a garage, cable or satellite television, and design with living area on one floor are the most important features for the new home. This reiterates the greatest concern about their current homes; unsuitable for aging because of stairs.

Personal care, housekeeping, and nursing services are rated as least important, reflecting that only 21% would prefer retirement housing and the services normally associated with assisted living. Proximity to a chemist/druggist, a doctor, and stores for necessities are important, as reported in previous surveys. Having active sports facilities, such as tennis courts or a golf course within walking distance is relatively unimportant, which is also similar to findings in other countries.

These 39 Likert-scaled questions that asked the type of housing, neighborhood and community features that retirees found attractive or want in their next homes were factor analyzed for the larger sample to identify underlying dimensionality once a correlation analysis indicated significant correlation among the items[1]. This data reduction is necessary to reduce a large number of correlated measures of potential independent variables into a smaller set of uncorrelated measures. The Bartlett's sphericity test on the data is significant ($\chi^2 = 6262$, df = 741, p = .00), indicating that the data are approximately multivariate normal and acceptable for factor analysis. An exploratory factor analysis was employed using principal component extraction and varimax rotation with a selection criterion of minimum eigenvalue = 1. Initially, 10 factors were extracted. A review of the coefficient alpha measure of reliability for each factor and the loadings of each item indicated that 19 of the items are highly correlated and produce the highest loadings on factors that can be considered for use in place of individual variables in the analysis. The other items that were not highly correlated and did not load well on the factors were removed and the factor analysis conducted again on the reduced set of items. The resulting 6 factors have reliability of at least 0.700 and are comprised of items with loadings of at least 0.700 as presented in Table 4. The factors account for a total of 74% of the variance among these items. The results indicate that retirees who express interest or concern about individual home or neighborhood attributes have several similar interests and concerns about related features. The responses on these items can be combined to create representative variables with a wider range of values and yet, are not correlated. We then choose only the factors that represent variables of interest in the model to include in our analysis.

[1] For a discussion of factor analysis, see Hair, J. H., B. Black, B. Babin, R. E. Anderson, and R. L. Tatham. (2006). Multivariate Data Analysis, 6th ed. Prentice Hall: Englewood Cliffs, NJ.

Table 3 Housing Preferences of Respondents

Characteristic	Average Score[1]
Importance when choosing current home	
Natural amenities	4.85[2]
Housing prices	4.65
Cheaper cost of living	4.63 (n=312)
Medical care	4.60 (n=312)
Housing maintenance costs	4.45
Recreational opportunities	4.34 (n=310)
Low local tax rate	4.25 (n=310)
Cultural amenities	3.89 (n=312)
Later life learning opportunities	2.97 (n=312)
Closer to friends	2.27
Closer to family	2.05
Importance in choosing next home	
Private car park/garage	5.33 (n=311)
Cable/satellite television	5.29
Living area on one floor	5.20
Air conditioning	4.83 (n=311)
No stairs	4.81
Security system	4.65
Internet/DSL	4.51 (n=311)
Private garden	4.28 (n=312)
Emergency call button	4.11
Security guard	3.73
On-site nursing service	3.53
Personal care service	3.20
Housekeeping service	3.09
Importance within walking distance in choosing next home	
Chemist/druggist	5.39
General store	5.33
Doctor's office	5.32
Grocery store	5.27
Public transport	4.72
Restaurant	4.70
Swimming pool	4.25
Beach	4.05 (n=311)
Walking/jogging trails	3.61 (n=311)
Hairdresser/barber	3.54 (n=310)
Bicycle paths	2.98
Gym/fitness center/sauna	2.84 (n=312)
Launderette	2.73 (n=310)
Golf course	2.26 (n=310)
Tennis courts	2.27 (n=310)

[1] Reverse coded scale of 1 to 6 with 1 now representing not important at all and 6 representing very important.
[2] n = 313 unless otherwise noted.

