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### No place like home?

de Jong, Petra

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# Chapter 3

## LATER-LIFE MIGRATION IN THE NETHERLANDS: PROPENSITY TO MOVE AND RESIDENTIAL MOBILITY

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### 3.1. Introduction

In the upcoming decades, the age structure of the EU population is projected to change dramatically. The population aged 65 years and above will increase markedly, from 87.5 million in 2010 to 152.6 million in 2060 in the EU. The number of older adults aged 80 and above is expected to almost triple, rising from 23.7 million in 2010 to 62.4 million in 2060 (European Union, 2012). Even though population ageing is a well-known phenomenon and challenge in the EU, it is not exclusive to Europe. Similar demographic trends, to varying degrees, are occurring in other parts of the world (e.g. Conway & Houtenville, 2003; King & Newbold, 2009).

As the populations of western societies age, there is a growing potential for later-life migration, which is defined here as the residential mobility of persons aged 55 or over. From previous research it is known that migration propensities vary greatly over the life course (see: De Groot et al., 2011; Geist & McManus, 2008; Michielin & Mulder, 2008; Millington, 2000; Mulder, 2007). Young adults, for example, contribute to a large share of all migration. Older adults, on the other hand, are known to reside in the same place for long periods of time. Even though the migration propensity of older people is considered to be relatively low, the large absolute numbers that these cohorts represent indicate that their migration decisions are likely to have an impact on spatial structures (Andersson & Abramsson, 2012; Kramer & Pfaffenbach, 2009).

Many of the key mechanisms influencing why younger people decide to move cannot be applied to older adults (Sommers & Rowell, 1992). It has been argued that the wish to improve one's housing situation is less strong for older people and that some reasons for relocating, such as family growth or career opportunities, simply occur less frequently in comparison with younger adults (Hansen & Gottschalk, 2006). Not only motives but also destinations vary with age. Young people typically migrate to urban destinations, while counter-urban migration streams often have a overrepresentation of older adults (Plane & Jurjevich, 2009). This mobility pattern has not only been found in the USA but also in various studies in Europe (see: De Jong et al., 2016; Friedrich & Warnes, 2000; Lindgren, 2003; Lundholm, 2012; Stockdale, 2006; Vollet et al., 2005).

In this study, the residential moving behaviour of older adults in the Netherlands is examined by analysing which factors are likely to influence considerations about moving and actual mobility. This paper will first discuss the theoretical frameworks which have been applied to the residential mobility of older adults. Next, several models concerning the behaviour of the Dutch older adults are presented and the paper will conclude with some suggestions for future research.

## 3.2. Residential mobility

In general, two of the most influential theoretical perspectives on residential mobility are the life-cycle and life course models (Atkins, 2018). In the life-cycle model residential mobility is a functional response to major life transitions, particularly family transitions (Clark & Withers, 2002), such as cohabitation, the transition to parenthood, and changes in household size. Residential mobility is seen as the mechanism that brings families' housing in line with their residential needs (Rossi, 1955). From a life-cycle perspective, the motivations for relocation are broadly applicable and predictable, suggesting a uniform trajectory of residential mobility rates throughout adulthood (Geist & McManus, 2008). As opposed to the life-cycle approach, the life course model has been used to explain the dynamic nature of many households transitions (Bailey, 2009; Mulder & Hooimeijer, 1999), and emphasizes the variation in the timing and sequencing of life events (Geist & McManus, 2008).

According to the Press-Competence model by Lawton & Nahemow (1973), there is a need for a fit between the personal competences and environmental conditions. While this assumption holds true for every age group, it gains importance in older age since older adults are particularly sensitive to the interchange between person and environment. From this perspective, deteriorating competencies can lead to incompatibility between the individual and their living arrangement (Pope & Kang, 2010), possibly resulting in extreme stress and burden.

Influenced by the Press-Competence Model, Wiseman (1980), developed the Behavioural Model of Elderly Migration. This framework argues that older people are triggered by various factors whereby they evaluate their residential satisfaction and consider a possible move (Smetcoren et al., 2017). Triggering events can be either push or pull factors that encourage older adults to consider relocation. While push factors can trigger a disconnect between the older person and their current living arrangement, pull factors include apparent benefits of relocating (Weeks et al., 2013).

Lastly, the lifespan developmental framework of migration of Litwak and Longino (1987) identifies a three-stage classification of mobility associated with later life. The first stage is motivated by a desire for amenities and comfort and tends to occur in early retirement (Clark et al., 2003; Haas & Serow, 1993). Here, amenity migration is not just associated with the assets of the natural environment, but also includes quality of housing, transport, and social services (Davies & James, 2011). The second stage occurs with more advanced age and the onset of disabilities and/or worsening health. When older adults become less able to manage everyday tasks, older adults often move closer to children or other family

members able to help with care (Pope & Kang, 2010). Finally, when family caregivers are no longer able to provide the appropriate level of support, a third move is seen into institutional care (Duncombe et al., 2003).

