Personal attributes and place characteristics in elderly migration in the Netherlands

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Abstract

Background: In an ageing population elderly migration may leave its mark on migration behaviour in general. Therefore interesting to know is what the migration behaviour of elderly is, what their motives are and under what circumstances they make a move. **Objective:** This research aims to describe and explain to what extent migration behaviour in general and migration behaviour distinguished according to motive of persons aged 55 years and older can be explained by personal attributes and place characteristics. **Data and methods:** This research is a quantitative study and secondary data are used. The data that are used originates from WoON 2009 and was provided by DANS. Two methods were used in this research to answer the research questions. A description of the results were made by making use of cross-tabulations of the dependent variables by the independent variables. In the explanatory part of the research we made use of binary logistic regression analysis. **Results:** Not every place characteristic and personal attribute were found important explaining elderly migration in the three types of elderly migration. 1. Municipal population size was positively related to migration in general. Variables that were negatively related to migration are: age, home ownership, income and subjective health status. Persons living alone have the highest chance of migration in the household composition category, households with children have the lowest chance of migration. 2. Age was positively related to migration because of health or the need for care. There appeared to be a negative relationship with migration because of health for the variables: income and subjective health status. Couples are more likely to move for health reasons compared to singles. Households with children are again the least mobile for that reason. 3.The odds of migration to live nearer to family, friends or acquaintances are lower for middle large municipalities and for large municipalities compared to small municipalities. Middle high educated persons have a higher chance of migrating for family reasons compared to lower educated persons. Persons aged 65-69 years are more likely to move to live nearer to family etc. compared to persons aged 55-59 years. Couples and households with children are less likely to move to live nearer to family etc. compared to singles. **Conclusion:** Education was not found to be positively related to elderly migration. The effect of education seems to account for migration for persons in their working years and seems to diminish once a person reaches retirement or older ages. A clear retirement effect could be observed in all three models. The idea that persons move in the direction to family later in life, when health problems become an issue, is not supported by our own findings. Migration for health reasons and family reasons seems to occur earlier in the life-course than was expected. Underlying reasons for migration in direction to family might therefore not have to do with the need for care but can be related to the need for social contact with children and grandchildren.

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1. Introduction

1.1 Background

In the light of an ageing population, elderly residential mobility and migration may leave its mark on migration behaviour in general. Age compositions of countries tend to change over time by certain patterns. The demographic transition theory tries to specify these patterns. The transition that was observed is a transition from a situation where societies have high birth and death rates to a situation where a population has low birth and death rates (Weeks, 2005). The Netherlands are in the last stage of this demographic transition that can be characterized by low birth and death rates. This has its effect on the dependency ratio, that is the number of persons between 0-14 years plus the number of persons aged 65 years and older divided by the population that is potentially economically productive, persons that are between 15 and 65 years. The dependency ratio will increase in the upcoming decades. From figures of a report from Statistics Netherlands that was written by Poelman and Van Duin (2010) we can see that the percentage of the Dutch population aged 65 years and over is 24.5 compared to the persons who are potentially economically active (Statistics Netherlands uses 20-65 years) in 2009. In 2060 this percentage is expected to be 44.4. The figure of Statistics Netherlands shows a peak in 2040 when the dependency ratio will be 48.8 percent. In 2009 there were 2.4 million people aged 65 years and older and in 2060 this number is expected to be 4.2 million. Again a peak is present in 2040 with 4.5 million people aged 65 years and older. The babyboom generation will enter retirement age in the upcoming years. This in combination with increasing longevity and elderly becoming more affluent, elderly migration will get more and more important. With stable migration rates we can expect an increase in the number of moves among the elderly. The absolute and relative numbers of persons aged 65 years and older are increasing and therefore elderly residential mobility may leave its mark on migration behaviour in general.

Earlier research on the subject of motives of migration and elderly migration was done by Wiseman (1980) and Litwak and Longino (1987), who elaborated on the proposed model of elderly migration of Wiseman. In the Netherlands research on elderly migration was amongst others carried out by Hooimeijer and Dieleman (1993). In the article 'Is elderly migration absent in the Netherlands?' they state that for the Netherlands, in contrast to other countries in Western and Northern Europe, no distinctive pattern can be observed in elderly migration. Neither in terms of age specificity, nor in terms of origin and destination for the ones that make a move. They want to answer the question whether explanations of elderly migrations that are put forward in the literature are invalid for at least the Netherlands. Or that these mechanisms exists in the Netherlands, but that they are obscured by the specific national context. The research focuses mainly on geographical distribution of elderly migration. A research by Smeulders et al. (2009) gives an insight in return migration among the elderly to the region of birth. Although these mentioned studies give some insight on migration motives and types of elderly migration, they often place geographic aspects on the centre of attention in research (for example inter- or intra-municipal elderly migration). The own research focuses on motives of migration at older age and the differences between the types of elderly migrants and is in the line off earlier research by Wiseman (1980) and Litwak and Longino (1987).

The life course perspective is often used as a theoretical framework for explaining (elderly) migration. Retirement can be seen as a distinct stage in life that is accompanied with a number of sometimes radical changes in income, social contact and social status. The life cycle model indicates that a change into another stage of life increases the probability of migration and this is reflected by migration rates that show a small peak round retirement age. Retirement is in itself not a sufficient condition for migration, there are also other trigger

mechanisms (Fokkema et al., 1993). Although it is known that older people do not tend to move as often as younger people, retirement can lead to new migration possibilities, since work is not a locational constraint anymore. As with every other stage in life retirement has its own specific migration motives. In the light of a growing absolute and relative number of elderly it is interesting to know what the migration behaviour of elderly is, what their motive for migration was and under what circumstances they made a move.

1.2 Research objective
The objective of this research is to describe and explain to what extent migration behaviour in general and migration behaviour distinguished according to motive of persons aged 55 years and older can be explained by personal attributes and place characteristics.

1.3 Research questions

Main research question:
To what extent can migration behaviour in general and migration behaviour distinguished according to motives because of health or the need for care and to live nearer to family, friends or acquaintances of persons aged 55 years and older be explained by personal attributes and place characteristics?

Sub questions:
- What is the influence of personal attributes and place characteristics on elderly migration behaviour in general?
- What is the influence of personal attributes and place characteristics on elderly migration behaviour because of health or the need for care?
- What is the influence of personal attributes and place characteristics on elderly migration behaviour to live nearer to family, friends or acquaintances?
- What are the differences in effects of personal attributes and place characteristics between the three types of migration?

2. Theoretical Framework

In this chapter several theories are adopted. In the first part of this chapter general theories of human behaviour that can be seen as a framework for migration research are expounded. In the second part of this chapter an overview of theories and previous literature on the subject of elderly migration is given. In the end this results in hypothesis for the own research and they are integrated in this second part of the chapter. This chapter ends with the conceptual model that combines the several theories from the theoretical framework.

2.1 General theories

Certain assumptions can be made for migration behaviour and human behaviour in general, which are expounded by Mulder (1993). This research uses a micro approach in order to analyse migration behaviour among the elderly. The human capital model of migration and the life course model are used as a framework for analysing elderly migration behaviour.

2.1.1 General notions of human behaviour

Mulder (1993) distinguishes four assumptions about human behaviour in relation to a life course and cohort perspective. These assumptions show how consistency in individual life courses goes together with the macro level societal context. Persons in a birth cohort share the same societal context, with the same opportunities and social norms concerning behaviour and careers. This contribution of cohort and generations research in social science is very important (Mulder, 1993).

The first assumption is related to a person's goal in life. Goals can be universal to humankind. Lindenberg (1990) for example identified two general goals, namely: physical well-being and social approval. People may have own specific goals in order to achieve the higher general goal. These specific goals are called preferences. Preferences may vary between individuals and during an individual life course. The social context in which people live may have its influence on a person's behaviour. Some preferences are more socially acceptable than others.

The second assumption pertains to the relationship between people's behaviour and their preferences. The assumption is that people behave rationally, with rationally meaning 'the deliberate employment of means in order to reach ends' (De Bruijn, 1992, in Mulder, 1993 p. 18). Rationality is not used in the sense of utility maximization but rather in the sense of satisficing behaviour. Some part of people's behaviour results from fixed procedures. Procedural shortcuts avoid individuals to take troublesome decisions. The society codifies these procedures by establishing a decision environment that consists of institutional forms and cultural patterns (McNicoll, 1980). As a consequence people do not behave very differently from other people in their social setting.

The third assumption is that of biographical continuity. According to Elchardus (1984) people's past actions have an influence in people's future actions, in the way that they determine the means and capabilities they have accumulated. It is expected that people to some extent know what they want in the future and they adapt their current behaviour in order to acquire long-term preferences. Although people may redefine their preferences, they will generally do this gradually and infrequently in order to have some sort of biographical continuity as part of their well-being (Mulder, 1993). Feijten et al. (2008) try for example to explain that experience with a certain residential environment increases the probability of moving (or returning) to a place with the same type of residential environment. They say that having lived in a certain place may change the awareness of and attitudes towards these types of residential environment. It may contribute to a preference for returning to the place and it might also contribute to a preference for the same type of residential environment later in life. In that case, the return does not have to be to the place of origin. Previous spatial life-paths

may therefore influence return migration, as well as the residential environment choice in onward migration.

The fourth and last assumption relates to societal change. Changes in society with respect to resources and acceptability of certain preferences is often taken for granted, as is the realization of change in the past. Society's institutional forms are constantly re-shaped. People both influence and are influenced by society through their behaviour and preferences. Though, people do not follow codified behavioural procedures mechanically, rather they shape their own new procedures. If these new procedure are taken up by others it may develop into a new code (Lesthaeghe, 1983).

2.1.2 The human capital model of migration

Sjaastad (1962) introduced the human capital model of migration as a framework for analysing individual migration behaviour. Migration was seen as a personal investment involving costs at the moment of migration that should lead to increased benefits in the future. A person will only move if the costs of the move is smaller than the anticipated future benefits. The person is assumed to maximise his or her utility, therefore he or she will choose the destination where this future benefits are highest in relation to the costs (Fokkema et al., 1993).

Although the human capital model of migration is often used to explain labour market driven migration, the theory can also be applied to other sorts of migration, since costs and benefits can also be expressed in terms of social, environmental and economic factors other than income (Boyle et al., 1998). Fokkema et al. (1993) explain that the recognition that benefits of migration occur over time is an important feature of the cost benefit model, on which the model of Sjaastad is based. This can explain the relatively low propensity of elderly to migrate. Elderly who move will experience the benefits of an alternative residence over a shorter time interval, due to a shorter life expectancy. Furthermore, moving costs of the elderly are higher in general, due to higher psychological costs. For persons who lived a long time at the same residence it is more difficult to move because of location specific capital (DaVanzo and Morrison, 1981; DaVanzo, 1983). Location specific capital is the knowledge, social, cultural and human capital that is specifically bound to an area and social networks, or in other words these are the factors that 'tie' a person to a place. Property ownership, close friendships and community ties are costly or almost impossible to replace or to transfer to a different destination. In this sense they can be seen as potential transaction cost when people have to replace them and cost of losing them when they move. The more location specific capital a person possesses in his or her current destination, the less likely it is that he or she will move. Although it seems that location specific capital can only be seen as costs, this is not the case. The gathering of information about a possible destination can be seen as an investment. Therefore potential migrants are only willing to make these information costs if they believe that moving will be beneficial.

According to Feijten et al. (2008) a move can be in some way a corrective move. This means that people move back (or onward) because the living environment is not satisfactory or because they regret having moved away from the previous living environment. Elderly persons are more likely to have lived in several residential areas than younger persons, they therefore have developed their activity, social and awareness space as they are referred to by Hooimeijer and Van der Knaap (1994). The activity, social and awareness space can be seen as the physical, social and mental parts in spatial preferences, recourses and restrictions. The activity space is the radius within which people perform their daily activities (Hägerstrand, 1970). The radius within which people interact with other people in their social network is called the social space. The awareness space refers to the place people can identify themselves with (Feijten et al., 2008). If people have moved a lot during their lifetime, residential

experience increases and people possibly possess location specific capital for various locations. This can make certain types of migration less 'costly', since these persons already have some information about possible destination areas. Besides this, a migration history with many moves makes a person more susceptible for another move. Frequent movers often possess the necessary social skills and cultural capital to integrate in a new area (Longino et al., 2002). It has to be said though, that the longer a persons stays at a destination the less likely it is that he or she will move again. This process is called cumulative inertia. Fokkema et al. (1993) explain this as follows; when people have the inertia of many years of residential stability they will be less inclined towards residential relocation in a later life phase. The location specific capital increases with the years they live in a certain area and the likelihood of a person to move will be small. At the same time it means that when a person lives in a certain residential environment for only a short period of time, the location specific capital at this location will be small (and for previous residential environment it can still be large), the likelihood of migrating will be higher.

As should be evident from the last section, information plays an important role in the human capital model of migration. The assumption in the model is that persons weigh carefully, completely and correctly all the costs and benefits (based on perfect information) of moving before the actual decision of moving is being made. This is not entirely the case, but people tend to act as if they make these cost-benefit calculations. A person will move only if he or she believes the expected utility of moving to another destination that the person is aware of is greater than the utility of staying. The person will choose the destination offering the highest expected utility. The actual decision to move is not entirely rational, but intendedly rational (Fokkema et al., 1993). This means that although people are goal oriented and adaptive, they occasionally fail in this because of human cognitive and emotional reasons (Jones, 1999). This is strengthened by the fact that persons acquire little information before choosing a destination and they consider only a few alternative residences before moving. Besides this, family and friends are often the information sources of a migrant. The fact that people consider only a few alternative residences before moving is an issue also raised by Cuba (1991). According to him, people often have one single place in mind to move to. Besides this, people who consider different possible destinations only have a few alternatives in mind. Consequently we cannot say there is a real comparison of place utilities, rather there are predetermined utilities. People search for a site fitting those parameters that are important to them.