Table 4 Housing Taste and Preference Factor Analysis Results

Factor Name and Items	Factor Loadings	Alpha Coefficient
On-site Support Services (SUPPORT)		0.906
On-call nursing service	0.892	
Personal care service	0.879	
Housekeeping service	0.851	
Emergency call button	0.786	
Security guard	0.762	
Shops and Services Nearby (SHOPS)		0.867
Pharmacy/chemist within walking distance	0.879	
Grocery store within walking distance	0.841	
Doctor's office within walking distance	0.805	
General store within walking distance	0.774	
Cost		0.813
Housing maintenance costs	0.834	
Housing prices	0.832	
Low local tax rate	0.747	
Cheaper cost of living	0.746	
One-story Living (STORY)		0.835
Living area on one floor	0.899	0.739
No stairs	0.877	
Family and Friends Nearby (FAMILY)		
Closer to family	0.891	0.725
Closer to friends	0.846	
Exercise Paths Nearby		
Bicycling path within walking distance	0.878	
Walking/jogging trail within walking distance	0.874	

The first factor consists of on-site support and security services often found in assisted living (personal care, housekeeping, on-site nursing, security guard, and emergency call button). The second factor is comprised of location within walking distance of medical services and shops (chemist/druggist, grocery, general store, and doctor). The importance of low-cost living in the current home makes up the third factor (housing and maintenance costs, cost of living, taxes). Living space on one floor is represented by the fourth factor. The attraction of the current home providing access to family and friends nearby is reflected in factor five. The sixth factor centers on preference for nearby exercise paths (bicycling, walking). Summated scores were calculated for each of the factors to consider for use in the logistic regression in place of individual items.

5. Model

To gain insight into the role that socioeconomic characteristics as well as attitudes and preferences may play in determining retiree demand for retirement housing, a logistic regression function was calculated. The dependent variable is the probability of expressing a preference for retirement housing. The independent variables that we tested for inclusion based on previous research are sociodemographic characteristics, economic characteristics, and housing tastes and preferences. We added a variable for nationality as it is unique in this research.

Our goal is to examine the intention of British and Germans retirees living in Alicante to move to retirement homes based on their characteristics, preferences, and attitudes. Homeowners are expected to sell their current homes at a market price similar to the price of seniors housing, so the relative prices of housing characteristics are not expected to be an essential factor in the decision.

The logistic model is defined as:

$$P_i = \frac{e^Z}{\left(1 + e^Z\right)} \tag{1}$$

where Pi = probability that a person i, prefers retirement housing, Z is a vector of independent variables (X), and β is a vector of parameters estimated using the maximum likelihood method. Thus,

$$Z = \beta 0 + \beta 1X1 + \beta 2X2 + \ldots + \beta nXn. \tag{2}$$

The dependent variable (P_i) was developed from a question that asked residents if they could purchase another property in Spain, the type of housing that they would choose. Answers were classified into those who expressed a preference for a unit in a retirement development and those who expressed a preference for a unit not located in a retirement development. Anyone who said that they were undecided is excluded from this analysis.

The independent variables (X) as listed in Table 5 are comprised of sociodemographic characteristics (age, living arrangement, nationality, education), economic characteristics (income), noneconomic resources (family and friends attracted resident to area), and housing and neighborhood tastes and preferences (in-home support services, neighborhood shops and services, smaller home, no stairs). Household size and marital status tend to be highly correlated and hence, only one of them is included. We chose whether a person lives alone as a more likely triggering variable than marital status per se. This will also account somewhat for the possibility of social isolation as we see in the sample that some of the unmarried are not living alone. We also chose not to include length of tenure in the current home. All of the respondents are by definition, relatively recent movers, and because most of these retiree migrants moved near the time of their retirement, length of tenure is correlated with age. Some specific variables included in earlier studies (such as emergency call buttons) are included as part of the factor scores rather than entered into the equation separately. We did not include the importance of location to public transportation because public transportation is very limited in many of these areas, so it would not be a realistic expectation.

Table 5 Variable Definitions

Variable	Descriptions and Categories
Dependent variable	
PREF	Preference to purchase purpose built retirement home (yes = 1; no = 0)
Independent variables	
AGE	Age of respondent in years
NATION	Nationality of respondent (German = 1; British = 0)
ALONE	Respondent lives alone (Live alone = 1; Live with others = 0)
INCOME	Household income (Less than 12,000€ = 1; 12,001-24,000€ = 2; 24,001-36,000€ = 3; 36,001-50,000€ = 4; 50,001€ or more = 5)
EDUC	Highest level of education of respondent (Primary = 1; Secondary, vocational, technical = 2; College degree = 3; Graduate degree = 4)
FAMILY	Family/friends attract to area factor score
LARGE	As age house unsuitable because too large (yes = 1; no = 0)
SUPPORT	On-site support services factor score
STORY	One-story living factor score
SHOPS	Shops and services within walking distance factor score

