

SEGMENTING THE RETIREE HOUSING MARKET USING PREFERENCES

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ABSTRACT

Economic theory tends to classify all retirees as a homogeneous class of consumers. Using cluster analysis, we examine how housing preferences among international retiree migrants in Alicante, Spain vary. From the resulting clusters, we identify relationships between homeowner characteristics and housing preferences. Initial empirical results indicate that there are identifiable segments with different housing preferences.

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Introduction

International retirees constitute a large and growing segment of the residential market in Spain, especially in the coastal regions. While various censuses and other governmental data gathering endeavors count the number of self-reported foreign residents, little research has been undertaken about their housing choices and the resulting impact on the housing market.

Most housing demand models tend to focus on socioeconomic characteristics of younger homebuyers to explain relationships and variance among the bundles of housing characteristics chosen by consumers and the prices they pay. Few focus on retirees because they comprise only a small percentage of most housing markets. In addition, retirees are categorized in the same stage of the life cycle with the expectation of similar housing behavior (Artle and Varaiya, 1978; Modigliani, 1986).

Increasing international retirement migration (Warnes, 1994; Williams, 1997) and the concentration of retirees in certain destinations creates an influx of home purchasers and their associated tastes and preferences, which can have a measurable effect on the local housing market. The topic of long distance migration of retired persons and, to a lesser extent, their housing, has generated research interest in the U.S. as well as in Australia and Europe (see, for example, Bean *et al.*, 1994; Fournier *et al.*, 1988; Frey *et al.*, 2000; Haas and Serow, 1993; Hazelrigg and Hardy, 1995; Hoggart and Hardy, 1995; Longino, 2001; Myklebost, 1989; Rodríguez *et al.*, 2005; Serow, 2001; Stimson and Minnery, 1998; Warnes, 1990; Williams *et al.*, 1997).

The purpose of this paper is to examine the characteristics of retiree homeowners who have migrated to Spain and their housing choices. We examine whether distinguishable clusters of consumers can be identified based on their preferences in order to segment the retiree housing market. We use the results of a survey of international retiree migrants for this prediction. The results will provide better understanding of the housing demand model as applied to a retiree population.

Housing Demand

The basis for most housing demand studies is the individual consumer's utility function that reflects the consumer's preference for a product in relationship to all other products. Households want to maximize their utility subject to internal and external constraints. The consumer's housing choice is affected by the objective and subjective housing attributes as well as the consumer's characteristics. Taking into account that housing is comprised of a bundle of characteristics from which utility is derived, the utility for the individual i in dwelling j at time t can be expressed as:

$$(1) \quad \text{Max} \quad U^{ijt} = U^{ijt}(H(k_1, k_2, k_3, \dots, k_n), a(k_1, k_2, \dots, k_n), C)$$

H : Vector of housing characteristics $k_1 \dots k_n$

a : Vector of neighborhood and community characteristics $k_1 \dots k_n$

C : Vector of nonhousing consumption goods and services

subject to a budget restriction:

$$Y^i = p_h h_i + p_C C_i$$

where:

Y^i : Total income of individual i

$p_h h_i$: Total income spent on housing.

$p_C C_i$: Total expenditure on nonhousing consumption goods and services

The housing attributes 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). Demand models attempt to translate product attributes from these categories into preferences and the associated quantity demanded at all possible prices.

The consumer's preferences and the utility derived from individual housing attributes will differ with the consumer's characteristics such as the household's sociological attributes (age, household size, composition), resources (income, wealth, information, and experience), preferences,

and priorities (Wong, 2002). The household's tastes, preferences, and priorities will influence housing consumption as each household attempts to maximize its utility. Thus, even if the set of constraints (budget line) remains unchanged, different priorities and preferences can affect preference curves, which in turn, will affect consumption of housing containing various attributes. 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 that determine groups of consumers who have similar tastes and preferences in housing, then we can incorporate those characteristics into the demand equation. Megbolugbe *et al.* (1991) state that several studies have included a vector of household characteristics (demographics such as age, race, marital status, and household composition) to capture differences in consumer preferences unrelated to income and price factors. However, little research has examined the variability of housing consumption and the relationship between groups of older consumers and their attitudes, preferences, and perceptions.

