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# Pull Factors Attracting Residents to Finnish Senior Houses

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Most elderly Finnish residents prefer to age in place, but some relocate because of push factors that create stress in their current homes and pull factors that attract them to a new dwelling. This survey examines the important pull factors that attract seniors to senior houses. Grocery nearby is the strongest pull factor followed by hospital or medical center and public transportation. A factor analysis reveals that attributes can be grouped into three factors: onsite services that allow the residents to maintain an active lifestyle with some luxury, everyday services and facilities that would enable aging in place, and physical activity facilities. Residents have chosen the type of senior housing that supports their lifestyle. Meanwhile, socioeconomic characteristics do not explain the differences in the types of features that attract residents.

### **Keywords**

Senior house; Push and pull factor; Relocation

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## 1. Introduction

While the majority of people throughout the world age in place, a growing minority in developed countries move to housing specifically designed for older residents. People move for a variety of reasons that can generally be grouped into push or pull factors, reasons for leaving the current home and reasons for choosing a specific destination. Government and private developers have created a range of housing alternatives that compete to attract or pull residents to their offering in this growing market.

Finland is one country that is experiencing rapid aging of its population. In 2000, people aged 65 and older comprised 14.9% of the population. Their share is expected to grow to 26.8% of the population in 2040. This is similar to the projections for all Western Europe to where the proportion of the population age 65 and older is expected to grow from 16.3% in 2000 to 28.3% in 2040 (U.S. Census Bureau, 2009).

Aging Finns face the same problems, risks, and limitations as those in other aging countries: limited income, declining health/chronic conditions, social isolation and older homes. They want the same things that aging residents want everywhere: “both a place in which to live and a home that they create” (Clough et al., 2004, p. 47). They are confronted with the same housing decisions. Age in place alone? Move in with family, if available? Move to retirement housing? However, their decisions must be made in the context of the economic and real estate environments of Finland.

Development of independent living facilities called ‘senior houses’ has been increasing in Finland in the last decade. Senior houses are privately owned condominiums or rental apartments designed for and marketed to local residents 55 years of age or over who can live independently and take care of themselves. There are no regulations as to what buildings can be called ‘senior houses’ and there is no inventory or estimate of the number of units available in Finland. Housing development corporations, associations and non-profit corporations are the primary developers of senior houses (Ö zer-Kemppainen, 2005). They typically build near public services and recreational areas in larger cities. The buildings are designed to be accessible and suitable for moving around with aids, such as walkers or wheelchairs.

While senior houses often offer activities at no extra fee, some communities charge a small amount for facilities and services, such as a fitness room, activity staff and maintenance services. If health care, meals or cleaning services are offered, they are usually priced separately. Finnish senior houses mainly compete with conventional apartments to attract local movers; however, senior houses often charge higher rents than conventional rental apartments, and senior condominiums sell for higher prices than conventional apartments. Several government housing subsidy programs can be applied to

senior houses and their residents. Government-subsidized construction loans are available that require owners to give priority to low-income and homeless families who meet a capital limit (ARA Asumisen rahoitus-ja kehittämiskeskus, 2008). Grants are available to construct spaces devoted to support services for special groups, such as elderly or handicapped people; however, to be eligible the builder must limit development costs to ensure that the properties can be offered at rents suitable for low-income tenants and the operator must have future rent increases approved. Municipalities offer low-income tenants a housing allowance to help them pay the market rent in either subsidized or non-subsidized housing. Two allowances are available: a general housing allowance and housing allowance for pensioners (Kela, 2009). About one-fifth (21%) of pensioners in Finland receive a housing allowance (Statistics Finland, 2008).

Little is known about the decisions of residents to move to senior houses in Finland or other European countries. While studies on the push-pull factors associated with various types of seniors housing have been conducted in the U.S., Australia, and South Korea, the economic, social, and real estate market characteristics of this fast aging European country and its population require that the model be tested to determine whether the same factors are relevant. This study will help determine the universality of the pull portion of the framework and identify any unique factors that researchers, policy makers, and developers should consider in forecasting the demand for senior housing in Finland and similar countries. Knowledge about the preferences of customers, cultural differences and how these affect the push-pull model in the decision-making process of senior residents help in understanding this growing market and assist authorities and investors in developing purpose-built properties and helping elderly residents to have a better quality of life.

We begin, in Section 2, with an overview of the push-pull model, followed by a summary of studies using this framework as well as other studies that identify senior housing preferences in Section 3. In Section 4, we describe our data, method and analysis of residents of three senior housing facilities in Finland. Our results are described in Section 5, followed by discussion and conclusions in Section 6.

## **2. Push-Pull Model**

In Lee's (1966) general social-demographic model of migration, factors that enter into the decision to move and the process of moving are summarized into four groups: 1. factors associated with the origin, 2. factors associated with the destination, 3. intervening obstacles, and 4. personal factors. While every individual may assign different positive and negative attributes to each origin and destination, researchers may be able to distinguish groups of people who react in similar fashion to the same general sets of factors at origins and