From the above it seems that if a cost-benefit analysis is done for a move to a certain destination and it has a positive outcome, a person will make a rational decision and will move to this new environment. However, this is often not the case. Several studies (e.g. Speare, 1971) show that many non-migrants who might benefit from a move did not consider moving at all and people often consider one or only a few possible destinations. This strengthens the idea of an imperfect or bounded rational choice of migration. Elderly may perceive high costs of moving and they therefore do not migrate, even though it might have been beneficial for them.

2.1.3 The life course model

According to Rossi (1955) migration behaviour or the probability of migration changes as a consequence of a shift into another stage in life. Each stage in life shows different chances of migration and imply different demands for residence. The family life cycle model was transformed into the concept of the life course. The life course model is individual based, an individual progresses through various stages or statuses in life. Besides this the idea of stages in life is rendered into transitions in life. Life course trajectories are defined by Harris (1987) as an examination of what transitions are typically experienced by members of different social

categories within a certain cohort and it puts the question if these transitions are of such a nature and so timed that they constitute life transitions.

Willekens (1987) explains that migration is a means of attaining something, not a goal in itself. In an individual's life course, the migration career is subordinate to parallel careers (job, family, health, housing etc.). It is this complex system of an individual's careers that is representative of the life course (Mulder, 1993). These careers will interact with each other. An event in one career will influence the probability of occurrence of a certain event in another career. A parallel career producing the goal migration seeks to achieve is known as the triggering career. The trigger or motive for moving is related to a preference for a certain new location or type of residence. De Jong and Fawcett (1981) identified a list of potential goals that can possibly relate to migration: 1. wealth (for instance, having a high income) 2. status (for instance, having power or influence) 3. comfort (for instance, having comfortable housing) 4. stimulation (for instance, having excitement) 5. autonomy (for instance, having privacy or being free). 6. affiliation (for instance, living near friends and family) 7. morality (for instance, exposing children to good influences). Through a person's life course the need for housing and the importance attached to specific site or situation changes. Site refers herein to the characteristics of a place itself. By situation the relative location is important, so the own place in relation to other places. After leaving the parental home for example, site characteristics like the layout of a dwelling or the quality of the living environment might not be as important as situational characteristics, such as the residential location relative to school, friends and jobs.

Triggers may lead to moves in specific directions and destinations and determine specific residential preferences. However, people will not relocate unless there is some necessity or trigger causing the benefits of moving to outweigh the costs. If the move takes place over a longer distance, the relative advantage of the new residential location should exceed the costs of leaving the previous daily activity space. This conforms with the human capital model of migration from Sjaastad. The concept of the daily activity space is explained by Hägerstrand (1970) in that the places where people perform their usual activities are within reasonable travelling time. This is important to know because we can discern different types of mobility. Spatial mobility is a means of combining activities in space and time. Relocations and travel are complementary. A relocation will result in change in the distance a person has to travel from their place of residence to the places of activity (for instance, workplace). Residential mobility is defined as a residential relocation triggering complementary action regarding to travel only and not to other forms of daily activities (Mulder and Hooimeijer, 1999). Migration is a multiple relocation decision. It is not only about the place of residence, but it is more disruptive to the activities and social networks of a person involved. To clarify this; a move from the city centre to the suburb may not affect a persons daily activity space. The only thing that will change is the route of travel to the persons other activities, like work. This is according to the above definitions not migration, but this is a form of residential mobility. Whether we can speak of migration in a residential relocation is debatable. For instance if a person had a child, a move to the suburbs results in a change in the daily activity space. It is not only a residential relocation decision, but for the child the school where he or she goes to will change as well. In this sense it is a multiple relocation decision (Mulder and Hooimeijer, 1999).

The existence of a trigger or motive for moving is a necessity, though it is not a sufficient condition for an actual move. Actual migration behaviour depends on the situation that conditions individual behaviour (Mulder 1993; Mulder and Hooimeijer, 1999). Contexts enable or limit this individual behaviour. Contexts exist on macro and micro level. Macro level context cannot be influenced by an individual. The macro enabling context is about opportunities; the options open to individuals. These opportunities are created outside the

individual. A potential migrant will for example look at the housing market and decide (based on individual preferences, recourses and constraints) whether to accept or reject the opportunity (Mulder, 1993). The individual (micro) counterpart of opportunities are recourses. They can among others comprise financial means and the freedom to move. Macro limiting context is about constraints; pressures or obstacles producing attitude-discrepant actions (Desbarats, 1983). Examples can be shortages on the housing market or unfavourable economic prospects. The micro counterpart of constraints are restrictions. Restrictions for example include a lack of individual recourses. What should become evident is that an individual's life course is situated in social, geographical, historical and political context that can enable or limit individual behaviour.

2.2 Specific theories and literature related to elderly migration
Many studies use human development and the life course model for explaining migratory behaviour. Wiseman (1980) developed a model wherein migration of older people was described as a series of related decisions set off by triggering mechanisms. Another well-known study on elderly migration is from Litwak and Longino (1987), who elaborated on the Wiseman model. They proposed a three-step model of elderly mobility. In the first phase when retired people are healthy, have enough retirement income and still have intact marriages long distance amenity driven migration is a possibility. In the second phase when elderly experience moderate forms of disability and widowhood, the elderly can move closer to their children in order to get the services they need. Elderly can move in the direction of persons who are willing to assist them. Though, they will also anticipate future needs. Elderly will move to smaller units, elderly housing complexes and more convenient locations (Fokkema et al., 1993). In the third phase, the more or less exclusive care of the child will be replaced by institutional care. This will be the case when the older person experiences more severe forms of disability or has no children that can take care of them. This can be seen as a forced relocation. It is not said that every person will make these three moves after their retirement. Some will make none, others maybe one. Besides this, the three types of elderly migration do not represent a fixed order in migration. A move in search for assistance may not necessarily be the second in sequence of moves. However, an elderly person who makes this type of move will have a higher median age than a person making a post-retirement amenity move. In this cross sectional sense it is the second move in the typology (Fokkema, 1993). Bures (1997) identified a group of pre-elderly migrants. Their migration behaviour was driven by considerations of imminent retirement rather than by labor force considerations. These younger elderly migrated in anticipation of retirement.

According to Litwak and Longino (1987) there are events in the lives of elderly that trigger residential mobility according to three major types of migration. Namely, amenity migration, assistance migration/kinship migration and migration as a response to severe disability. There might be social and geographical changes that accompany the residential change.

Personal and place characteristics may be used to predict expectation of migration (Oldakowski and Roseman, 1986). It should be evident that there are certain events or situations in older people's life courses that can trigger residential mobility. In the following sections, these events or situations are expounded.

2.2.1 Place characteristics
Migrants differ from each other in their personal attributes and preferences and they will for example value certain amenities differently, this will probably lead to different migration behaviour. People will move to those places where their preferences are best satisfied

(Walters, 2002). Walters (2000a) introduces the concept of intention and enabling attributes to further develop this idea. Intention is in this context the intention to take advantage of a certain amenity. Although some place characteristics such as climate and crime influence all residents of a place, other place characteristics influence only the residents who intend to take advantage of them. Here we can think for instance of the existence of a good public transportation network. Enabling attributes are the personal characteristics that make it possible for individuals to take advantage of certain amenities. The presence of high-quality restaurants is only valuable to those individuals who are able and willing to pay for it.

We can see that the migration decision process depends on both personal attributes and place characteristics. Newbold (1996) used several personal and place characteristics in explaining elderly interstate migration in the US. He included ecological variables such as sunshine hours, cold temperature and the average daily maximum temperature into his model. Besides this the variable 'racial similarity' was included. The reason behind this is that ethnic or racial groups show dissimilar propensities to migrate because individuals often seek to live in racially and ethnically homogeneous environments. Also the size of the elderly population in a state is accounted for, since states with larger elderly population shares are expected to attract more elderly migrants, because of the greater availability of services for the elderly. Distance between a origin and destination is also seen as a factor influencing migration. Moves to places far away are expected to occur less because of lack of information on opportunities and the monetary and psychic costs of moving. It has a negative effect on the potential destination's utility. In the case of return migration though, the existence of location-specific capital cannot be neglected. It is hypothesized by Newbold (1996) that distance has a negative effect on return migration, but this effect is expected to be smaller than in onward migration. Medical expenditure is used by Newbold (1996) as a proxy for medical and health services available to elderly within each state. Very old, disabled migrants value destinations with relatively many nursing home beds (Fokkema, 1996). Other place characteristics used in the study of Newbold are population size (proportional share of the national population size) and metropolitan share (percentage of the population in a state that lives in an urban area). These variables are used to reflect the availability of high level urban amenities. It is hypothesized that they have a positive effect on utility and that this will attract elderly migrants. Hooimeijer and Dieleman (1993) reason differently, they hypothesized larger cities to be a less favorable living environment for the elderly. Larger cities are expected to provide an impetus to move. People may take certain aspects (complexity, unhealthy, crime etc.) of city life for granted during their working life, but they may reject them once there is no need anymore to endure the burden of city life.

- It is hypothesized there exists a positive relationship between degree of urbanization and migration in general, migration because of health or the need for care and migration to live nearer to family, friends or acquaintances.

Although it seems logical to include these kind of place characteristics expounded by Newbold (1996) in the own research, it is questionable if for instance the average daily maximum temperature influences the likelihood of migration in the Dutch context. The context in which the Newbold study was done is very different from the context of the own research. Newbold's research is about elderly interstate migration in the United States (US). The US are in many ways different from the Netherlands. In the US there are large shares of Hispanic and black groups making it possible to take race as a explaining variable for migration. In the Netherlands there are many more smaller minority groups, making it much more difficult to explain migration by race. The earlier mentioned ecological variables may

differ from state to state in the US, but the Netherlands is much smaller with no large differences in temperature, cold temperature and hours of sun in the country.

2.2.2 Level of education
The level of education can be important in explaining elderly residential mobility. In general highly educated persons have migrated more often in their lives compared to less high educated persons. Higher levels of education can increase the propensity to make onward and amenity oriented migration. Education reflects the ability to gather and process information regarding potential destinations (Liaw and Ledent, 1988). When we link this to the human capital model we can say that the highly educated have made a greater investment in human capital and that the 'costs' of migration are probably lower for highly educated people. This makes them more susceptible for migration. If people migrated before in their lives they have a higher chance of migrating again compared to persons who never moved before. This suggests that there is a sort of double effect for highly educated persons that makes them more susceptible for migration.

Younger, highly educated elderly might be more inclined to move for work-oriented reasons because they have made greater investments in human capital. In this sense the occupational career might be a trigger for migration for the young elderly. After retirement it is possible that a person decides to return to the region of origin (if they have left this region), the region where the persons spent his working career might then be seen as an escalator region.

- It is hypothesized that education has a positive effect on migration in general, migration because of health or the need for care and migration to live nearer to family, friends or acquaintances.

2.2.3 Age
From the literature we can deduce that age is an important personal characteristic in explaining residential mobility. Younger elderly might make a move because of earlier mentioned amenity reasons or a move in anticipation of future needs. Older elderly might experience health decline and therefore they might want to move in search for assistance. At the same time we have to keep in mind that if life course events are the primary catalyst for migration, then the stages in the life course rather than age should be used as delineation of migrant groups (Walters, 2002). Mulder (1993) gives the example that for instance household state, income and tenure status might explain part of the age effect in migration.

Litwak and Longino (1987) made a three step model of elderly migration (amenity migration, assistance migration and migration in response to severe disability). This classification is based on the median age of a person making one of these three kind of moves. Amenity migrants will in general be younger. Assistance migrants are in general more older. Elderly may experience health decline later in life and therefore assistance migration might be more important reason for migration to older elderly. The typology of Litwak and Longino shows resemblance with age migration schedules. In general age migration rates show a downward slope and a peak in retirement years (possibly amenity migrants). At older age the migration rates show an upward slope. It is possible when elderly experience health decline health or the need for care becomes a prominent reason for migration at older age (assistance migration or migration in response to severe disability).

- Age is hypothesized to have a negative effect on migration in general and on migration to live nearer to family, friends or acquaintances.

- Age is hypothesized to have a positive effect on migration because of health or the need for care.

2.2.4 Gender
In the literature we find a difference in gender for widowhood as a catalyst for migration. Young elderly men are more likely to move when widowed than their older counterparts. For women the opposite is the case (Warnes, 1996). This is explained by Warnes through a number of complex factors, such as: economics, health, the availability of informal care, the ability to deal with the emotional loss and the likelihood of remarrying. Although women tend to move more frequently than men when widowed at older ages this tells us nothing about migration of men or women that live in a different household compositions.

According to Arber and Cooper (1999) older disabled men can often rely on a spouse, whereas the majority of disabled women live alone and need to rely on others or might have to move to receive. Moreover, higher levels of morbidity and functional impairment for older aged women might explain the difference in migration between men and women.

- We expect that women are more likely to migrate in general, to migrate because of health or the need for care and to migrate to live nearer to family, friends or acquaintances.

