The wellbeing of elderly people living in retirement homes in the Netherlands

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Abstract

The Netherlands is facing an increasingly ageing population, as is the case with most other European countries. This study investigates the impact of several factors on the wellbeing of elderly people living in retirement homes in the Netherlands. The main research question is as follows: *To what extent is the wellbeing of elderly people living in retirement homes in the Netherlands influenced by the residential situation and which determinants have an additional impact?* The variables that are studied have been divided in three categories: 1) personal characteristics, 2) cause and experience of the movement, and 3) residential situation.

Quantitative research has been conducted, based on a secondary dataset from The Netherlands Institute for Social Research, called 'Ouderen in Instellingen 2008'. Variables were selected with careful considerations, ensuring that a good selection was made in accordance with the theoretical framework and chosen statistical test, an ordinal logistic regression.

The results illustrate the importance of physical wellbeing, satisfaction with retirement home, feeling at home and frequency of visiting church or mosque on wellbeing. Each variable is positively related to wellbeing, meaning that an increase in satisfaction, in assessed health, church or mosque attendance will increase wellbeing among elderly people. These findings were also expected on the basis of several theories that have been discussed in the literature study (Meléndez et al., 2009; Gröndstedt et al., 2011; Lowis et al., 2005; Idler et al., 2009; Ellison et al., 2001; Kirby et al., 2004; Andersson et al., 2007; Falk et al., 2012; Prieto-Flores et al., 2011; Veer & Kerkstra, 2001; Hoof et al., 2016; Cooney, 2012). Being aware of the influence from these variables can be useful to interpret, and hopefully impact, happiness among elderly people in their last years of life.

This thesis supports the positive influence of assessed health, church or mosque attendance, feeling at home and satisfaction with retirement home on the wellbeing of elderly people living in retirement homes in the Netherlands.

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1. Introduction

1.1 Background

Wellbeing is a topic that has become increasingly popular over the last decades. Many articles have been published in which life satisfaction is researched among different age groups. Other studies have looked into several factors that could influence wellbeing. However, little research has been conducted into the relationship between wellbeing and the geographical discipline. To what extent could spatial factors influence someone's wellbeing, and could this impact be undermined by other factors?

The research presented in this thesis specifically studies wellbeing and residential satisfaction among elderly people living in retirement homes in the Netherlands. This is a relevant topic, because we are currently facing an increasingly ageing population in the Netherlands, as is the case with most other European countries. Some reports indicate a strongly positive impact on happiness after the transition to retirement homes and suggest that the physical, social and mental wellbeing has greatly improved, where other articles argue that this is very dependent on the residential characteristics (Access, 2019; ExtraCare, 2019; Burton & Sheehan, 2010; Falk et al., 2012; NICE, 2013; Amirit et al., 2017; Motteran et al., 2016; Hays, 2002; Grönstedt et al., 2011).

Many studies that investigate factors that could influence the wellbeing of elderly people, focus on a few factors only. This research studies the impact of residential situation on wellbeing, but also looks into other factors that could play a role. A broader study will give more insight into which factors have the most significant influence on wellbeing. This study has an important contribution in the study of spatial factors on wellbeing among elderly people living in retirement homes. It will help to interpret, and hopefully improve, their wellbeing in the last years of life.

1.2 Research problem

The aim of this research is to study the influence of several factors on the wellbeing of elderly people living in retirement homes. It studies the strength of this influence and relation with wellbeing. This leads to the following research question:

To what extent is the wellbeing of elderly people living in retirement homes in the Netherlands influenced by the residential situation and which determinants have an additional impact?

This is answered by addressing the following sub questions:

- *To what extent do personal characteristics influence the wellbeing of elderly people living in retirement homes in the Netherlands?*
- *To what extent do the cause and experience of the movement influence the wellbeing of elderly people living in retirement homes in the Netherlands?*
- *To what extent does residential situation influence the wellbeing of elderly people living in retirement homes in the Netherlands?*

1.3 Structure

The next chapter includes a literature review and discusses concepts that are considered relevant to this topic. It also contains a conceptual model showing the relations between the most relevant concepts in this study, and the hypotheses deriving from these theories are presented. In the chapter that follows, the methodology is addressed. It discusses the research type, the data, statistical test and critically reflects upon the variables. Then, the descriptive statistics and results of the statistical test are presented and discussed. Conclusions are drawn in the last chapter, followed by a reflection upon the limitations of this research and recommendations for future research.

2. Theoretical framework

<u>2.1 Literature study</u>

Three sections compose the structure of this literature study, each section representing one of the three sub questions. The sections are: personal characteristics, cause and experience of the movement, and residential situation.

Personal characteristics

One of the personal characteristics that has been studied widely, relates to health and physical conditions. Overall, low physical functioning among elderly people correlates with poor wellbeing (Grönstedt et al., 2011). Age can also be impacted by this positive relation: when age increases, physical conditions are likely to decline, therefore life satisfaction is expected to decrease when age increases. However, this significant impact of age disappears when other variables relating to wellbeing and physical conditions are added (Meléndez et al., 2009). This insignificant relation between age and wellbeing has been indicated in more studies, stating that age lacks a direct relation with wellbeing, especially when limited to an age group (Kampfe, 1999; Grönstedt et al., 2011).

Financial situation or income are also frequently studied in relation to wellbeing. Among elderly people, life satisfaction is not significantly influenced by income (Meléndez et al., 2009). This impact might differ per country as each country differs in GDP and financial laws. However, although this research was based in Spain, it is likely that the financial aspect does not significantly influence wellbeing of elderly people in the Netherlands. The costs of retirement homes in the Netherlands are mostly covered by the government, which is specified in the 'Wet Langdurige Zorg' (Law for Long-term Care). Elderly people are expected to pay contribution, this amount is dependent on capital and age. Subsistence costs can differ slightly between care facilities and between the room size within the care facility (Wettenbank, 2020; Rijksoverheid, n.d.). This information suggests a marginal impact of economic factors on wellbeing of elderly people and its relation with the residential situation.

Another variable that is likely to have an influence on wellbeing, relates to religious beliefs. In stressful periods, such as the transition to retirement homes for elderly people, religious people seem to have more peace (Lowis et al., 2005; Ellison et al., 2001). Higher religious beliefs appear to give elderly a more optimistic mentality in general (Idler et al., 2009; Kirby et al., 2004). This could influence the self-evaluated wellbeing and overall positivity of respondents. However, frailty could influence the relation between religion and wellbeing (Krause et al., 2003).

Other variables that are considered relevant in the topic of wellbeing in relation with personal characteristics, are gender, marital status and education.

The first factor, gender, does not appear to significantly influence wellbeing of elderly people (Meléndez et al., 2009). However, it indirectly relates to wellbeing, as it seems to influence the experience of a movement. Women cope with more stress during the transition to a retirement home, have more negative opinions about it and are likely to have stronger opinions than men overall (Kampfe, 1999). This might have a lasting impact on wellbeing and should be considered when studying the wellbeing of elderly people who just moved to a retirement home, as time is needed for adaptation to the environment (Lee, 2001).

With respect to marital status, this is likely to be positively related to wellbeing. Elderly people with a partner seem to cope less with stress and rate their life satisfaction higher (Kampfe, 1999). However, the extent to which a partner influences wellbeing could depend on whether this partner lives in the same place, as it could have a negative influence on wellbeing if an elderly couple lives separately from each other. The death of a partner, or the discovery of a serious illness are major life events that could have an influential effect on wellbeing. Major life events could be positive or negative, relating to a change in circumstances, such as the change in state from single to married (Ballas & Dorling, 2007).

Previous studies on the influence of educational level on wellbeing, have produced different findings. According to a study from Böckerman et al. (2012) among elderly people in Finland, there seems to be a relation between a high educational level and high subjective wellbeing. However, Meléndez et al. (2009) also indicate a relation between educational level and life satisfaction, but add to this that this effect disappears when more variables relating to physical conditions and wellbeing are added.

Cause and experience of the movement

Besides personal characteristics, the cause and experience of the movement to a retirement home are likely to influence the wellbeing of elderly. There are several factors that cause the movement to a retirement home. Some relate to major life events, such as the death of a partner or the discovery of a serious illness (Ballas & Dorling, 2007; Hays, 2002). Other movements relate more to personal characteristics and conditions in the direct environment. Such push factors can also cause relocation (Weeks et al., 2012).

The type of cause from the movement also determines its influence on the wellbeing of elderly people. A distinction can be made between proactive and reactive moves. Whereas reactive moves are less expected, more often involuntary and experienced more negatively, proactive moves are more likely to be voluntary and are perceived more positively (Pope & Kang, 2010; Walker & McNamara, 2013).

There also seems to be a relation between the experience of a movement to a retirement home and the wellbeing of elderly people. Stress of relocation might negatively influence the sensed wellbeing, as the perception on a specific event influences its outcome and one's response to it. If the movement is experienced as troublesome, e.g. because of fear of not getting used to the retirement home, this is likely to influence the perception, and these expectations will lay their foundation on this negative frame. The contrary could also be the case: if the movement turns out better than expected, this positive mindset might influence residential satisfaction (Kampfe, 1999; Kampfe, 2002).

A distinction can be made in wellbeing between those who were actively involved in the process of relocation and those who did not have control or influence on the movement (Iwasiw et al., 1996), such as elderly people who are forced to move by their children (Thomas & Hayley, 1991). Considerations about the choice for a retirement home are likely to differ between the elderly person in question and their children (Caro et al., 2012). This can cause an elderly person ending up in a retirement home against his/her preference, which could influence the experience of the movement, residential satisfaction and perhaps overall wellbeing.

However, there are two factors that could undermine one's stress from moving, overall attitude and wellbeing. The first factor relates to religious beliefs, as this is considered to have an influencing role in subjective wellbeing. In stressful periods, such as the transition to retirement housing, it seems to give elderly more peace (Lowis et al., 2005). Also, higher religious beliefs seem to give elderly a more optimistic mentality in general (Idler et al., 2009). The second factor relates to the a different type of mindset among elderly people. Many elderly people are unwilling to complain or criticize and they always seem to try to make the best of it (Davies & Nolan, 2003; Warren & Williams, 2008). They tend to compare and relativize their own wellbeing with others (de Klerk, 2005). For example, the expression for happiness in Groningen is 'kon minder', meaning that it could be worse.

Residential situation

Lastly, the circumstances in a retirement home are also likely to influence the wellbeing of elderly people. Starting with the geographical discipline, provinces do not seem to significantly impact wellbeing. The indicator of wellbeing, which is defined as 'Geluksmeter' in Dutch, shows that the average scores on wellbeing do not differ significantly per province. The average rate of wellbeing among the Dutch is 7.1, Flevoland scores 6,8, Limburg and Zuid-Holland 7,0, Gelderland 7,2 and the other provinces all score 7,1 (CBS, 2016). However, within a province, this satisfaction might differ per retirement home or municipality.

The design of the retirement home is a factor that seems to influence wellbeing of elderly people. This can relate to residential characteristics such as the view from the window or the choice of rooms where elderly can sit and socialize (Burton & Sheehan, 2010), as well as the overall feeling of control on the environment, which could be influenced by the personalization of rooms (Barnes, 2002). The ability to go out also has an impact on wellbeing (Barnes, 2006). However, elderly can feel burdened to ask for help if they are not able to go outside on their own, which could negatively relate to wellbeing (Bölmsjo et al., 2006).

Not only the place where elderly can socialize, but also the act of socializing is positively related to wellbeing (Evans & Vallelly, 2007). A good social network, both outside and within the retirement home, significantly relates to wellbeing and residential satisfaction. Social participation and being part of the group is important, taking part in activities that relate to art, sport and leisure has a positive impact on wellbeing (Amirit et al., 2017). Motteran et al. (2016) elaborate on this by stressing the importance of being part of the group while the feeling of independence remains, both socially and physically.