Consumers are constrained by the supply offered in the market. Housing developers provide goods that are designed to satisfy consumers; however, to efficiently serve demand, builders need an accurate understanding of the tastes and preferences of the consumers and local regulations must allow construction of preferred dwellings in terms of size, features, and location. When a new group of consumers enters a market, their tastes may differ from existing residents for whom the housing stock was constructed. Dwelling designs and development locations may need to be modified to satisfy demand if the new group of consumers differ significantly in their preferences and choices from the existing resident population. In a market that is experiencing an influx of consumers from other geographic areas, housing choices may not accurately reflect tastes and preferences; the new arrivals may have chosen their homes from the available stock. The observed choice then reflects the highest utility of available location and dwelling characteristics, but they might not have been able to obtain a dwelling with preferred characteristics in the optimal location.

Housing Market Segmentation

Brown and Moore (1970) suggest that the urban population can be differentiated on social, economic and location dimensions according to their differing sets of environmental needs. They suggested that surveys be used to gather data to identify relevant variables describing movers' aspirations. Among the factors they suggest as influential in determining selection of a new residence are accessibility (including shopping, recreation, public transport), physical characteristics of the neighborhood (physical condition, 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).

Among the studies that have evaluated consumer attitudes and preferences regarding housing attributes is Freiden and Bible's (1982) use of a Thurstone method to measure housing attribute preferences among recent homebuyers. Kaynak (1985) interviewed Canadian repeat homebuyers to determine the salient housing attributes and their importance in the housing selection. Shlay's (1986) investigation of Syracuse, New York residents found variability in preference for housing size and type related to socioeconomic characteristics (children present, income). The study also identified the primary decision criteria of space and structure type as separate from the secondary criteria of amenities. Kaynak and Meidan's (1980) work with recent homebuyers determined that the salient housing characteristics and their relative importance varies among residents of different cities, indicating the difficulty in identifying a uniform set of attributes that can be used in determining the value of real estate across all markets. This points to the need to better understand local markets and the salient characteristics to consumers in that market to accurately estimate utility and demand.

Nelson and Rabianski (1988) identified housing market segments using differences in the relative importance of housing attributes. They suggest that housing can be classified into major types through the clustering of what probable buyers perceive as similar alternatives. They used a multidimensional scaling technique to examine the underlying perceptual framework used by market participants. Their results indicate most homeowners used the same criteria to evaluate housing options, that the differences lie in the relative importance of each criterion.

None of these studies focused on retirees. We would expect the older segment of the population to express just as wide a range of housing attribute preferences as younger consumers. Their housing choices may be just as varied, assuming products are supplied that match the market segment's preferences (Michelson, 1977). However, the relative importance of individual attributes may differ than for younger consumers.

Some salient attributes of housing for aging consumers have been found in earlier preference studies that dealt with either mixed age community housing or purpose built retirement housing. When considering size, rather than "bigger is better," many older consumers in the UK want a smaller home (Ermisch and Jenkins, 1999; Hansen and Gottschalk, 2006). A low maintenance home and garden is a recurring preferred attribute in many countries (Sherman, 1971; Loomis *et al.*, 1989; Gardner, 1994; Stimson and McCrea, 2004; Hansen and Gottschalk, 2006). Size and maintenance may be related to a desire for lower expenses (Hansen and Gottschalk, 2006). However, Regnier (1987) found that among high-income California community residents over age 65, landscaped area and exercise area were important in a retirement home.

Design is important, especially avoiding stairs (Hansen and Gottschalk, 2006). However, many Americans and Australians still want a garage in which to park their automobile (Merrill and Hunt, 1990; Stimson and McCrea, 2004).

Neighborhood access to service is important for older residents in the U.S. and Canada in terms of proximity to public transportation, a grocery store, a pharmacy, medical facilities, a post office, beauty/barber shop, restaurants, and banking (Carp and Carp, 1985; Regnier, 1987; Zimmerman and Chappell, 1997; Gibler *et al.*, 1998).