### 3.2.1. Literature review

Within the literature, the residential mobility of older adults is an established field of enquiry, attracting more interest in light of rapid population ageing. Many studies of residential moving behaviour of older adults adopt a life course approach, emphasizing that life events create disequilibrium and hence motivate relocation (see: Bloem et al., 2008; Clark, 2013). Such events are often considered to constitute mobility triggers since an individual has to move to resolve the sudden occurrence of disequilibrium (Michielin & Mulder, 2008). For instance, retirement (Bures, 1997; King et al., 2000), an 'empty nest' (Bures, 2009; Wulff et al., 2010), widowhood (Bonnet et al., 2010), and the worsening of health (Pope & Kang, 2010) are all known to trigger residential mobility in old age.

With regard to the person-environment fit, several studies have demonstrated an increasing preference for relocation due to a poor housing conditions. For example, two Australian studies found that older people consider changing residence due to a desire to downsize their housing (Stimson & McCrea, 2004, Judd et al., 2014). Other possible stress-inducing factors include: stairs and steps inside and outside the dwelling, and difficulties with housekeeping (e.g. cleaning) and/or maintenance (e.g. Erickson et al., 2006; Han & Kim, 2017; Hansen & Gottschalk, 2006; Tyvimaa & Kemp 2011; Weeks et al., 2012). Equally, a study by Hillcoat-Nallétamby and Ogg (2014) revealed that dislikes concerning the dwelling and neighbourhood environments lead to a higher probability of older adults wishing to move. Additionally, neighbourhoods with a poor physical environment or high rates of crime are found to contribute to feelings of insecurity in old age (De Donder, 2001; Smith, 2009). In 2011 Byrnes found that moving to a pleasant neighbourhood can be an escape from harsh (urban) living conditions that do not match the needs of older residents. Lastly, a lack of services counts for a relocation trigger among older adults, especially if public transportation is poorly organized (Tyvimaa & Kemp, 2011).

While most studies cite a move for amities as an important pull factor, data on geographical patterns of internal elderly migration have shown that older adults are more likely to leave rather than to move to big cities (Fokkema et al., 1996). Moreover, Walters (2002) demonstrated that larger places and those with high population density have low in-migration rates for older adults. Walters (2002) speculates that older adults may not place as much value on the type of retail and service opportunities available in the larger, more urbanised municipalities, or the preference for amenities are simply outweighed by their dislike of the traffic, congestion, pollution, and other unattractive

characteristics often associated with large cities. Though cities can be disabling and threatening environments at any age, older adults may experience a variety of pressures reflecting physiological and cognitive vulnerabilities; changing patterns of spatial use; and reliance upon community and neighbourhood relationships for support (e.g. Buffel et al., 2012; Mitchell et al., 2003; Wight et al., 2009).

So far, much research of the literature discussed before has focused either on older adults' motives for considering moving or on motives for having moved. The purpose of this paper is to reveal which factors influence considerations about moving and actual mobility both. This is achieved through two separate analyses: one on residential mobility, and one the propensity to move.

## 3.3. Methods

### 3.3.1. Data

The data basis of the analyses has been the Housing Research Netherlands (HRN) survey. The survey is set up to provide more insights into the housing situation of the Dutch population and their living requirements and needs. Elements covered include the composition of households, the dwelling and living environment, housing costs, living requirements, and residential mobility. The survey is carried out every 3 years and is a joint co-operation between the Ministry of the Interior and Kingdom Relations (BZK) and Statistics Netherlands.

The HRN survey is a sample survey. The sample is taken from all non-institutionalized Dutch residents who are 18 years or older and registered with their local municipality. From this group, a stratified sample is taken according to the design of the survey, with nationwide coverage of municipalities. The survey is conducted according to a 'mixed mode' design (i.e. web, telephone, and personal interviewing).

In the HRN survey residential mobility is a relatively rare event, particularly among older adults. For the purpose of this study, we pooled cross-section data of the HRN survey from 2006 to 2012. Pooling multiple waves of survey data, provided us with enough data to investigate the relocation behaviour of Dutch older adults. The residential mobility of older adults is modelled by means of a binary logit model. Logit analysis is the appropriate multivariate technique if the single dependent variable is dichotomous and therefore nonmetric.

### 3.3.2. Dependent and independent variables

The first dependent variable in the analysis is 'residential mobility'. This variable is dichotomous: equal to one in the event of a move in the last two years and zero otherwise. In total 6.7% of our sample of older adults indicated to have moved. The second dependent variable is 'propensity to move', and was based on the question whether the respondent wants to move in the upcoming two years. For statistical reasons, we merged four categories into two categories. This dependent variable is equal to one when there is a tendency to move in the upcoming two years and zero otherwise. In our sample 14.8% of the respondents aged 55 years or older reported a desire to move.

The independent variables were chosen on the basis of former research studying migration and residential mobility. Inspired by Speare (1974), Fokkema et al. (1996), and Hanssen and Gottschalk (2006), the independent variables of the analyses are classified into three categories:

- individual characteristics
- dwelling characteristics
- neighbourhood characteristics

