A one-bedroom apartment in the Randstad, or a bigger house in Groningen?

A mixed-method study on the possible impact of housing- and rent prices on the residential location choice of future graduates from Groningen.

Joëlle Hopman – S3765164

Bachelor Thesis Human Geography & Planning
Supervisor: R. Rutigliano
University of Groningen – Faculty of Spatial Sciences
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Abstract

This research investigates to what extent housing prices and rent prices play a role in the residential location choice of future graduates from Groningen. Other factors that could play a role in future graduates' residential location choices have also been examined to determine the relative importance of housing- and rent prices. A questionnaire distributed among future graduates was part of the quantitative study. Based on existing literature, the variables were chosen and employed in a binary logistic regression analysis. Additionally, via interviews, information on how housing prices play a role in the decision-making process of future graduates was gathered. The findings suggest that housing prices play a role in the residential location choice of future graduates to a certain extent; some other factors play a more important role.

Key words: Housing prices, rent prices, Groningen, the Randstad, the North of the Netherlands, residential location choice, future graduates, location-specific factors, personal-factors.

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1. Introduction

1.1 Background

Graduation is a life course event which often causes the desire to move (Warner & Sharp, 2016). A large proportion of the graduates leave their student cities after graduation (van Huis & Agtmaal-Wobma) which is called brain drain. Local policy makers, often aim to retain graduates in their city or region, as the presence of higher educated people has positive effects on regional and urban economic growth (Venhorst et al., 2011). The current economy is often described as a knowledge economy where knowledge is an important production factor (Klett & Wang, 2013). A highly educated workforce is assumed to attract new companies to a city or region (Florida, 2002). In addition to these productivity effects, there are also consumption effects. The higher educated provide support for urban facilities due to their different needs and lifestyles and greater financial possibilities (Rosenbrand & van der Voordt, 2006). Higher educated people, for example, visit museums and theatres more frequently. In this way, higher educated people also create jobs at the bottom of the labour market (Abreu et al., 2014). For those reasons, municipalities are in need of concrete insights into the migration of graduates at their colleges and universities (Venhorst et al., 2011). However, there are also some downsides of the inflow/presence of higher educated people that need to be acknowledged. Within cities, the arrival of higher educated people causes gentrification, which drives up property prices (Hochstenbach, 2017). This phenomenon causes the displacement of people that belong to lower-income classes (Atkinson, 2002). Nevertheless, it appears from the literature that the strong advantages outweigh the disadvantages of the presence of highly educated people.

Despite the pressing need for information on graduate mobility, the Dutch government and Dutch academics have paid little attention to the movement patterns of recent college and university graduates (Venhorst et al., 2011). Especially the role of housing prices in recent graduates' relocation behaviour is still inadequately understood (Baker et al., 2016). The housing- and rent prices in the Netherlands differ heavily per city and per region (Huizenzoeker, 2022; NVM, 2021). According to Venhorst et al. (2011), this difference in housing prices across the Netherlands can be a factor in the residential location decision of recent graduates. However, Venhorst et al. (2011) do not give detailed information about the effect of housing prices on recent graduates' relocation behaviour.

In Groningen, the housing prices are lower than in large other parts of the Netherlands (Huizenzoeker, 2022; NVM, 2021). However, around 40 per cent of the recent graduates from Groningen relocate to the expensive Randstad (Vehorst et al., 2011). The research of Venhorst et al. (2011) was executed when the housing prices were 66,44% lower (corrected for 20,5% inflation) than nowadays (CBS, 2022). Besides the rising housing prices, the proportion of income households have to spend on rent went up (Huisman & Mulder, 2015). Therefore, it is relevant to investigate to what extent housing prices impact the residential location decision of recent graduates nowadays.

The findings in this bachelor thesis could be relevant for policymaking. If housing prices play a significant role in the location decision of recent graduates, housing policies could keep the graduates in the city of Groningen, which can, as we can conclude from the previous paragraphs, positively influence the city. There is also another important motivation for this research. This motivation is to evaluate to what extent students feel like they have the freedom to choose where they want to live after they have finished their studies or that they feel their decision freedom is limited by overheated housing markets.

1.2 Research problem

The research aims to determine the importance of housing- and rent prices in the residential location decisions students from Groningen make around graduation. To assess the relative importance of housing- and rent prices, other factors influencing future graduates' residential location decisions will also be assessed in this research. The other assessed factors consist of personal factors and location-specific factors.