Purpose built retirement communities can distinguish themselves by offering a range of supportive services to residents. Stimson and McCrea (2004) found that among the most desirable services and facilities are a 24-hour emergency call system, onsite nursing home, onsite hostel for care, social activities, and a games room. The importance of an emergency call system also appears in the U.S. (Carroll and Gray, 1985; Merrill and Hunt, 1990) along with a health clinic, planned activities and housekeeping services (Merrill and Hunt, 1990). Similarly, Gibler *et al.*, 1998) found personal and in-home care services to be important.

The variability within the older consumer group is reflected in Stimson and McCrea's (2004) findings that retirement village residents in Australia value attributes differently. Home maintenance is more important to singles and those in detached homes. In Los Angeles, the varying importance of access to health care, personal care, prepared meals, and recreation influenced the type of retirement housing residents chose (Sherman, 1971).

Thus, from the research conducted so far, it appears that older housing consumers may generally use the same housing attributes to evaluate a home, but the relative importance of each feature may vary based on consumer preferences and resources (such as health). To better understand the demand created by retirees, additional work is needed to identify the bundles of housing attributes that appeal to each market segment.

Purpose

Only limited previous research has examined housing preferences among retirees who have already made an amenity move to a retirement location. They are a self-selected subgroup of the general older population who have moved into a different housing market originally designed for the local residents. While similar to each other in their choice to move to a retirement destination in another country, they are diverse in terms of country of origin, socioeconomic characteristics, and lifestyle. These migrants may exhibit a range of housing preferences, and therefore, they may value property attributes differently from the population as a whole, with a variety of preferences within their ranks as well.

We explore whether we can classify the retiree migrants into homogeneous groups in terms of relative importance of housing, neighborhood, and location attribute preferences. We will examine whether the members of these groups are relatively homogeneous in terms of sociodemographic, economic, and other characteristics.

Methodology

To determine whether identifiable groups of housing attributes exist based on the relative importance of the characteristics of dwelling units and their location within a neighborhood and region, we undertake a cluster analysis on the responses to a survey that asked retirees about their housing preferences. The cluster analysis will determine whether certain combinations of attributes are commonly important to individual residents.

We use a hierarchical cluster analysis with individual housing preference variables and factor scores on housing preference factors as the variables. The hierarchical method is a linkage method that will group the homebuyers with the most similar preferences together, then continue to agglomerate groups of homebuyers. We employ the Ward method of linkage (minimizing within-cluster sums of squared distances among respondents) and squared Euclidean distances to measure proximity. The focus of this cluster analysis is to measure the similarity or dissimilarity between each individual homebuyer based on their housing preferences. We identify the number of clusters by a large change in agglomeration coefficient.

If two clusters are suggested, we use group means and t-tests are used to determine significant differences between clusters on the factors that are used to define the clusters, identifying which attributes are most important in distinguishing the groups of consumers. If three or more clusters are suggested, we use an ANOVA with an F-test followed up with Scheffe tests to identify any significant differences among the groups. Then we profile the respondents who indicated that the criteria in a particular cluster are important to them in their housing. We examine what characteristics can be used to distinguish between older consumers in each group with homogeneous housing preferences by means of cross tabulation tables and Chi-square tests along with means and t-tests. The profile variables derived from previous research are sociodemographic characteristics (age, marital status, sex, education, nationality) and economic characteristics (income). We also examine their expressed housing preferences in characteristics of the housing they have actually purchased (size, design).

Data

The data used in this analysis were collected via self-administered written questionnaires as part of the research project called *REVIcVAL (Retirados y Viviendas en la Comunidad Valenciana –Retirees and Dwellings in the Valencian Community)*. The target sample consisted of households containing British and German retirees age 50 and older who spend at least 3 months in Spain each year and own at least one property. As no sampling frame exists, media outlets (newspapers and newsletters) and more than 40 associations and clubs were used to reach the study population and recruit participants. An attempt was made to obtain responses in proportion to the Census data on age, sex, and geographic distribution; however, as in most surveys, the very old were underrepresented in the responses. The questionnaire was administered in both English and German. Interviews were conducted in March 2005 through March 2006.