We controlled for most of the standard demographic and socio-economic factors known to affect migration: age (categorical), gender (dichotomous), the presence of a partner (dichotomous), educational level (categorical), health (categorical), and retired (dichotomous). We rescaled the continuous variable 'age' to three categories: the 'pre-elderly' (age: 55-64), the 'young-elderly' (age: 65-74), and the 'old-elderly' (age: 75 years and older). This distinction is relevant in order to capture the potentially divergent migration decisions older and younger older adults make (e.g. Conway & Houtenville, 2003). The respondents' educational level refers to the highest completed level of education, categorised into the three categories: high, middle and low. Instead of one high school system, like for example, the USA, the Dutch educational system has different levels of high school. This is why Dutch research in the social sciences often refers to levels rather than years of education (e.g. Bolt et al., 2008; Bolt & Van Kempen, 2003; Schaake et al., 2010). The category 'high education' comprises higher vocational training (in Dutch 'HBO') and university education (in Dutch 'WO'). The category 'middle education' is a combination of middle vocational training (in Dutch 'MBO') and higher levels of high school (in Dutch 'HAVO' or 'VWO'). The category of 'low education' comprises (un)completed elementary school and lower levels of high school. Health is self-assessed measure, categorised into three categories: positive evaluation, moderate evaluation and a negative evaluation.



We added two factors: car-ownership (dichotomous) and self-reliance (categorical). Car-ownership is used as an indicator of unimpeded mobility. The factor self-reliance is based on several questions concerning Activities of Daily Living (ADLs) and Instrumental Activities of Daily Living (IADLs). Basic ADLs are necessary for fundamental functioning, such as bathing and moving around the house. While IADLs are not necessary for fundamental functioning, they do let an individual live independently in a community. Examples of IADLs are shopping and maintaining the house. The respondents were asked to rate their competence in eight activities, such as the ability to stand for 30 min, to climb stairs, and bathing.

Dwelling properties include ownership (dichotomous), type of dwelling (dichotomous), residential crowding (i.e. number of persons per room; categorical), internal accessibility of the dwelling (dichotomous), external accessibility of the dwelling (dichotomous), the presence of a garden (dichotomous), whether the dwelling is designated towards older adults only (i.e. purpose-built accommodation; dichotomous), and whether the individual stated to be attached to the dwelling (dichotomous). Residential crowding is used as an indicator for the size of the dwelling. Internal access is based on the location of the living room, the kitchen, the toilet, the bathroom, and at least one bedroom. The internal access is deemed suitable when these so-called 'primary spaces' are located on a single floor (as opposed to multiple floors). The external access is considered suitable when the front door of the dwelling is accessible without having to climb any stairs.

Characteristics of the neighbourhood are the level of deprivation (categorical), level of nuisance (categorical), the level of cohesion (categorical), attachment to the neighbourhood (dichotomous), satisfaction with the amount of shops (dichotomous), and satisfaction with the amount of public transport (dichotomous). The levels of deprivation and nuisance are based on several questions concerning problems that could arise as the result of, for example, noise pollution and vandalism. The level of cohesion is measured on the basis of several propositions, such as: "People hardly know each other in this neighbourhood" and "I feel at home in this neighbourhood". The original continuous variables are rescaled to three levels: low, intermediate, and high.

We also included an indicator of the residential density to account for possible effects of degree of urbanisation. Residential density measures the concentration of dwellings in a given land area. In our dataset the average number of addresses per squared kilometre within a circle with a radius of one kilometre for each address within a given municipality is calculated (Den Dulk et al., 1992). Based on the class limits 2500, 1500, 1000 and 500 addresses per squared kilometre, the five levels of the Dutch urban hierarchy are depicted. Finally, we added a time dummy, 'Sample', to capture change over time and a region dummy to control for possible geographical effects.

Simple linear regressions were used to examine possible correlations between the explanatory variables. The results of these analyses were taken as a basis for including the variables in the binary logistic regression. In order to analyse the possible heterogeneity in factors likely to influence considerations about moving and actual mobility, we ran separate models for the three age categories.

## 3.4. Results

### 3.4.1. Residential mobility

A binary logistic regression was performed to assess the impact of a number of factors on the likelihood that respondents would report that they had moved in the last two years. The model contained forty independent variables, ranging from individual characteristics to characteristics of the living environment. The full model containing all independent variables was statistically significant,  $\chi^2(40, n = 49,943) = 3582.18, p < 0.001$ , indicating that the model was able to distinguish between respondents who reported and did not report a move in the last two years. The model as a whole explained between 6.9% (Cox & Snell R square) and 19% (Nagelkerke R squared) of the variance in residential mobility, and correctly classified 99.9% of the cases. As shown in Table 3.1, the strongest predictor of having moved was 'senior housing', recording an odds ratio of 2.74. This indicated that respondents who are currently living in a dwelling assigned to older adults only were 2.7 times more likely to have moved in the last two years than those who did not move, controlling for all other factors in the model.

The odds ratio for older adults aged 75 and over was less than 1, indicating that they were in fact 0.36 times less likely to report having moved in the last two years than those who did not move, controlling for all other factors in the model. In addition, older adults aged 65 years or older are also found to be less likely to have moved than older adults aged between 55 and 64. As expected, higher educated older adults are more likely to have moved within the last two years. The ownership of a car has a negative effect on the likelihood of having moved. Lastly, older adults with moderate limitations, are more likely to have moved.

All characteristics related to the dwelling are found to be statistically significant. Aside from the strongest predictor, that is, 'senior housing', the second strongest predictor is 'apartment'. Recording an odds ratio of 2.19, indicating that respondents who are currently living in an apartment, were 2.2 times more likely to have moved in the last two years than those who did not move, controlling for all other factors in the model. In addition, those living in accessible homes (both internal as external) are more likely to have moved. The presence of a garden has a negative effect on the likelihood of having moved.