Another factor that is likely have a significant impact on the wellbeing of elderly people, is feeling at home (Falk et al., 2012; Prieto-Flores et al., 2011). The importance of this factor relates to the fact that it is influenced by many other factors. This sense of home can be influenced by not only personal, but also external factors such as interior design, feeling of independence, feeling safe and secure, being engaged in activities and the quality of care (Veer & Kerkstra, 2001; Hoof et al., 2016; NICE, 2013; Cooney, 2012). The contact with nurses also has an influence on creating this 'home' feeling and positively impact wellbeing (Cooney, 2012; Iwasiw et al., 1996; Kane, 2003; Sandberg et al., 2002; Chou et al., 2003).

Therefore, good contact between the nurse and elderly people should be ensured, as the demands of the elderly are not always understood or met by the nurse (Hays, 2002). The experience of these circumstances determines whether elderly people feel in control and supported or not (Davies & Nolan, 2003).

Lastly, the length of residence has an important role. Time is needed to adjust to a new environment and therefore, people who moved a longer time ago, are more likely to be more satisfied (Lee et al., 2001). Andersson et al. (2007) elaborate upon this by stating that overall satisfaction with retirement homes is likely to influence wellbeing of elderly people over time. Factors that could play a role in this satisfaction, are the experience of homely atmosphere, feeling enough privacy or feeling secure, which will be experienced in time.

2.2 Conceptual model

A conceptual model is presented in figure 1. The design is based on literature study and the research questions.
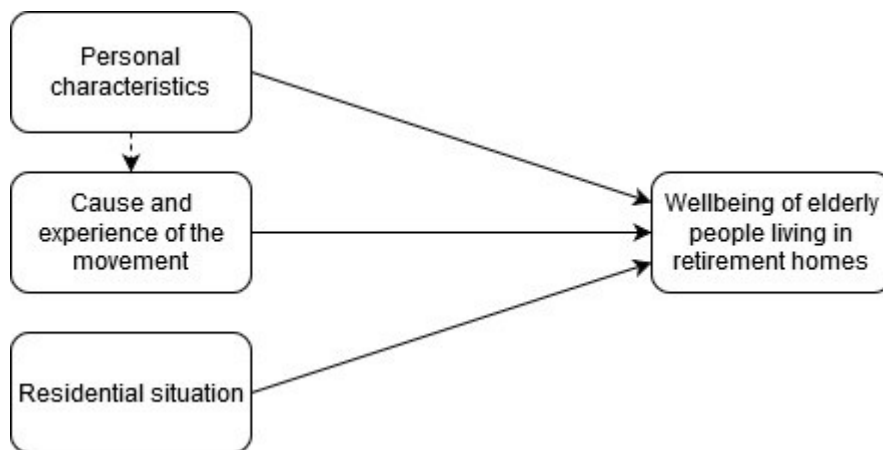
Figure 1 – conceptual model

As depicted in the model, the research presented in this thesis examines the influence of three categories of factors on the wellbeing of elderly people living in retirement homes. These factors are: personal characteristics, cause and experience of the movement and residential situation. The variables that are included for each group are presented in table 1.

The dotted arrow between personal characteristics and cause/experience of the movement symbolizes a possible influence, but this does not mean that there is certainly a relation between the two boxes. Personal characteristics could impact the cause and or experience of the movement, such as severe illness or decrease in physical conditions, which could cause an elderly person to move and maybe see the experience as more traumatic. However, religious beliefs could influence the experience of the movement but it is less likely that this also relates to the cause of the movement. Therefore, the personal characteristics and cause/experience of the movement are not necessarily interlinked.

Personal characteristics	Cause and experience of the movement	Residential situation

Gender	Cause of movement	Province
Age	Experience of movement	Residential characteristics
Marital status		Frequency of going out
Where partner lives		Visiting internal activities
Educational level		Social contact
Religious beliefs		Independence
Value of religious beliefs		Satisfaction with nurse
Physical conditions		Satisfaction with retirement home
Financial situation		Feeling at home
Major life events		Perceived safety
Length of residence		

Table 1 – variables per category based on literature

2.3 Definition of concepts

A conceptual model can be used as a foundation for research and analysis. To build upon such foundation, it needs to be strong and requires a clear definition of the main concepts.

Personal characteristics refer to the qualities and features that distinguish someone. In this research, it relates to general characteristics such as age or gender, but also to religious beliefs or physical conditions.

Cause and experience of the movement includes the direct and indirect reasons that lead to the movement to a retirement home, and how this transition is perceived by the elderly themselves.

Residential situation relates to all circumstances that relate to the retirement home, and often includes the opinion of the elderly on these circumstances. Examples of these characteristics are: satisfaction with nurse, perceived safety, social contact and province.

Retirement home is an umbrella term for the residence of elderly people. In this research, the term refers to a care home for the elderly, and it is limited to the elderly people with moderate or good cognitive abilities.

Elderly people are people aged 60 and above.

Wellbeing is also an umbrella term. It is a subjective concept that relates to the satisfaction of someone with their life.

2.4 Hypotheses

Based on the literature, many hypotheses have been formulated, which are displayed in appendix 7.1, table 7. To summarize the hypotheses in this table, the following factors are expected to be significant:

- In the group personal characteristics, the following factors are expected to have a significant impact on the wellbeing of elderly people living in retirement homes in the Netherlands:

marital status, religious beliefs, physical conditions, major life events and length of residence.

- In the group cause and experience of the movement, the following factors are expected to have a significant impact on the wellbeing of elderly people living in retirement homes in the Netherlands: cause of the movement and experience of the movement.
- In the group residential situation, the following factors are expected to have a significant impact on the wellbeing of elderly people living in retirement homes in the Netherlands: residential characteristics, frequency of going out, visiting internal activities, social contact, independence, satisfaction with nurse, satisfaction with retirement home, feeling at home and perceived safety.

Overall, subjective variables are more likely to be significant, as the dependent variable is also subjective, which increases the chance of stronger correlations.

3. Methodology

3.1 Research method

Many of the discussed factors are included in an online dataset called 'Ouderen in Instellingen'. From this dataset, variables are selected and adapted in accordance with the theoretical framework and chosen statistical test, which is an ordinal regression. The suitability of this test can be derived from appendix 7.1, table 7. The ordinal nature of the wellbeing variable fits well for an ordinal regression. Dummies have been built for each non-covariate variable that is included in the test. The use of this dataset and statistical test demands for the adoption of quantitative research methods. In comparison with qualitative methods, they allow for different lines of questioning, study relationships between variables and enable to make generalizations. These can be applied to increase its applicability for societal purposes as this research is of societal relevance (Clifford et al., 2016; Punch, 2013).

3.2 Dataset and variables

The dataset used for investigation, 'Ouderen in Instellingen', includes data from over 1500 respondents. The data has been collected by The Netherlands Institute for Social Research for the purpose of gaining more insight into different areas from the life of elderly people living permanently in a retirement home. Between 1992 and 2008, research has been done every four years to keep updated. In this study, the dataset from 2008 is used. Its questionnaires and SPSS datasets are shared online, being freely accessible for everyone (Sociaal en Cultureel Planbureau, 2008). There are more studies in which these datasets have been analyzed. The data from 2004 has been discussed and summarized in a report, which has been referred to in other studies. However, most studies mostly used the theories and discussed the variables and their significance only briefly (de Klerk, 2005; Mot et al., 2010). The use of this data, its extensive analysis and discussion, is therefore novel in the study of wellbeing.

The cases have been sorted out in accordance with representativeness and contribution. The new matrix showing all variables per group, adapted to the dataset, is presented in table 2. The variables selected for statistical analysis in this research are presented in appendix 7.1, table 7.

As the dataset did not include a question that related to the experience of the movement, this variable could not be included in the regression. It was expected to have mutual influence with other variables, such as gender, religion and marital status. This is a clear limitation in this research.

Personal characteristics	Cause and experience of the movement	Residential situation
Gender	Direct cause of movement	Province
Age	Reason for movement	Satisfaction with room
Marital status	Other reasons for movement	Frequency of going out
Where partner lives	~~Experience of movement~~	Visiting internal activities
Educational level		Social contact
Religious beliefs		Independence
Frequency of visiting		Satisfaction with nurse
church or mosque		Satisfaction with retirement home

Assessed health		Satisfaction with activities
Financial situation		Satisfaction with treatment
Death year of partner		Feeling at home
Length of residence		Perceived safety

Table 2 – variables per category based on literature and dataset

3.3 Statistical test

The test that has been used in this study, is an ordinal logistic regression. This test determines the nature of the relations between each independent variable. The ordinal nature of the dependent variable highlights the suitability of this regression type (Chan, 2005). Previous articles indicate that wellbeing studies typically use this test (Noone et al., 2009; Vozikaki et al., 2017). The results give a good overview of the statistical significance from each variable in relation to the categories of the dependent variable. This will give more specific insight into the influence of the variables for every rated level of wellbeing (Burt et al., 2009; Venhorst, 2020).

Table 7 in appendix 7.1 also indicates the measurement level per variable, which refers to its application in the test: nominal data is considered as factor data, therefore computed into dummies before included in the test. Variables with other measurement levels are considered as continuous variables, as the categories from the ordinal data are ranked per number. All variables are tested on multicollinearity to ensure validity among the variables (Lærd Statistics, 2018).

3.4 Critical reflection on variables

This part critically reflects upon the hypotheses in table 7, appendix 7.1, as the expected significance depends on several factors. Such factors relate to the formulation of the variables, the sample size and spread.

First of all, the disability to include a variable relating to the experience of the movement, influenced some of the hypotheses. Since this experience is not measured, this confirms the expected insignificance of gender, and decreases the chances of a significant outcome among 'marital status'. This, in combination with the low number of respondents on partner's residence, changes the expectations into an insignificant outcome.

The subjective formulation of variables such as 'assessed health' and 'feeling at home' increases the likeliness of significant influence, as the dependent variable is subjective as well. Opposed to that, the objective formulation of the variables 'going out' and 'visiting internal activities' decreases the chances of significant results. Some people add less value to go out, and therefore the lack of it does not directly mean that someone is unhappy. The same argumentation can be held for the frequency of visiting activities from the retirement home, as this is not necessarily linked to someone's happiness.

The limitation of the factor 'major life events' to a more specific variable 'death year of partner', where only the year is measured, decreases the chance to have a significant impact. This is also the case for the variables relating to the cause of the movement, which are limited in representing the theories as they do not cover proactivity and reactivity for example. The specific formulation of these questions does not fully cover the theories and limits the chances of significant results.

The unequal spread among 'length of residence', 'satisfaction with room', social contact' and 'perceived safety' decreases the likeliness of significant results. The unequal distribution makes that some of the categories have an insignificant sample size which limits the ability to find significant results, as there are too few observation to capture significant power. The variable 'province' is also a variable with a highly unequal spread, and the fact that the two provinces that were most likely to differ significantly, Gelderland and Flevoland, have been combined into one category, decreases the chance of a significant outcome.

4. Results

4.1 Descriptive statistics

After sorting out the data and the cases, the descriptive statistics and ordinal regression are based on 645 out of 1561 original cases. This is because less than half of the original respondents lived in a retirement home, so the other respondents were excluded from the test. A few other adaptations led to the final number of 645 cases.