A total of 636 usable responses were obtained. As many as possible of the responses were used to develop the preference factors. Because of missing responses on some questions, 522 of those in the sample completed all the questions used to classify respondents into clusters.

The average age of these 522 foreign retirees living in Alicante is 65 years old. Most are married (82%) and live with one other person (wife, husband or partner), with just 11% living alone, as is shown in Exhibit 1. There is an even split between men and women. Most (84%) have completed at least a secondary or vocational/technical degree. Their combination of public and private pensions is generating moderate self-reported annual incomes for their circumstances, with 34% in the range of 12,001 to 24,000€.

[Exhibit 1 about here]

Most live in Spain year-round (69%), with 22% living in Spain just 6 to 9 months each year. The homeowners have lived at least 3 months a year in Spain on average for 9 years. Most people moved to Alicante close to the time of their retirement and immediately purchased a home. Residents chose a range of housing styles, but the most common is the detached chalet or villa (55%). Most of their homes (60%) are estimated to contain between 75 and 150 square meters.

To prepare the preference data for introduction as variables in the cluster analysis, we undertook a factor analysis to identify the underlying structure of the responses and produce a smaller number of composite variables. The housing attributes we include based on previous research are: home features, importance of access to family and friends as well as a range of services and activities, affordability, and desire for smaller house without stairs.

The participants were asked what attracted them to their current home and what their preferences would be if they were to purchase a new home through a series of scaled questions. Opinions of residents varied widely. Every item received responses ranging from very important to not at all important with a limited number of “not sure.” The 42 Likert-scaled questions were factor analyzed to identify underlying dimensionality and develop a smaller number of attribute variables. The Bartlett sphericity test on the data is significant ($\chi^2_{(861)} = 9629, p = .00$), indicating the data are approximately multivariate normal and acceptable for factor analysis and a correlation analysis indicated that several of the individual attribute preferences were related. An exploratory factor analysis was employed using principal component extraction and varimax rotation with a selection criterion of minimum eigenvalue = 1. Eleven factors had an eigenvalue of at least one. A review of the coefficient alpha measure of reliability for each factor and the loadings of each item indicated that removal of 11 items that were least correlated with the factors would improve the results to produce 8 factors with a reliability of .600 or higher. These variables were subsequently removed and the factor analysis conducted again on the reduced set of variables. This resulting 8 factors with the corresponding items are presented in Exhibit 2. They account for a total of 64% of the variance. A mean score was then calculated on each factor for each respondent and these nine mean scores became the variables included in the cluster analysis to represent the underlying 31 individual items. The variables that did not load well on the factors were considered for direct inclusion in the cluster analysis. These are listed along with the factor means in Exhibit 3.

[Exhibit 2 and Exhibit 3 about here]

An examination of the raw data indicated that there might be a response set or style effect; that is, some people tend to always mark at the upper or lower end of the scale, showing variability in responses, but not centered on the average of the scale. Because we are interested in the relative importance of the attributes to homebuyers, not the absolute value of the responses, to correct for this we fully standardized all the preference variables on the respondent level (Myers and Mullet, 2003). Thus, each person’s raw ratings on all the preference items were transformed into new values with a mean of 0 and standard deviation of 1 for that individual.

Results

An examination of the agglomeration coefficients generated by the hierarchical cluster analysis of the homebuyers indicates a large change in the agglomeration coefficients with a two-cluster solution (348) and a three-cluster solution (321) before the differences substantially decline as more clusters are created. We will therefore focus our analysis on a two and three cluster solution.

The two-cluster solution resulted in one group of 383 homeowners and another of 139. The mean ratings of the importance of the home and neighborhood preferences were compared across the two groups with a series of t-tests. As can be seen in Exhibit 4, the average importance of most of the preference variables varied significantly between the two groups of homeowners. This indicates that two groups exist that can be distinguished based on the importance they place on housing features and location. The importance of unit amenities (a factor comprised of private car park/garage, Internet/DSL, cable/satellite television, private garden, and air conditioning), living area on one floor (no stairs), and having an expatriates club and restaurant within walking distance is not significantly different between the two groups. This indicates an area in which the cluster analysis may be improved by removal of preference items that appear to be either universally important or unimportant to all homebuyers.