2.2.5 Home ownership
Together with income, the capital a person possesses tells us something about the financial situation and possibilities of that person. However, when people invested their capital in a house it makes them less likely to move. Clark and Davies (1990) show that home owners are often reluctant to move, this is because most of their capital is in the house. They are in this sense attached to the place. Even if those elderly want to sell their property, the economic context may have an influence on the process. According to Warnes (1996) mobility decreases in times of recession, because people are not able to sell their property for a good price.

- We expect that home ownership has a negative effect on migration, on migration because of health or the need for care and on migration to live nearer to family, friends or acquaintances.

2.2.6 Income
The combination of increasing life expectancies and standards of living and flexible retirement ages can lead to an increasing proportion of mobility among persons who anticipate leaving or have left the labor force (Bures, 1997). Litwak and Longino's (1987) first type of movement is amenity driven migration. Retirees who are married, still healthy and have enough income may want to relocate in search of amenities. The economic position of the elderly is an important factor in migration. Social security systems provide people with a fixed income after retirement and make it possible to move for the elderly. One can imagine that only a certain proportion of retirees are finding themselves back in the position of having reached retirement age in both good economic and physical health and are able to move to amenity regions. For an other group of retirees the loss of income may be a trigger for migration. For some elderly persons moves to lower rent districts are necessary, because their pension and social security are not sufficient for them to stay at the current residence. This may be one explanation for moves out of urban areas.

Income is thus supposedly an important factor influencing migration. Young elderly often have the resources (physical and financial) to engage in retirement migration in search

for amenities. For older elderly this is often somewhat different. Older elderly may experience some health issues, making a move in search of assistance more likely. However, persons in the older age groups who have an higher income might have the recourses to buy care rather than to rely on family, which gives them the opportunity to stay at their current residence.

Although elderly persons seem to be more affluent than in the past, the loss of a spouse may lead to income decline. The loss of a spouse in combination with low income can result in residential and economic dependence among retired persons (Walters, 2000b). Those persons are not able maintain an independent household. A move to live with one of the children can be an alternative. It should be clear that living with a child is different from moving in the direction of a child. The underlying reasons may be the same (for instance, the need for assistance), but the main difference is the loss of independence when elderly will go and live with their adult children.

- Income is expected to have a positive effect on migration in general and on migration to live nearer to family, friends or acquaintances.
- Income is expected to have a negative effect on migration because of health or the need for care.

2.2.7 Household composition

During a person's life it is possible that migration takes place because of a changing composition of the household. Childbirth for example may lead to relocation because of the need for a larger living space. A move in anticipation of childbirth is also possible. For elderly the last child leaving the parental home may be a trigger for migration. This stage in someone's life course is known as the empty nest stage: the stage in which the children of a married couple have successfully started an independent household (Boyle et al., 1998). The age of the parents entering this stage is dependent on certain factors. These are the age of the parent at childbirth which determines more or less the age a child leaving the parental home, the number of children a couple has and the age at which the last child departs from the parental home. These factors are amongst others dependent on the social, political and historical context people live in.

The presence of children in the household might for young elderly be seen as a locational constraint, for the older elderly these children might provide the necessary assistance. For both age groups the presence of children might have a negative effect on migration. Entering the empty nest stage can be a catalyst for making plans and choices for a long and healthy future. Parents are in the empty nest phase released from many caring tasks and can enjoy their additional free time. The first signs of pre-migration or a pre-retirement transition occur (Bures, 1997). The pre-elderly empty nest migration is often amenity migration. The older couple still has a high income and the cost and constraints of having children are not there anymore. People may start to travel between a vacation site and home. It is not said that this vacation site is different from the ones they went to with their children. The difference is that the parents are free to go there outside regular school holidays. The more time the person spends at the vacation site, the more social bonds are created and strengthened at this place and it may eventually lead to future migration behaviour. For older elderly the presence of children may have a negative effect on migration since those children might be a source for necessary care, affiliation and social contact. Also when family and friends are living nearby and when children still live in the household they can provide necessary care and social contact. Elderly in this situation are probably less likely to migrate compared to elderly who cannot rely on help or family contact.

- The presence of children in the household is expected to have a negative effect on migration in general, on migration because of health or the need for care and on migration to live nearer to family, friends or acquaintances.

Marital status is seen as an important factor explaining elderly migration as is stated amongst others by Rogers (1988). In this research the household categories single and couple are seen as related to marital status and widowhood. A married person will be likely to live in a couple, a widower will be more likely to live in a single household. According to Rogers (1988) marital status has an effect on migration rates, which are lower for married persons compared to non-married individuals (including never married, divorced and widowed). Martial status tells us something about a person's living arrangements and access to support. Most likely these married persons live with their spouse, on whom they can rely if they are in need for assistance. So being married means the availability of support (emotional and otherwise) and it provides a sense of security and well-being. Non-married persons are more likely to be living alone and are often more socially isolated. When people live alone and are in need for assistance they have to move in the direction of friends, relatives or a institutional accommodation in order to receive this help.

      The loss of a spouse can be linked to higher migration rates, even though the loss of a husband/wife will probably not immediately lead to a move. The study of Chevan (1995) stresses the importance of widowhood as a trigger for migration. He found that the odds of moving are twice as high in the year after widowhood compared to the year before. Migration is especially likely in the year after the loss of a spouse and the effect of widowhood appears to diminish after a couple of years. The time span between the loss of a partner and migration is not very clear. There can still be some time between the death of a partner and migration and this can be explained by the fact that a widow or widower can still be attached to the place where they used to live together for a long time in their lives. The onset of widowhood or divorce (change in partner status) may lead to higher chances of migration, however its effect on elderly migration may have become attenuated over time because widowhood may have happened much earlier in life (Rogers, 1988).

- We expect that elderly living alone would move more than elderly in other forms of household compositions in general, in migration because of health or the need for care and in migration to live nearer to family, friends or acquaintances.

2.2.8 Health
The loss of a partner is an emotionally tiring period for an elderly person. Those elderly have to adjust to living alone and to the fact that they have to do things by themselves now. This may require more resilience than an elderly person has. For this reason the loss of a spouse may lead to a decline in health and well-being, which might be a reason to move (more indirect effect). When support was already given by the spouse, the loss of the partner or even greater needs of support than can be given by the partner can result in support migration. A decline in health may be a reason to move closer to relatives (Litwak and Longino, 1987; Warnes, 1996). This relation between health and widowhood and migration was also found in the study by Bradsher et al. (1992), becoming widowed greatly increased the probability of migration when health declines. Walters (2000b) also state that the combination of severe disability and the loss of a spouse had clear effect on migration. When Bradsher et al. (1992) controlled for recent widowhood they found that the greater instrumental disability the greater the probability of migration. Health has an autonomous effect on migration, however the combination of disability and widowhood seems to strengthen the effect.

Litwak and Longino (1987) state there is a difference in health when amenity migration and assistance migration are compared. Amenity migrants are in general younger and relatively healthy, when health declines and the nearness of kin is required migration in search for assistance can be a solution to the onset of disability. Health, or the decline of health is related to age.

- A higher health status is expected to have a positive effect on migration in general,
- A higher health status is expected to have a negative effect on migration because of health and on migration to live nearer to family, friends or acquaintances.

Although a decline in health (whether or not caused by the loss of a spouse) may lead to a move in the direction of family, this is not always the case. Litwak and Longino (1987) describe the phenomena that elderly persons flee their children, not willing to burden the children with their needs for care.

2.2.9 Literature not covered by the data
This section covers factors that are seen as important in the literature in explaining elderly migration, but can not be investigated in this research because of data limitations. This section is included to contribute to the understanding of the circumstances in which elderly make their migration decision.

Children outside the household
From the article of Pettersson and Malmberg (2009) we can see some interesting findings of mobility of elderly parents in relation to their children. Younger parents move more frequently close to their adult children. This can be seen as a form of migration to live nearer to family, friends or acquaintances that is used as a migration motive in the own research. An interpretation of migration of the elderly towards their children can be that older parents are in need of care and institutions rather than their adult children have to take this responsibility. Another interpretation can be that a young-old parent moves close to their adult child to give assistance to the child, for example to take care of their grandchildren. Van Diepen and Mulder (2009) found that having grandchildren leaded to a higher chance of relocation of older adults in the direction of their children with increasing distance. The effect of being a grandparent on relocation away from children was found not significant. Another interesting finding from the study of Pettersson and Malmberg (2009) is that the number of children and the places where they reside have an effect on elderly parent's relocation. If parents have more children they are less likely to move close to a child in comparison with parents only having one child. The explanation that is given is that parents cannot choose between the children when they live at different locations. However, when parents have several children and they live clustered in the same area, the presence of more children increases the likelihood to move.
Clark and Wolf (1992) conclude in their study that older seniors, and not the younger ones, see nearness to children as large incentive for migration. This contradicts with the later findings of Pettersson and Malmberg (2009).

Institutional health care
There is a stage in the life course when lack of health leads to a move into an institution. Often the partner provides assistance if health problems are not to large. When this partner is deceased a move in direction of or a move to live with the children in search for assistance might be a solution. When health problems become severe an elderly person may have to give up living independently, because child support is not sufficient anymore. A move to an

institutional setting is inevitable. This institution is often not far away so the children can maintain regular contact and provide some meaningful services, such as emotional care (Litwak and Longino, 1987). A lack of health and the combination of widowhood and the onset of disability can be important factors for moving into a care giving facility. Also the financial circumstances can be important predictors; those persons who affluent enough can buy services that enable them to live independently (Walters, 2000b).

According to Steverink (2001) loss of comfort and affection are the main predictors of a strong orientation towards living in an old age home. Steverink (2001) differentiates between comfort, which can be bought or supplied through economic resources, and affection, which can only be supplied through ones social network. The orientation towards a move into an institution may grow when the lack of affection reaches a critical point, for instance due to the loss of a spouse that provided emotional support. A move to a care giving facility can be seen as a new source for social networks, which can provide emotional support and affection.

Previous experiences
Elderly with a lifetime of geographic moves are less likely to merge identity and a sense of place (De Jong, 2000; Longino et al., 2002; Boyle et al., 1998). This means that geographically mobile people are not strongly attached to a specific place and they are more inclined to migrate than persons who lived their lives at one place. It is questionable whether the latter group of people is able to live in a different place, because they have to leave their homes and neighbourhood, which are most likely of emotional and social significance to them. They are in a sense 'tied' to a place. This location specific capital is the knowledge that specifically counts for an area and social networks (DaVanzo and Morrison, 1981; DaVanzo, 1983). Property ownership, close friendships and community ties are costly or almost impossible to replace or to transfer to a different destination, the costs of migration are also argued in the human capital theory. The more location specific capital a person possesses in his or her current destination, the less likely it is that he or she will move. The acquisition of location-specific capital can result from other sources than living there by yourself. According to Haas and Serow (1993) migrants used previous vacation experience and their personal contacts in the destination area to base their migration decision on.

If people have moved a lot during their life time, residential experience increases and possibly the person has location specific capital for various locations. This makes certain types of migration less 'costly' to them. Besides this, a large migration history makes person more susceptible for another move. Geographically mobile persons are more likely to have acquired the cultural capital and social skills to facilitate integration into a new environment (Longino et al., 2002). We can see an indirect link with education. Highly educated persons are in general more mobile than less well educated persons and they are therefore more likely to have the skills to integrate into a new environment.

2.3 Conceptual model
In this section the different theories from the theoretical framework are integrated into a conceptual model that is showed in figure 2.1. Aspects from the life course theory form an integral part of the model. Aspects from the human capital model of migration can be traced back to preferences. Preferences are based on weighing of the costs and benefits of migration.

Personal and place characteristics are used to determine the likelihood of moving among the elderly. The characteristics will also be used in order to research if they have a different effect on the likelihood of moving for different motives of migration that are related with the life course stage the elder people are in. The personal and place characteristics are present in the life course trajectories and in the macro and micro context.

Figure 2.1 Conceptual model
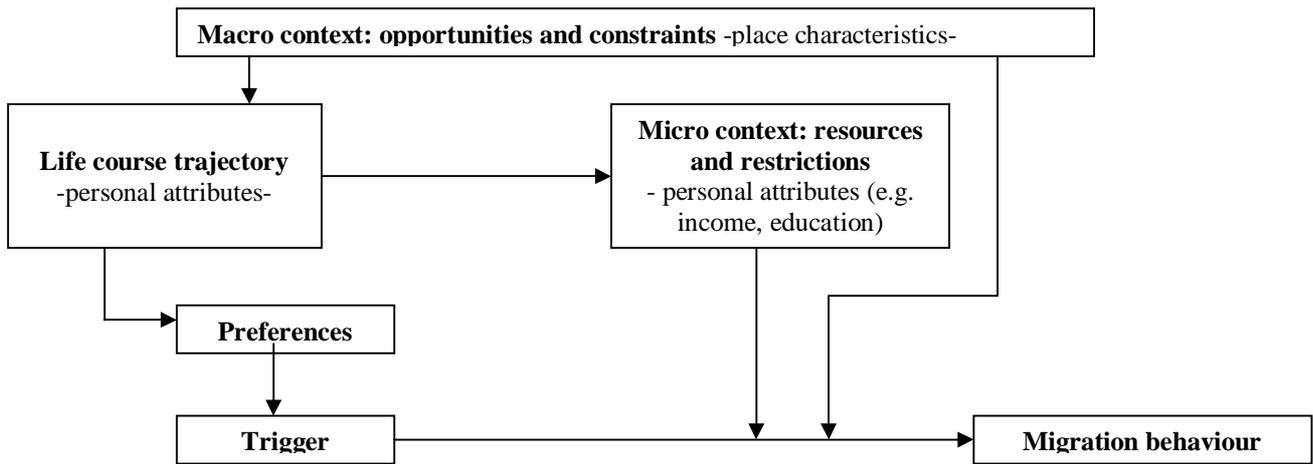
Source: adapted version of Mulder and Hooimeijer (1999)

  The dependent variable *migration behaviour* can be described as the process of permanently changing residence from one geographic location to another (Weeks, 2005). This definition is used in this research.