The descriptive statistics from the dependent variable are presented in figure 2 and in table 3. Table 3 also includes most independent variables, except for the descriptive statistics from the nominal data, which are presented in table 4. Their descriptive statistics are visualized in appendix 7.2, figures 6-15. Both table 3 and 4 indicate that all variables have enough cases, the variable 'where does partner live?' being the lowest, with 68 valid cases.
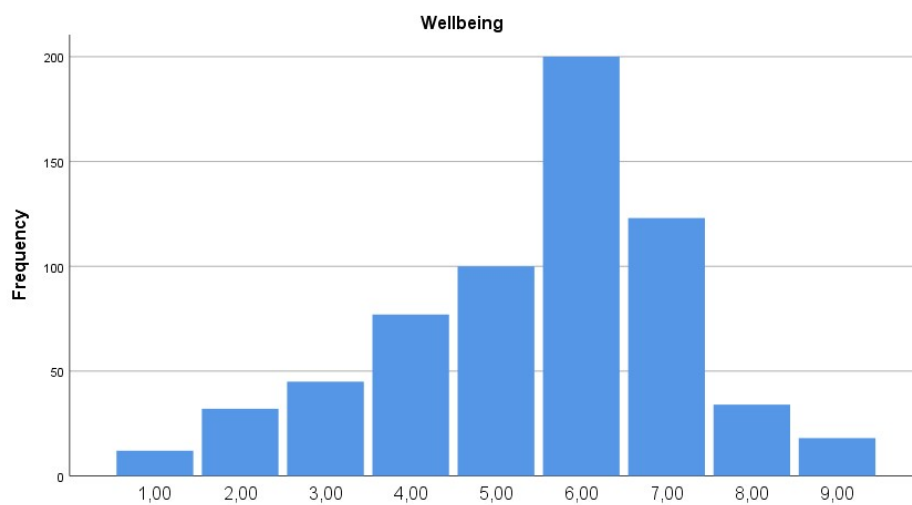
Figure 2 – descriptive statistics on the dependent variable 'wellbeing'

		N		Mean	Median	Std. Deviation	Min	Max
		Valid	Missing					
Wellbeing	Scaled 1-9 1=very unhappy 9=very happy	641	4	5,4836	6,0000	1,71395	1	9
Age		645	0	85,35	86,00	6,485	62	100
Death year of partner		470	175	1992,92	1996,00	13,127	1942	2009
Frequency of visiting church or mosque	Scaled 1-6 1=weekly or more often 6=never	643	2	3,90	5,00	1,898	1	6
Assessed health	Scaled 1-5 1=very good 5=very bad	645	0	2,60	3,00	,792	1	5
Feeling at home	Scaled 1-3 1=yes 3=no (unlikely to happen either)	643	2	1,31	1,00	,589	1	3
Financial situation	Scaled 1-5 1=running into debts 5=saving a lot of money	585	60	3,35	3,00	,847	1	5

		Valid	Missing	Mean	Median	Std. Dev	Min	Max
Satisfaction with treatment	Scaled 1-3 1=satisfied 3= dissatisfied	474	171	1,27	1,00	,480	1	3
Satisfaction with activities	Scaled 0-1 0=dissatisfied 1=satisfied	623	22	,93	1,00	,251	0	1
Length of residence		642	3	2004,99	2006	3,461	1980	2009
Perceived safety	Scaled 1-5 1=very bad 5=very good	625	20	3,9680	4,0000	1,02012	1,00	5,00
Indepen-dence	Scaled 1-5 1=feeling very dependent 5=feeling very independent	633	12	4,6493	5,0000	,61642	1,00	5,00
Satisfaction with care home	Scaled 1-8 1=very dissatisfied 8=very satisfied	593	52	3,6509	4,0000	1,16302	1,00	8,00
Satisfaction with nurse	Scaled 1-5 1=very dissatisfied 5=very satisfied	502	143	3,7908	4,0000	1,15905	1,00	5,00
Satisfaction with room	Scaled 1-3 1=would be okay with one less room 2=satisfied 3=would like to have an extra room	644	1	2,26	2,00	,458	1	3
Visiting internal activities	Scaled 1-5 1=daily 5=never	645	0	2,46	2,00	1,501	1	5
Frequency of going out	Scaled 1-3 1=satisfied 3=wish to go out more often	630	15	1,5778	1,0000	,70394	1,00	3,00

Table 3 – descriptive statistics of the ordinal, interval and ratio variables

	N	
	Valid	Missing
Social contact	643	2
Province	645	0
Reason for movement	450	195
Other reasons for movement	516	129
Direct cause of movement	642	3
Religious beliefs	644	1
Highest completed education	644	1
Where does partner live?	68	577
Marital status	645	0
Gender	645	0

Table 4 – descriptive statistics of the nominal data

An uneven spread is indicated among several categories from variables in figures 2 and 6-15. Therefore, the number of respondents per category is not always high enough to assure good significant results and generalizations. This can be seen as a limitation, and a recommendation for further research to ensure a spread that is more equal, or at least includes a higher number of respondents for the smallest categories.

This unequal spread also influences the wellbeing scores per province of the Netherlands, which are displayed in figure 3-5. Except for Flevoland and Gelderland, which are combined, the following scores are presented per province: the mean, the percentage of happy and unhappy people. Figure 3 displays the average wellbeing score, which has been computed by calculating the average out of all wellbeing scores that have been given in that province. Figure 4 displays the percentage of happy people, which is computed by calculating the proportion of respondents scoring their wellbeing with 7, 8 or 9, opposed to the other scores. Figure 5 displays the percentage of unhappy people, which is computed by calculating the proportion of respondents scoring their wellbeing with 1, 2 or 3, opposed to the other scores. Outliers such as Zeeland and Friesland should therefore be considered with the hindsight from the low number of respondents.
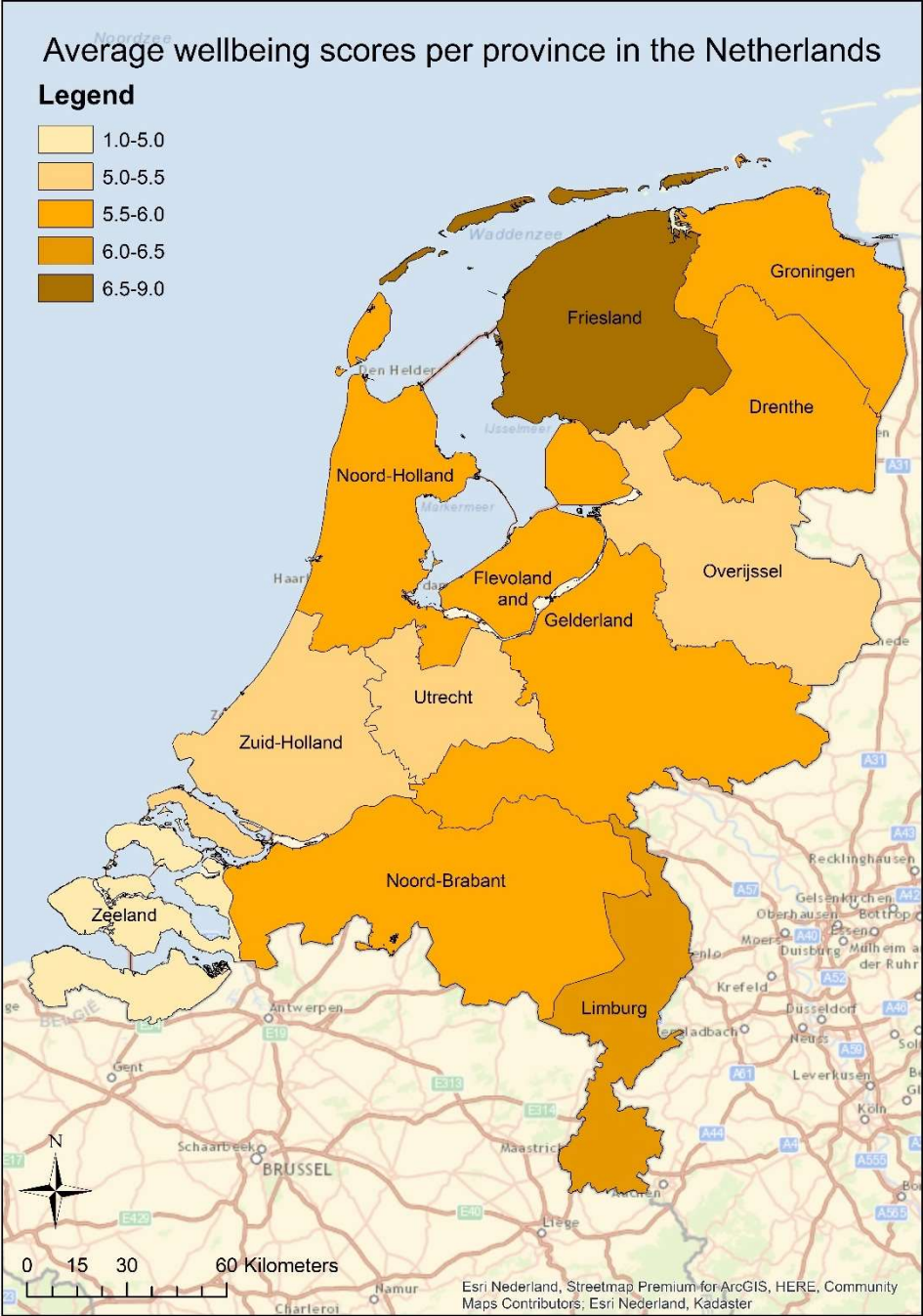
Figure 3 – average wellbeing scores per province in the Netherlands
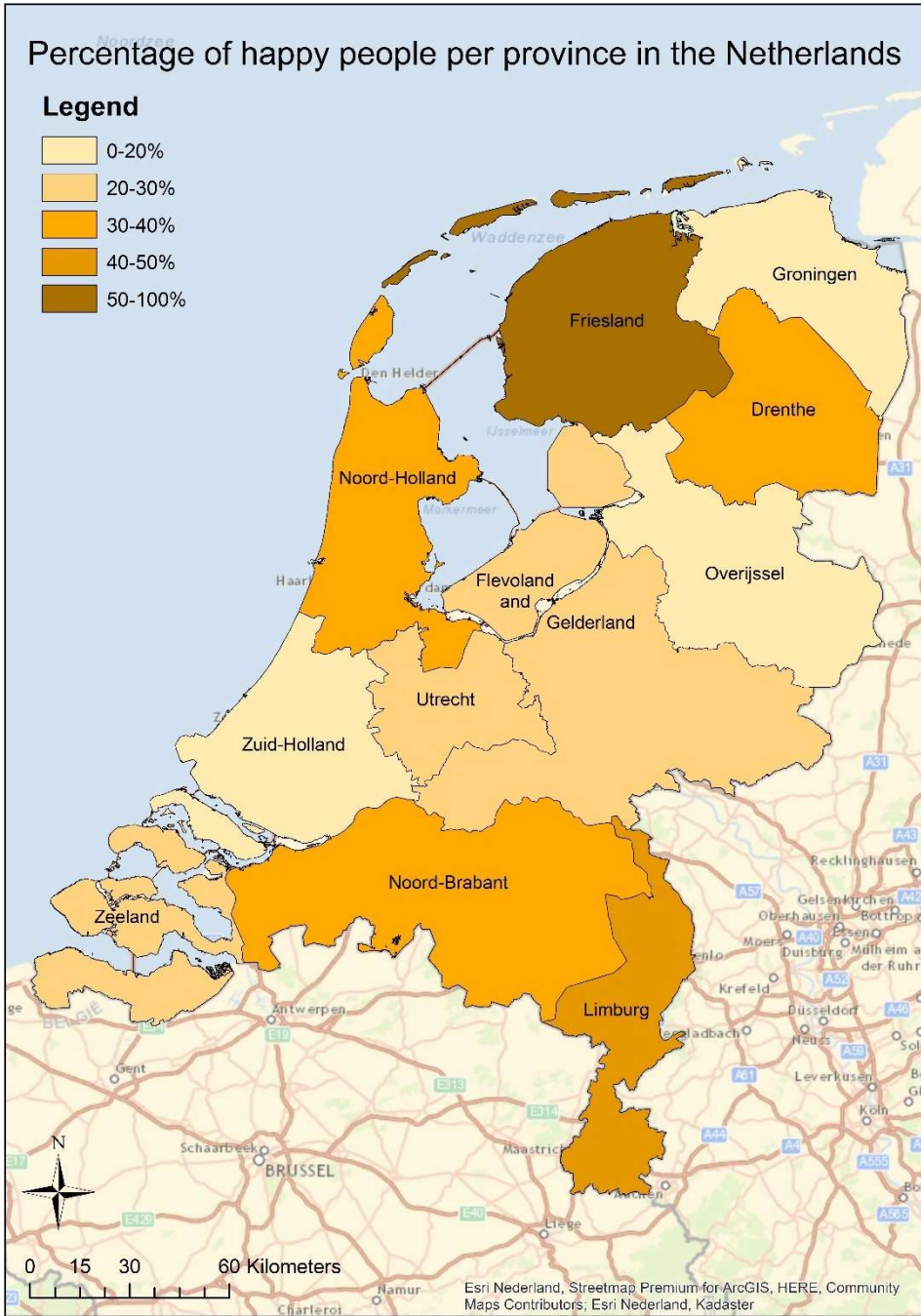
Figure 4 – percentage of happy people in the Netherlands
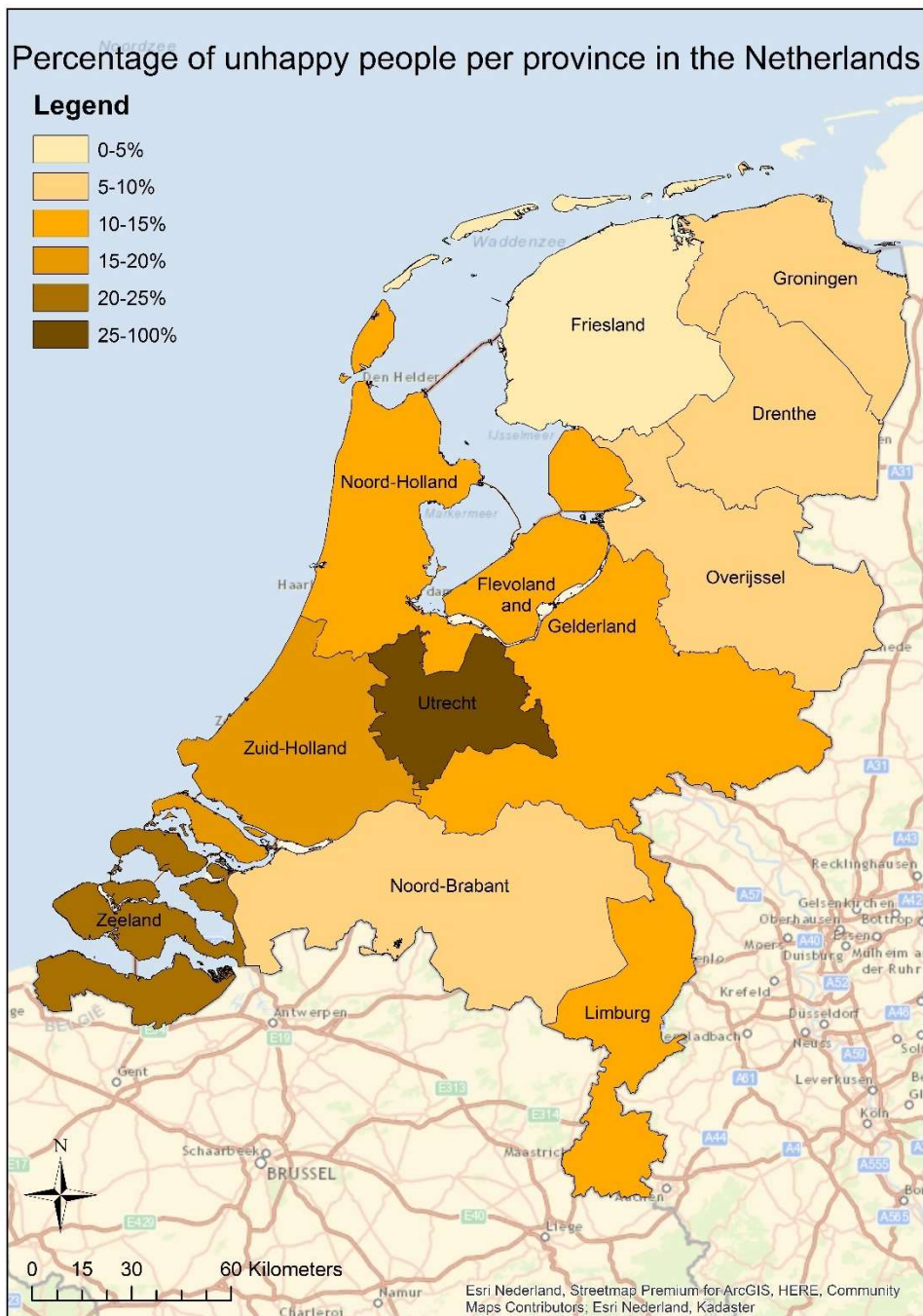
Figure 5 – percentage of unhappy people in the Netherlands