[Exhibit 4 about here]

A profile of each cluster is provided in Exhibit 5. We use t-tests and Chi-square tests to identify significant differences in the sociodemographic, economic, and housing characteristics of the homebuyers who comprise each cluster. We find few significant socioeconomic differences between the two groups of homebuyers. Members of cluster 2 are more likely to have come from Germany and are more likely to

live in intermediate size towns. Based on the results shown in Exhibit 4, this means that Germans living in mid-sized towns in Alicante are more likely to choose housing based on cost/value while placing greater importance on cultural, learning, and recreational activities and location close to family, friends, and other expatriates. Meanwhile, British retirees living in the smaller and larger towns are more likely to be interested in housing that provides services, location close to shops, medical offices, a launderette, hairdresser/barber, sports facilities, and the beach with access to public transportation. It seems from this initial analysis that there is a group of retiree homebuyers who are more focused on cost and quality of life/relationships and a second that is more focused on the physical environment and access to services and facilities. It would probably be easier to provide housing to satisfy the second market segment in that their important attributes tend to be spatial or physical, so they can be more easily provided and communicated. The other segment may be more difficult to serve because they want a house and neighborhood that provides them a quality of life more so than a physical product. Because few of the socioeconomic characteristics distinguish between the groups, these variables would not provide much additional information in a demand equation attempting to estimate the demand generated by each of these segments.

[Figure 5 about here]

Discussion

If we can determine characteristics that determine groups of consumers who have similar tastes and preferences in housing, then we can incorporate those characteristics into the demand equation and better explain and predict housing demand. Little research has examined the variability of housing consumption and the relationship between groups of older consumers and their housing preferences. If distinguishable clusters of consumers can be identified based on their preferences, then the size and level of demand for each of these segments can be quantified and more accurate models of the retiree housing market will result.

The aging population in many countries will exert tremendous influence on housing demand, especially in communities where large concentrations of retirees choose to live. Most of these retirees arrive as amenity seeking migrants who choose to live in traditional housing. However, they may arrive from a range of different countries and bring with them varied housing preferences. Also, as they age and suffer physical decline that reduces their independence or want to alter their living environment to require less maintenance, many may want to move locally, creating yet another demand segment within the retiree housing market.

This examination of international retiree migrants living in the Alicante province of Spain indicates that there are identifiable segments within the broader retiree housing market, consumers who can be distinguished based on the differing importance they place on a range of home and neighborhood attributes. While two distinct groups appeared from the preference data, these groups were not substantially different in socioeconomic terms except that one group tended to be comprised of more British immigrants. There was a slight geographic difference in that the Germans in the first group tend to currently live in intermediate size towns. They place greater emphasis on cost; cultural, learning, and recreational activities; and location close to family, friends, and other expatriates. Meanwhile, British retirees living in the smaller and larger towns place importance on available services, shops, sports facilities, and the beach with access to public transportation.

It seems from this initial analysis that there is a group of retiree homebuyers who are more focused on cost and quality of life/relationships and a second that is more focused on the physical environment and access to services and facilities. The market segment that focuses on spatial and physical attributes is easier to satisfy in terms of matching a physical product in a desirable location. The other segment may be more difficult to reach because they want a house and neighborhood that provides them a quality of life, so they may be more flexible in terms of design and location. Because few of the socioeconomic characteristics distinguish between the groups, these variables would not provide much additional assistance when attempting to estimate the size of the market demand generated by each of these segments except that the general relationship with nationality could help predict trends if the relative size of the immigration flows from each country were to change.

The analysis of this data can be continued and improved. We will examine the 2-cluster results to see if they are improved if we remove the housing preference variables that did not differ significantly

across the clusters. We will check that the results are not being influenced by any outliers. We will also test the 2-cluster results by using a jackknifing procedure in discriminant analysis to see how well the housing preference variables correctly predict homeowners' cluster classification as suggested by Myers and Mullet (2003). We will next examine the 3-cluster results to determine whether the finer grouping of consumers produces more homogeneous clusters with a greater difference in housing preferences. These modifications may allow us to provide additional insight into the preferences of older homeowners and how that knowledge could improve housing demand models.