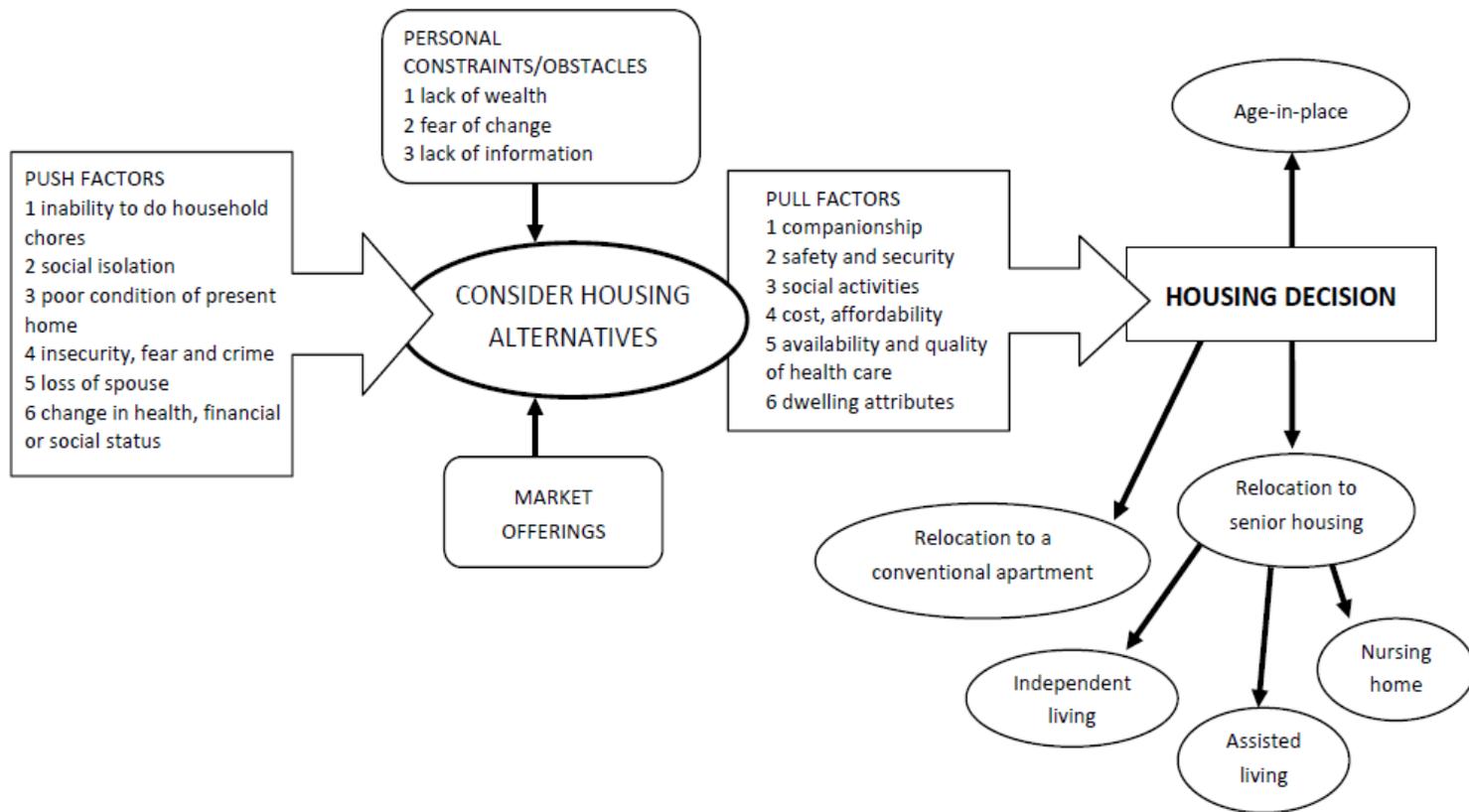
destinations, which Lee calls plus and minus factors. This general model forms the foundation for later push-pull models of relocation for both local and long-distance elderly movers.

One approach to examining relocation decision making among residents is a behaviorist micro approach that uses primary data to explain the behavior of residents based on their goals and how they evaluate housing attributes and locations relative to those goals (Golledge and Stimson, 1997). The push-pull framework can be used to model this residential relocation decision making among the aging population. This model proposes a range of socioeconomic, lifestyle, and locational attributes comprising factors, some of which push people away from their current homes (stressors) and others that pull people to a specific home (attractors). The push factors (or triggering mechanisms) comprise factors associated with the origin housing (both the unit and its neighborhood) and the resident. Examples include neighborhood decline, inability to care for one's home, loss of spouse and the associated loneliness and isolation, and deteriorating health status (Wiseman, 1980; Krout et al., 2002; Stimson and McCrea, 2004).

These changes create stress because they create a disparity between the needs of the household and the characteristics of their home. These stressors build to the individual's threshold that triggers the decision to move (Brown and Moore, 1970). The level of that threshold and the decision about whether and where to move are influenced by the intervening obstacles and personal factors such as health, community and kinship ties, financial resources, and availability of alternatives (Ritchey, 1976; Wiseman, 1980; Krout et al., 2002).

In conjunction with deciding to leave the current home, residents are also choosing to move to a new home. Geographic regions, neighborhoods, and individual dwellings pull movers toward them. Attractors may be low-maintenance newer construction, safety and security, lower costs, social activities and companionship, amenities, and supportive services (Wiseman, 1980; Stimson and McCrea, 2004). The strength of the attraction depends on the preferences of the mover, the characteristics of the destination and the evaluation by the mover of the desirability of those characteristics (Ritchey, 1976). In addition to conventional housing, older movers may have the option of choosing some type of retirement housing; however, the offerings vary among markets. Based on this theory, we have developed the model shown in Figure 1.

**Figure 1 Push-Pull Model**



### 3. Previous Research

Researchers have been testing the push-pull model with older movers in the last decade as interest has increased in this growing segment of the population. Some researchers have examined the entire movement process while others focused on just one component of the model such as the pull factors that attract residents to seniors housing. A few studies have then attempted to identify and profile groups of residents who are pushed by the same stressors and attracted to the same set of senior housing attributes. These studies can be further distinguished by whether they examined attitudes and preferences among potential movers or residents who have already made the move to seniors housing. Many studies examine preferences about seniors housing in general while others isolate just one type of housing. As Finnish senior houses would be classified as independent living, we have reviewed research that solely examines independent living as well as work that considers all types of seniors housing, including independent living. We focus on the pull factors identified in these studies.