The following main research question logically arises from the research problem:

- *To what extent are housing prices and rent prices a factor in the decision of students from Groningen to stay in Groningen or move away after graduation?*

The research is divided into four sub-questions to answer the main research question:

1. *How are housing prices and rent prices different across the Netherlands? (Existing data)*
2. *Which other factors influence the residential location decision of future graduates? (Literature review)*
3. *To what extent do the different personal factors and location-specific factors influence the residential location decisions of future graduates from Groningen.*
4. *How do housing prices play a role in the decision-making process of future graduates from Groningen to stay in Groningen or move away? (Qualitative methods)*

A presentation of data on housing- and rent prices across the Netherlands answers the first sub question. The second sub-question is answered through a review of relevant literature. The third sub-question is answered via quantitative analysis of primary survey data, and the fourth sub-question is answered via qualitative analysis of primary interview data.

1.3 Reading guide

This research contains five chapters. Chapter 1 sketched the background of this research and its societal and academic relevance. Chapter 2 develops a theoretical framework, which explores the relevant theories, concepts and numbers. Then follows chapter 3, which explains how the quantitative and qualitative data was gathered and analyzed. Chapter 4 presents both the quantitative and qualitative results and chapter 5 contains a discussion of these results. Lastly, in chapter 6, the conclusion, limitations and recommendations for additional research can be found.

2. Theoretical framework

2.1 Theories and concepts

Venhorst et al. (2011) analyze the migratory patterns of university graduates in the Netherlands. In their research, they state that housing- and rent prices can be a factor in recent graduates' residential location decisions. Fiore (2015) also states that housing and rent- prices can be a significant motive in people's residential mobility. Furthermore, a survey among stayers in Pittsburgh showed that low-cost housing is an important 'keep' factor for students that studied in cities located in more peripheral areas (Hansen & Huggings, 2003).

However, the attractiveness of the Randstad is a well-known phenomenon in the Dutch context; a substantial number of graduates from study cities located in more peripheral areas move there after graduation (Venhorst et al., 2011). This phenomenon implies that housing prices are not an important factor for those students as the housing prices and rent prices in the Randstad are the highest in the entire country (NVM, 2021). Another important phenomenon is the internal return migration of graduates from their study city to their home region (Venhorst et al., 2011).

For graduates from Groningen, the two aforementioned migratory patterns are also the most commonly observed. Around 40 per cent of the graduates move to the Randstad. Another significant part stays in the North of the Netherlands, which is often a result of place attachment. (Venhorst et al., 2011). Students who lived in the North of the Netherlands when they were sixteen are two to three times more likely to stay there after graduation (Venhorst et al., 2011).

In March 2022, the average selling price of a house in the city of Groningen was 3883 euros per square meter. In the Randstad, the housing prices are much higher. In March 2022, the average selling price per square meter was 9668 square meters in Amsterdam, 4967 euros per square meter in Utrecht, 4203 euros per square meter in the Hague and 4547 euros per square meter in Rotterdam (Huizenzoeker, 2022). Figure 1 shows that the average square meter price in the North of the Netherlands is much lower than the average square meter price in large parts of the Netherlands.

Figure 1: Average housing prices (asking prices) per square meter in the last quarter of 2021 in the Netherlands (NVM, 2021).
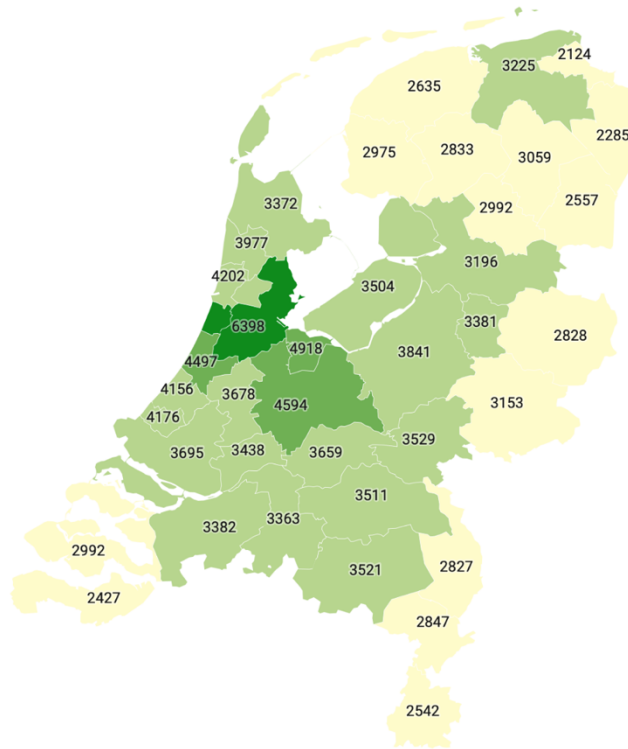