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Exhibit 1: Characteristics of Respondents used in Cluster Analysis

Characteristic	Percentage of Respondents (n = 522)	Mean
Nationality		
UK	77.4	
German	22.6	
Age		65.37
50-54	4.0	
55-59	17.8	
60-64	25.5	
65-69	27.2	
70-74	12.8	
75-79	9.6	
80 and older	3.1	
Marital status		
Married/partner	82.2	
Single	1.9	
Widowed	10.5	
Divorced/separated	5.4	
Household size		1.94
1	11.3	
2	84.5	
3	2.9	
4	1.3	
Sex		
Male	49.6	
Female	50.4	
Education		
Primary compulsory	15.1	
Secondary vocational/technical	57.9	
Undergraduate college degree	17.4	
Graduate college degree	9.0	
Unsure	0.6	
Annual household income		
Less than 12,000€	14.2	
12,001-24,000€	34.3	
24,001-36,000€	19.0	
36,001-50,000€	9.0	
50,001€ or more	6.3	
No answer	17.2	
Length of time live in Spain each year		
Full-time resident	69.3	
Approximately 9 months a year	8.6	
Approximately 6 months a year	13.8	
Approximately 3 months a year	2.1	
Varies from one year to another	5.9	
No answer	0.2	

Years lived 3 months or more in Spain		9.28
1-4	33.0	
5-9	29.7	
10-14	12.1	
15 or more	22.2	
No answer	3.1	
Housing type		
Apartment/flat	20.7	
Semi-detached house (1 storey)	5.0	
Semi-detached house (2 storeys)	13.0	
Chalet/villa	54.8	
Other or no answer	6.5	
Housing size		
Less than 75m ²	12.1	
75 to 100m ²	28.2	
100 to 150m ²	32.2	
More than 150 m ²	26.4	
No answer	1.1	
Town size		
Small	12.5	
Intermediate	35.6	
Large	51.9	
Area		
Interior	16.3	
North coast	53.4	
South coast	30.2	

Exhibit 2: Housing Preferences Factors

Factor Name and Items	Factor Loadings	Alpha Coefficient
On-site Support Services (SUPPORT)		.902
On-call nursing service	.892	
Personal care service	.883	
Housekeeping service	.848	
Emergency call button	.769	
Security guard	.723	
Cost		.828
Housing prices	.830	
Housing maintenance costs	.793	
Cheaper cost of living	.744	
Low local tax rate	.693	
Medical care	.585	
Shops and Services Nearby (SHOPS)		.885
Pharmacy/chemist within walking distance	.879	
Grocery store within walking distance	.848	
General store within walking distance	.812	
Doctor's office within walking distance	.806	
Sports Facilities Nearby (SPORTS)		.736
Tennis court within walking distance	.745	
Bicycling path within walking distance	.734	
Walking/jogging trail within walking distance	.656	
Gym/fitness centre/sauna within walking distance	.651	
Golf course within walking distance	.630	
Unit Amenities (UNIT)		.641
Private car park/garage	.657	
Internet/DSL	.645	
Cable/satellite television	.638	
Private garden	.580	
Air conditioning	.577	
Neighborhood Amenities (NEIGHBORHOOD)		.665
Natural amenities	.767	
Cultural amenities	.735	
Recreational opportunities	.579	
One-Story Living (STORY)		.841
Living area one floor	.882	
No stairs	.872	
Family and Friends Nearby (FAMILY)		.754
Closer to family	.883	
Closer to friends	.839	

Exhibit 3: Variables Used in Cluster Analysis

Variable	Mean*	Std. Deviation
Factor 1 - Support	3.46	1.517
Factor 2 - Cost	4.54	1.184
Factor 3 - Shops	5.30	0.896
Factor 4 - Sports	2.77	1.164
Factor 5 - Unit amenities	4.76	1.062
Factor 6 - Neighborhood amenities	4.36	1.143
Factor 7 - No stairs	4.98	1.371
Factor 8 - Family and friends	2.29	1.481
Close to expats	2.73	1.751
Lifelong learning opportunities	3.05	1.765
Beach within walking distance	4.01	1.705
Swimming pool within walking distance	4.18	1.753
Expat club within walking distance	2.85	1.785
Restaurant within walking distance	4.69	1.364
Launderette within walking distance	2.72	1.715
Hairdresser/barber within walking distance	3.53	1.786
Public transit within walking distance	4.78	1.465

*Values range from 1 to 6 with 1 not important at all to 6 very important.