Four U.S. focus groups that consist of 48 seniors who live in retirement communities in Florida or conventional housing in Illinois reveal that the most attractive services that seniors housing could provide are personal care services, such as assistance with bathing, dressing, eating, cleaning and mobility, and services usually associated with assisted living. Residents are also attracted by security and social activities (Gibler et al., 1997).

In a national survey of Americans age 55 and older, Gibler et al. (1998) explore preferences among 381 people who plan to live in a retirement community in the future. Factors that would attract more than 50% of the respondents to a retirement community in order of importance are: 1. access to medical services, 2. access to planned social activities, 3. access to public transportation, 4. location near hospitals, 5. location near shopping centers, and 6. access to personal and home-care services. Security and distance from friends and relatives are important to just 47% of the potential movers. The respondents cite the pull factors, in addition to common push factors (inability to do house chores, loss of spouse, housing cost), as the reasons they think people move to retirement housing.

The 1,463 Americans age 55 and older surveyed by Moschis et al. (2005) also think the main reasons residents move to a retirement community are a mix of push and pull factors. More than 50% cite: 1. increase social contacts and activities, and 2. access to personal care. Almost half (49.1%) cite inability to do household chores and 47.1% loss of spouse. However, if one looks at the responses across the age range, the responses capture the opinions of the younger respondents better than those age 75 and older who do not appear to as strongly agree that these are the reasons people move. The 63 respondents who have actually moved to a retirement community rate freedom and

independence as the second most important motivation and de-emphasize access to personal care and inability to do household chores. More than one-half of the 63 respondents who had lived in a retirement community rank the most important reasons in choosing among retirement communities as: 1. access to medical facilities, 2. planned social activities, 3. home or personal security, 4. location near shopping centers, 5. location near hospitals, and 6. access to personal and home care services. Security and distance from friends and relatives are less important.

It is difficult to report the ranking of the importance of pull factors for conventional multifamily housing from the survey by Guillory and Moschis (2008) of Americans age 55 and older because the data cited in the text do not match the data presented in the table in the article. However, it appears that important pull factors include location near shopping centers and access to public transportation.

Bekhet et al. (2009) investigate why 104 people age 65 and older relocated to six retirement communities in Ohio using opened ended questions about what led them to move. The pull factors they identify are: 1. location near family or access to services, such as a clinic or church, 2. familiarity and reputation of the facility, 3. support for self and spouse experiencing medical problems and death, and 4. joining friends.

There has also been research conducted outside the US. Stimson and McCrea (2004) use a questionnaire to identify the reasons that 985 Australians moved to a retirement village. Respondents were asked to rank the top 5 from among 17 possible reasons for moving to a retirement village. A factor analysis of the responses produces three pull factors: 1. built environment (design of unit and village, services and facilities) and affordability, 2. location (public transportation), and 3. maintenance of existing lifestyle and familiarity (family and/or friends, services in local area). Couples and males are influenced more by the built environment and affordability factor in their choice of retirement village. Many are pulled to a location by the presence and influence of family and friends. Singles are more likely to be pulled to a nearby village that enables them to maintain their existing lifestyle in a familiar area. The services and facilities at least 60% of residents ranked as desirable are: 1. 24-hour emergency call system, 2. reputable management and staff, 3. community center, 4. social activities, 5. village bus, 6. library, 7. lockup garage, 8. serviced apartments, 9. games room, 10. barbecue area, and 11. on-site nursing home and on-site hostel for later care. A factor analysis identifies three groups of village services and facilities: 1. an active factor (sporting facilities, workshops), 2. a social factor (community centers, social activities, libraries, barbecue areas), and 3. a care factor (hostels, nursing homes, serviced apartments, buses). They do not find any correlation among the retirement village pull factors and the service/facility factors.

Using a younger sample, Kim et al. (2003) employ a factor analysis to identify five groups of preferred seniors housing attributes among 230 Koreans age 45 and older living in the Seoul metropolitan area. These are: location and environment (proximity to hospital, quiet unpolluted location, green space, personal services, safe physical design, social activities), housing facilities and equipment (home automation, central heat and hot water, size, maintenance, personal nursing care), ease of access (distance from relatives, distance from city), transportation (parking and access roads, public transportation), and interior space and design (non-skid flooring, space for guests). Their canonical correlation analysis generally supports the premise that lifestyle has a significant influence on the relative importance placed on the senior housing attribute factors; however, the model lacks robustness.

Lee and Gibler (2004) find that among 560 Koreans age 55 and older, women with less education and lower incomes are more likely to plan to move to seniors housing that does not provide medical services. The 48 people planning to move to this type of seniors housing rate the most important attributes of such housing to be: 1. access to personal and home-care services, 2. access to planned social activities, 3. home or personal security, and 4. access to public transportation. Less than one-third of these potential residents rate access to medical services, location near hospital, location near shopping center, and distance from friends and relatives as important.

There are two Finnish studies that discuss pushes and pulls for Finnish seniors. Laurinkari et al. (2005) report findings from a survey of 155 Finns age 65 and older and in-depth interviews with 64 senior house residents in three Finnish cities. They identify an important reason for moving into senior housing, which is the possibility to live in a better quality apartment with amenities. Avoiding heavy housework in the former home is an important reason for seniors moving out of a single-family house. In addition, many seniors value the opportunity to live with people of the same age. Poutanen et al. (2008) report that their survey of 3,455 senior households reveals that seniors want to move to a smaller home that is more suitable for elderly residents rather than renovate their existing home. They also want to live near commercial services.