Based on previous research, we expect that age, educational level, and living alone will be positively related to preference for retirement housing. A positive relationship is also expected with importance of on-site support services, neighborhood near shops and services, living on one floor, and concern about the size of the current home. Preference for retirement housing is expected to be negatively related to whether family and friends who could provide support attracted the resident to the current home. Previous research does not indicate whether income is expected to be positively or negatively related to a preference for this specific type of housing. On the one hand, if retirement housing is perceived to be expensive relative to other types of housing, then higher income retirees would be expected to express more interest. On the other hand, if retirement housing is seen as a less costly alternative to buying in-home assistance, then lower income retirees would be expected to express more interest. There is also no previous research to suggest whether German or British retirees would be more likely to express interest in retirement housing in Spain.

The β vector of parameters estimated by the logistic regression reflects the impact of each characteristic on the probability of preferring retirement housing. The value of β represents the change of the log odds of a respondent preferring retirement housing produced by an increase of one unit in the independent variable. The model is fitted with the maximum likelihood procedure and likelihood ratio statistics are used to assess the adequacy of model fit. A Wald statistic is used to test the significance of each independent variable in estimating the likelihood of a retiree preferring retirement housing.

6. Logistic Regression Results

The results of the logistic regression model are presented in Table 6. The model is statistically reliable against a constant-only model, as evident by the significant χ^2, indicating that the independent variables as a group, reliably distinguish between those who do and do not prefer retirement housing. The Hosmer and Lemeshow Test shows a good fit between the observed and predicted number of cases for each category ($\chi^2 = 13.309$, df = 8, p = .102). However, the Nagelkerke pseudo R^2 is just 0.19, indicating that the majority of the variability in the dependent variable is still unexplained.

The variables exhibiting a significant association at the .05 level with preference for retirement housing are age and the importance of in-home support services. Older residents are more likely to express preference for retirement housing than younger retirees. The odds of preferring retirement increase by 5% for each year of age. Those who place importance on their next home providing in-home support services, such as housekeeping, personal care services, and an emergency call button are more likely to prefer retirement housing. The probability of those placing importance on

such services preferring retirement housing are 11% higher than those who do not place importance on such services.

Table 6 Estimates of Likelihood of Preference for Retirement Housing from Logistic Regression

Independent Variables[1]	Expected Sign	Coefficient	Odds Ratio	Wald
Intercept		-6.300	0.002	10.263*
AGE	+	0.046	1.047	3.869*
NATION	+/-	-0.566	0.568	2.139
ALONE	+	0.560	1.751	1.382
INCOME	+/-	-0.139	0.870	0.818
EDUC	+	0.120	1.127	0.362
FAMILY	-	-0.042	0.959	0.528
LARGE	+	-0.128	0.880	0.119
SUPPORT	+	0.101	1.107	16.396*
STORY	+	0.111	1.117	2.131
SHOPS	+	-0.040	.961	0.554
Model χ^2 (df)	40.547* (10)			
Nagekerke Pseudo R^2	0.189			

[1]Dependent variable = If I could purchase another home in Spain, I would prefer a property in a purpose built retirement community.
[2]* $p < .05$

While not statistically significant, the signs are as expected for most of the other variables. Those living alone who were not attracted to their current home to be near family and friends are more likely to prefer retirement housing. They do not have alternative sources of informal support. The economic influences indicate that retirees with lower incomes are more likely to prefer retirement housing. They are unable to afford in-home care and may create a need for government-subsidized housing. Their interest in retirement housing is not related to concerns about the size of their current home and the maintenance implied. Those interested in retirement housing place less importance on having shops and services within walking distance. This may be because they do not expect to be walking to such facilities if they move to a retirement home. British retirees express greater levels of interest in retirement housing than their German counterparts.

7. Conclusion

Housing demand models tend to focus on younger households in the formation and move-up stages. Little research concentrates on the movement of elderly households. Even less focuses on housing demands of aging international retiree migrants. Differences in attitudes and preferences may lead to diverse housing preferences among retirees who are in the same stage of the life cycle with similar economic resources.