<u>4.2 Test results</u>

The results of the test are presented in several tables. Table 5 shows the main results of the ordinal regression, the significant variables are marked. A more detailed version of this table is displayed in appendix 7.3, table 8. The following variables are significant:

1) Frequency of visiting church or mosque
2) Assessed health
3) Satisfaction with retirement home
4) Feeling at home

Testing the variables in their own groups (personal characteristics, cause of movement and residential situation) delivered the same significant and insignificant variables. It can be assumed that the mutual influence between variables on a lower level is not strong enough to change the level of (in)significance.

The number in the column 'estimate' from table 5 indicates the type of relation between the significant variable and wellbeing. The number represents the increase or decrease in wellbeing caused by a one unit increase from the independent variable (UCLA, 2020).

			Estimate	Sig.
Threshold	Wellbeing	1	47,470	,431
		2	48,904	,417
		3	49,733	,409
		4	51,011	,397
		5	52,212	,386
		6	54,066	,369
		7	56,082	,352
		8	57,270	,342
Location	Gender		-,085	,724
	Age		,002	,896
	Marital status	Married or living together	-1,728	,377
		Divorced or no longer living together	-,563	,310
		Widowed	,558	,629
	Death year of partner	Until 1969	,591	,630
		1970-1979	,043	,970
		1979-1989	-,274	,810
		1989-1999	-,418	,711
		1999-2009	-,992	,378
	Where does partner live?	Same care home, same apartment	2,357	,235
		Same care home, different apartment	1,072	,607
		Different care home	1,593	,481
		Independent	0[a]	.
	Assessed health		-,680	,000
	Financial situation		,211	,081
	Highest completed education	No education	,693	,369
		Lower education	-,131	,771
		Lower vocational education	-,190	,677
		Intermediate vocational education	-,221	,654
		Pre-university education	-,893	,226
		Senior vocational education	-1,116	,069

	Religious beliefs		-,345	,247
	Frequency of visiting church or mosque		-,135	,032
	Direct cause of movement	Acute illness (respondent or his/her partner)	-,045	,896
		Accident (respondent or his/her partner)	,148	,715
		Death partner	-,079	,876
		Sudden perish of social network	-1,243	,077
		Gradual decline in health	-,565	,083
		Other	0[a]	.
	Reason for movement	Fear that something would happen	-,083	,739
		Feeling alone	-,032	,923
		Feeling unsafe in house / environment	-,119	,750
		Previous residence	,219	,548
	Other reasons for movement	Home care unable to supply the care needed	-,134	,675
		Family/friends unable to supply the care needed	,314	,345
		Arrange of care too heavy for health reasons	,159	,586
		Arranging of household too heavy after death partner	-,005	,991
	Province	Groningen	-1,018	,213
		Drenthe	-,257	,764
		Overijssel	-,608	,474
		Gelderland, Flevoland	-,519	,491
		Utrecht	-,631	,474
		Noord-Holland	-,265	,729
		Zuid-Holland	-1,234	,102
		Zeeland	-1,564	,055
		Noord-Brabant	-,667	,371
		Limburg	,053	,949
	Satisfaction with room	Satisfied	1,282	,261
		Would like to have an extra room	,960	,407
	Satisfaction with treatment	Satisfied	,219	,421
		Neutral	,431	,201
		Dissatisfied	-,921	,365
	Social contact	Enough contacts	-,117	,869
		Would like to have more contacts	-1,000	,170
	Satisfaction with activities		,182	,657
	Length of residence		,029	,330
	Frequency of going out		-,134	,367
	Visiting internal activities		-,005	,947
	Independence		-,028	,863

				-,132	,195
	Perceived safety			-,132	,195
	Satisfaction with nurse			,040	,701
	Satisfaction with care home			-,596	,000
	Feeling at home			-1,097	,000
	Link function: Logit.				
	a. This parameter is set to zero because it is redundant.				

Table 5 – summary of the parameter estimates

Table 6 indicates the overall insignificance from the test of parallel lines. This means that the proportional odds are assumed to be absent in the model, which confirms that this is the right type of test (UCLA, 2020).

Test of Parallel Lines[a]				
Model	-2 Log Likelihood	Chi-Square	df	Sig.
Null Hypothesis	1278,158			
General	1064,664[b]	213,494[c]	434	1,000
The null hypothesis states that the location parameters (slope coefficients) are the same across response categories.				
a. Link function: Logit.				
b. The log-likelihood value cannot be further increased after maximum number of step-halving.				
c. The Chi-Square statistic is computed based on the log-likelihood value of the last iteration of the general model. Validity of the test is uncertain.				

Table 6 – test of parallel lines

4.3 Discussion

Dependent variable

As can be seen in table 5 and 8, the outcomes of the wellbeing scales are all insignificant, meaning that there is no significant relation between the different levels of wellbeing. This might be influenced by the unequal spread causing insignificance in the sample size of some categories, which is visualized in figure 2. It could be caused by the fact that many elderly people are not eager to express themselves too negatively (Warren & Williams, 2008). However, as the numbers are only constants per category, this insignificance does not limit the conclusions that can be drawn from this test. The numbers of significance behind the independent variables visualize their relation with wellbeing.

Significant results

The significance from the variable 'frequency of visiting a church or mosque' was expected. The influence it has on several factors, such as marital status, might have strengthened this significant relation between wellbeing and frequency of mosque or church attendance. The variable itself indicates the value of religious beliefs from a respondent, whereas asking whether people see themselves as religious or not, does not say how much it means to them. This might explain why the variable on church attendance has a significant outcome and the variable on religious beliefs does not. The estimate shows that a one unit increase in the variable will cause a 0,135 deterioration

in wellbeing. Looking at the categories from church or mosque attendance, an increase relates to a less frequent visit. Therefore, if more time is devoted to religious beliefs, this has a positive impact on wellbeing. This verifies the theory that the value is given to religious beliefs, the stronger the influence it has on wellbeing (Lowis et al., 2005; Idler et al., 2009; Ellison et al., 2001; Kirby et al., 2004).

The variable 'assessed health' was also expected to be significant, and the fact that both variables are subjective might have increased the significance of this relation. The estimate shows that a one unit increase in assessed health will cause a 0,68 deterioration in wellbeing. Looking at the categories from assessed health, an increase in this variable represents a lower assessment of health. Therefore, if health is rated poorly, this correlates with a negative score of wellbeing. This verifies the theory that there is a positive relation between wellbeing and physical conditions (Grönstedt et al., 2011; Meléndez et al., 2009).

The significance of the variable 'satisfaction with retirement home' was expected as well. The subjective formulation might have influenced its highly significant impact on wellbeing. The estimate shows that a one unit increase in 'satisfaction with retirement home' will cause a 0,596 deterioration in wellbeing. Looking at the categories, an increase in this variable represents less satisfaction. Therefore, if elderly are less satisfied, this correlates with a negative score of wellbeing. This is in line with the theory that satisfaction with retirement home will have a positive impact on wellbeing of elderly people living in retirement homes (Andersson et al., 2007).