Previous research in the U.S., Asia, Pacific Rim, and Europe seems to indicate that the location of independent living senior housing within the community is critical to its ability to pull residents. There are certain services that groups of residents want easy access to within the community. Medical services and hospitals, shopping centers, and public transportation are those most commonly identified in these studies. Services and activities that add to the pull of the specific building for certain segments of the population have been identified as well. Personal care services, social activities, and security are the most common, as is shown in Table 1. Seniors who decide to move to age-qualified housing would be expected to be attracted by a destination that

offers the housing unit and access to services that best matches their needs and preferences.

**Table 1 Most Important Pull Factors Found in Previous Studies**

	Gibler et al. (1998)	Stimson & McCrea (2004)	Lee & Gibler (2004)	Laurinkari et al. (2005)	Moschis et al. (2005)	Guillory & Moschis (2008)	Bekhet et al. (2009)
Access to personal and home-care services	X		x	x	x		x
Access to planned social activities	X	X	x		x		
Access to public transportation	X	X	x			x	
Home and personal security			x	x	x	x	
Location near shopping centers	X			x	x	x	
Access to medical services	X				x		x
Access to friends/family		X					x
Design		X		x			
Location near hospitals	X				x		
Affordability		X					
Emergency call system		X					
Familiarity and reputation of the facility							x
Reliable staff		X					

#### 4. Method

To explore the pulls of senior housing in Finland, a relatively new retirement housing market, we follow the behavior list micro approach, gathering primary data to explain the behavior of senior housing residents. Survey research techniques are necessary to collect factual and attitudinal data related to moving decisions (Golledge and Stimson, 1997).

We gathered data in three Finnish cities, Helsinki, Tampere, and Lahti. Helsinki is the capital of Finland with 576,632 citizens, 27% of whom were 55 years of age or older in 2008. Tampere is the third largest city in Finland with a population of 209,552 in 2008; 29% are 55 years of age or older. The

city of Tampere is located about 180 kilometers northwest of Helsinki and the city of Lahti is located about 180 km north of Helsinki. In 2008, Lahti's population was 100,080 with 34% who were 55 or older (Statistics Finland, 2010). These large cities with concentrations of older residents may be feasible locations for financially successful senior houses. Currently, assisted living facilities, nursing homes, and limited numbers of independent living communities are available, but most senior residents live in conventional apartments.

We selected one development in each city, one condominium and two rental developments, two entirely senior houses and one mixed age development primarily rented to seniors to provide us with responses from residents across the range of senior house offerings. This gave us 461 units occupied by residents age 50 and older as the sample. In 2009, we mailed questionnaires to residents in the 461 units. The total response rate was 34.5% with 39.7% of the responses from Kotosalla, 58.6% from Loppukiri and 25.2% from Hakatornit for a total of 159 responses. However, 22 of the responses were unusable because the respondents did not answer the relevant questions, which left us with 137 observations for the analysis.

Kotosalla is a rental apartment complex in the City of Tampere. The complex contains 200 apartments, but only 161 apartments were occupied at the time of the study. The building is located in a suburb with commercial and public services. In addition, public transportation to the city center is very good. Maintenance and activity staff is available during weekdays. All apartments are designed for elderly residents (no doorsteps, for example) and have air-conditioning. Some apartments have their own sauna and a balcony. All residents may use public saunas in the complex. The common area contains a restaurant, multi-purpose rooms and a fitness room/gym. Some areas can be used free-of-charge, but, for example, there is a low fee for using the gym and the restaurant offers low-budget meals for the residents. In addition, there is an attractive patio for the residents. This development would be considered a service rich environment in Finland.

Loppukiri is located in the City of Helsinki convenient to public transportation. This development consists of 58 condominiums and many common areas, including a library, dining room, fitness room, rooftop terrace and sauna. There are no saunas in the individual apartments. There are no formal services offered. All activities and some services are organized by residents. Every resident works one week every six weeks. The work includes cooking or cleaning; however, everyone gets a say in what kind of work they do. This type of communal living development is new and unique in Finland.

Hakatornit is an ordinary rental apartment block located in the city of Lahti. It is an older building that was renovated between 2000 and 2005. There are 338 apartments in the development. Senior applicants are given priority when

residents are chosen. A total of 242 households contain at least one person 50 years of age which means that 71% of the residents are 50 years of age or older. Common use areas include a gym, a library, a sewing room, a workshop and clubrooms. The owner of the property funds activities organized by the residents, including an exercise group, darts and billiards, a quiz and a poetry group. Fee-for-service arrangements include massage treatments. The tenants organize excursions to theatres and tourist attractions. The development is located very near the city center with public and commercial services close by.

The questionnaire contained 13 items related to reasons for choosing and moving to senior housing. The items included neighborhood location factors identified as important in previous research (location relative to grocery, hospital, public transportation) as well as recreational facilities (fitness center or swimming pool, activity center, outdoor sports facilities) and beauty services. We also included common on-site services from previous research (meals, health services, service staff), social activities (resident organized activities, activity clubs) as well as an on-site fitness center. Respondents were asked to rate the importance of each item on a 4-point scale with 4 representing important and 1 representing not important. They could also indicate if a service is “not offered but I’d like to use it” or a service is “not offered and I don’t need it.” We combined “not offered and I don’t need it” with “not important” for the analysis. We classified “not offered but I’d like to use it” as missing values.