  Life course trajectories are defined by Harris (1987) as an examination of what transitions are typically experienced by members of different social categories within a certain cohort and it puts the question if these transitions are of such a nature and so timed that they constitute life transitions.

  Every life course stage is related to certain preferences. *Preferences* can herein be described as concrete transformations of goals that people have in life (Mulder, 1993). A mismatch between the actual and preferred residential location may be a trigger for migration. A *trigger* is associated with the preference for a certain new type of residence and a motive of migration is a subset of a trigger.

  Only a trigger is not enough to lead to migration behaviour. The macro- and micro-context influence the decision to move. The micro context includes *resources* and constraint Resources that are needed to realize the desire to move and restrictions hampering moves can be linked to various life course trajectories (Mulder and Hooimeijer, 1999). Resources do not only include the financial means of making a move, but also for instance the freedom to move (Mulder, 1993). The macro context includes opportunities and constraints. Constraints are pressures or obstacles that produce counter-attitudinal actions (Desbarats, 1983). Opportunities are the options open to individual decision-makers (Mulder, 1993). A move can for instance only take place if the preferred place to live is availably. Both opportunities and constraints are created externally to a household or an individual (Mulder and Hooimeijer, 1999).

3. Data and methods

3.1. Study design
This research has been based on a quantitative study and secondary data is used to examine the research questions. This research is both descriptive and explanatory, since we describe and try to explain under which circumstances persons older than 55 years make a move in general and distinguished according to migration motive that show resemblance with the life course theory.

3.1.1 Unit of analysis
WoON 2009 (a description of the dataset will follow in paragraph 3.2) makes it possible to do analysis on different levels. Research can be done on persons, households and residences, geographic regions are also included in the dataset making it possible to do research of migration between regions. In this study migration is treated as individual behaviour, however we cannot neglect characteristics related to households (e.g. household composition and income). All changes of residence that take place within the Netherlands are counted as migration. Individuals aged 55 years and older are the units of analysis.

3.2 Description of the data

3.2.1 Description of WoON 2009
The dataset that will be used for the own research is 'Woon Onderzoek Nederland' (WoON). This can be translated to Housing Survey Netherlands. The data are from the year 2009. From WoON 2009 the version 'Woningmarktmodule (ond.) –1.3 is used. This version is made available to researchers in the field of government and universities. The dataset is distributed by Data Archiving and Networked Services (DANS). WoON is the largest national survey related to home and the living environment and it measures among other things moving intentions and actual moving behaviour among persons aged 18 years and older. WoON 2009 is the successor of WoON 2006, but WoON has a history that goes back much further. WoON is part of a series of ten surveys that were held since 1964. Since 2006 WoON is the successor of the 'Woningbehoefte Onderzoek' (WBO), the Housing Demand Survey and 'Kwalitatieve Woning Registratie' (KWR), the Qualitative Housing Registration. Over the years the WBO and WoON surveys have been improved and updated to keep up with new themes and developments in housing over time. In order to keep up with new developments in housing the WoON survey is held once in three years. In comparison, the WBO survey was held once in four years.

Besides combining base research surveys, WoON works with specific modules that contain a sample of 41,000 respondents. Since 1998 municipalities or regional partnerships have the possibility to draw an extra subset in WBO and later WoON, so research can be done to come to reliable statements on a lower (regional) level. Another 37,000 respondent were approached for this. In total it means that around 78,000 respondents participated in the basic module.

Statistics Netherlands was responsible for research design and realization. The first step was to draw a sample for both the regular and oversampling part. The data gathering for the regular sample was done by the Statistics Netherlands itself, data gathering for the oversampling was done by TNS NIPO. The fieldwork took place between September 2008 and May 2009. The dataset is weighted for the situation at the January first 2009. In total 78,588 respondents were questioned during this period. Due to incomplete and inconsistent answers 517 questionnaires were not used for the dataset. In the end, the dataset consists of 78,071 respondents. This leads to a response rate of approximately 43.44 percent, since the

net sample size consisted of 179,714 persons. The respondents were approached in three different ways. Namely, through CAPI (Computer Assisted Personal Interviewing), CATI (Computer Assisted Telephone Interviewing) and CAWI (Computer Assisted Web Interviewing). 60 percent of the interviews was held by telephone, round 24.2 percent of the interviews was held face-to-face and almost 15.9 percent of the interviews was done via computer interviewing. A possible drawback for using many interview methods is that population characteristics can be different for each method.

3.2.2 Selection of respondents
WoON contains a bit more than 78,000 respondents aged 18 years and older. For the own research on elderly migration we include not the persons in age categories below 55 years. The cut-off point of 55 years is debatable. The official retirement age in the Netherlands is still 65 years, but only a small proportion of the population works till this age. Moreover, suppose we take 65 years as the cut-off point, then we rule out already some moves that take place in the empty nest phase. Besides this Bures (1997) identified a group of pre-elderly migrants. Their migration behaviour was driven by considerations of imminent retirement rather than by labor force considerations. These younger elderly migrated in anticipation of retirement. Also gender can play a role. In a marriage a man is often older than the woman. If the man reaches retirement age, the woman is often still in working age. If the woman is the respondent they might have moved because of for instance amenity reasons, but because her husband and not herself has reached retirement age, she and her move would not be taken into consideration.

3.2.3 Drawbacks of WoON
WoON 2009 contains a large variety of variables that cover several themes that are related with housing. However, some potentially interesting variables that are mentioned in the literature are not present in the data. Firstly, no information is available about children that live outside the house and the distance to these children. According to the literature this might have an effect on migration. Secondly, there is no variable that contains information about the birthplace or region of birth of the respondent. No return migration can be identified. Besides this region of birth might be an important variable explaining migration. Thirdly, WoON 2009 contains information only about moves to private housing. An important aspect in elderly migration are to moves into institutions. These moves can not be investigated, since the necessary information is absent in the dataset.

3.3 Operationalization
In order to describe and to explain to what extent migration behaviour in general and migration behaviour distinguished according to motive for persons aged 55 years and older, we make use of personal attributes and place characteristics. In essence we try to explain migration behaviour (also by different motive) by personal and place characteristics. First the dependent variables will be expounded, followed by the independent variables.

3.3.1 Dependent variables
First we examine the dependent variable whether a person has made a move in the last two years more closely. The variable *moved over the last two years* is derived from the question whether a person had moved after 2006 and the calculation of the year of occupying a dwelling minus the year of interview ≤ 2 (Questions: 1. Since what year do you live at this address? 2. Can you tell me if this was before month/year/sysdate-2 was?). As a consequence the variable can only have two values, namely:
- No, a person did not make a move in the last two years.

- Yes, a person made a move in the last two years.

Table 3.1 shows whether a person migrated in the last two years or not. The cases are weighted using the standard weighting variable for persons available in the WoON dataset.

Table 3.1 Dependent variable: person has moved over the last two years

Moved	Frequency	Percentage
No	27118	93.1
Yes	2011	6.9
Total	29129	100

The total number of persons aged 55 years and older is 29,129. 93.1 percent of these persons did not make a move and 6.9 percent did make a move over the last two years.

Next to research migration behaviour in general we want to research migration behaviour distinguished according to motive. The respondents were asked what the reason for moving was if they had moved in the last two years. Although reported reasons do not necessarily reflect actual motives or behaviour, they are often used in the construction of several life course typologies (Walters, 2002). Table 3.2 shows the constructed variable *not moved / moved and the accompanying reason*. For the descriptive part of this research the cases are weighted, for the multivariate analysis we make no use of weighted cases because many of the variables that are included in the weight variable are used for the analysis.

We can see that the 93.1 percent of persons aged 55 years and older did not move over the last two years. Of the persons who did move, a large share did not mention a reason for moving or they mentioned a reason other than the ones in the table. 830 persons (2.8 percent) were categorized as such. Approximately 41.3 percent of the people who moved are in this category.

It has to be mentioned that there are several questions (and therefore also several answers) covering the subject of reasons for moving. If a respondent gave multiple answers to the reason for moving questions, the most important reason was taken, if a respondent only mentioned one reason for moving, this reason was taken. The category reasons related to health and the need for care is the largest group of those who moved and gave at least one reason for this. This category contains 1.6 percent of the people aged 55 years and older (458 persons). Approximately 22.8 percent of the persons that made a move over the last two years reported this reason. We can see reasons for moving related to the house or living environment is the third largest category among those who moved. This category contains 407 persons (1.4 percent). This means that for approximately 20.2 percent of those who moved the house or living environment was the single or most important reason for moving. Living nearer to family, friends or acquaintances as the main reason for moving was mentioned by 179 persons (approximately 0.6 percent). Approximately 8.9 percent of the persons who made a move reported this as the most important reason for moving. The other distinguished reasons are mentioned less often. Marriage or cohabitation was reported by 58 people (approximately 0.2 percent), divorce or the termination of relationship was mentioned as the most important reason for moving by 66 persons (approximately 0.23 percent) and living independently was reported by 13 persons (approximately 0.045 percent). Also their relative importance in the main reason for moving is small, being respectively approximately 3, 3.8 and 1.2 percent.

Table 3.2 Did not move / did move and the accompanying (main) reason

Reason	Frequency	Percentage
Did not move	27118	93.1
Other reason or reason unknown	830	2.8
Health or the need for care	458	1.6
Reason related to the house or living environment	407	1.4
Living nearer to family, friends or acquaintances	179	0.6
Marriage or cohabitation	58	0.2
Termination of relationship or divorce	66	0.2
Living independently	13	0.0
Total	29129	100

For the second part of the research we made use of two dependent variables, namely: *moved because of health and the need for care* and *moved to live nearer to family, friends or acquaintances*. A binary variable that includes actual migration behaviour distinguished by the reason for moving is used in comparison with an other value that represents all other persons, including those who did not move or did move for an other reason. If they gave only one reason for moving, this reason was taken. Table 3.3 shows the binary variable *moved because of health or the need for care*. We can see that 1.6 percent of persons aged 55 years and older made a move because of health reasons or the need for care. This means that 98.4 percent of the persons did not move or made a move because of an other reason.

Table 3.3 Dependent variable: moved because of health or the need for care

Moved	Frequency	Percentage
Other	28671	98.4
Moved because of health or the need for care	458	1.6
Total	29129	100

Table 3.4 shows the third dependent variable that is used in this research. A closer look is taken into *living nearer to family, friends or acquaintances* as a reason for moving in comparison to persons who did not move or who did move for other reasons. 0.6 percent of the persons aged 55 years and older made a move in the last two years because they wanted to live nearer to family, friends or acquaintances, 99.4 percent of the persons did not move or moved for another reason. The percentages of persons who reported a move because of health or need for care as the most important or only reason for moving is much higher when it is compared to the reason of living nearer to family, friends or acquaintances.

Table 3.4 Dependent variable: moved to live nearer to family, friends or acquaintances

Moved	Frequency	Percentage
Other	28950	99.4
Moved to live nearer to family, friends or acquaintances	179	0.6
Total	29129	100

3.3.2 Independent variables

Several personal attributes and a place characteristics are used in order to explain migration behaviour among the elderly in general and distinguished by migration motive. The place characteristic degree of urbanisation is in this research operationalized as municipal population size. WoON provides us with information on municipal population size of the current residence. In order to conclude whether municipal population size has an effect on migration (in general and distinguished to motive) the municipal population size of the previous residence had to be figured out for those persons who made a move in the last two years. This led to the independent variable *Municipal population size* that contains three categories. From table 3.5 we can see the distribution of the cases over the different categories

of municipal population size. Most of the people lived in the smaller municipalities (51.1 percent). The percentage of persons living in the largest municipalities is smallest with 18.6 percent.

Table 3.5 Municipal population size

Number of inhabitants	Frequency	Percentage
< 50,000	14897	51.1
Between 50,000 and 150,000	8828	30.3
> 150,000	5404	18.6
Total	29129	100

The *Level of highest completed education* can be found in table 3.6. This variable is derived from the variable level of completed education. The first category 'low' contains persons with a completed highest education from primary school up to persons that finished secondary school at the so called VMBO-level. Besides this a special category of 'other' is placed within the low category. Persons that are in the category other can be those persons that are in possession of a diploma from abroad (for example migrants). 53.3 percent of persons aged 55 years and older are in the lowest category of highest completed level of education. The second category of highest level of completed education are those persons that finished higher programs in secondary school (HAVO and VWO) or followed MBO-education. In this group are 23.7 percent of the respondents. The last category of highest completed education consist of those persons who finished high school or university. This is the smallest category of highest completed level of education. 23.1 percent of the people aged 55 years and over finished these educational programs.