Table 3.1 The likelihood that respondents would report that they had moved in the last two years

	Whole sample		Pre-elderly	
	B	Sig.	Exp(B)	B Sig.
<b>Individual characteristics</b>				
Age				
55-64	ref.			-
65-74	-0.392	***	0.676	-
75+	-1.022	***	0.360	-
Gender				
Female	ref.			ref.
Male	-0.047		0.954	-0.046
Partner				
No partner	ref.			ref.
Partner	-0.060		0.941	-0.212 ***
Educational level				
Low	ref.			ref.
Middle	0.175	***	1.191	0.169 **
High	0.390	***	1.477	0.405 ***
Car ownership				
No	ref.			ref.
Yes	-0.082	***	0.921	-0.081 **
Self-reliance				
No limitations	ref.			ref.
Slight limitations	-0.074		0.928	0.191
Moderate limitations	0.134	**	1.144	0.174
Severe limitations	0.017		1.018	0.107
Subjective health				
Positive evaluation	ref.			ref.
Moderate evaluation	-0.042		0.959	0.008
Negative evaluation	-0.157		0.855	0.019
Retired				
No	ref.			ref.
Yes	-0.043		0.958	0.017
<b>Dwelling characteristics</b>				
Tenure				
Rental	ref.			ref.
Owner occupied	-0.421	***	0.656	-0.367 ***

Pre-elderly		Young-elderly		Old-elderly		
Exp(B)	B	Sig.	Exp(B)	B	Sig.	Exp(B)
	-			-		
	-			-		
	-			-		
	ref.			ref.		
0.955	-0.076		0.927	-0.045		0.956
	ref.			ref.		
0.809	-0.032		0.968	0.115		1.122
	ref.			ref.		
1.184	0.133		1.142	0.253	**	1.287
1.500	0.309	***	1.362	0.470	***	1.600
	ref.			ref.		
0.922	-0.102	**	0.903	-0.030		0.970
	ref.			ref.		
1.210	-0.043		0.957	-0.500	***	0.606
1.190	0.182		1.199	0.004		1.004
1.113	0.285		1.330	-0.145		0.865
	ref.			ref.		
1.008	-0.015		0.985	-0.212	**	0.809
1.020	-0.302		0.739	-0.487	**	0.614
	ref.			ref.		
1.017	-0.209	*	0.811	0.045		1.046
	ref.			ref.		
0.693	-0.385	***	0.680	-0.607	***	0.545

Table 3.1 Continued

	Whole sample		Pre-elderly	
	B	Sig.	Exp(B)	B Sig.
Type				
House	ref.			ref.
Apartment	0.786	***	2.194	0.653 ***
Crowding				
Crowded	0.424		1.527	0.435
Not crowded	0.425	***	1.530	0.419 ***
Spacious	ref.			ref.
Internal accessibility				
Not suitable	ref.			ref.
Suitable	0.603	***	1.828	0.515 ***
External accessibility				
Not suitable	ref.			ref.
Suitable	0.227	***	1.255	0.235 ***
Garden				
No garden	ref.			ref.
Garden	-0.442	***	0.643	-0.482 ***
Senior housing				
No Senior housing	ref.			ref.
Senior housing	1.007	***	2.737	1.050 ***
Attachment				
No attachment	ref.			ref.
Attachment	-0.320	***	0.726	-0.336 ***
<b>Neighbourhood characteristics</b>				
Deprivation				
Low	0.697	***	2.007	0.748 ***
Intermediate	0.247	**	1.280	0.273 **
High	ref.			ref.
Nuisance				
Low	0.370	***	1.448	0.493 ***
Intermediate	0.000		1.000	0.219
High	ref.			ref.
Cohesion				
Low	-0.201		0.818	-0.058
Intermediate	-0.184	***	0.832	-0.239 ***
High	ref.			ref.

Pre-elderly		Young-elderly		Old-elderly		
Exp(B)	B	Sig.	Exp(B)	B	Sig.	Exp(B)
	ref.			ref.		
1.921	0.781	***	2.184	0.947	***	2.578
1.545	0.336		1.399	0.434		1.543
1.520	0.492	***	1.636	0.343	***	1.410
	ref.			ref.		
1.673	0.686	***	1.985	0.964	***	2.621
1.265	0.289	***	1.335	0.131		1.140
0.618	-0.485	***	0.616	-0.340	***	0.712
2.858	0.955	***	2.599	0.976	***	2.655
0.715	-0.200	*	0.819	-0.440	***	0.644
2.113	0.697	***	2.007	0.610	**	1.841
1.314	0.108		1.115	0.437		1.548
	ref.			ref.		
1.637	0.039		1.040	0.651		1.918
1.245	-0.329		0.720	-0.153		0.858
	ref.			ref.		
0.943	-0.358		0.699	-0.370		0.691
0.787	-0.178	**	0.837	-0.051		0.950
	ref.			ref.		