Responses were received from residents in all age groups 50 and older. Two-thirds (67%) are females, as shown in Table 2. About one-third (31%) of the respondents are married and 68% are living alone. Men tend to live with a spouse while female singles are more common than males. Most (79%) of the respondents are retired and have low or moderate net income (87% reported 2,000€ or less per month), as would be expected from their former occupations, mostly laborers.

Loppukiri respondents tend to be younger (greater concentration between ages of 60 and 69) and have higher incomes than residents in the other two developments. The residents of Kotosalla are more likely to be married than residents in the other communities.

To determine which services and amenities are the most important pulls for senior residents, we calculated the mean importance of each attribute. We then rank the attractors by the mean importance score. We use a Wilcoxon signed rank test of the equality of each pair of importance scores in order of magnitude to identify where the significant breaks occur between the scores and attractors of similar importance<sup>1</sup>. We also compare the means among the

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<sup>1</sup> The mean importance score of the attribute ranked number 1 was compared to the mean importance score of the attribute ranked number 2, then the mean score for num-

three communities to determine if the same attractors are equally important across locations using an ANOVA F-test and examine the relative rankings by residents at each location.

**Table 2 Sample Characteristics**

Characteristic	Kotosalla (n=55)	Loppukiri (n=34)	Hakatornit (n=48)	Total (n=137)
<b>Age</b>				
50-54	0.0%	0.0%	12.5%	4.4%
55-59	16.4%	5.9%	14.6%	13.1%
60-64	25.5%	29.4%	25.0%	26.3%
65-69	20.0%	32.4%	12.5%	20.4%
70-74	18.2%	17.6%	12.5%	16.1%
75+	20.0%	14.7%	22.9%	19.7%
<b>Sex</b>				
Female	60.0%	79.4%	66.7%	67.2%
Male	40.0%	20.6%	33.3%	32.8%
<b>Household size</b>				
One	61.8%	73.5%	72.9%	68.6%
Two or more	38.2%	26.5%	27.1%	31.4%
<b>Current or former occupation</b>				
laborer	40.0%	11.8%	56.3%	38.7%
office worker	32.7%	17.6%	29.2%	27.2%
professional (doctor, teacher)	14.5%	52.9%	4.2%	20.4%
self-employed	5.5%	11.8%	2.1%	5.8%
working at home	1.8%	2.9%	4.2%	2.9%
<b>Monthly household net income</b>				
under 1000€	40.0%	5.9%	33.3%	30.5%
1000-2000€	52.7%	52.9%	56.3%	56.5%
over 2000€	3.6%	41.2%	2.1%	13.0%

A factor analysis was used to determine whether the 13 attractors could be combined into a smaller number of pull factors that attract certain residents. The Bartlett sphericity test on the data is significant ( $\chi^2_{(78)} = 588.54, p = .000$ ), which indicates the data are approximately multivariate normal and acceptable for a factor analysis. An exploratory factor analysis was employed using principal component extraction and varimax rotation with a selection criterion of minimum eigenvalue = 1. Initially, 3 factors were extracted. "Location relative to public transportation" did not load well on any of the factors. It was

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ber 2 was compared to the mean score for number 3, and the process repeated for each pair of mean scores in rank order.

removed and the factor analysis conducted again on the remaining 12 items. A review of the coefficient alpha measure of reliability for each factor and the loadings of each item indicated that the resulting three factors have reliability of at least 0.700 and comprise items with loadings of at least 0.577. The factors account for 68% of the variance among the items. Factor 1 represents on-site services that allow the residents to maintain an active lifestyle through meals as well as social and physical activities. It was named 'Lifestyle.' Factor 2 comprises neighborhood facilities that provide support for daily activities, medical facilities and on-site staff. The factor was named 'Daily Services and Care.' Factor 3 focuses on physical activities, so it was named 'Activity.' We compare mean factor scores among residents at each location by means of an ANOVA F-test to determine if the residents at each location place similar importance on the attribute packages. We also compare the mean factor scores among socioeconomic groups through an ANOVA F-test to determine whether the importance of each pull factor varies with age, income, sex, or living arrangement.

## 5. Results

### 5.1. Ranking and Grouping of Property Attribute Importance

The responses as to the importance of each of the 13 attributes in choosing a residence reveal a range of opinions. At least one person rated each attribute as important (4) and at least one person rated each attribute as unimportant (1). Thus, the respondents reveal a range of preferences, which we would expect to influence the attractiveness of different types of developments to individual residents.

The most important attribute based on mean scores is 'grocery nearby' (3.66), followed by 'hospital or health center nearby' (3.32) and 'public transportation nearby' (3.28), as shown in Table 3. All three most important attributes are neighborhood public or commercial services. On-site health care services, nearby beauty services, and on-site staff were ranked as least important. The Wilcoxon signed rank tests that compared each pair of attributes in rank order indicate that there are four groups of attributes based on their relative importance. The most important pull factor, having a grocery nearby, has a significantly higher mean importance score, placing it in a category by itself. Evidently, this is the critical location factor in choosing an independent senior house for the residents of these three properties. The average importance scores of location near a hospital or health center, public transportation, and outdoor sports are not significantly different from each other, which indicate these three attractors are of relatively similar importance overall to residents and secondary to having a grocery nearby. The third group of attributes that are of similar importance is also the largest group. It consists of nearby activity center, swimming pool or fitness center and beauty services, resident organized activities, and on-site fitness center meal service, activity clubs and

staff. On-site health care services comprise the least important category by itself. Thus, on-site health care services are significantly less important than any other pull factor in the housing choice of these residents.