Table 3.6 Level of highest completed education

Level of highest completed education	Frequency	Percentage
Low	15511	53.3
Middle	6899	23.7
High	6719	23.1
Total	29129	100

Age was recorded at the time of interview and it is recorded in full years. As mentioned before, the cut off point for age is set at 55 years in this research. Age is used in this research in five year age groups. Table 3.7 displays age in 5-year age groups (see next page). The percentage of persons in each age-category is gradually declining with each higher age category. Most persons are in the youngest age group, namely 24.1 percent of the persons aged 55 years or older are in the age category between 55 and 59 years. The smallest percentage (10.6) of people are in he 75-79 years age group. The lower percentages in the older age groups represent the occurrence of deaths and moves towards institutions.

Table 3.7 Age in 5-year age groups

Age in years	Frequency	Percentage
55-59	7018	24.1
60-64	6759	23.2
65-69	4850	16.7
70-74	3891	13.4
75-79	3097	10.6
80+	3513	12.1
Total	29129	100

In table 3.8 we can find *Gender* as the third personal attribute in this research. We can see that of the persons aged 55 years and older 47.1 percent are male and 52.9 percent are female.

There are slightly more women than men in the dataset. This is not surprising since we can expect that there are more women than men in the older age groups, because women have higher life expectancy than men.

Table 3.8 Gender of respondent

Gender	Frequency	Percentage
Male	13727	47.1
Female	15402	52.9
Total	29129	100

We expect that home owners are less mobile compared to home renters, because they invested more in their house. As with municipal population size the variable home owner or renter is constructed in a way that for persons who moved in the past two years their situation before moving was taken. In table 3.9 we can see the distribution of persons over *Home owner or renter*. 58.6 percent of the persons in the dataset are home owners, 40.6 percent are renters. The remaining 0.8 percent contains missing values. If persons live in a house for free they are counted as home renters. In case the partner is the owner of the home the person is counted as an home owner.

Table 3.9 Home owner or renter

Home owner or renter	Frequency	Percentage
Home owner	17058	58.6
Renter	11833	40.6
Missing value	238	0.8
Total	29129	100

Income can be defined in many different ways. We can make a distinction in gross income, assessable income (before taxes) and disposable income. Gross income is income before taxes and premiums are subtracted. Taxable income is the gross income minus tax deduction. Disposable income is the income that a person can spend freely after payment of taxes and premiums. Within WoON 2009 there are several variants of disposable income. Both Statistics Netherlands and the former ministry of housing, planning and environment (VROM) use different definitions. Statistics Netherlands uses a definition that includes household income related to housing. This definition was used in this research. *Disposable income* is used as a continuous variable. It is possible for persons to have a negative income. We can imagine that persons who are self employed can make a loss with their business. In 53 cases persons had a negative income. This was set to an income of 0. Disposable income is operationalized as income by 10,000 and it is rounded to the nearest integer. The minimum income value is 0 and the maximum income value is 63.00 (63*10,000). The median income is 3. This means that half of the cases have a smaller income than 30,000 euro and the other half of the persons have an higher income than 30,000 euro. The mean income is 3.4170 or 34,170 euro.

The *household composition* variable gives us an insight into whether people live alone or in cohabitation and whether this is with or without children. The household composition category is operationalized in four categories as can be seen in table 3.10. The majority of the persons aged 55 years and over live in a couple, namely 61.2 percent. The second largest group of household composition are those in a single person household, namely 26.1 percent. 11.1 percent of the persons age 55 years and older lives with at least one child. This category contains both couples with children as well as single parents. The category other (1.6 percent) are those persons that not fit in each of the other three categories of household composition or their household composition was unknown.

Table 3.10 Household composition

Household composition	Frequency	Percentage
Single person household	7612	26.1
Couple	17828	61.2
Household with children	3231	11.1
Other	458	1.6
Total	29129	100

Health is seen as an important determinant of mobility among the elderly in the literature. Health is in this research operationalized as self-reported health status or *subjective health status*. People were asked to judge their own health during the interview. The subjective health status variable is operationalized in three different categories as can be seen in table 3.11. People who answered their health was bad or sometimes good and sometimes bad are in the category 'poor health'. 12.6 percent of the persons aged 55 year and older are experiencing poor health. Persons that judge their health as o.k. are in the o.k. category, this category contains 18 percent of all people aged 55 years and older. The largest category of subjective health status are those persons experiencing good health. Those persons answered in the interview that they either experienced good or very good health. 69.4 percent of the persons included in the research are according to themselves in good health.

Table 3.11 Subjective health status

Health status	Frequency	Percentage
Poor	3671	12.6
O.K.	5248	18.0
Good	20210	69.4
Total	29129	100

3.4 Data quality

Statistics Netherlands was responsible for the data processing and their first step was to take care that the data from the four different sources (CAPI, CATI, CAWI and oversampling that was carried out by TNS NIPO) would form one uniform dataset. Because of the complexity of the questionnaire, several route checks were done to rule out the risks of route mistakes. After linking these documents an internal route check was done to rule out route mistakes. The next step was to link the gathered data to several registers so that demographic characteristics, income and other kind of information became part of the dataset. After this, the quality of the responses were checked in the dataset. With help of designed consistency rules the respondents were checked for complete response and consistency in response. For example, at least 75 percent of the relevant questions and important questions such as having moved had to be answered. An example of a consistency check is to check whether the response and sample person have the same characteristics. This is done to make sure the right person was interviewed.

Missing values are estimated by making use of imputation methods. If a person did not cooperate in the research (unit non-response), this was corrected by using weights. The assumption is that the person shows the same behaviour as the person in the group that did cooperate with the research. If persons did cooperate in the research but have a lot of missing values (non-response) this can have serious consequences for research. Every researcher might want to use its own methods to correct for non-response, but this leads to different outcomes for perhaps the same kind of issues. A second danger that exists is that the researcher wrongly assumes non-response is in conformity with response. This is often not the case, because non-response is often selective. Adjustment methods can be used to correct for this. The method that is used to correct or adjust for non-response determines to a large extent

the quality of the dataset in terms of validity and reliability. The method to estimate missing values is called imputation. Based on personal characteristics the persons with the most equal characteristics to the person who did not answer the question is sought. This is a donor group. From the donor group a random person is taken and the value for the variable is used for the other person with the missing value. A huge advantage of this kind of imputation technique is that the variance of the adjusted variables are less underestimated compared to other imputation techniques.

After making derivations the response document is ready, but because the document has to describe the housing situation and housing needs for the whole of the Netherlands the cases are weighted. Weights are used to compensate for selection bias or cluster sampling. Respondents living in cities might for instance be over represented in the dataset and we have to compensate for that. Besides this some plausibility analysis were done. The goal of these plausibility checks is to investigate if the final results of the research show resemblance with earlier research and values from registration sources. If there are large differences an effort is made to find an explanation.

From the above data processing description we can conclude that the creators of the dataset did their very best to deliver a dataset of high quality. Routing checks, control for full response, consistency checks, imputation methods and plausibility checks all contribute to a good quality of the data. The fact that the survey was headed by the former ministry of housing, planning and environment (VROM) and is carried out by Statistics Netherlands contributes to the expectation that the data is of good quality.

3.5 Ethical aspects

WoON 2009 release 1.3 is only made available by DANS after request is approved. WoOn 2009 release 1.3 is divided in two versions. One version is for governmental organization and universities and the other version is for other sorts of users. The main difference between the two versions is the availability of a four digit postal code and a regional classification that can lead to those four digit postal codes. Also age is not clustered in ten year age groups for the version made available for governmental organizations and universities. In the commercial version this is done because of privacy reasons. Privacy of respondents are taken into account in the commercial versions. For the version used in this research DANS states that personal information may only be used for historical, statistical or scientific research. And person who use datasets containing personal data are required to comply with the Code of Practice for the use of personal data in scientific and scholarly research. It is the responsibility of the user to maintain confidentiality of all personal data that he or she processes. Besides this, the dataset may not in any way be distributed or made public without prior written consent of the depositing party. The dataset may also not be (re)sold or used for commercial purposes.

3.6 Methodology

3.6.1 Descriptive methods

In both the descriptive and multivariate part of the research the results were obtained using the statistical package SPSS Statistics 16.0. Cross-tabulations were made to see if there is any relationship between the (three) dependent variables and the independent variables (eight). Each cell in a cross-tabulation shows us the number of cases that have a particular combination of values between the dependent and the independent variable (Norušis, 2004). Row percentages are added to the cross-tab, they show the percentage of each outcome of the independent variable for having moved or not in general and by motive. The Pearson chi-square test is carried out to conclude if there exists a relation between the particular dependent and independent variable. The null hypothesis is that the differences found in the table

between the various outcomes of the cross-tabulation are not significantly different from each other. When the level of significance is 0.05 or smaller the differences in the cross-tabulation are significantly different from each other and the null-hypothesis can be rejected.

3.6.2 Binary logistic regression analysis

During the interview respondent could report several reasons for migration at older ages. If we want to include all these reasons in analysis it would make sense to use multinomial logistic regression analysis to examine the relationship between the different types of migration reasons (dependent variable) and a set of independent variables. However there are several reasons why we prefer making use of binary logistic regression over using multinomial regression. Migration because of health or the need for care and migration to live nearer to family, friends or acquaintances are seen as especially important reasons for migration at older ages and can be related to life course theories on elderly migration. Other reasons that were reported often have not enough cases (e.g. marriage or cohabitation contains only 58 cases), have categories of migration that are defined to broad (e.g. reasons regarding housing and the living environment, but no information migration to live in smaller apartment or on ground floor) or have categories of reasons for migration that are difficult to interpret in elderly migration (e.g. large group of persons of whom we do not know the reason for migration and living independently). Therefore three binary logistic regression models are estimated in this research. The dependent variables are designed in a way that a person either migrated or not, either migrated because of health or the need for care or not and either migrated to live nearer to family, friends or acquaintances or not.

We make use of binary logistic regression models because our dependent variable is dichotomous and we want to model the relationship between this dependent variable and a set of independent variables (Norušis, 2008). For each dependent variable a separate equation is used to calculate the log odds. The equation looks like:

$$\text{Logit } (p) = \text{Ln } (1 / (1-p)) = \beta_0 + \beta_1 X_1 + \ldots \beta_n X_n$$

$1 / (1-p)$ = probability of 'success' divided by the probability of 'failure'
β_0 = intercept
β_1 and β_n = logistic regression coefficient
X_1 and X_n = independent variables

From the logit model (natural log of odds) the odds can be calculated by taking the exponent of the natural log of the odds. Odds are more easily to interpret and provide information on the relationship between the dependent and the independent variables. The output table of the binary logistic regression model will provide odds ratios that tells us if the odds of for example migration is significantly lower or higher for highly educated persons compared to the chosen reference category, for instance low educated persons. The significance level of 0.05 is taken as the cut-off value.

4. Results

In this chapter both the descriptive and multivariate results of this research are presented. The descriptive part of this chapter contains the outcomes of the cross-tabulations of the three dependent variables with the independent variables. The multivariate part of this chapter contains the outcomes of the three binary logistic regression models. The interpretation of the results is discussed in the multivariate part of this chapter.

4.1 Descriptive results

Table 4.1 contains information from the cross-tabulations between the dependent variables and the independent variables. From the table we can see that 7.1 percent of the persons aged 55 years and older made a move in the last two years, 1.5 percent of the persons made a move because of health or the need for care and 0.6 percent of the persons made a move to live nearer to family, friends or acquaintances.

The Pearson chi-square test is used to test for differences in migration between the different categories of the independent variable. The Pearson chi-square statistic is used to test for independence (no relation) between the independent and dependent variable. The significance level of 0.05 is used as a cut-off value. When the Pearson chi-square test is the same or below this significance level we say that the percentages of movers is significantly different between the categories of the independent variable and that there is some relationship between the independent and dependent variable.

Table 4.1 Cross-tabulations of independent and dependent variables with Pearson chi-square tests (N=29,129)

Independent variable		Whether moved in the last 2 years	Whether moved because of health or the need for care	Whether moved to live nearer to family, friends or acquaintances
		Yes	Yes	Yes
Municipal Population Size	< 50,000	6.5 %	1.3 %	0.7 %
	50,000 – 150,000	7.3 %	1.6 %	0.4 %
	> 150,000	8.1 %	1.8 %	0.7 %
Significance of Pearson chi-square test		0.000	0.008	0.022
	Low	7.3 %	1.9 %	0.5 %
Level of education	Middle	7.1 %	1.4 %	0.7 %
	High	6.8 %	0.7 %	0.6 %
Significance of Pearson chi-square test		0.359	0.000	0.121
	55-59 years	7.7 %	0.7 %	0.4 %
	60-64 years	7.1 %	1.0 %	0.5 %
	65-69 years	7.5 %	1.6 %	0.9 %
Age	70-74 years	6.5 %	1.5 %	0.5 %
	75-79 years	7.0 %	2.5 %	0.6 %
	80+	6.4 %	2.6 %	0.7 %
Significance of Pearson chi-square test		0.087	0.000	0.012
Gender	Male	7.0 %	1.1 %	0.6 %
	Female	7.2 %	1.8 %	0.6 %
Significance of Pearson chi-square test		0.688	0.000	0.622
Home ownership*	Home owner	6.5 %	1.0 %	0.5 %
	Renter	7.9 %	2.0 %	0.7 %
Significance of Pearson chi-square test		0.000	0.000	0.054

	Single	7.9 %	1.7 %	0.8 %
Household	Couple	6.9 %	1.6 %	0.6 %
composition	Household with children	4.7 %	0.3 %	0.1 %
	Other	7.4 %	1.1 %	0.0 %
Significance of Pearson chi-square test		0.000	0.000	0.000
	Poor	8.7 %	4.0 %	0.6 %
Health status	Moderate	7.3 %	2.4 %	0.4 %
	Good	6.8 %	0.7 %	0.6 %
Significance of Pearson chi-square test		0.000	0.000	0.311
Totals		7.1 %	1.5 %	0.6 %

* N=28,995

From table 4.1 we can see that there seems to be a positive relationship between municipal population size and migration. The Pearson chi-square test (p<0.01) is statistically significant, there seems to be a relation between municipal population size and whether a person has moved in the last two years. For migration because of health or the need for care we also see that migration seem to be positively related with municipality size. The Pearson chi-square test (p<0.01) is statistically significant. In migration to live nearer to family, friends or acquaintances there is no clear pattern between the percentage of movers over the different categories of municipal population size. Migration is highest in both the smallest and largest category of municipal population size (0.7 percent). The Pearson chi-square test is not found significant (p=0.121), the municipal population size does not seems to be related to migration to live nearer to family etc.