Exhibit 4: Two Cluster Comparison of Housing Preference Variables

Variable	Cluster 1 mean (n = 383)	Cluster 2 mean (n=139)	t
Factor 1 - Support	3.67	2.89	5.314*
Factor 2 - Cost	4.43	4.82	-3.348*
Factor 3 - Shops	5.40	5.02	3.477*
Factor 4 - Sports	2.94	2.29	5.779*
Factor 5 - Unit amenities	4.79	4.71	0.683
Factor 6 - Neighborhood amenities	4.29	4.55	-2.487*
Factor 7 - No stairs	5.02	4.86	1.083
Factor 8 - Family and friends	2.02	3.04	-6.743*
Close to expats	2.38	3.68	-7.879*
Lifelong learning opportunities	2.91	3.42	-2.900*
Beach within walking distance	4.23	3.39	4.814*
Swimming pool within walking distance	4.41	3.56	4.522*
Expat club within walking distance	2.80	2.99	-1.027
Restaurant within walking distance	4.74	4.55	1.352
Launderette within walking distance	3.09	1.70	11.197*
Hairdresser/barber within walking distance	3.80	2.80	5.849*
Public transit within walking distance	5.01	4.17	5.050*

*significant at .05 level.

Exhibit 5: Profile and Comparison of Homebuyer 2 Cluster Membership

Characteristic	Cluster 1 (n = 383) unless otherwise noted	Cluster 2 (n=139) unless otherwise noted	Chi-Square or t
Nationality			15.113*
UK	73.1%	89.2%	
German	26.9%	10.8%	
Age (mean)	65.37	65.37	0.006
Marital status			0.949
Married/partner	81.2%	84.9%	
Single/widow/divorce/separated	18.8%	15.1%	
Household size	1.95	1.94	0.228
Sex			0.617
Male	50.7%	46.8%	
Female	49.3%	53.2%	
Education	(n=380)	(n=139)	3.133
Primary compulsory	15.8%	13.7%	
Secondary vocational/technical	56.8%	61.9%	
Undergraduate college degree	18.7%	14.4%	
Graduate college degree	8.7%	10.1%	
Annual household income	(n=319)	(n=113)	0.421
Less than 12,000€	16.6%	18.6%	
12,001-24,000€	42.0%	39.8%	
24,001-36,000€	22.6%	23.9%	
36,001-50,000€	11.0%	10.6%	
50,001€ or more	7.8%	7.1%	
Length of time live in Spain each year	(n=383)	(n=138)	7.565
Full-time resident	66.6%	77.5%	
Approximately 9 months a year	9.7%	5.8%	
Approximately 6 months a year	15.7%	8.7%	
Approximately 3 months a year	2.3%	1.4%	
Varies from one year to another	5.7%	6.5%	
Years lived 3 months or more in Spain	9.25	9.35	-0.129
Housing type			5.275
Apartment/flat	22.8%	15.2%	
Semi-detached house (1 storey)	13.6%	11.6%	
Semi-detached house (2 storeys)	5.0%	5.1%	
Chalet/villa	53.3%	60.1%	
Other or no answer	5.2%	8.0%	
Housing size	(n=378)	(n=138)	2.891
Less than 75m ²	12.4%	11.6%	
75 to 100m ²	26.5%	34.1%	
100 to 150m ²	33.6%	29.7%	
More than 150 m ²	27.5%	24.6%	
Town size			8.471*
Small	13.8%	8.6%	
Intermediate	32.1%	45.3%	
Large	54.0%	46.0%	
Area			0.192
Interior	16.2%	16.5%	
North coast	55.6%	47.5%	
South coast	28.2%	36.0%	

*significant at .05 level.