These results may indicate that seniors moving to independent senior houses are looking for locations that will allow them to age-in-place by providing access to essential services in the neighborhood, but not necessarily on site. The dominance of nearby grocery is similar to the results of the study of conventional multifamily housing in the U.S. (Guillory and Moschis, 2008), but different from the surveys of Americans and Koreans age 55 and older who ranked location near shopping centers no higher than fourth in importance (Gibler et al., 1997; Lee and Gibler, 2004; Moschis et al., 2005). There are some similarities in the second group of attributes (location near a hospital or health center, public transportation) with previous research (Gibler et al., 1997; Stimson and McCrea, 2004; Lee and Gibler, 2004; Moschis et al., 2005; Guillory and Moschis, 2008; Bekhet et al., 2009).

The relative importance of outdoor sports is not found in earlier studies. This may be because studies in other parts of the world did not include this as an option for participants to rate or because outdoor sports are a more important part of the lives of elderly residents in Finland than other countries that have been studied. Social activities appear less important to these Finnish senior house residents than to potential residents in the U.S. and Korea (Gibler et al., 1998; Lee and Gibler, 2004; Moschis et al., 2005). More supportive on-site services that might appeal to seniors who are more fragile are also not as important to these senior house residents as to current and potential retirement community residents in the U.S. and Korea (Gibler et al., 1997; Gibler et al., 1998; Lee and Gibler, 2004; Moschis et al., 2005), but similar to the lower importance placed on these services by Australian retirement village residents (Stimson and McCrea, 2004). This sample is dominated by residents in their 60s who have chosen independent senior houses. Thus, we might expect them to be in relatively good health and concentrating on the services and activities that are important to them currently, not what they might need in the future.

**Table 3 Importance Ranking of Pull Factors by Community**

Pull Factors	TOTAL			COMMUNITY					
	Ranking	Mean	Wilcoxon z	Kotosalla		Loppukiri		Hakatornit	
				Ranking	Mean	Ranking	Mean	Ranking	Mean
Grocery nearby	1	3.66*	-4.759**	1	3.91	4	3.50	1	3.50
Hospital or health center nearby	2	3.32	-0.637	2	3.74	8	2.87	2	3.15
Public transportation nearby	3	3.28	-1.151	3	3.37	1	3.97	6	2.68
Outdoor sports nearby	4	3.10	-3.804**	5	3.12	3	3.55	4	2.77
Activity center nearby	5	2.69	-1.628	10	2.67	9	2.69	5	2.72
Fitness center onsite	6	2.55	-0.257	7	2.92	7	3.07	9	1.68
Swimming pool or fitness center nearby	7	2.55	-0.468	12	2.28	10	2.53	3	2.83
Resident organized activities	8	2.54	-0.659	12	2.28	2	3.82	7	1.84
Meal service onsite	9	2.50	-0.361	6	2.98	6	3.30	13	1.24
Activity clubs onsite	10	2.48	-1.336	11	2.61	5	3.39	10	1.63
Staff onsite	11	2.30	-0.258	4	3.29	13	1.24	11	1.46
Beauty services nearby	12	2.30	-3.104**	8	2.74	11	2.31	8	1.80
Health care services onsite	13	2.03		9	2.70	12	1.47	12	1.29

**Notes:** \* mean score based on a scale with 1 representing "not important and 4 representing "important; \*\* significant at 5% level.

Residents choose a bundle of location, physical, service, and social attributes when they choose a senior house. It may not be a single feature that attracts the resident, but a combination of features and services that support particular activities or allow a preferred lifestyle. Analyzing the importance of the 13 attributes to each resident with a factor analysis indicates there are three groups of attributes that attract seniors and pull them to relocate to independent senior housing. Factor 1 represents on-site services that allow the residents to maintain an active lifestyle without leaving the property and provides some luxury to the residents. The attributes that loaded highly on Factor 1 indicate that seniors who are attracted to on-site meal services are also interested in on-site social and physical activities. It was named 'Lifestyle Factor.' Factor 2 comprises everyday services and facilities that would enable aging in place. The neighborhood facilities provide support for daily activities and the medical facilities would be available when needed. Even on-site staff would provide additional support that a resident thinks s/he may need in the future. The factor was named 'Daily Services and Care Factor', which represents services offered on-site or near the property. Factor 3 focuses on physical activities. This factor was named 'Activity Factor', as presented in Table 4. We are unable to compare these factors directly to Kim et al. (2003) or Stimson and McCrea (2004) because different attributes were included in their surveys.

**Table 4 Pull Attribute Factors**

	<b>% of Variance</b>	<b>Cronbach's Alpha</b>	<b>Factor Loadings</b>
Factor 1: Lifestyle factor	39.1%	0.849	
Meal service onsite			0.793
Resident organized activities			0.871
Fitness center onsite			0.589
Activity clubs onsite			0.912
Factor 2: Daily service and care factor	15.8%	0.822	
Health care services onsite			0.686
Staff onsite			0.778
Grocery nearby			0.749
Hospital or health center nearby			0.826
Beauty services nearby			0.577
Factor 3: Activity factor	13.2%	0.707	
Swimming pool or fitness center nearby			0.818
Activity center nearby			0.819
Outdoor sports nearby			0.702

## 5.2. Differences among Properties

To identify whether the pulls to each property are significantly different, we compare the mean importance of individual attributes as well as the factor scores for the residents of each senior house (Table 5). The ANOVA test indicates that there is a significant difference in the importance of services and amenities to residents at different locations, but they place similar importance on outdoor physical activity facilities. Activity centers and swimming pools have always been provided at low-cost by the government in Finland. Outdoor exercise is also a common part of Finnish life. Thus, residents at all senior house locations place similar importance on access to physical activity facilities. Individual outdoor activities rank in the second and third tiers of importance overall among all properties.