The variable 'feeling at home' is also significant, as has been expected. Its relation with other variables in the test, such as perceived safety and independence, might have contributed to its significant impact on wellbeing. The estimate shows that a one unit increase in 'feeling at home' will cause a 1,097 deterioration in wellbeing. Looking at the categories, an increase in this variable relates to feeling less at home. Therefore, if people feel less at home, this correlates with a negative score of wellbeing. This is in line with the theory that place attachment positively relates to wellbeing of elderly people living in retirement homes (Falk et al., 2012; Prieto-Flores et al., 2011; Veer & Kerkstra, 2001; Hoof et al., 2016; Cooney, 2012).

Insignificant results

As table 5 and 8 display, several variables have an insignificant outcome. The hypotheses in combination with the critical reflection in 3.4 predicted and can explain many of these outcomes. The insignificance of some variables was not expected, given that the theories supporting the hypotheses, brought different expectations. There are possible explanations for the insignificant results, however, it lacks certainty that these apply in this situation. Overall, there are three main factors that might have caused insignificance among variables.

Firstly, insignificance can be explained if a variable is formulated too specific. Examples of variables in this group are the variables on satisfaction with nurse, room, treatment and activities. They might score significantly in individual tests, but are leveled out by other variables in the group test, which suggests that they apparently are less important determinants for wellbeing when studied in context.

Secondly, variables could be insignificant because of an unequal spread, which causes insignificant representation of some categories. Examples of variables that are likely to be influenced by this, are 'perceived safety', 'length of residence' and 'social contact'.

Lastly, it could be that a variable is too objective, whereas the subjectivity of that topic is relevant to interpret its influence. Examples are 'visiting internal activities and 'frequency of going out', as these variable do not necessarily relate to wellbeing nor have a direct correlation. Some people add less value to going out or meeting people, and therefore the lack of it does not directly mean that someone is unhappy. It would improve the quality of the variable, if elderly were asked if they are content with their own frequency of visiting activities.

5. Conclusion

<u>5.1 Findings</u>

The first sub question ' *To what extent do personal characteristics influence the wellbeing of elderly people living in retirement homes in the Netherlands?'* can be answered in the following way. The 11 variables relating to personal characteristics that have been tested are shown in table 2. Test results have indicated that the variables 'frequency of visiting church or mosque' and 'assessed health' have a significantly influence on wellbeing. Both are positively related to wellbeing, meaning that more frequent church attendance or higher assessed health relates to a higher score of wellbeing, which has also been indicated in previous studies (Meléndez et al., 2009; Gröndstedt et al., 2011; Lowis et al., 2005; Idler et al., 2009; Ellison et al., 2001; Kirby et al., 2004).

The second sub question '*To what extent do the cause and experience of the movement influence the wellbeing of elderly people living in retirement homes in the Netherlands?'* can be answered in the following way. The three variables that related to the cause of the movement are shown in table 2. As is visualized in tables 5 and 8, none of the variables has a significant influence on wellbeing. It could be that the variables are too specific to add significant value in a group test on their relation with wellbeing, as they are leveled out by variables that have a more significant contribution. The insignificance can also be explained by the unequal spread of the variables causing insignificant representation of some categories, which is visualized in figures 11, 12 and 13 in appendix 7.2. Experience of the movement could not be tested, which is a limitation of this research.

The third sub question '*To what extent does residential situation influence the wellbeing of elderly people living in retirement homes in the Netherlands?'* can be answered in the following way. The group of variables relating to the residential situation that have been tested are visualized in table 2. This group delivered two significant variables in the test results: 'satisfaction with retirement home' and 'feeling at home'. Both variables are positively related to wellbeing, meaning that higher satisfaction or feeling more at home, relates to a higher score of wellbeing, which has also been indicated in previous studies (Andersson et al., 2007; Falk et al., 2012; Prieto-Flores et al., 2011; Veer & Kerkstra, 2001; Hoof et al., 2016; Cooney, 2012).

The main research question '*To what extent is the wellbeing of elderly people living in retirement homes in the Netherlands influenced by the residential situation and which determinants have an additional impact?'* can be answered in the following way. The results have illustrated the significant influence of physical wellbeing, satisfaction with retirement home, feeling at home and frequency of visiting church or mosque on wellbeing. Each variable is positively related to wellbeing, meaning that an increase in satisfaction, in assessed health or church/mosque attendance will increase wellbeing among elderly people. These findings were also expected on the basis of several theories that have been discussed in the literature study (Meléndez et al., 2009; Gröndstedt et al., 2011; Lowis et al., 2005; Idler et al., 2009; Ellison et al., 2001; Kirby et al., 2004; Andersson et al., 2007; Falk et al., 2012; Prieto-Flores et al., 2011; Veer & Kerkstra, 2001; Hoof et al., 2016; Cooney, 2012).

The amount of influence that residential situation has on the wellbeing of elderly people is limited. The only significant variables that related to residential situation were associated with satisfaction and feeling at home. None of the variables that was more specifically related to conditions of the retirement home, came with significant results. There could be more specific factors that help

elderly people to feel more at home, or be more satisfied with the retirement home. However, these factors were not found in this test, but should be looked into when conducting further research.

The determinants that have an additional impact on wellbeing, are assessed health and frequency of visiting church or mosque. Being aware of the influence from these variables can be useful to indicate, and maybe influence, the wellbeing of elderly people living in retirement homes in the Netherlands.

5.2 Reflection (limitations and recommendations)

First, the plan was to gather data among elderly people living in a retirement home in Groningen. They would be assisted by filling in surveys, to make sure that the questions were rightly understood and their opinion was correctly represented. A cluster or volunteer sampling strategy would be applied and expectations were to gather approximately 50 survey responses, as this would be attainable but also enough to generalize results. Larger samples increase the likelihood of more significant and representative data results, but they require more time as well (Burt et al., 2009; Clifford et al., 2016). However, the unforeseen measures that were taken to prevent further spreading of COVID-19, prevented the ability to visit retirement homes. In this stressful period, many retirement homes were unable or unwilling to help with collecting the data. Therefore, the best contingency plan was to use an online dataset from a similar study and select or adapt the variables in accordance with the theoretical framework and chosen statistical test.

On one hand, using such database increases the chances of significant results as the number of respondents is relatively high. On the other hand, the data had been gathered for other purposes and the variables did not completely cover the theories used in this research, which can be seen as a limitation. The lack of a variable relating to the experience of the movement, disabled the ability to test its influence on e.g. gender, marital status and religious beliefs. It is recommended to include this variable for further research.

Overall, the questions should be formulated more subjectively, as this is likely to represent its contribution to wellbeing. Also, several questions should be formulated differently to ensure that the theories are well-represented. This would improve the accuracy of generalizations, conclusions and predictions. Examples of factors that should be measured differently relate to major life events, residential characteristics and cause of the movement. Considering the cause of movement, it is recommended to study the positivity or negativity that was associated with the cause of movement, instead of questioning the causes specifically. This would represent the cause better and could help to find better conclusions on its relation with wellbeing. Also, it would be interesting to compare the significance in contribution to wellbeing from proactive and reactive movements.

It is recommended to take these limitations into account for further research, as a better representation of theories in variables increases the quality of research.

Lastly, the low response rate on the partner's residence and the unequal spread among several variables causing insignificant representation of some categories, influenced the large amount of insignificant results. Finding more respondents for some variables and ensuring good spread will also increase the quality of research.

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7. Appendices

<u>7.1 Variables + theories</u>

Factor	Theories + hypothesis	Original variable (and adaption)	Type
Wellbeing		MA1, MA2 combined	Ordinal
Gender	Gender is expected to have an insignificant impact on the wellbeing of elderly people living in retirement homes in the Netherlands. *Gender is most likely to have indirect influences (Meléndez et al., 2009), and the theory that women are likely to have stronger opinions than men and cope with more stress, is mostly limited to periodic events such as the movement to a retirement home (Kampfe, 1999).*	AL1	Nominal
Age	Age is expected to have an insignificant impact on the wellbeing of elderly people living in retirement homes in the Netherlands. *Age lacks a direct relation with wellbeing, especially when limited to an age group (Kampfe, 1999; Grönstedt et al., 2011). Age is likely to have indirect influences on wellbeing, being related to physical conditions, but the variable itself will have insignificant results when these variables are included in the test (Meléndez et al., 2009).*	AL2lft	Ratio
Marital status	Marital status is expected to have a significant impact on the wellbeing of elderly people living in retirement homes in the Netherlands. *Elderly people rate their life satisfaction higher and seem to cope better with stressful situations (Kampfe, 1999). In combination with the experience of the movement, this variable is likely to be significant.*	AL3	Nominal
Where partner lives		AL5	Nominal
Educational level	Educational level is expected to have an insignificant impact on the wellbeing of elderly people living in retirement homes in the Netherlands. *High education level seems to be related to high subjective wellbeing (Böckerman et al, 2012). However, tests that include more variables such as physical conditions are likely to dissolve this impact (Meléndez et al., 2009).*	AC1	Nominal
Religious beliefs	Religious beliefs are expected to have a significant impact on the wellbeing of elderly people living in retirement homes in the Netherlands. *Religious beliefs seem to give elderly people a more positive worldview and more peace during stressful situations (Lowis et al., 2005; Ellison et al., 2001; Idler et al., 2009). This influence can differ to what extent religion really is important to someone, higher religious beliefs appear to have a stronger influence on wellbeing (Idler et al., 2009; Kirby et al., 2004).*	AC6 computed into dummy: religious / unreligious	Binary
Value of religious beliefs		AC7 (Frequency of visiting church or mosque)	Ordinal

	Physical conditions are expected to have a significant impact on the wellbeing of elderly people living in retirement homes in the Netherlands. *There is a correlation between low physical function and poor wellbeing (Grönstedt et al., 2011). Good physical conditions relate to a higher level of life satisfaction, and as there is likely to be a correlation between higher age and decrease in physical health, life satisfaction is expected to decrease when age increases (Meléndez et al., 2009).*	GE1 (assessed health)	Ordinal
Physical conditions			
Financial situation	Financial situation is expected to have an insignificant impact on the wellbeing of elderly people living in retirement homes in the Netherlands. *Since the amount of contribution is dependent on capital and the differences in subsistence costs are marginal, economic factors are expected to have an insignificant impact on wellbeing and residential satisfaction (Wettenbank, 2020; Rijksoverheid, n.d.). Research from Meléndez et al. (2009) also indicated that life satisfaction is not significantly influenced by income.*	IN19	Ordinal
Major life events	Major life events are expected to have a significant impact on the wellbeing of elderly people living in retirement homes in the Netherlands. *Major life events are likely to have an impact on wellbeing, especially when they cause the movement to a retirement home (Hays, 2002; Ballas & Dorling, 2007; Weeks et al., 2012).*	AL4 (death year of partner)	Interval
Length of residence	Length of residence is expected to have a significant impact on the wellbeing of elderly people living in retirement homes in the Netherlands. *Time is needed to adjust to a new environment and therefore it is likely to perceive more satisfaction by someone who moved a longer time ago (Lee et al., 2001).*	AL10	Interval
Causes of movement	The cause of the movement is expected to have a significant impact on the wellbeing of elderly people living in retirement homes in the Netherlands. *Negative life events, such as the death of a partner or being diagnosed with a severe illness could be causes for the movement to a retirement home, and this cause could have an influence on wellbeing (Hays, 2002; Ballas & Dorling, 2007; Weeks et al., 2012).*	VR1 (direct cause of movement)	Nominal
		VR7 (Reason for movement)	Nominal
		VR14 (Other reasons for movement)	Nominal
Experience of movement	Experience of movement is expected to have a significant impact on the wellbeing of elderly people living in retirement homes in the Netherlands. *Wellbeing of elderly people from retirement homes could be negatively influenced by a stressful or traumatic experience of the transition to the nursing home (Kampfe, 1999; Kampfe, 2002). This could also be related to not having a voice in the choice which retirement home will be moved to (Thomas & Hayley, 1991; Caro et al., 2012; Iwasiw et al., 1996),). There is also a correlation between the positive impact on wellbeing from proactive movements, opposed to the negative*		