Table 3.1 Continued

	Whole sample		Pre-elderly	
	B	Sig.	Exp(B)	B Sig.
Attachment				
Not attached	ref.			ref.
Attached	-0.602	***	0.547	-0.534 ***
Satisfaction shops				
Not satisfied	ref.			ref.
Satisfied	0.147	***	1.158	0.034
Satisfaction public transport				
Not satisfied	ref.			ref.
Satisfied	0.039		1.040	-0.040
Urban hierarchy				
Extremely urbanised	ref.			ref.
Strongly urbanised	0.236	***	1.266	0.162 *
Moderately urbanised	0.450	***	1.569	0.291 ***
Hardly urbanised	0.464	***	1.591	0.227 *
Not urbanised	0.583	***	1.791	0.358 ***
Region				
North	0.045		1.046	0.126
East	-0.037		0.964	0.037
West	-0.024		0.976	-0.033
South	ref.			ref.
Sample				
WoON2006	0.252	***	1.286	0.283 ***
WoON2009	0.385	***	1.470	0.418 ***
WoON2012	ref.			ref.
Constant	-4.067	***	0.017	-3.881 ***
Valid <i>n</i>	49,943			21,594
-2 Log likelihood	18,981			8,523
Nagelkerke R Squared	0.190			0.165

\*\*\*Significant at 0.01 level; \*\*significant at 0.05 level; \*significant at 0.1 level.

Pre-elderly		Young-elderly		Old-elderly		
Exp(B)	B	Sig.	Exp(B)	B	Sig.	Exp(B)
	ref.			ref.		
0.586	-0.662	***	0.516	-0.676	***	0.508
	ref.			ref.		
1.034	0.226	**	1.254	0.265	**	1.303
	ref.			ref.		
0.960	0.078		1.081	0.130		1.139
	ref.			ref.		
1.176	0.237	**	1.268	0.353	***	1.424
1.337	0.549	***	1.732	0.591	***	1.806
1.255	0.590	***	1.803	0.748	***	2.112
1.431	0.726	***	2.066	0.775	***	2.170
	ref.			ref.		
1.134	0.094		1.098	-0.246		0.782
1.038	-0.070		0.933	-0.162		0.851
0.967	0.033		1.034	-0.100		0.905
	ref.			ref.		
1.326	0.238	**	1.269	0.213	**	1.237
1.519	0.391	***	1.479	0.296	***	1.345
	ref.			ref.		
0.021	-4.303	***	0.014	-5.780	***	0.003
	15.770			12.579		
	5.816			4.544		
	0.215			0.224		



Older adults currently living in a non-urbanised municipality are more likely to have moved in the last two years than older adults currently living in a more urbanised municipality. The results further illustrate that older adults are more likely to have moved to areas with little deprivation, little nuisance, and a high level of cohesion. Older adults who have moved in the last two years, are less likely to be attached to their current dwelling and neighbourhood. The results further indicate that migrants are more likely to be satisfied with the shops available.

#### 3.4.2. Age- articulated differences in residential mobility

To evaluate the possible differences between of older adults, we ran separate models for the 'pre-elderly', the 'young-elderly', and the 'old-elderly'. Here, we will only discuss the results that differ among the different age groups and/or differ from the results of the whole sample. Several factors on the likelihood that respondents would report that they had moved in the last two years, are more pronounced for the oldest age group. Particularly, when compared to the youngest age group in the model. The estimates on 'internal access' and 'apartment' are good examples of this.

Compared to those with a positive evaluation of their health, old-elderly with a moderate or negative evaluation of their health, are less likely to have moved. Note, that institutionalized older adults, that is, those living either in health care institutions or retirement and nursing homes, are excluded in the HRN survey. For the pre-elderly and young-elderly, on the other hand, (subjective) health is not a statistically significant factor explaining the likelihood of residential mobility.

Pre-elderly are more likely to have moved to areas with little deprivation, little nuisance, and a high level of social cohesion. For the young- and old-elderly nuisance and social cohesion do not seem to play a significant role in explaining their likelihood to have moved. However, they are more likely to be satisfied with shops available to them.

#### 3.4.3. Propensity to move

A second binary logistic regression was performed to assess the impact of a number of factors on the likelihood that respondents would report that they would like to move in the upcoming two years. With the addition of the factor 'moved in the last two years', the model contained 41 independent variables, ranging from individual characteristics, to characteristics of the living environment. The full model containing all independent variables was statistically significant,  $\chi^2(41, n = 49,943) = 5259.45, p < 0.001$ , indicating that the model was able to distinguish between respondents who have a propensity to move and those who do not. The model as a whole correctly classified 98.7% of the cases, and explained between 10% (Cox & Snell R square) and 17.8% (Nagelkerke R squared) of

the variance in the propensity to move. As shown in Table 3.2, the strongest predictor of wanting to move was 'low cohesion', recording an odds ratio of 2.89. In other words: respondents who are currently living in a neighbourhood with a low levels of social cohesiveness were almost 3 times more likely to have a desire to move in the upcoming two years than those who do not, controlling for all other factors in the model.

With an odd ratio of 0.79 older adults aged 75 years or older are less likely to have a propensity to move, than people aged between 55 and 64. As expected, higher educated elderly are more likely to have a propensity to move. Older adults who experience health limitations, both from an objective and subjective point of view, are more likely to move in the upcoming years than elderly without any health limitations.