The residents in Loppukiri rank public transportation as the most important individual attribute (3.97), significantly higher than residents at the other two developments, which is reasonable because of its location; Loppukiri is located in a suburb where many services are accessed by public transportation or automobile rather than on foot. The nearest shopping center is located 1 kilometer away. Other public and commercial services are located even further away, including the nearest health center at 3 kilometers. Grocery nearby was the fourth most important attribute, but received the same mean score as in Hakatornit. Thus, Loppukiri residents think a grocery store is just as important (absolute score) as residents in other senior houses, but they think there are other attributes that are even more important (ranking). Loppukiri residents focus inward on the activities and social opportunities within the property as illustrated by the significantly higher mean factor score of 3.45 on Factor 1 'Lifestyle' (post hoc test statistics available from the authors). 'Resident organized activities' is the second most important individual attribute (3.82) for Loppukiri residents whereas it ranks seventh and twelfth at the other properties. Similarly, 'activity clubs on-site' rank fifth compared to tenth and eleventh for the other residents. On-site meal service and fitness club receive the highest scores from Loppukiri residents when compared to the other properties. As explained earlier, this development contains both a dining room and fitness center.

Kotosalla residents are more concerned about the neighborhood and on-site services that will allow them to age in place as their significantly higher mean factor score of 3.26 on Factor 2 'Daily Services and Care' shows. 'Grocery nearby' received the highest ranking in Kotosalla (3.91). The nearest grocery shop is located just across the street. Similarly, the nearest health center (another component of 'Daily Service and Care') is located only 0.3 kilometers away. Although Kotosalla is located in a neighborhood that offers all public and commercial services, the residents value public transportation more than the Hakatornit residents do. The connection to the city center is good and the residents may want the possibility to go to the city center despite

having services available in the neighborhood. Residents of Kotosalla rank on-site staff as the fourth most important attribute. Kotosalla is the only property in this study that provides on-site staff. The common area contains a restaurant, multi-purpose rooms and a fitness room/gym. Residents rank these features as more important than the residents of Loppukiri do.

**Table 5 Difference in Pull Attribute Factor Importance Among Community Residents**

Pull Factors	Mean Factor Score			
	COMMUNITY			F
	Kotosalla	Loppukiri	Hakatornit	
Factor 1: Lifestyle factor	2.619	3.452	1.615	37.29*
Factor 2: Daily services and care factor	3.261	2.053	2.175	37.23*
Factor 3: Activity factor	2.622	3.00	2.797	1.60
Public transportation nearby	3.37	3.97	2.68	14.98*

*Notes:* \* significant at 0.05 level.

Hakatornit residents are distinguished by their significantly lower importance ratings on the attributes that comprise Factor 1 ‘Lifestyle’ and access to public transportation. ‘Meal service on-site’ and ‘fitness center on-site’ received much lower scores at Hakatornit, which does not offer a meal service or a restaurant for residents and contains only a small, simple fitness center. It is surprising that resident organized activities are not as important to residents at this location where the owner funds just such operations. It is possible the organized activities are attracting only a subset of the residents or that they were not a deciding factor in pulling residents to the development. Public transportation is not necessary because of the location in the city center. ‘Grocery shop nearby’ received the highest individual attribute ranking among Hakatornit residents (3.50). The nearest grocery shop is located just 0.5 kilometers away and the nearest health center is at 1.5 kilometers.

The comparisons across properties reveal that residents generally appear to have chosen a senior house that offers the attributes they consider most important. Thus, the property characteristics, mover preferences, and mover evaluation of the desirability of the senior house characteristics have interacted to create a strong “pull” to a property that offers the package residents prefer as Ritchey (1976) suggests. A communal living condominium has attracted residents who are more focused inward on the on-site activities and social opportunities, but with a public transportation connection to the rest of the city. They have chosen a more all-inclusive type of senior house that supports their needs in a neighborhood that otherwise requires automobile transportation to access services and activities. A service rich senior rental

building has attracted residents who value a neighborhood complete with the services that support their daily living and will continue to do so as they age. The property provides on-site facilities, but these appear to be of only moderate importance to the residents and may not have been the major attractors to the property. A conventional apartment building that gives preference to senior residents is attractive because of its simplicity and convenient location within walking distance to services. The owner funds activities that do not appear to be major pulls to attract residents.

One of the goals of modeling the housing decision with the push-pull framework is to distinguish groups of people who react in similar fashion to the same sets of plus factors at destinations (Lee, 1966). These groups form the target markets for which home builders can design and locate senior houses. Then, these groups can be profiled to determine the size of the market. The significant difference in importance scores on the attribute factors in this study indicate that there are distinct groups of consumers who were attracted to different housing attributes. Significant differences are also found among the properties, which indicate that groups of residents with similar preferences chose the same property. The next question is whether socioeconomic characteristics (age, sex, living arrangement, income) can be used to profile the groups of residents who share preferences and housing choices, which could lead to estimating the size and location of target markets. Our ANOVA tests found no socioeconomic factors significantly related to the importance of Factor 1: 'Lifestyle' or to access to public transportation (results available from the authors). The everyday services and facilities that would enable aging in place in Factor 2 'Daily Services and Care' are more important to residents 70 years of age and older, as might be expected because these residents are likely to be less mobile and more dependent on the immediate neighborhood. Physical activity facilities in the neighborhood that comprise Factor 3 'Activity' seem to be more important for females than males. Household income level and whether seniors live alone do not appear to be related to relative importance of any of the pull attributes included in this study. Thus, socioeconomic factors are overall poor predictors of the preferences of residents and housing choices. Only age is related to preference for on-site or nearby services such as health care, grocery, staff, and beauty services. Thus, it would be difficult to use socioeconomic variables to profile or estimate market size for different senior house attribute packages.