The percentage of movers decreases with increasing level of completed education (from 7.3 percent to 6.8 percent). The differences in migration between the different categories level of education are not found significant (Pearson chi-square: p=0.359). For migration to live nearer to family, friends or acquaintances we can see also a negative relationship (from 1.9 percent to 0.7 percent) and the differences in migration between the categories of level of education are found significant (Pearson chi-square: p=0.000). No clear (negative or positive) relation with level of completed education can be found in migration to live nearer to family, friends or acquaintances. The two variables seem to be independent from each other (Pearson chi-square: p=0.121).

The percentage of movers is highest in the youngest age category and lowest in the oldest age category. Perhaps this difference exists because no information on moves into institutions (that often take place at older ages) was included in the data. There seems to be no clear negative relation between age and migration. No evidence for a relation was found, the Pearson chi-square test was not found significant (p=0.087). For migration because of health or the need for care we can see a clear positive relationship with age. Based on the Pearson-chi square (p<0.01) we can say that age and migration because of health seem to be (negatively) related. For migration to live nearer to family, friends or acquaintance there seems to be a less pronounced positive relation with age. The Pearson chi-square test tells us that the two variables seem to be related (p<0.05). The percentage of movers in the age category 65-69 years are higher compared to the surrounding age groups in all three models, this can indicate the existence of a retirement effect.

The percentage of movers among males and females are almost the same in migration in general (respectively 7.0 and 7.2 percent. The Pearson chi-square is not found significant (p=0.688). For migration because of health or the need for care the percentage of movers are higher for females (1.8) than for males (1.1). This gender difference is found significant (Pearson chi-square: p=0.000). For migration to live nearer to family, friends or acquaintances

the percentage of movers is the same for males and females (0.6 percent). The Pearson chi-square test is not significant (p=0.622).

The percentage of movers is higher for renters than for home owners in all three models. The differences in migration between the two groups are found significant in migration in general and migration because of health or the need for care (Pearson chi-square test: p<0.01) and marginally significant in migration to live nearer to family, friends or acquaintances (p=0.054)

The percentage of movers is highest for single person households in all three models of elderly migration. When we don't consider the 'other' group, couples are the second largest group of movers in the three models. Household with children have the lowest percentage of movers in all three models. The differences in migration between the different household categories are found significant in all three models (Pearson chi-square: p=0.000).

There seems to be a negative relation between migration and health status. The different percentages of movers between the categories of health status are found significantly different from each other (Pearson chi-square: p<0.01). For migration because of health or the need for care the Pearson chi-square test is also found significant (p=0.000). Health status however seems to be positively related to migration because of health reasons. There seems to be no real pattern between health and migration to live nearer to family, friends or acquaintances. The two variables seem to be independent from each other (Pearson chi-square: p=0.311).

4.2 Multivariate results

By performing binary logistic regression we simultaneously analyze the effects of the independent variables on the dependent variable. By using this multivariate analytical technique we control for or take into account the effects of all independent variables on the dependent variable. From the binary logistic regression output we can draw conclusions about the odds of having made a move in the last two years for each discerned category within the independent variable compared to the reference category within this variable. Income was used as a ratio variable, one unit increase in income (*10,000 euro) is associated with an increase or decrease of the likelihood of migration by a certain factor (this factor can be found in table 4.2 under exp(B)).

In order to test the hypothesis about the relationship between the independent and dependent variables the following independent variables are included in the three different models of elderly migration: level of urbanization, level of highest completed education, age, gender, home ownership, income, household composition and self-reported health status. Income is a ratio variable, all other variables are categorical variables.

The reference category for the first model if a person has moved in the last two years is 'no'. For the second model (moved because of health or the need for care) and third model (moved to live nearer to family, friends or acquaintances), 'other' is the reference category. This means that the other category of the dependent variable will be compared to these reference categories. Also each categorical independent variable has a reference category. When there is a logic order in the categories of the independent variable, the lowest or smallest category is taken as the reference category. The following categories are used as reference category: '<50.000' for municipal population size, 'low' in highest completed level of education, '55-59 years' for age, 'male' for variable gender, 'home owner' in the variable home ownership, 'single' in the variable household composition and 'poor' for health status.

The structure of this chapter follows the same outline as the previous chapter. For each independent variable we discuss the outcomes of the three binary logistic regression models. Table 4.2 shows the outcomes of the binary logistic regression models. For each binary logistic regression model the coefficients, significance levels and odds ratios are provided.

Table 4.2 Binary logistic regression models

Variable	Whether moved in the last 2 years			Whether moved because of health or the need for care			Whether moved to live nearer to family, friends or acquaintances		
	B	Sig.	Exp (B)	B	Sig.	Exp (B)	B	Sig.	Exp (B)
Municipal population size									
< 50,000 (ref.)		0.025			0.490			0.011	
50,000 – 150,000	0.820	0.119	1.085	0.104	0.362	1.109	-0.549	0.003	0.577
> 150,000	0.166	0.007	1.118	0.145	0.265	1.156	-0.178	0.371	0.837
Highest level of education									
Low (ref.)		0.973			0.091			0.024	
Middle	0.007	0.903	1.007	0.132	0.286	1.141	0.494	0.008	1.639
High	0.015	0.816	1.015	-0.269	0.117	0.764	0.374	0.083	1.454
Age									
55-59 years (ref.)		0.000			0.000			0.055	
60-64 years	-0.171	0.012	0.843	0.160	0.404	1.173	0.046	0.862	1.047
65-69 years	-0.146	0.044	0.864	0.542	0.004	1.719	0.626	0.012	1.871
70-74 years	-0.325	0.000	0.722	0.351	0.075	1.420	0.032	0.914	1.032
75-79 years	-0.292	0.001	0.747	0.781	0.000	2.184	0.126	0.678	1.134
80+	-0.437	0.000	0.646	0.806	0.000	2.240	0.208	0.485	1.231
Gender									
Male (ref.)									
Female	-0.038	0.433	0.963	0.316	0.004	1.372	0.029	0.862	1.029
Home ownership									
Home owner (ref.)									
Renter	0.119	0.024	1.126	0.160	0.164	1.174	0.259	0.143	1.295
Income (€10,000s)	-0.040	0.005	0.961	-0.176	0.000	0.838	-0.109	0.075	0.896
Household composition									
Single (ref.)		0.000			0.000			0.035	
Couple	-0.071	0.195	0.932	0.621	0.000	1.861	-0.168	0.362	0.845
HH with children	-0.513	0.000	0.599	-0.933	0.020	0.393	-1.567	0.010	0.209
Other	0.095	0.689	1.100	0.210	0.723	1.234			
Subjective health									
Poor (ref.)		0.009			0.000			0.192	
O.K.	-0.148	0.055	0.862	-0.516	0.000	0.597	-0.331	0.250	0.718
Good	-0.202	0.002	0.817	-1.510	0.000	0.221	0.084	0.713	1.087
Constant	-2.124	0.000	0.120	-3.876	0.000	0.021	-5.000	0.000	0.007
N	28,995			28,995			28,757		
Nagelkerke R2	0.009			0.088			0.028		
Omnibus test of model coefficient									
Chi-square (sig.)	0.000			0.000			0.000		

4.2.1 Municipal population size

From table 5.2 we can see that the odds of migration are slightly larger in each higher category of municipal population size. Our hypothesis that there exists a positive relation between the degree of urbanization and the likelihood of migration is supported by these findings. The odds of moving are 1.085 times higher for those persons living in municipalities with a population size between 50.000 and 150.000 inhabitants compared to the reference category, municipalities fewer than 50.000 inhabitants. The odds of migration are however not significantly higher (0.119>0.05), the odds or chance of migration is not significantly

different between the two categories and there appears to be no effect on migration when we compare the middle large municipalities with the smallest municipalities. The odds of moving are 1.118 times higher for those persons in municipalities that have 150.000 inhabitants or more compared to those persons living in a municipality of fewer than 50.000 inhabitants. The odds of migration are significantly higher (0.007<0.01) for persons living in the largest municipalities compared to persons living in the smallest municipalities. This finding is in accordance with our hypothesis for this variable. Elderly in large municipalities tend to move more often than persons in smaller communities. On one hand larger cities can provide an impetus to move for the elderly because cities can be a less favorable living environment for the elderly. In the study by Hooimeijer and Dieleman. (1993) this relation was found. On the other hand we know that two thirds of the people that made a move, moved within the own municipality. Perhaps the wants and needs of elderly are better met for persons living in larger municipalities, for example the type of house or the presence of a hospital. Large population size can mean that there are high levels of urban amenities available and that can have a positive effect on the likelihood of migration (Newbold, 1996). This can mean that there is a greater availability of services for the elderly, for example the presence of an hospital nearby. Because the wants and needs of elderly might more easily be met in larger municipalities this may possibly lead to larger numbers of actual migration behaviour.

For whether moved because of health or the need for care we can see that the odds of migration also seem to be larger in each higher category of municipal population size. Based on the significance levels we must however conclude there seems to be no significant difference in the likelihood of migration because of health or the need for care between the categories of municipal population size. This outcome does not support our hypothesis and we can see that the existence of a possible autonomous effect of municipal population size on migration because of health reasons that was suggested based on the results in the descriptive analysis is not confirmed in multivariate analysis. This discrepancy can be explained by the fact that inclusion of the variables income, home ownership and health status to the model leads to the disappearance of the effect of municipal population size on migration because of health or the need for care.

In contrast with the two previous models municipal population size and migration, there seems to be a negative effect of municipal population size and the likelihood of migration to live nearer to family, friends or acquaintances. This is the opposite of what was hypothesized. The odds of migration are highest for persons living in the smallest municipalities. The odds of migration to live nearer to family etc. are 1.73 times higher for persons living in municipalities with a population size smaller than 50.000 compared to municipalities with a population size between 50.000 and 150.000. This difference is found significant. When we compare the odds of migration for persons in large municipalities with persons living in small municipalities we find, despite the fact the odds of migration seem to be larger for the latter group, no difference in effect on the likelihood of migration to live nearer to family, friends or acquaintances between the two groups. The fact that the odds of migration are highest for persons in the smallest municipalities can possibly be explained by the fact that the chance of having family or friends living nearby is smaller those people than for persons in larger municipalities. In this sense living nearer to family, friends or acquaintances might be a more prominent reason for migration in less populated municipalities.

4.2.2 Level of education

The odds of moving rather than staying are for both the persons with middle and high completed education programs not significantly higher compared to the reference category, persons with low completed education. The odds ratios are about the same for each education

category (respectively 1, 1.007 and 1.015) and the differences compared to the reference category are therefore not found significant. There seems to be no educational effect on migration. This is not what we hypothesized. We expected to find that highly educated persons are more likely to move at older ages, because the chance that they have moved before in their lives is higher compared to low educated persons. When people migrated before they have a higher chance to migrate again, since those persons possess often the necessary social skills and cultural capital that make migration less 'costly' (Longino et al, 2002). According to Liaw and Ledent (1988) education reflects the ability to gather and process information regarding potential destinations. Highly educated persons should according to the human capital model of migration weigh the costs and benefits of migration. In the literature we find a positive relation between education and migration. However, elderly migration differs from 'normal' migrants in several ways. Highly educated persons are in general more inclined to make a move because they have made greater investments in human capital and the 'costs' of migration are probably lower for this group. However, we should realize that migration in general is often work related migration. Since elderly are not likely to make a move because of work related reasons an educational effect in migration might be less pronounced. Fokkema et al. (1993) say that the relatively low propensity of elderly migration can be explained by weighing of cost and benefits over time. Although, for highly educated persons the cost of migration are in general lower than for less well educated persons, the benefits of migration over time might still be too low for elderly to consider migration. It is possible that highly educated elderly found a good location to live at older ages earlier in life and/or that highly educated are more often satisfied with the location they live in compared to less well educated.

Although the odds of migration because of health or the need for care are not significantly different between the categories of education, we can see that middle and high education seem to have a different effect on migration compared to the reference category. The odds of migration because of health for middle educated persons (1.141) seems to be higher compared to less well educated persons. The odds of migration of persons with high education seems to be smaller (0.764) compared to low educated persons. It is possible that people with higher education live in general more healthily compared to less well educated persons. Moreover, it is possible that highly educated persons know better how to organize the care they need. However, because the differences between the categories are not found significant we can say that we found no effect of education on migration because of health or the need for care. There is a discrepancy between the descriptive and multivariate results. Evidence of an effect that was found in the cross-tabulations is not confirmed in multivariate analysis when we take into account the effects of all independent variables on migration because of health or the need for care.