Not surprisingly, older adults who are currently living in a 'suitable dwelling' are less likely to have a propensity to move. This illustrated by the odds ratios for type, crowding, accessibility, and senior housing, which are all less than 1. The variables measuring a number of neighbourhood characteristics showed negative B-values. Indicating that neighbourhoods with (perceived) low levels of deprivation, low levels of nuisance, and high levels of cohesion are important keep factors for older adults. We observe that older adults originating from the Randstad, that is, the urbanised western part of the Netherlands, are slightly more likely to report a propensity to move. This is further illustrated by the positive B value for extremely urbanised areas within the urban hierarchy<sup>1</sup>.

To capture possible changes over time, we included a time dummy in the model. Here we observe that, compared to cross-section data of the HRN survey 2006-2009, respondents in the sample of 2012 are more likely to report a wish to move. While this could be the result of a period effect, which arises because mobility is susceptible to the influence of external forces such as economic growth, it could also hint towards a possible cohort effect.

#### 3.4.4. Age- articulated differences in the propensity to move

The effect of having a partner differs among the different age groups. Pre-elderly living with a partner are significantly less likely to report a propensity to move. Education does not have a significant effect for the older age groups, while self-reliance and subjective health have a higher impact on the likelihood that respondents report that they would like to move in the upcoming two years.

<sup>1</sup> Note that we have changed the reference case for 'urban hierarchy' in the second model.

Table 3.2 The likelihood that respondents would report that they would like to move in the upcoming two years

	Whole sample		Pre-elderly	
	B	Sig.	Exp(B)	B Sig.
<b>Individual characteristics</b>				
Age				
55-64	ref.			-
65-74	-0.032		0.969	-
75+	-0.242	***	0.785	-
Gender				
Female	ref.			ref.
Male	0.017		1.018	-0.009
Partner				
No partner	ref.			ref.
Partner	-0.010		0.990	-0.136 ***
Educational level				
Low	ref.			ref.
Middle	0.023		1.024	0.095 *
High	0.121	***	1.129	0.182 ***
Car ownership				
No	ref.			ref.
Yes	-0.025		0.975	0.006
Self-reliance				
No limitations	ref.			ref.
Slight limitations	0.099		1.105	0.116
Moderate limitations	0.226	***	1.253	0.239 ***
Severe limitations	0.386	***	1.472	0.166
Subjective health				
Positive evaluation	ref.			ref.
Moderate evaluation	0.193	***	1.213	0.073
Negative evaluation	0.478	***	1.613	0.282 **
Retired				
No	ref.			ref.
Yes	0.017		1.017	0.018
Moved in last two years				
No	ref.			ref.
Yes	-0.657	***	0.518	-0.573 ***

Pre-elderly		Young-elderly		Old-elderly		
Exp(B)	B	Sig.	Exp(B)	B	Sig.	Exp(B)
		-			-	
		-			-	
		-			-	
	ref.			ref.		
0.991	0.088	*	1.092	-0.163	**	0.849
	ref.			ref.		
0.873	0.021		1.021	0.448	***	1.564
	ref.			ref.		
1.100	0.003		1.003	-0.138		0.871
1.199	0.052		1.053	0.073		1.076
	ref.			ref.		
1.006	-0.050		0.951	-0.038		0.963
	ref.			ref.		
1.123	0.056		1.058	0.244	**	1.277
1.269	0.256	***	1.292	0.265	***	1.304
1.181	0.244	*	1.276	0.529	***	1.697
	ref.			ref.		
1.076	0.174	***	1.190	0.416	***	1.516
1.326	0.525	***	1.690	0.798	***	2.221
	ref.			ref.		
1.019	0.042		1.043	0.267		1.306
	ref.			ref.		
0.564	-0.798	***	0.450	-0.950	***	0.387

Table 3.2 Continued

	Whole sample		Pre-elderly	
	B	Sig.	Exp(B)	B Sig.
<b>Dwelling characteristics</b>				
Tenure				
Rental	ref.			ref.
Owner occupied	-0.055		0.947	0.021
Type				
House	ref.			ref.
Apartment	-0.186	***	0.831	-0.026
Crowding				
Crowded	0.184		1.202	0.206
Not crowded	-0.176	***	0.838	-0.129 ***
Spacious	ref.			ref.
Internal accessibility				
Not suitable	ref.			ref.
Suitable	-0.218	***	0.804	-0.130 **
External accessibility				
Not suitable	ref.			ref.
Suitable	-0.222	***	0.801	-0.185 ***
Garden				
No garden	ref.			ref.
Garden	0.074		1.077	-0.017
Senior housing				
No Senior housing	ref.			ref.
Senior housing	-0.662	***	0.516	-0.498 ***
Attachment				
No attachment	ref.			ref.
Attachment	-1.007	***	0.365	-1.086 ***
<b>Neighbourhood characteristics</b>				
Deprivation				
Low	-0.207	***	0.813	-0.106
Intermediate	-0.052		0.949	-0.027
High	ref.			ref.
Nuisance				
Low	-0.644	***	0.525	-0.675 ***
Intermediate	-0.311	***	0.733	-0.260 ***
High	ref.			ref.