Most recent graduates will first rent a house before buying (Huisman & Mulder, 2015). The most affordable option, social housing, is difficult to obtain due to long waiting lists. In many cases, recent graduates are not even eligible for social housing as their income is often too high (Bruyn & Entrop, 2019). Therefore, recent graduates will have to rent in the free sector. For these rent prices in the free sector, it is again applicable that they are the highest in the Randstad. In Amsterdam, the average monthly rent price per square meter in the free sector is 19.20 euros; in Utrecht 15.33 euros; in Rotterdam 14.11 euros and in the Hague 14.59 euros. While in Groningen, the average monthly rent price is 12.86 euros per square meter (van der Lee, 2021).

Besides housing and rent prices, many other factors could influence the location decision of recent graduates. These factors will be included in this research, and a distinction will be made between personal and location-specific factors. Venhorst et al. (2011) state that the size of the labour market and the number of jobs for higher educated people in an area is the most important factor in graduates' residential location choice. However, in recent years, a positive trend in the number of scientific jobs at the provincial level, such as in Friesland and Groningen, has resulted in fewer people leaving these areas (Venhorst et al., 2011). Joseph (2006) states that facilities also play a role in graduate migration but that they play a relatively weak role. The residential location of friends, family and possibly a partner is also included in people's residential location decisions and is often an essential factor (Fiore, 2015). Furthermore, some personal factors play a role in recent graduates' migration decisions. Venhorst et al. (2011) state that the relocation behaviour of graduates differs per study background and level of the degree.

Also, place attachment plays a major role. Students who already lived in the North of the Netherlands often stay there after graduation, and students from elsewhere often move back to their home region (Venhorst et al., 2011). Scientists disagree on the role of gender in residential relocation behaviour. According to some authors, there is no link between gender and residential mobility (De Kluijver, 2016; Kodrzycki, 2011; van Huis & Agtmaal-Wobma, 2009). However, for example, Faggain et al. (2007) found that women are a bit more mobile than men.

2.2 Conceptual model

Figure 2: Conceptual model (Conducted by author, 2022)
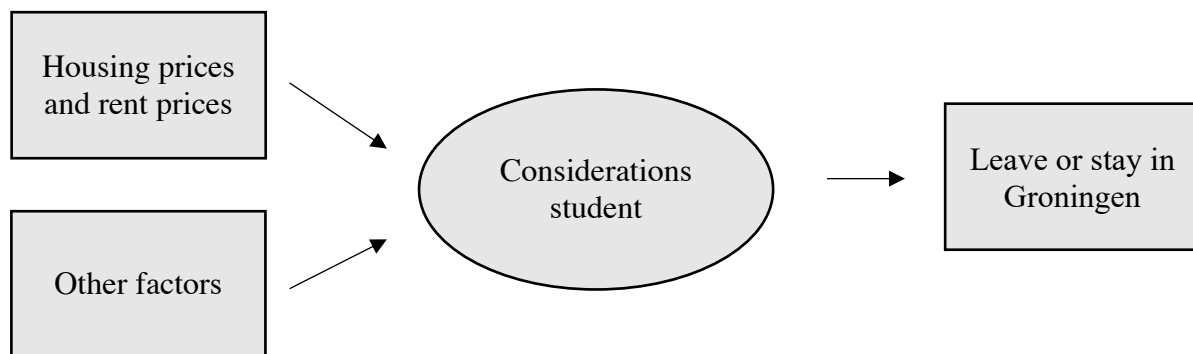
The conceptual model in figure 2 illustrates the possible relationship between housing- and rent prices and the location decision of recent graduates from Groningen. The conceptual model illustrates that besides the housing prices in possible destination locations, other factors influence the location decision of future graduates. Examples of these factors are job opportunities, facilities, the location of people they feel connected with, and personal factors like the study discipline and the binding with the study and home region (Venhorst et al., 2011). These other factors are left out of the conceptual model, so it becomes clear from the conceptual model that the research is focused on housing- and rent prices. In order to analyse the role of housing- and rent prices, it is necessary to look at the role of these other factors to determine the relative influence of housing prices on the location decision of recent graduates.