The aging population in many countries will exert tremendous influence on housing demand, especially in communities where they must deal with both their domestically aging population along with an immigrant retiree flow. Most of these foreigners arrive as amenity seeking migrants who choose to live in traditional housing. They cut their links to their former residence by selling their home in their origin country and establishing a large physical distance from their family and friends. Meanwhile, they develop new friendships and ties in their adopted country. As they age and suffer physical decline or are widowed, they may want to alter their living environment to one that requires less maintenance and more services. One alternative is to move locally into retirement housing. Such a move would create demand for retirement housing development in destination communities to house these immigrants who represent a range of socioeconomic groups and housing preferences.

This study investigates the characteristics that best predict preference for retirement housing among British and German retirees in Alicante, Spain. Most previous research in other countries focuses on retirees choosing housing within their home communities. Only Haas and Serow (1993) specifically survey retiree migrants, but do not identify which residents have chosen or prefer retirement housing when making their second post retirement move. They find that repeat movers are older, have been retired longer, and are more likely to be widowed. They were pushed from one area because of a lack of medical facilities and pulled to another community by the availability of medical facilities and planned retirement communities.

International retirement migrants tend to be better educated, are more often married than the general elderly population, and by definition, have lived in their adopted homes for a relatively short period of time. Thus, the population under study may be more homogeneous in some ways than the sampling frames of previous studies. However, this population introduces variation by nationality. Discussions with focus groups of retirees in Alicante and housing researchers in Germany and the UK, reveal important considerations about the greater, although not statistically significant, interest in retirement housing among British immigrants. Many of the British retirees express their desire to remain in Spain for the rest of their lives. They have sold their homes in the UK and may not necessarily return to a concentration of family and friends; rather, they perceive their new friends in Spain as their support

group. They also express greater concern than German retirees about the cost of living in their native country and their ability to maintain their current standard of living if they were to return home. Thus, they may be considering their long-term need for supportive retirement housing in Spain, whereas Germans may be more likely to move locally only so long as they can remain in their traditional home and then return to Germany should they need more supportive housing. If the British remain in Spain and do not have sufficient resources to support themselves, then they may become a burden on the social security system.

The model indicates that aging is significantly associated with interest in retirement housing, similar to studies in other parts of the world. Age can be a proxy for declining health, loss of spouse, and need for assistance. Living alone and not having moved to be near friends and family are positively, although not significantly, related with retirement housing preference. Retirement housing provides a more supportive environment in which single elderly residents can successfully age. A larger proportion of the oldest residents are already living in smaller apartments/flats, which generally provide all living space on one floor with less maintenance, but may not ensure that the resident does not have to negotiate steps to enter the building. Although only a minority of immigrant retirees has concerns about the suitability of their current homes to allow aging in place, the presence of stairs creates the greatest concern.

Those who prefer to purchase retirement housing, place importance on on-site personal care services, housekeeping services, emergency call button, security, and nursing care while placing less importance on having shops, a pharmacy, and doctor's office within walking distance. This may reflect their anticipation of not being able to walk to these needed services. Perhaps they also expect that the availability of on-site services will reduce the need for close proximity to medical offices and related shops.

A difficulty may arise from the greater interest in retirement housing expressed by lower income residents. The cost of the services that these retirees consider important can be a substantial portion of retirement housing costs. Retirement housing providers in Spain may face the same affordability problems as other countries have encountered for service-rich products. These residents may need to call upon non-resident children or the government for assistance in paying for the services that they require.

The results of this analysis indicate that the aging international retiree immigrant population in Alicante will be creating demand for retirement communities offering more than independent living units. Migrants, who may have chosen to live in traditional housing when they first arrived, will eventually have to decide whether their current residence is suitable for their changing circumstances. The analysis indicates that approximately one-fifth of elderly residents would prefer to purchase retirement housing in their adopted country that offers in-home services to allow them to age in place. They represent a socioeconomic cross section of the retiree

population, but interest increases with age. This creates both a challenge and opportunity for the housing markets and governments in their adopted country. To accurately estimate the demand for retirement housing in these locations, developers will need to consider the diverse attitudes and preferences within the growing retiree population.

In addition, careful study is needed to examine the similarities and differences in housing preferences among the various nationalities to guide design and construction of retirement housing communities. Differences in housing experience, customs, and languages may affect the preferred design of units, services and activities offered, and necessary language skills for the staff. Construction is best placed in large coastal towns that are already home to concentrations of the retirees so that they may maintain ties in their preferred communities. Forecasting demand for this type of segmented retirement housing market will be challenging because of a lack of accurate data on this population and the absence of research before this that considers the heterogeneity of the immigrant retiree population and its housing preferences.

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