	experience from reactive movements (Pope & Kang, 2010; Walker & McNamara, 2013).		
Province	Provinces are expected to have an insignificant impact on the wellbeing of elderly people living in retirement homes in the Netherlands. *The indicator of wellbeing (Geluksmeter) shows that the average scores on wellbeing do not differ so much from each other (CBS, 2016). Gelderland and Flevoland might differ significantly, but the other provinces are expected to have insignificant differences.*	PROVIN	Nominal
Residential character-istics	Residential characteristics are expected to have an insignificant impact on the wellbeing of elderly people in retirement homes in the Netherlands. *The design of a room, choice of rooms and autonomy over the rooms, have an influence on the wellbeing of elderly people (Burton & Sheehan, 2010; Barnes, 2002).*	AL14 (Satisfaction with room)	Nominal
Frequency of going out	The frequency of going out is expected to have a significant impact on the wellbeing of elderly people living in retirement homes in the Netherlands. *The ability to go out can have a positive impact on wellbeing from elderly people (Barnes, 2006). However, elderly can feel burdened to ask for help if they are not able to go outside on their own, which could have a negative impact on their wellbeing (Bölmsjo et al., 2006).*	VT3, VT8 combined	Ordinal
Visiting internal activities	Visiting internal activities is expected to have a significant impact on the wellbeing of elderly people living in retirement homes in the Netherlands. *Being part of the group in a retirement home and participating in social activities is likely to influence wellbeing of elderly people living in retirement homes (Amirit et al., 2017; Motteran et al., 2016).*	RE1	Ordinal
Social contact	Social network is expected to have a significant impact on the wellbeing of elderly people living in retirement homes in the Netherlands. *A good social network is related to higher rated wellbeing (Evans & Vallelly, 2007). → however, spread unequal therefore insignificant.*	SN10	Nominal
Indepen-dence	Independence is expected to have a significant impact on the wellbeing of elderly people living in retirement homes in the Netherlands. *It is important to be part of the group, yet remaining the feeling of independence, both socially and physically (Motteran, 2016).*	KW1, KW2, KW3, KW6 (reversed) and KW7 combined	Ordinal
Satisfaction with nurse	Satisfaction with nurse is expected to have a significant impact on the wellbeing of elderly people living in retirement homes in the Netherlands. *If elderly do not feel that their demands are met or understood by their nurse, this seems to influence their wellbeing and residential satisfaction (Hays, 2002Cooney, 2012; Iwasiw et al., 1996; Kane, 2003; Sandberg et al., 2002; Chou et al., 2003).*	KW4, KW5, KW9 (reversed) and KW10 combined	Ordinal

Satisfaction with retirement home	Satisfaction with retirement home is expected to have a significant impact on wellbeing of elderly people living in retirement homes in the Netherlands. *If elderly people from retirement home are satisfied with their residence, e.g. because they experience a homely atmosphere and enough privacy, this positively influences their wellbeing over time (Andersson et al., 2007).*	WV4, WV5 and WV6 combined	Ordinal
		KW11 (Satisfaction with activities)	Ordinal
		KW14 (Satisfaction with treatment)	Ordinal
Feeling at home	Feeling at home is expected to have significant impact on wellbeing of elderly people living in retirement homes in the Netherlands. *Place attachment or feeling at home influences the perceived wellbeing among care home residents (Falk et al., 2012; Prieto-Flores et al., 2011). This is influenced by external factors, as well as personal factors and experience of it (Veer&Kerkstra, 2001; Hoof et al., 2016; NICE, 2013; Cooney, 2012; Davies&Nolan, 2003).*	WV3	Ordinal
Perceived safety	Perceived safety is expected to have a significant impact on the wellbeing of elderly people living in retirement homes in the Netherlands. *Perceived safety seems to play a role the perceived wellbeing from elderly people living in retirement homes (Falk et al., 2012; NICE, 2013).*	KW12 (reversed) and KW13 combined	Ordinal

Table 7 – variables based on literature and dataset
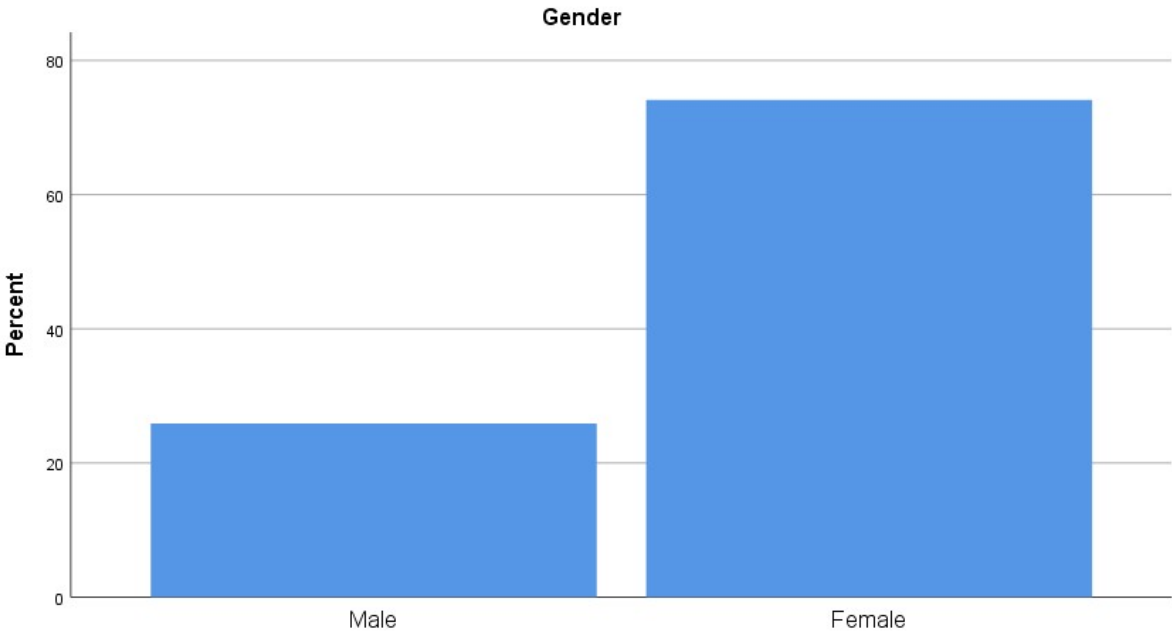
7.2 Descriptive statistics

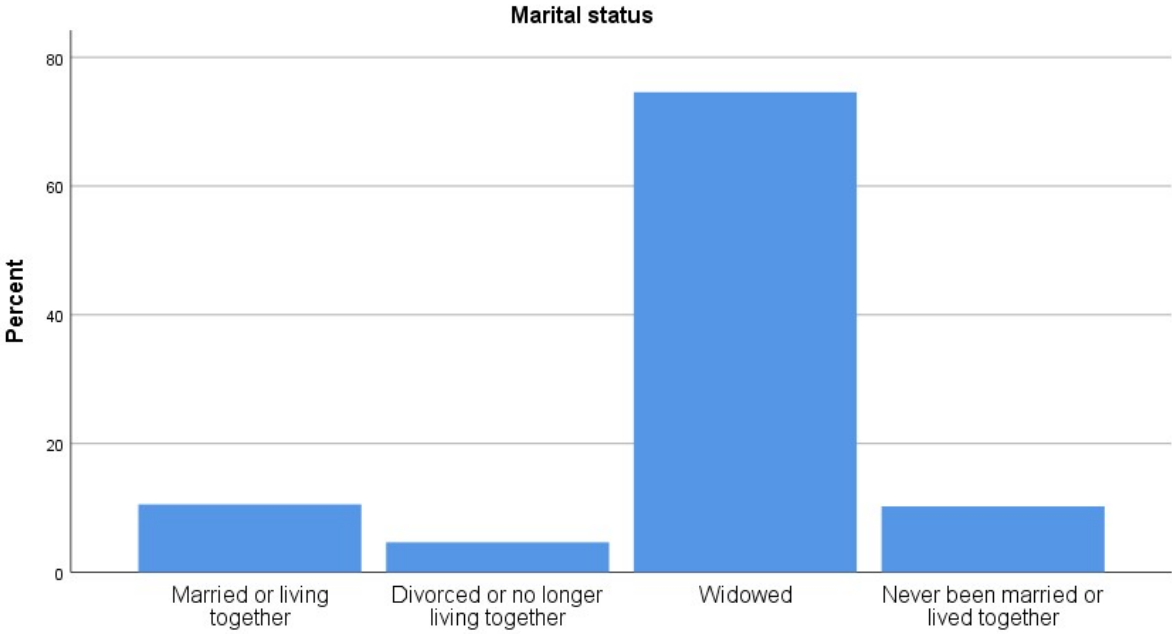Figure 6 – descriptive statistics on the independent variable 'gender'

Figure 7 – descriptive statistics on the independent variable 'marital status'
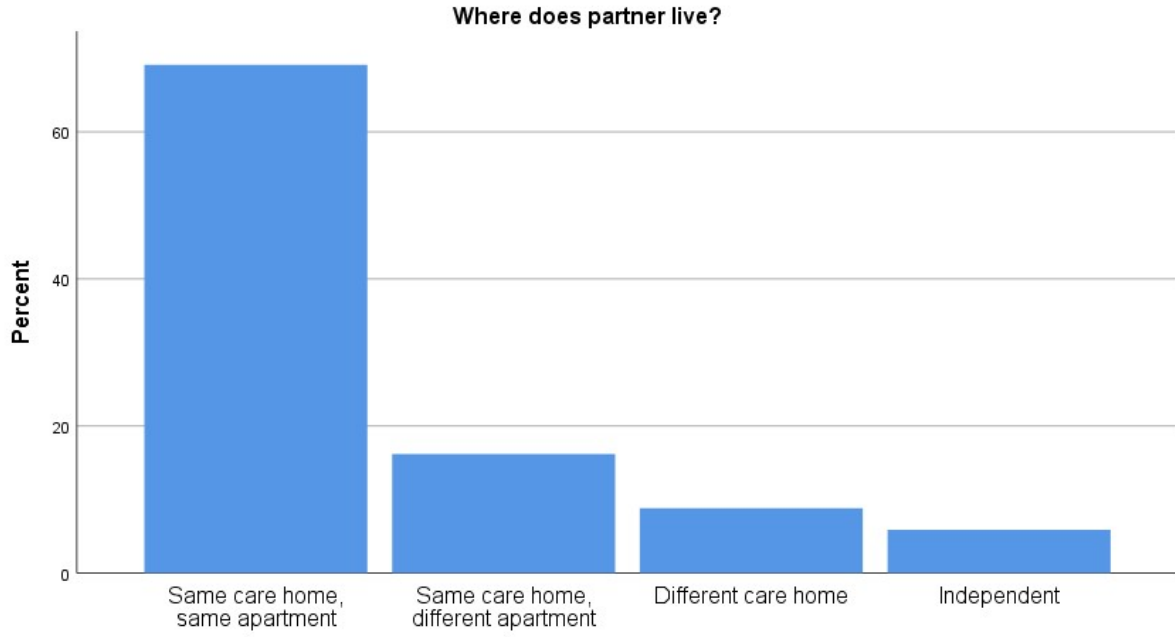
Figure 8 – descriptive statistics on the independent variable 'where does partner live?'
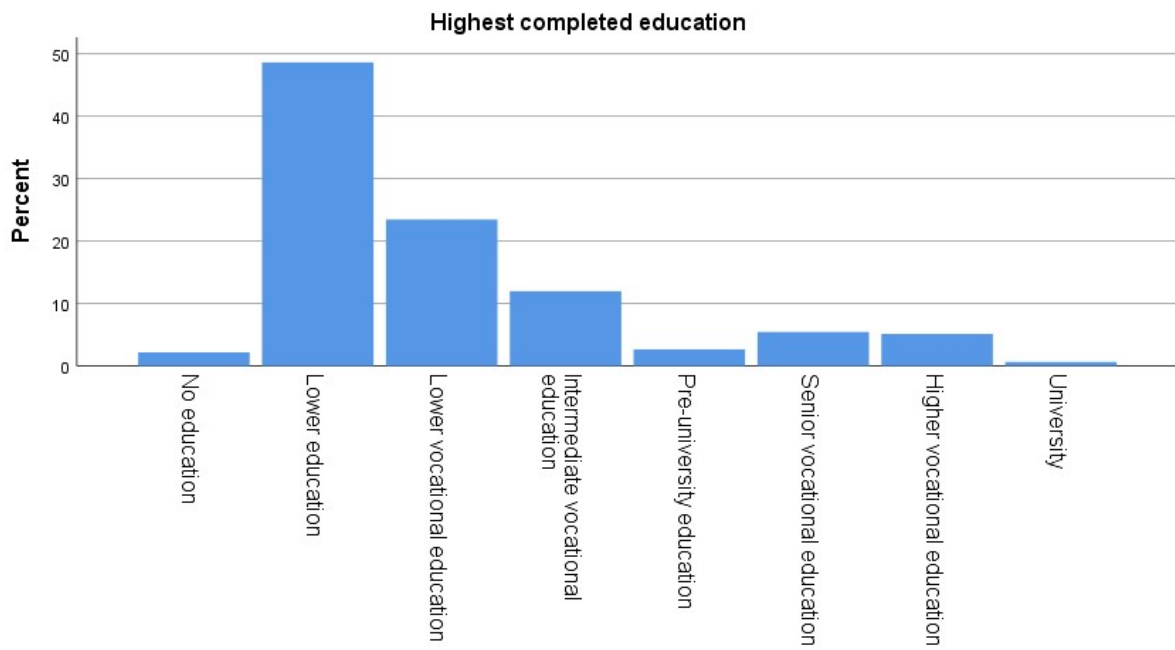