Pre-elderly		Young-elderly		Old-elderly		
Exp(B)	B	Sig.	Exp(B)	B	Sig.	Exp(B)
	ref.			ref.		
1.021	-0.082		0.921	-0.142	*	0.867
	ref.			ref.		
0.974	-0.212	**	0.809	-0.324	***	0.723
1.228	-0.033		0.967	0.712		2.037
0.879	-0.230	***	0.794	-0.290	***	0.748
	ref.			ref.		
0.878	-0.323	***	0.724	-0.301	***	0.740
	ref.			ref.		
0.831	-0.266	***	0.767	-0.100		0.905
	ref.			ref.		
0.983	0.063		1.065	0.234	**	1.263
	ref.			ref.		
0.608	-0.690	***	0.502	-0.529	***	0.589
	ref.			ref.		
0.337	-1.017	***	0.362	-0.802	***	0.448
	ref.			ref.		
0.900	-0.305	***	0.737	-0.248	*	0.780
0.973	-0.090		0.914	0.014		1.014
	ref.			ref.		
0.509	-0.547	***	0.579	-0.715	***	0.489
0.771	-0.359	***	0.698	-0.374	*	0.688
	ref.			ref.		

Table 3.2 Continued

	Whole sample		Pre-elderly	
	B	Sig.	Exp(B)	B Sig.
Cohesion				
Low	1.060	***	2.886	1.021 ***
Intermediate	0.326	***	1.386	0.293 ***
High	ref.			ref.
Attachment				
Not attached	ref.			ref.
Attached	-0.712	***	0.491	-0.812 ***
Satisfaction shops				
Not satisfied	ref.			ref.
Satisfied	-0.104	***	0.901	-0.079
Satisfaction public transport				
Not satisfied	ref.			ref.
Satisfied	-0.040		0.961	-0.073 *
Urban hierarchy				
Extremely urbanised	0.109	*	1.115	0.243 ***
Strongly urbanised	0.018		1.019	0.135 *
Moderately urbanised	0.087		1.091	0.207 ***
Hardly urbanised	0.036		1.036	0.106
Not urbanised	ref.			ref.
Region				
North	0.038		1.039	0.092
East	0.105	**	1.110	0.188 ***
West	0.158	***	1.171	0.207 ***
South	ref.			ref.
Sample				
WoON2006	-0.221	***	0.802	-0.253 ***
WoON2009	-0.145	***	0.865	-0.154 ***
WoON2012	ref.			ref.
Constant	0.500	***	1.649	0.374 **
Valid <i>n</i>	49,943			21,594
-2 Log likelihood	35,882			16,683
Nagelkerke R Squared	0.178			0.205

\*\*\*Significant at 0.01 level; \*\*significant at 0.05 level; \*significant at 0.1 level.

Pre-elderly		Young-elderly		Old-elderly		
Exp(B)	B	Sig.	Exp(B)	B	Sig.	Exp(B)
2.777	1.046	***	2.848	1.176	***	3.241
1.340	0.352	***	1.422	0.352	***	1.422
	ref.			ref.		
	ref.			ref.		
0.444	-0.647	***	0.524	-0.587	***	0.556
	ref.			ref.		
0.924	-0.101		0.904	-0.160	**	0.852
	ref.			ref.		
0.930	0.004		1.004	-0.064		0.938
1.275	-0.054		0.947	0.014		1.015
1.144	-0.125		0.882	-0.048		0.954
1.229	-0.088		0.916	0.096		1.101
1.112	-0.093		0.911	0.084		1.087
	ref.			ref.		
1.096	-0.132		0.876	0.186		1.205
1.207	-0.039		0.962	0.141		1.151
1.230	0.055		1.056	0.201	**	1.222
	ref.			ref.		
0.777	-0.305	***	0.737	-0.037		0.964
0.857	-0.137	**	0.872	-0.103		0.902
	ref.			ref.		
1.454	0.772	***	2.165	-0.427		0.653
	15,770			12,579		
	11,416			7,490		
	0.166			0.149		



Features of the dwelling and/or neighbourhoods have more or less the same impact among the different age groups. With the exception that pre-elderly are now the only age-group to be more likely to have a propensity to move when originating from an urbanised area. In addition, old-elderly are slightly, yet statistically significant, more likely to report a wish to move when they have a garden and/ or are not homeowners.

### 3.5. Discussion

In line with literature, the results presented in Table 3.1 confirm that mobility decreases with age (e.g. Bonnet et al., 2010; De Jong & Brouwer, 2012; Geist & McManus, 2008). It is interesting to observe that the factor 'retired' has no effect on the likelihood that older adults considering moving or an actual mobility. It is often thought that the traditional retirement age of 65 years is the peak age of elderly migration. As people approach their retirement age, they are potentially freer to choose their place of residence as they are 'freed' by labour market considerations and family constraints as children will have reached adulthood and personal independence from their parents (Bures, 2009). Yet, much of the late-life mobility actually seems to occur at an earlier age (e.g. Andersson & Abramsson, 2012; Bloem et al., 2008), making the event of retirement less meaningful in explaining the probability of moving and actual mobility.

The results further reveal that older adults who do not own a car, are more likely to have moved. Based on the literature you would expect that those who do not drive or own a car, are more likely to experience constrained mobility (e.g. Yen et al., 2012). In general, travel activity and daily activities outside the home tend to decrease with increasing age (e.g. Páez et al., 2007). However, people aged 60 years and older, make more trips today by car than comparable age-groups did 20-25 years ago (Hjorthol et al., 2010). Being able to drive has been described as enabling an active life, as it allows older adults to maintain their activities and participate in society (Berg et al., 2015). As such, not being able to drive, confines the activities of older adults and emphasizes the importance of the features and resources within the neighbourhoods (Berg et al., 2015). Therefore, those older people who do not own a car, could be motivated to move to a neighbourhood with the amenities desired. The results presented in Table 3.1 confirm that migrants are more likely to be satisfied with the shops available to them.