The odds of migration to live nearer to family, friends or acquaintances are significantly different when persons with middle education are compared to the reference category low education. The odds of middle educated people to move to live nearer to family etc. are 1.639 times higher than for lower educated people. Middle educated persons are more likely to move to live nearer to family, friends or acquaintances than persons with low education. The effect of migration to live nearer to family are not found to be significant (0.083>0.05) for high educated persons when they are compared to persons with low education. However, the significance level of 0.083 is marginally significant. The fact that people with low education tend to move less towards family, friends or acquaintances compared to the other categories of education can possibly have to do with the fact that people with lower education still live nearby their family. Highly educated people often had to move away for education from the place they grew up and where their families live. After education, they also might want to move in order to secure a good job. Persons with higher

education therefore might have moved earlier in their lives away from family and at older ages they might decide to move back to their family or friends. Low educated persons have followed in general an education program nearby and they often can find a job in a region they grew up. They often do not move away from their family for education or work, this makes a move towards family, friends or acquaintances later in life less likely.

4.2.3 Age
From table 4.2 we can see that the model coefficients and odds ratios are smaller in each higher age category. There seems to be a negative relationship between age and migration. The odds of migration are 0.843 times smaller for persons in the age category 60-64 years compared to persons aged 55-59 years. For 65-69 years the odds ratio of migration is 0.864, this means that the odds of migration are 0.864 times smaller for persons aged 65-69 years compared to persons aged 55-59 years. The odds of migration are 0.722 times smaller for persons aged 70-74 years compared to persons aged 55-59 years. For elderly aged 75-79 the odds ratio of migration is 0.747 and the odds of migration are significantly lower compared to the reference category. The odds of migration are 0.646 times smaller for persons aged 80+ than for persons aged 55-59 years. The general trend is that the odds of migration decreases with each higher age category. Since the outcomes are significant we can say that younger persons seem to be more likely to move compared to each group of categories of older persons.

The variables age and health are related. We can expect that people at older ages experience poorer health compared to persons of the youngest age category. The reasoning that older persons will move more frequently because of health reasons compared to the youngest age category is supported by the results from the binary logistic regression model. The odds of migration because of health or the need for care are higher with each higher age category. Only for persons aged 60-64 years and persons aged 70-74 years no significant difference is found in the odds of migration compared to the youngest age group. It seems that health as a reason to move plays only a role in the highest age categories. For instance, the odds of migration because of health or the need for care are 2.184 and 2.24 times higher for respectively persons aged 75-79 years and 80+ compared to persons aged 55-59 years. These finding supports the hypothesis wherein we expected to find a positive relationship between age and migration because of health or the need for care. This relationship was found significant even though the moves into institutions are not accounted for in this research.

There seems to be no difference in the odds of migration to live nearer to family, friends or acquaintances between each of the age categories and the reference category 55-59 years. The only exception is age group 65-69 years. For this group the odds of migration are 1.871 times higher compared to persons aged 55-59 years. An explanation for this finding might be that work is no longer a locational constraint and retirees are in this sense more freely to move. Moreover it is possible that recent retirees want to move in the direction of children maybe not to receive care but to maintain good contact with their children and grandchildren.

There seems to be a retirement effect in all three logistic regression models. The odds ratios for persons aged 65-69 years are higher compared to the odds ratios of the surrounding age categories. It seems that persons aged 65-69 years have a higher chance of migration in general and distinguished according to motive. Living nearer to family, friends or acquaintances can in this sense be seen as an important reason for moving for persons aged 65-69 years.

The age effects on migration that are found in the multivariate analysis match in great extent age migration schedules that are amongst others discussed by Rogers (1988). In general age migration rates show a downward slope and a peak in retirement years. At older age the

migration rates show an upward slope. We might conclude that health or the need for care becomes is the most prominent reason for migration at older age.

4.2.4 Gender
In table 4.2 we can see there is no significant differences in the odds of migration in general and in the odds of migration to live nearer to family, friends or acquaintances between males and females. In the model of whether moved because of health or the need for care we found a gender difference in the likelihood of migration. We can see that the odds of migration because of health or the need for care are 1.372 times higher for females compared to males. This means that females are more likely to move because of health reasons than males. Results from the article by Arber and Cooper (1999) tell that older disabled men often can rely on a spouse, the majority of disabled women live alone they need to rely on others or might have to move receive care. Although women often outlive men and have a higher chance of to live alone when assistance is needed, this cannot be the explanation for the differences found in migration since we controlled for the variable household composition in multivariate analysis. An other explanation for the findings can be that men have a lower life expectancy than women, but women often suffer from higher morbidity levels (Arber and Cooper, 1999). In the article of Arber and Cooper (1999) conclude that despite the fact that there is almost no difference in self-assessed health between men and women, older women show much higher levels of functional impairment. Higher chances of morbidity and functional impairment at older ages might explain the difference in migration because of health or the need for care between men and women. Our hypothesis that women are more likely to migrate (in general and distinguished to migration motive) is supported by the findings in the model of migration because of health or the need for care. We found no evidence for a gender difference in migration in genera and migration to live nearer to family, friends or acquaintances.

4.2.5 Home ownership
The hypothesis for this research concerning home ownership was that home owners would be less likely to move compared to renters. The reason behind this, is that home owners often have invested more money into their property and they are therefore more attached to the place (Clark and Davies, 1990). From table 4.2 we can see that the odds of migration are 1.126 times higher for renters compared to home owners. This difference in odds is found significant at the 0.05 significance level. This finding supports the hypothesis that renters are more likely to move than home owners and is consistent with earlier findings on elderly migration by for example Hooimeijer and Dieleman (1993).

For moving because of health or the need for care and moving to live nearer to family, friends or acquaintances the odds of migration are also higher for renters than for home owners. However, these odds are not found significantly different from each other. There seems to be no difference in the odds of migration between home owners and renters in these two models. It seems that health reasons or living nearer to family are of the same importance to home owners and renters in explaining migration behaviour for health and family reasons. Exclusion of the variable health status results in a significant difference in the odds of migration because of health or the need for care between home owners and renters. The odds of migration are then significantly higher for renters compared to home owners. At least a part of the relation between home ownership and migration for health reasons is explained by the variable health status.

4.2.6 Income
We expected to find a positive relationship between income and migration. In table 4.2 we can see that for every unit increase in income (one unit is €10,000) the odds of migration is estimated to be lower by a factor 0.961. Since the significance criteria of 0.05 is met (p=0.005) we can say that income has a negative effect on migration. This is the opposite finding of what was hypothesized. On one hand was expected that higher income would lead to migration for amenity reasons. On the other hand lower income can lead to assistance migration because for instance the cost of housing are to high.

For moving because of health or the need for care there also seems to exist a negative effect of income on migration. There are two possible explanations for this finding. The first explanation considers the relation between income and education. Higher income often means that people are highly educated. In general highly educated persons live healthier. From this reasoning we can say that for those persons making a move because of health reasons is less likely to occur. One other explanation can be that when people with higher incomes experience health decline they have the resources to buy care at home, they do not have to move to receive necessary care and they do not have to rely on others.

For moving to live nearer to family, friends or acquaintances we can see no significant differences in the odds of migration when income increases by €10,000. Migration related to family, friends or acquaintances seems not to be affected by income.

4.2.7 Household composition
The hypothesis regarding household composition was that people living alone are more likely to move because of reasons of assistance. From table 4.2 we can see that the odds of migration do not significantly differ between couples and singles. The odds of migration are 1.67 times higher for single person households compared to households with children. This difference is significant at 0.01 significance level. There is also no significant difference in the odds of moving between persons in the category other and single person households. The findings are in large extent supported by earlier finding of household effects on elderly migration by Hooimeijer and Dieleman (1993).

For whether moved because of health or the need for care we can see that the odds of migration for couples are 1.861 times higher compared to persons living alone. This means that the hypothesis is not supported by this finding. Earlier research by Hooimeijer and Dieleman (1993) showed singles move more than average and families move far less than average. They also found that older aged couples have higher odds of migration compared to older aged living alone. For younger elderly they found that the odds of migration are higher than average for both singles and couples, singles however have higher odds of migration compared to couples in this younger age group. However, these differences were not found significant. We found that couples are more likely to move because of health reasons than singles. An explanation for this is difficult to give, Hooimijer and Dieleman (1993) call this outcome 'surprising' and give no further reasons for this finding. It is possible that when data on migration into institutions would be available we could see a different relationship. Single persons might move more frequently into institutions when they experience health decline and when they are in need for care. For persons living as a couple the presence of a partner when experiencing health decline might mean that they still can live on their own and they can make a move that is still registered in the dataset. Couples seem to be more likely to move for reasons of health (in the private sector). The odds ratio of migration because of health or the need for care for households with children is 0.393. This means that the odds of migration are 0.393 times smaller for households with children compared to single person households. There is no significant difference in the odds of migration because of health or the need for care between the category other and single person households.

For moving to live nearer to family, friends or acquaintances we can see no significant difference in the odds of moving between couples and the reference category singles. The odds of migration to live nearer to family and others is 0.209 times (and significantly) smaller for households with children compared to singles. Elderly that live with their children live already with family and do not have to move for example to receive assistance. Because there are no cases in the category other, we filtered these cases from the binary logistic regression model.

As was hypothesized we found low odds ratios of migration for households with children in all three models. Apparently having children means that persons are less likely to move and they can maybe be seen as a locational constraint. The presence of children in the household might explain the low odds of migration because of health. On one hand it seems to be a logic assumption that persons with children at home are in a younger age cohort and are not yet experiencing health decline. For households in this situation health might be not the most important reason to move. On the other hand, when people experience health decline and their children still live at home, these children can provide the necessary care which probably makes a move because of health reasons less likely to occur. Elderly who move towards family often will move into the direction of their children. When children are still living in the household the odds of migration to live nearer to family, friends or acquaintances will probably be small.

4.2.8 Health status
Based on the logistic regression model in table 4.2 we can say there seems to be a negative relationship between health status and migration. The odds ratios are lower for each higher category of health status. We hypothesized an opposite relationship, wherein people that experience good health would be more likely to move. Apparently people are not likely to move when they are healthy for instance for amenity reasons. We can see that the odds of migration for persons experiencing o.k. health are not significantly different from those experiencing poor health. The significance criterion of 0.05 is not met, but the significance level of 0.055 is a marginally significant difference in the odds of migration between people with o.k. health and people with poor health. The odds of migration are 0.817 times smaller for persons experiencing good health than for persons with poor health.

The odds of migration because of health or the need for care shows also a negative relationship with health status. The odds ratio is lowest for persons in good health (0.221) and highest for persons in poor health. It would have been counter logic to find a different outcome. The odds of migration because of health or the need for care are significantly lower for both o.k. and good health compared to the reference category poor health. The odds of migration are 0.597 times smaller for persons experiencing o.k. health compared to persons experiencing poor health. The odds of migration because of health are 0.221 times smaller for persons experiencing good health than for persons in poor health.

In the last model, the model of migration to live nearer to family, friends or acquaintances, we can see no significant differences in the odds of migration between the categories of health status. The reason to live nearer to family, friends or acquaintances seems to be equally important to people experiencing different health.

In the first two models there seems to be a health effect in migration. This finding supports our hypothesis that there exists a negative relationship between health status and migration because of health or the need for care. The negative relationship between health status and migration in general was not expected to be found. In general we might say that poor health may lead to assistance migration.

5. Conclusion

5.1 Conclusion
We finalize the thesis by answering the sub-questions that eventually help to answer the main research question: *To what extent can migration behaviour in general and migration behaviour distinguished according to motives because of health or the need for care and to live nearer to family, friends or acquaintances of persons aged 55 years and older be explained by personal attributes and place characteristics?*

First we discuss the outcomes of the sub-questions. We combine the conclusions of the first three sub-question in order to follow the same structure as was done throughout the thesis. *What is the influence of personal attributes and place characteristics on elderly migration behaviour; 1. in general 2. because of health or the need for care 3. to live nearer to family, friends or acquaintances*

Of the total 29,129 cases in the dataset 2,072 made a move in the last two years. This corresponds to 7.1 percent. 1.5 percent of the people (434) made a move because of health or the need for care and 0.6 percent (171) of the total 29.129 people in the dataset made a move to live nearer to family, friends or acquaintances. In order to explain migration behaviour we digested important personal attributes and place characteristics from the literature that can explain migration behaviour. Based on the literature we made hypothesis on each of these independent variables. We discuss the outcomes of this study on the basis of these hypothesis.

Degree of urbanisation was operationalized as the municipal population size and was hypothesized to have a positive effect on migration. It was expected that larger cities are not the most favourable living environment for elderly and that they would be an impetus to move. This hypothesis was supported by our findings. Persons living in the largest category of municipal population size are more likely to move than persons in the lowest category. There is no difference in migration between persons in the category middle municipal population size and the lowest category of municipal population size. For migration because of health the hypothesis is not supported by the own results. There are no differences observed in the odds of migration between the three categories of municipal population size. For migration to live nearer to family, friends or acquaintances we could see the opposite outcome of what we hypothesized. The odds of migration are significantly higher for people in the smallest municipalities compared to people in the middle municipal population size. For people living in smaller municipalities the chance of having family or important others nearby is smaller than for the larger municipalities. This can make migration to live nearer to family, friends or acquaintances more important. No significant difference in the odds of migration between people in the smallest municipal population size and people in the largest municipal population size could be found however.