Figure 9 – descriptive statistics on the independent variable 'highest completed education'

Figure 10 – descriptive statistics on the independent variable 'religious beliefs'

Figure 11 – descriptive statistics on the independent variable 'direct cause of movement'

Figure 12 – descriptive statistics on the independent variable 'reason for movement'

Figure 13 – descriptive statistics on the independent variable 'other reasons for movement'
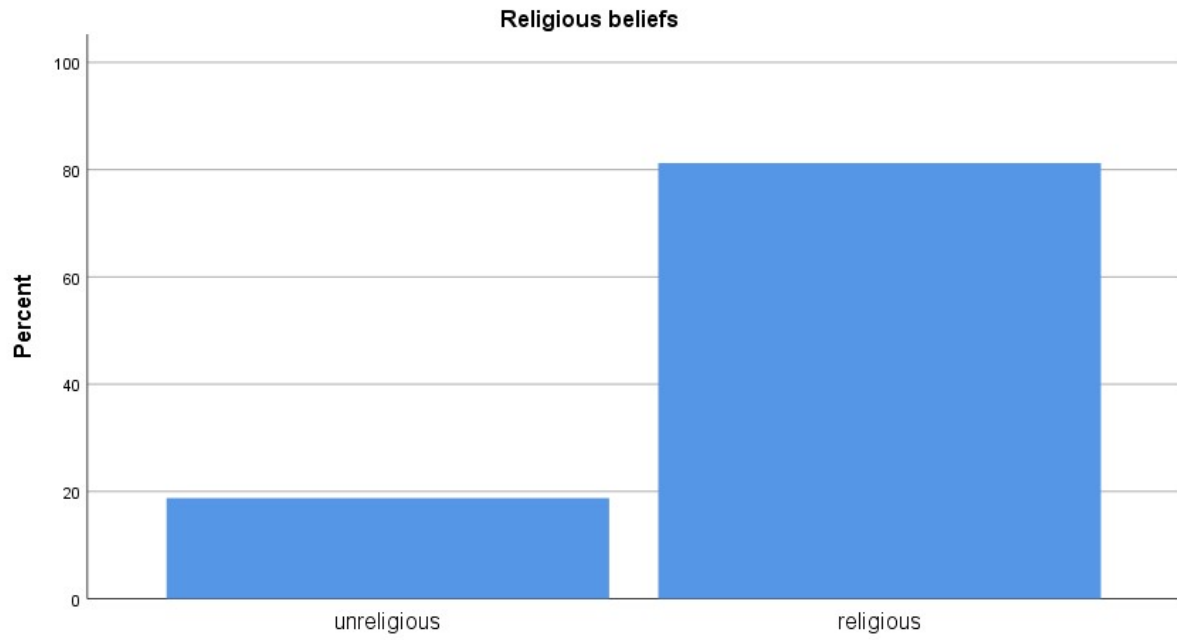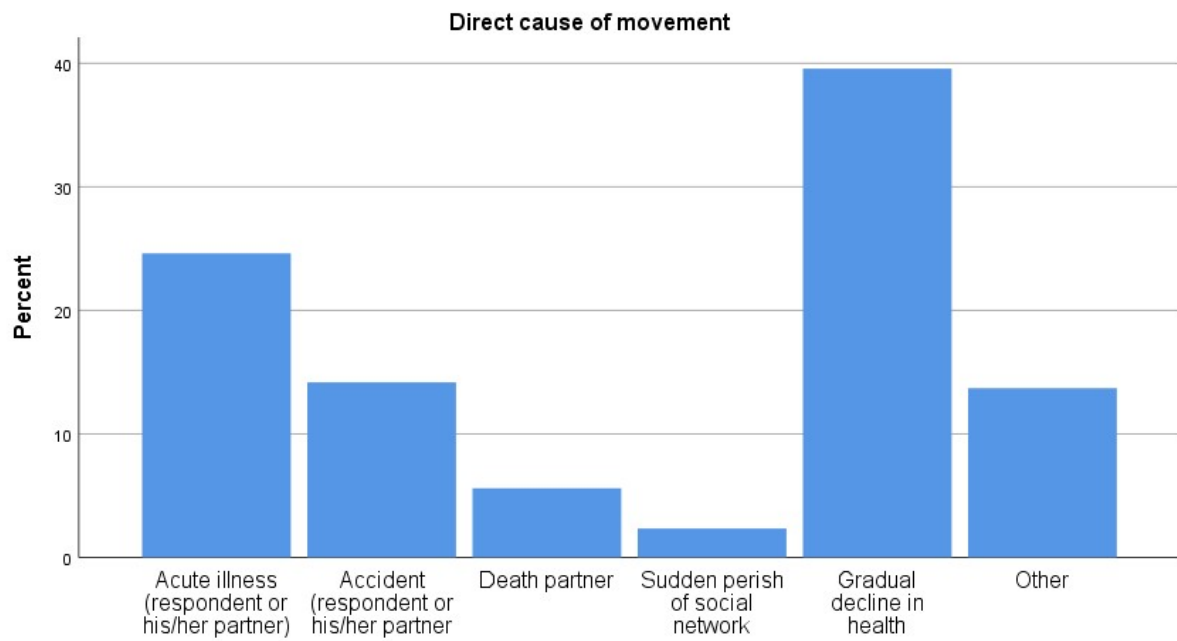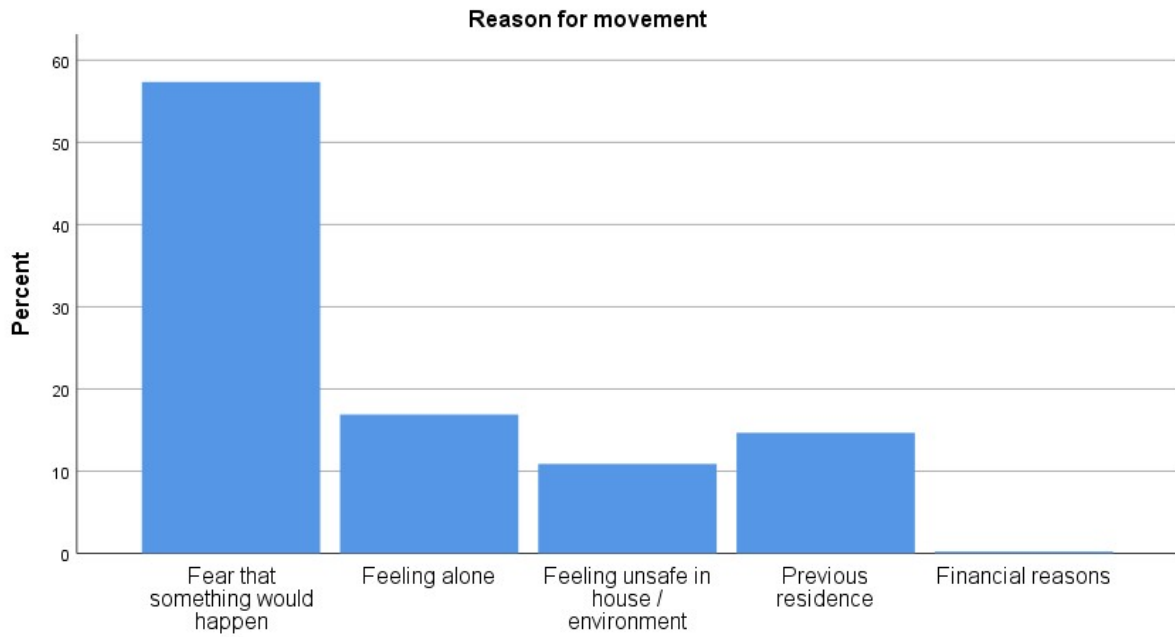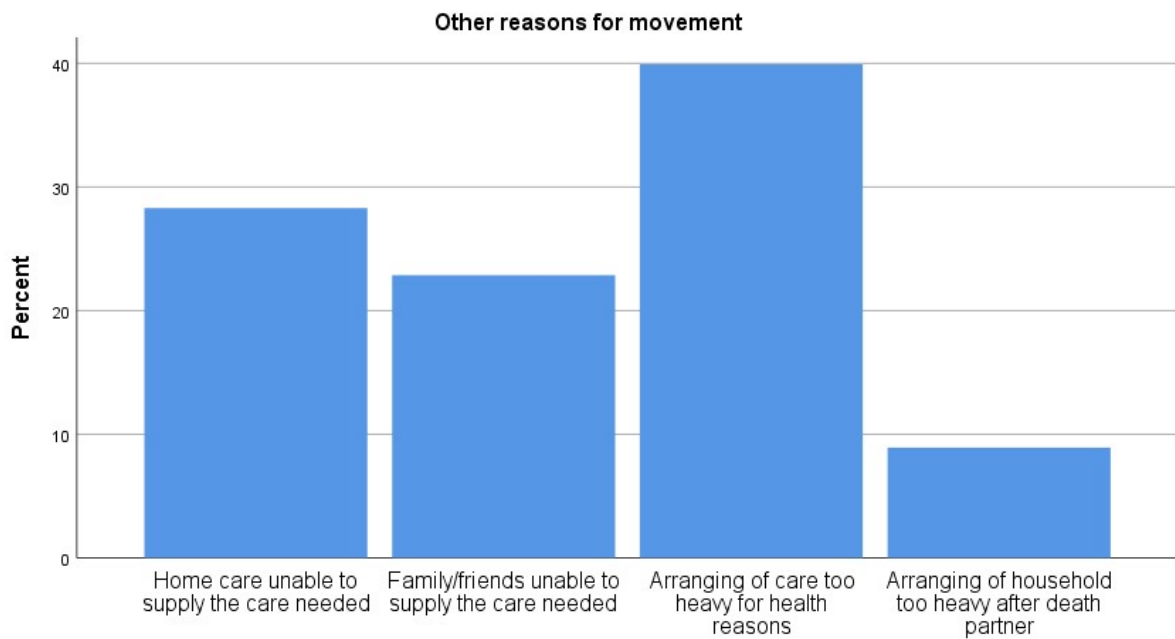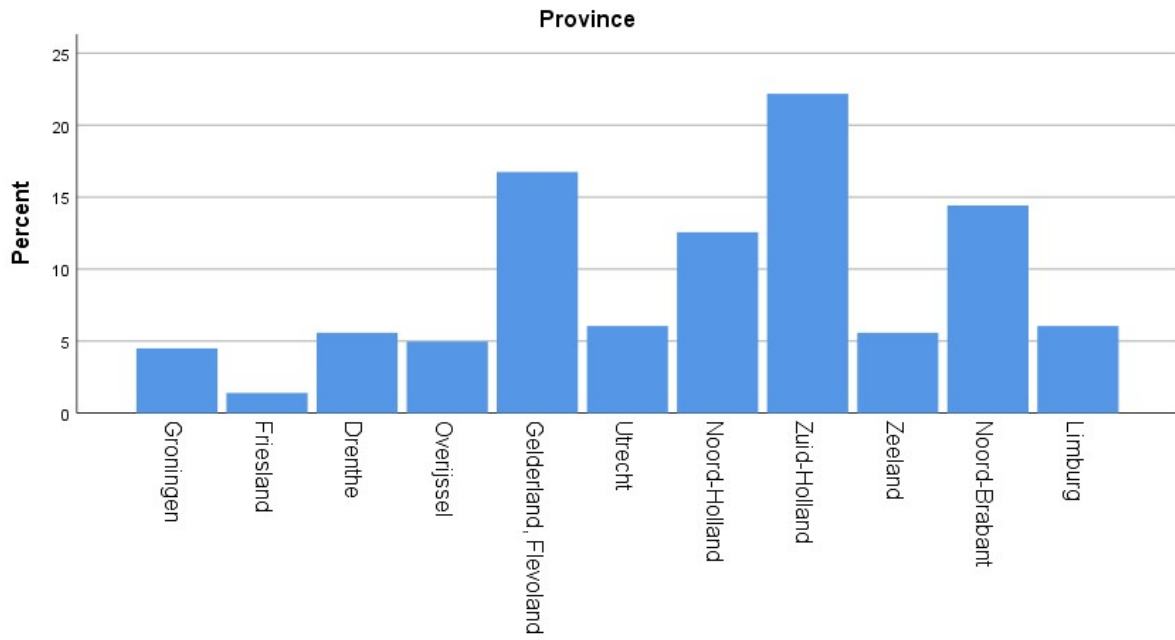
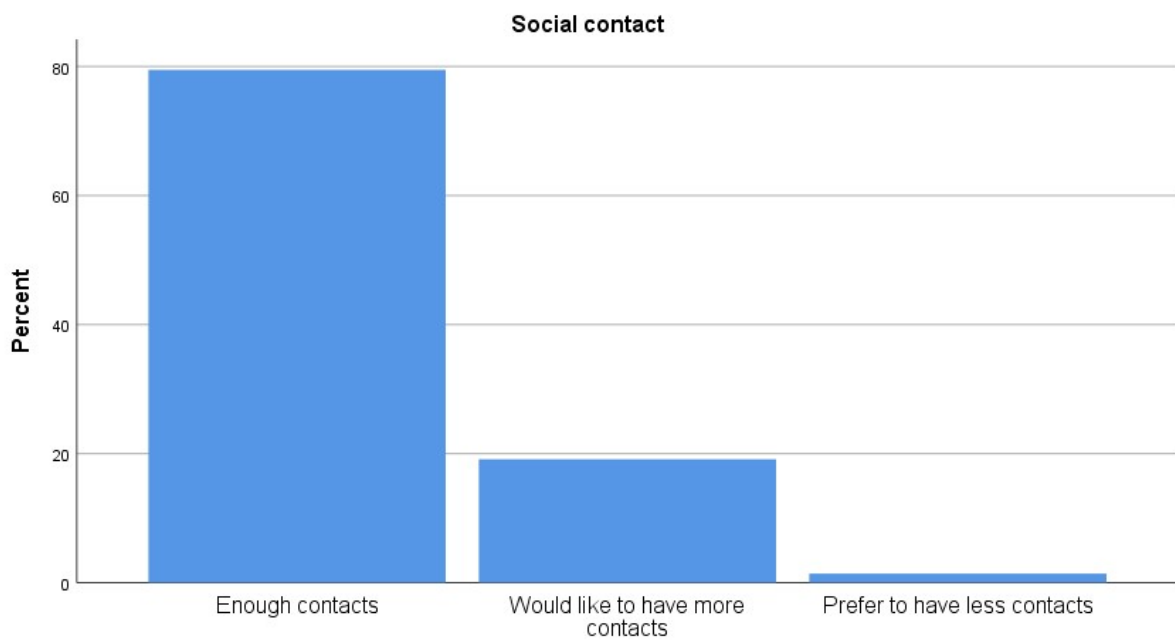Figure 14 – descriptive statistics on the independent variable 'province'