Corresponding to the Press-Competence Model, the results demonstrate that older adults relocate to a dwelling that better fits their (future) physical abilities, such as a dwelling designated to older adults only, an apartment, and/or a dwelling without a garden. This also holds true for the living environment, as older adults are more likely to have moved

to areas with little deprivation, little nuisance, and a high level of cohesion. Additionally, older adults are becoming more likely to shift from urbanised areas to less urbanised/more rural environments. We suspect that this movement down the urban hierarchy may reflect the presence of urban disamenities, that offset the value of population-related amenities, as found previously by Walters (2002).

Previous research indicates that one of the strongest influences on place attachment is the length of residence in an area (Bonaiuto et al., 1999), explaining why the migrants experience a lower level of neighbourhood attachment. It could also demonstrate that elderly migrants are not moving towards areas they have lived before and have positive sentiments (e.g. attachment) towards (as demonstrated by Lundholm, 2010; Stockdale et al., 2013).

Health limitations, both from an objective and subjective point of view, hardly play a role in the probability of an actual move migration. With the exception that old-elderly with a moderate or negative evaluation of their health, are less likely to have moved. Yet, older adults who experience health limitations, are more likely to report a propensity to move than older adults without any health limitations. It is not obvious whether good health prevents older adults from moving, or whether poor health makes older people move (Hansen & Gottschalk, 2006). Still, it seems that (the start of) health problems could strengthen the motivation to move.

Old-elderly pairs are more likely to have a desire to move. This is contrary to previous research, in which widowed and divorced older adults are found to have a higher probability of moving, especially at older ages (Bonnet et al., 2010; Herbers et al., 2014; Richards & Rankaduwa, 2008).

### 3.6. Conclusion

Using data from the Housing Research Netherlands (HRN) survey we examined the factors likely to influence considerations about moving and actual mobility. Our study affirms the familiar pattern of declining geographical mobility by age, first described by the life-cycle theory. The mobility decline for older adults is true for both the propensity to move and actual residential mobility.

Among our key findings, we show that later-life migrants seek the most suitable home-environments, while older adults with a propensity to move are more often motivated by unsatisfactory conditions in the current neighbourhood. This illustrated by the fact that those currently living in a purpose-built accommodation (senior housing), an apartment,

and/or accessible homes are more likely to have moved. The results further illustrate that older adults, particularly pre-elderly, are more likely to have moved to areas with little deprivation, little nuisance and a high level of cohesion. On the other hand, respondents who are currently living in a neighbourhood with a low levels of social cohesiveness, were almost 3 times more likely to have a desire to move in the upcoming two years than those who do not, controlling for all other factors in the model. The observations in our study also confirm that, with age older adults are more likely to shift from urbanised areas to less urbanised/ more rural environments.

Our study should be considered in the light of the following limitations, which could be addressed in further research. An important limitation is the cross-sectional nature of our dataset. Since we pooled cross-sectional waves of the HRN survey we were unable to disentangle possible age, period, or cohort effects. Both cohort and period effects are interwoven with the effects of age, which has long been recognized as having a systematic relationship with migration (Rogers & Castro, 1981). Age influences migration because of certain events in the life course that trigger mobility. A period effect is said to characterise migration if, as it changes over time, the change uniformly affects all age groups and cohorts. An economic recession which impacted housing decisions among all age groups, is an example of an effect which is obviously associated with a time period rather than with a particular cohort or with the process of ageing. A cohort effect is present if mobility differs systematically between cohorts over time after all ageing effects have been considered (Blanchard et al., 1977), such as the mobility behaviour of the 'baby boomer generation'. This is interesting from a policy point of view since there is evidence to suggest that this particular demographic cohort is significantly different economically, socially, and culturally from the preceding generations and will have different needs and expectations in their post-retirement years (Hugo, 2013; Pinnegar et al., 2012). It is likewise expected that they will exhibit 'unique migration patterns' that differ from previous generations (Bures, 1997).

Comparing existing and future cross-sectional waves of the HRN survey could potentially shed more light on housing decisions among different generations of older adults, though we strongly recommend performing an longitudinal study. Longitudinal data, in which older adults' housing decisions could be followed over time, could also demonstrate whether older adults' considerations about moving are good predictors of actual mobility (as previously demonstrated by De Groot et al., 2011; Hansen & Gottschalk, 2006)

Despite study limitations, findings from this study add to the literature on residential relocation in later life. The results of this study are useful in identifying factors associated with both considerations about moving and actual mobility. Moreover, these factors can

be divided into push and pull factors related to the dwelling and neighbourhood. Hence, helping to identify predictors of relocation. However, since it is well-known that older adults do not change residence to a large extent (Geist & McManus, 2008; Tatsiramos, 2006; Walters & Owen, 2000), further research into the factors differentiating later-life movers and non-movers would be beneficial in estimating the future housing needs within the context of an ageing population.

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