## 6. Discussion

Finnish seniors face the same housing decisions as aging residents in every other country: Age in place? Move? Move where? A combination of push and pull factors contribute to the decision to move to a new home. As negative stresses grow and alternative housing locations and features look more attractive, seniors will consider moving into a new home, and perhaps a new

type of housing. Potential movers evaluate each housing option in light of their preferences and constraints in an attempt to find the best fit.

The available housing options vary by market. One option offered in a growing number of markets is housing solely designed and marketed for senior residents. Within this category are a range of offerings, including independent living communities, assisted living, and nursing homes. Independent living communities offer relatively healthy seniors an alternative to traditional homes. Research has shown that a combination of neighborhood services, building attributes, and on-site services (Wiseman, 1980; Stimson and McCrea, 2004; Gibler et al., 1997; Moschis et al., 2005) attracts seniors to these housing developments. Each resident choice will depend on the lifestyle and needs of the individual; however, some common attractors have been identified, including neighborhood access to shopping, medical services, and public transportation; buildings that are designed for safety; and on-site activities and services, such as social activities, personal care services, and emergency call systems.

The senior housing market in Finland is small, but growing. Most seniors live in conventional housing and age in place. Others move to smaller apartments or condominiums that are not age restricted. Only a narrow range of senior housing developments is being offered. The range of services and age specific amenities are limited; however, there are identifiable segments of independent living, assisted living, and nursing care.

This study focuses on the independent living segment in Finland. The study shows that the attributes that pull aging Finns to independent living senior houses are generally similar to those in other countries, such as Australia (Stimson and McCrea, 2004) and the U.S. (Gibler et al., 1997 and Moschis et al., 2005). Our results indicate that Finnish seniors look for a neighborhood setting in combination with on-site services that support their lifestyle. Access to public transportation, health care providers, outdoor activities, and social activities are relatively important for all seniors in these independent living communities. While access to shopping such as grocery has been identified as important in other studies, it dominates in the Finnish market. Therefore, neighborhood services will be an essential element in the success of independent senior houses in Finland. The setting is just as important, if not more important, as the on-site services being offered. Outdoor activities play important role in lives of Finnish seniors. Residents in all three senior houses value outdoor activities and public swimming pools and activity centers. These results are different from previous studies in other countries. These facilities have always been provided by municipalities and offered as low-cost activities in Finland. The findings of this study may reflect the cultural importance of outdoor activities in Finland.

Currently, Finnish senior houses are not offering many services and amenities to distinguish themselves from conventional condominiums and apartments. Therefore, seniors who are being pushed out of their homes may be as likely to be pulled to conventional developments as senior houses if they are located near the public and commercial services that residents value more than on-site services. If the senior housing sector is to succeed, developers need to determine the properly tailored package of building characteristics, amenities, and services that will attract residents. There are groups of seniors who value on-site services and activities and we find they may organize these services themselves if the operator does not offer them.

Our results indicate that it may be difficult to define market segments and estimate level of demand based on socioeconomic characteristics. We find no remarkable differences in the pulls to senior houses among demographic groups except that the oldest residents place more importance on having on-site staff, neighborhood shops, and access to medical services. Their world may be shrinking and they want to ensure that the services they need to support them on a daily basis are easy to access.

There were, however, significant differences in the pulls that attracted residents to each of the communities. The developments in this study can be differentiated from each other based on the on-site services they offer as well as the type of neighborhood in which they are located. It appears that movers with different preferences are attracted to different types of senior houses. These residents have found person-environment congruence; they have chosen housing that satisfies their specific type and strength of needs (Marans et al., 1984). This supports earlier findings (Kim et al., 2003; Stimson and McCrea, 2004) in which seniors choose a retirement home that can support their existing lifestyle or provide new activities. Health care related services are associated with institutional housing alternatives more than active independent housing alternatives, so they are not attractive to this relatively young group of seniors.

Loomis et al. (1998) conclude that the most successful senior housing projects will be the ones that have the best understanding to whom they are attractive and why. Seniors are a heterogeneous population. They exhibit differences in values and preferences based on their personality traits, abilities, interests, resources, background, experiences and lifestyles. To be successful, senior house operators will not be able to construct generic properties and market them to the general aging population. Instead, they will have to locate and design their projects and services to target specific senior groups. The location, design, and operation of a retirement community need to incorporate those attributes, services, and functions that are appropriate for enhancing the achievement of maximum congruence with the aspirations, perceptions, and needs of the target group (Golledge and Stimson, 1997). As preferences of the residents in this study do not appear to be associated with any socioeconomic

factors except age, investors may need to study senior lifestyles and segment their products for seniors who have different interests.

The findings of this study are important when modeling the decision-making process of Finnish and other European senior residents. Since it appears that socioeconomic factors are not the best predictors of decisions on seniors housing, it is important to know how the push-pull framework works in different cultures and what influences the decisions of senior citizens. More research is needed in each European country to analyze cultural preferences that would affect the housing decision-making process. A comparison of the push-pull frameworks in different countries would be useful to examine the influence of cultural differences.

Further research is needed to identify which characteristics best identify movers who are currently choosing to move to senior houses in contrast to those who are opting to age in place or move to conventional apartments in developing markets like Finland. What are the reasons why many aging Finnish residents who choose to move do not select senior houses? Is the main reason a lack of awareness and information or do the limited number of existing facilities not offer a sufficient range of preferred amenities and services to attract seniors? Answering these questions will assist in understanding not only the senior house market in Finland, but also developing markets in other European countries.

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