Figure 15 – descriptive statistics on the independent variable 'social contact'

7.3 Test results

			Estimate	Std. Error	Wald	df	Sig.	95% Confidence Interval	
								Lower Bound	Upper Bound
Threshold	Wellbeing	1	47,470	60,235	,621	1	,431	-70,588	165,529
		2	48,904	60,234	,659	1	,417	-69,152	166,959
		3	49,733	60,234	,682	1	,409	-68,324	167,789
		4	51,011	60,236	,717	1	,397	-67,049	169,071
		5	52,212	60,238	,751	1	,386	-65,853	170,277
		6	54,066	60,243	,805	1	,369	-64,008	172,141
		7	56,082	60,246	,867	1	,352	-61,998	174,162
		8	57,270	60,246	,904	1	,342	-60,810	175,350
Location	Gender		-,085	,241	,124	1	,724	-,558	,388
	Age		,002	,016	,017	1	,896	-,029	,034
	Marital status	Married or living together	-1,728	1,954	,782	1	,377	-5,557	2,102
		Divorced or no longer living together	-,563	,555	1,030	1	,310	-1,651	,524
		Widowed	,558	1,154	,234	1	,629	-1,703	2,819
	Death year of partner	Until 1969	,591	1,225	,232	1	,630	-1,811	2,992
		1970-1979	,043	1,174	,001	1	,970	-2,258	2,345
		1979-1989	-,274	1,139	,058	1	,810	-2,506	1,959
		1989-1999	-,418	1,129	,137	1	,711	-2,631	1,795
		1999-2009	-,992	1,125	,778	1	,378	-3,196	1,212
	Where does partner live?	Same care home, same apartment	2,357	1,986	1,408	1	,235	-1,536	6,251
		Same care home, different apartment	1,072	2,081	,265	1	,607	-3,007	5,150
		Different care home	1,593	2,260	,496	1	,481	-2,838	6,023
		Independent	0ª	.	.	0	.	.	.
	Assessed health		-,680	,131	27,099	1	,000	-,937	-,424
	Financial situation		,211	,121	3,041	1	,081	-,026	,447
	Highest completed education	No education	,693	,771	,809	1	,369	-,818	2,205
		Lower education	-,131	,450	,085	1	,771	-1,013	,751
		Lower vocational education	-,190	,455	,174	1	,677	-1,081	,702
		Intermediate vocational education	-,221	,493	,201	1	,654	-1,188	,745
		Pre-university education	-,893	,737	1,469	1	,226	-2,337	,551

			B	S.E.	Wald	df	Sig.		
		Senior vocational education	-1,116	,613	3,312	1	,069	-2,318	,086
	Religious beliefs		-,345	,298	1,340	1	,247	-,929	,239
	Frequency of visiting church or mosque		-,135	,063	4,605	1	,032	-,259	-,012
	Direct cause of movement	Acute illness (respondent or his/her partner)	-,045	,347	,017	1	,896	-,725	,634
		Accident (respondent or his/her partner)	,148	,405	,134	1	,715	-,646	,942
		Death partner	-,079	,507	,024	1	,876	-1,073	,915
		Sudden perish of social network	-1,243	,702	3,136	1	,077	-2,618	,133
		Gradual decline in health	-,565	,325	3,014	1	,083	-1,203	,073
		Other	0[a]	.	.	0	.	.	.
	Reason for movement	Fear that something would happen	-,083	,249	,111	1	,739	-,570	,405
		Feeling alone	-,032	,327	,009	1	,923	-,672	,609
		Feeling unsafe in house / environment	-,119	,375	,101	1	,750	-,853	,615
		Previous residence	,219	,364	,361	1	,548	-,494	,931
	Other reasons for movement	Home care unable to supply the care needed	-,134	,319	,176	1	,675	-,758	,491
		Family/friends unable to supply the care needed	,314	,332	,893	1	,345	-,337	,966
		Arrange of care too heavy for health reasons	,159	,291	,297	1	,586	-,412	,730
		Arranging of household too heavy after death partner	-,005	,453	,000	1	,991	-,893	,883
	Province	Groningen	-1,018	,817	1,552	1	,213	-2,619	,583
		Drenthe	-,257	,854	,090	1	,764	-1,931	1,417
		Overijssel	-,608	,850	,512	1	,474	-2,274	1,058
		Gelderland, Flevoland	-,519	,753	,475	1	,491	-1,995	,957
		Utrecht	-,631	,881	,513	1	,474	-2,358	1,095
		Noord-Holland	-,265	,765	,120	1	,729	-1,765	1,234
		Zuid-Holland	-1,234	,754	2,676	1	,102	-2,712	,244
		Zeeland	-1,564	,814	3,693	1	,055	-3,158	,031
		Noord-Brabant	-,667	,745	,801	1	,371	-2,127	,794
		Limburg	,053	,826	,004	1	,949	-1,565	1,671

			B	Std. Error	Wald	df	Sig.	Lower	Upper
	Satisfaction with room	Satisfied	1,282	1,140	1,265	1	,261	-,952	3,516
		Would like to have an extra room	,960	1,157	,688	1	,407	-1,307	3,227
	Satisfaction with treatment	Satisfied	,219	,272	,647	1	,421	-,315	,753
		Neutral	,431	,337	1,636	1	,201	-,229	1,092
		Dissatisfied	-,921	1,017	,819	1	,365	-2,914	1,073
	Social contact	Enough contacts	-,117	,710	,027	1	,869	-1,508	1,275
		Would like to have more contacts	-1,000	,728	1,885	1	,170	-2,427	,427
	Satisfaction with activities		,182	,411	,197	1	,657	-,623	,988
	Length of residence		,029	,030	,947	1	,330	-,030	,088
	Frequency of going out		-,134	,148	,815	1	,367	-,425	,157
	Visiting internal activities		-,005	,071	,004	1	,947	-,145	,135
	Independence		-,028	,164	,030	1	,863	-,350	,293
	Perceived safety		-,132	,102	1,682	1	,195	-,332	,068
	Satisfaction with nurse		,040	,103	,148	1	,701	-,163	,242
	Satisfaction with care home		-,596	,103	33,771	1	,000	-,797	-,395
	Feeling at home		-1,097	,215	26,058	1	,000	-1,518	-,676
						Link function: Logit.			
						a. This parameter is set to zero because it is redundant.			

Table 8 – parameter estimates

Model Fitting Information				
Model	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	1518,036			
Final	1278,158	239,878	62	,000
Link function: Logit.				

Table 9 – model fitting information

Goodness-of-Fit			
	Chi-Square	df	Sig.
Pearson	3200,979	3234	,657
Deviance	1278,158	3234	1,000
Link function: Logit.			

Table 10 – goodness of fit

Pseudo R-Square	
Cox and Snell	,441
Nagelkerke	,452
McFadden	,158
Link function: Logit.	

Table 11 – pseudo r-square