Highest level of education was hypothesized to have a positive effect on migration. The reason behind this is that highly educated persons often had to move earlier in life to follow a higher education program and they are more inclined to move for work because of higher personal investments. Having moved earlier in life increases the chances of moving again. Our findings did not support our hypothesis. We could observe no differences in the odds of migration between the three categories of education. Education seems not to affect migration decisions in later life. Although in table 4.1 no evidence for a relation between education and migration was found we can see that the percentages of movers are lower in each higher category of education and this is reflected in the odds ratios in table 4.2. This might indicate that the level of education has a different effect on migration than was anticipated based on literature. Higher investments in human capital for the highly educated often lead to larger chances for migration. For people in younger age groups, for example

students and the working population, this would probably the case. However when people become older this effect seems to diminish and may overturn. It is possible that highly educated persons found the right location to spend their retirement already during their working life and that less well educated did not yet anticipate their wants and needs at older ages during their working days . No evidence was found for a positive relation between education and the likelihood of migration because of health or the need for care. The odds of migration for health reasons seem to be lower for highly educated compared to less well educated persons. A possible explanation can be that highly educated elderly have lived in general more healthily than less well educated persons. Less well educated persons might therefore be more inclined to make a move because of health or the need for care. In migration to live nearer to family, friends or acquaintances we can see that the hypothesis is partly supported, but the reasoning behind the outcomes might be different. We can conclude that the odds ratios to live nearer to family, friends or acquaintances are respectively significant and marginally significant higher for people in respectively middle education and higher education compared to people with low education. The explanation for this finding can be that persons with lower education went to school nearby and could find suitable work in the region of origin. Living nearer to family, friends or acquaintances might therefore not be a prominent reason for moving for low educated. Highly educated persons may have moved away from their family to work somewhere else and they might want to return to their region of origin at older ages. Living nearer to family, friends or acquaintances might therefore not be a prominent reason for moving for low educated.

We expected to see a negative relationship between age and the likelihood of migration. The results support our hypothesis. Younger elderly seem to be more mobile than older elderly. For migration because of health we hypothesized a positive relation with age. The odds ratios are indeed highest in the older age groups. This can be explained by the onset of health decline at older ages. Health as a reason to move becomes more important at older ages. In migration to live nearer to family, friends or acquaintances a retirement effect, that was also visible in the other two models, becomes evident. The odds of migration are significantly higher for persons aged 65-69 years compared to the youngest age group. After retirement living nearer to family or others seems to be especially important. For younger and older age groups other reasons might be more important for making a move, for example health reasons at older ages. The existence of a clear retirement effect is in accordance with age migration schedules of migration. The fact that a retirement effect could be observed in migration because of health or the need for care and migration to live nearer to family, friends or family contradicts with the findings of Litwak and Longino (1987). They state that migration in the direction of family occurs in general later in life when the elderly experience health decline. Own results show that elderly tend to move in the direction of family, friends and acquaintances earlier in life, namely after retirement. It is possible that after retirement elderly do not move to their family etc. because they are in need for care but rather because they want to maintain contact with their children. Moreover the fact that work is not a locational constraint anymore can mean that retirees have no need to stay at the location where they worked, but have the possibility to move in the direction of their family, friends or acquaintances. Migration for health reasons and family reasons seem to occur earlier in life than is suggested by Litwak and Longino and therefore the underlying reasons for these types of migration might also be different.

We hypothesized that women would be more likely to migrate than men. In the model of migration in general and migration to live nearer to family, friends or acquaintance no significant difference in the odds of migration could be found. For migration because of health or the need for care a significant difference in the likelihood of migration between males and females was found. Females are more likely to move because of health or the need

for care than males. This has possibly to do with the fact that women live in a longer period of morbidity compared to men. A move in order to receive necessary care might be more beneficial to women than to men. In migration it is not very common to find gender differences. Gender seems to have a different effect in the explanation of elderly migration compared to migration that takes place at younger ages.

Home owners were hypothesized to be less likely to move compared to renters. Home owners have invested in their home making them in that sense more attached to a place and thus making them less likely to move. This hypothesis holds for the first model of migration in general. Renters seem to be more likely to move compared to home owners. Home ownership seems to have the same effect on elderly migration as for migration at younger ages. For the model of migration because of health or the need for care and migration to live nearer to family, friends or acquaintances no significant difference in the odds of migration could be found. The relationship between the independent variable home ownership and the dependent variables are influenced by other independent variable variables that mask the relationship.

Income was expected to have a positive effect on migration and migration to live nearer to family, friends or acquaintances. For migration because of health the opposite was hypothesized. People with high income have the recourses to enjoy their retirement and they have the opportunity to migrate to their preferred living environment. Besides this, higher income often means that people have followed higher education. Higher education can have a positive effect on migration as was explained before. In the model for migration in general and migration because of health or the need for care we found a negative relationship between income and migration. The odds of migration is lower for each unit of increase in income. An explanation can be that people with higher incomes do not have to move because of health reasons because they have the resources to buy care at home. An other reason might be that people with higher incomes are often higher educated. Highly educated persons live in general more healthily than lower educated persons. This makes a move for health reasons or the need of care less likely for highly educated persons. For migration to live nearer to family, friends or acquaintances no significant difference was found in migration when income increases. Income seems to have a different effect on elderly migration than on migration at younger ages.

Our hypothesis for household composition was to find that persons living alone would be more likely to move than other forms of household composition in all three models of migration. Although the odds of migration are lower for all other categories compared to singles in migration in general, the only significant difference could be found between singles and households with children. The odds of migration for singles are much higher compared to households with children. Households with children have in all three models of migration the lowest odds ratio. We assume that people with children at home are of younger age cohorts. For them migration because of health might not yet be an issue since they did not yet experience health decline. At older ages, children might provide necessary care. In migration to live nearer to family, friends or acquaintances the elderly already live with at least one child. Family as the most important reason for migration seems to be not very important to this group. The odds of migration for singles are smaller compared to couples in migration because of health or the need for care. An explanation might be that moves to institutions are absent in the dataset. Perhaps people living alone are more inclined to move into institutions in order to receive necessary care. In general we can say that household composition has the same effect in elderly migration and migration at younger ages.

For health status we hypothesized a positive relationship with migration in general. For migration to because of health or the need for care and migration to live nearer to family, friends or acquaintance we expected to find a negative relation with the likelihood of

migration. The better someone's health, the less likely he or she will be to migrate. A negative relationship could be observed in the model of migration in general (opposite of what was hypothesized) and in the model of migration because of health or the need for care. For migration to live nearer to family, friends or acquaintances no differences in the odds of migration between the different categories of subjective health status could be found. The hypothesis in this model is not supported. In the study by Litwak and Longino (1987) a group of amenity migrants was discerned. People that migrated for amenity reasons are in general younger and have a high income. Moreover they are in general in good health. In our own research no clear amenity migration could be observed. On one hand none of the discerned reasons covers the amenity reasons. On the other hand we found no positive relationship between health and migration in general. Elderly in poor health are more likely to move than elderly in good health. This can be an indication that there is no large group of amenity migrants in the Netherlands or that the group of elderly migrating for health reasons is much larger.

What are the differences in effects of personal attributes and place characteristics in explaining the three types of migration?
From the binary logistic regression model it becomes clear that not every place characteristic or personal attribute is important in explaining elderly migration behaviour. In the model of migration in general municipal population size, age, home ownership, income, household composition and health status significantly contribute to the explanation of elderly migration. In the model of migration because of health other variables contribute significantly in explaining this behaviour. These variables are age, gender, income, household composition and health status. Municipal population size, level of education, age and household composition significantly contribute to the explanation of migration to live nearer to family, friends or acquaintances for persons aged 55 years and older. It becomes clear from the personal attributes and place characteristics that were seen as important in explaining elderly migration behaviour only a few are indeed significantly contributing to the explanation of elderly migration and they differ between the three models.

Besides a difference in contribution to the migration models of the different personal attributes and place characteristics there are differences in the direction of the effect of the independent variables between the three models. It would come as no surprise if the models of migration because of health or the need for care and migration to live nearer to family, friends or acquaintances show the same effect for an independent variable as the model of migration in general, since migration because of health and migration to live nearer to family etc are part of the larger migration in general model. We observed some differences in effects of for example age between the model of migration and the model of migration in general. In migration in general we saw a clear negative relationship, where the odds of migration were lower for each higher age category compared to the reference category 55-59 years. In the model of migration because of health or the need for care we found the opposite relationship. It is important that we recognize the differences in contribution of the personal attributes and place characteristics in explaining migration in general and migration distinguished according to motive. This and other differences that were found in the direction of effects of the independent variable on migration helps us to explain migration behaviour in general and migration behaviour distinguished according to motive for persons aged 55 years and older.

5.2 Discussion
We found differences in contribution and effects of independent variables in explaining the three migration models for this research. The choice to include migration because of health or the need for care and migration to live nearer to family, friends or acquaintances in the

analysis is based on the fact that this are two reasons that can directly be linked with migration at older ages and on the fact that there are enough cases for these reasons of migration to do analysis on. Inclusion of the house and living environment as a reason for migration at older ages might contribute to the knowledge on elderly migration. The house and living environment can contain aspects that can specifically related to elderly migration, namely wanting to live in a smaller house or at ground floor. However the house and living environment contain also aspects not specific to elderly migration (e.g. central heating in the house). This makes the house and living environment as a reason for migration difficult to include in elderly migration because the results would be difficult to interpret. However when data that is specific to the life course of older people becomes available it could or should be included in analysis on elderly migration.

Data limitations or the lack of information about certain topics forms an obstacle in this research. Several personal attributes that were found important in the literature could not be included in this research because there was simply no information about them in the dataset. Previous migration histories can give us an insight in how many times a person has migrated before in his or her life and it can give us greater insights in explaining migration behaviour later in life. For migration because of health or the need for care and migration to live nearer to family, friends or acquaintances it might be important to know if people have children outside the households. This can also contribute to the explanation of elderly migration. Moreover, no information on the city or region of birth is available in the dataset. This variable is important for explaining return migration or can be important in explaining migration towards family at older ages. Last but not least, no information on moves to institutions are available. The dataset covers only private housing.

The classification of the independent variables influences the conclusions that we can draw. The chosen classifications are debatable (e.g. we could have used five classes of self-reported health status instead of three) and other classifications possibly would have lead to other conclusions. The same is true for the dependent variable. The dependent variables are designed in a way that when a person gave multiple answers on the reason to move question the most important reason form moving is taken. When a respondent only mentioned one reason for migration this reason is taken for analysis. Here we make the assumption that only one mentioned reason works as a trigger for migration, but it can be that the combination of reasons lead to a migration decision. In this case every mentioned reason for migration should be included in analysis. This may lead to different outcomes.

For certain variables the number of cases in a specific category are small. Especially in the model of whether moved to live nearer to family, friends or acquaintances. For household composition for example the 'other' category was filtered out of the analysis because there were no persons in this category that had made a move. When doing analysis with small numbers of cases we have to be aware that the outcomes can be excessive and we have to be cautious in making statements about variables including very few cases.

5.3 Implications
We started this thesis with the message that age compositions of countries change in size and structure over time. In the Netherlands the babyboom generation will enter retirement age in the upcoming years. The absolute and relative share of elderly migration will therefore increase further. Together with the individualization in society more elderly will live independently in the future. When these people migrate between houses in the private sector it can mean that the elderly put care giving facilities under pressure at the new location. Moreover, it is important to realise that in a context of a growing share of elderly population the percentage of people in working ages becomes smaller. The health care sector is already under pressure in the Netherlands and in the future there can be a shortage in staff. In this

situation it would become more difficult to receive necessary care at home and people might want to move to be certain that they get the care when they need it. Moreover the pressure on the health care sector can mean that people will rely more on family support systems and they will move in direction of family which can increase the importance of migration to live nearer to family, friends or acquaintances.

5.4 Recommendations

WoON 2009 is not perfectly designed to do research on elderly migration behaviour. Important explaining variables are not in the dataset and inclusion of variables such as region of birth, the number of children and previous migration history may contribute to the explanation of elderly migration behaviour. It would be valuable to have information on moves into institutions. This would give a greater insight in elderly migration behaviour, because moves into institutions can be a substantial part of elderly migration and incorporation of this variable can exhibit different patterns in elderly migration. Incorporation of other important variables might be a first step into the direction of predicting elderly migration behaviour.

This research could be expanded by adding other important motives for migration that can be linked to migration at older ages. Here we can think for example of migration related to housing, for example migration to live in smaller house, to a house on ground floor or to a house where care at home is available. It would be interesting to see what the effects of personal attributes and place characteristics for this type of elderly migration. Now only a part of the total elderly migration is covered by the reasons because of health or the need for care and to live nearer to family, friends or acquaintances. If we could classify the other migrants it would give a greater insight into elderly migration behaviour. Not only because this leads to an increase of migration reasons that can explain elderly migration, but also for the fact that these non-classified elderly migrants are no longer part of the 'no' category in the dichotomous variables whether migrated over the last two years, whether migrated because of health or the need for care and whether migrated to live nearer to family, friends or acquaintances.

Although already a lot is known about distance in elderly migration it is interesting to know if the personal attributes and place characteristics have the same effect on elderly migration in general and elderly migration distinguished according to motive for long and short-distance moves or if there are regional differences in elderly migration. This again can contribute to the understanding of elderly migration behaviour and can provide valuable information about the effects of personal attributes and place characteristics in elderly migration.

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