2.3 Hypotheses

The hypothesis tested by the quantitative analysis will be:

Housing prices are a factor in the decision of future graduates from Groningen to stay in Groningen or to move away after graduation. However, some of the other factors will be more important.

The expectations for the qualitative part will be:

Recent graduates include housing prices in their decision-making process to stay in Groningen or move away after graduation. However, it is expected that housing prices do not play a guiding role as many other factors also play a role.

3. Methodology

3.1 Research methods

This study employs a mixed-methods approach, gathering both quantitative and qualitative data. The main advantage of a mixed-methods approach is that combining quantitative and qualitative methods offers a better understanding than either strategy alone (Creswell & Plano Clark, 2007). The primary quantitative data was collected through a questionnaire, and the qualitative data was collected by conducting four interviews. The qualitative data is utilized to supplement the quantitative data and to gain a better understanding of how students include housing prices in the process of deciding where to live after graduation.

3.1.1. Quantitative data

A questionnaire was used to collect quantitative data. The questionnaire's target group were students in the last phase of their studies who live in Groningen and study at the University of Groningen or the Hanze University of Applied sciences. The questionnaire was distributed at different faculties to include students with different educational backgrounds in the sample. Unfortunately, not many students were present at the faculties as the data collection took place during an exam period in the first half of April 2022. Therefore, the questionnaire was spread in a few WhatsApp groups as well, which has possibly created a sampling bias. In total, 227 responses were recorded. Some responses were invalid as some students did not finish the questionnaire or did not meet the requirements stated above. This resulted in a sample size of 149 students.

The questionnaire started with questions to check whether the respondent belonged to the target group or not. Subsequently, questions on the general characteristics of the respondent, such as age, sex, educational institution and study background, were asked. After these general questions, the students were asked where they lived when they were sixteen years old. Next, the participants were asked where they want to live after they have finished their studies. Hereafter, the respondents were asked which three factors will play the most prominent role in the location decision they will make in the future. Hereafter, they had to rate the importance of five location-specific factors which could influence their location decision on a Likert scale from 1-10. Next, the respondents were asked if they want to buy a house in the future and if their parents would support them financially to buy a house. Lastly, the respondents were asked if they were interested in the research results and if they were willing to be interviewed.

3.1.2 Qualitative data

The qualitative data consists of four interviews. The qualitative data aims to provide in-depth information on how future graduates make their residential location decision and, most importantly, how they include housing prices in their decision-making process. The interviews were conducted with a semi-structured interview guide which can be found in Appendix B.

3.2 Data analysis methods
3.2.1 Quantitative data analysis

Quantitative methods are used to answer the second sub-question: "To what extent do the different personal factors and location-specific factors influence future graduates' residential location decisions?" Descriptive statistics, an Independent-Samples Mann-Whitney U Test and a binary logistic regression are used to answer this sub-question. A table with the variables used in the quantitative analysis is presented in Appendix E.

Descriptive statistics
Firstly, three tables with descriptive statistics are presented and analyzed in the results section. In the first table (table 1), the answers to the following question are presented: 'Name the three factors that will play the most important role in the residential location decision you will make when you have finished your studies'. This table allows for comparisons between how often 'housing prices' and the other factors are mentioned. The second table (table 2), presents the importance the students assigned to five location-specific factors: 'Housing- and rent prices', 'Job opportunities', 'Facilities', 'Location of friends/family/partner', and 'Desire for a different environment'. In the third table (table 3), the respondents are divided in six different groups based on the question: 'Where do you want to live after you have finished your studies?'. For each group, the average importance assigned to housing prices is displayed.

Independent-Samples Kruskal-Wallis Test
To test whether there is a statistically significant difference between the importance the six groups assign to housing prices, an Independent-Samples Kruskal-Wallis Test is executed.

Binary Logistic Regression
Lastly, a binary logistic regression is used to analyze how the different personal factors and the importance assigned to the location-specific factors influence students' location decisions. The answer to the question "Where would you like to live after you have finished your studies" is the **dependent variable** in the binary logistic regression. All other variables are the independent **variables** and **control variables.** The question from which the dependent variable is derived originally contained six possible answer categories:

1. In the city of Groningen
2. Not in the city of Groningen but in the province of Groningen
3. Not in the province of Groningen but in the North of the Netherlands
4. In the Randstad
5. Elsewhere in the Netherlands
6. Abroad

Category 2 & 3 only have a small number of cases, respectively 10 and 9. Jenkins & Quintana-Ascencio (2020) recommend a group size of at least 25 for regressions. Therefore, categories 1, 2, and 3 are merged and form a new category: 'The North of the Netherlands'. Categories 5 and 6 are not coherent geographical regions and are therefore excluded from the analysis. Two categories of the dependent variable remain: 'The North of the Netherlands' and 'The Randstad'.

The binary logistic regression predicts whether a student ends up in either the North of the Netherlands or the Randstad, based on the independent variables. The odds ratio (Exp(B) in SPSS) is crucial for the analysis as it shows the relationship between a variable and the

probability of falling into the target group. In this case, 'the Randstad' is the target group and 'the North of the Netherlands' is the non-target group.

The odds ratio (Exp(B)) should be interpreted as follows:

* Note the distinction made between interval/ratio and categorical variables.

- Odds ratio = 1, the probability that the student goes to the Randstad is equal to the probability that a student stays in the North of the Netherlands, *for every 1 unit increase of the independent variable/compared to the reference category.*
- Odds ratio > 1, the probability that the student goes to the Randstad *becomes/is* larger than the probability that a student stays in the North of the Netherlands, *for every 1 unit increase of the independent variable/compared to the reference category.*
- Odds ratio < 1, the probability that a student goes to the Randstad *becomes/is* smaller than the probability that remains in the North of the Netherlands, *for every 1 unit increase of the independent variable/compared to the reference category.*

3.2.1 Qualitative data analysis

The interview transcripts are analyzed using codes, to compare diverse experiences and detect comparable patterns. The deductive code tree can be found in appendix D.

3.3 Ethical Considerations

To be able to act ethically during the data collection process, the participants of both the questionnaire and the interviews were guaranteed anonymity. At the start of the questionnaire, as well as the interviews, voluntariness was emphasized. The participants' names and addresses were not required, and the questionnaires and interviews could be stopped at any moment.

Via an informed consent form (Appendix D), the interview participants gave permission to record the interview and to use the data in the research. Before the interview took place, there was emphasized that the interviewee could withdraw from the interview at any moment. Data from the questionnaire and the interviews will not be made available for further scientific research and will not be shared with any other parties.

4. Results

4.1 Quantitative results

The qualitative results aim to answer the following sub-question: *To what extent do the different personal factors and location-specific factors influence the residential location decisions of future graduates from Groningen.*

Descriptive statistics
In this descriptive statistics section, the descriptive statistics relevant for answering the sub-question mentioned above are discussed. The full set of descriptive statistics can be found in Appendix E and F. Appendix E gives an overview of the distribution of the variables used in the binary logistic regression. Appendix F shows how the importance students assign to the different location-specific factors ('Housing- and rent prices', 'Job opportunities', 'Facilities', 'Location of friends/family/partner', and 'Desire for a different environment') differs for students who desire to go to different regions.

Table 1: Factors mentioned by the respondents, that play a role in their residential location decision (Conducted by author, 2022)

Category	Frequency	Percentage
Job market	106	23.7
Surroundings	102	22.8
Friends/family/partner	99	22.1
Housing- and rent prices	46	10.3
Accessibility	37	8.3
Culture/local community	29	6.5
Facilities	28	6.3
Total	447	100.0

Table 1 presents the answers from the respondents to the following question: 'Name the three factors that will play the most important role in the residential location decision you will make when you have finished your studies.' The respondents were asked to write down the factors themselves. To create an overview of the factors, the answers of the respondents are divided into seven categories, as shown in the left column.

The column 'frequency' in table 1 shows how often each factor was mentioned by the students, and the column 'percentage' indicates how often each factor was mentioned in relation to the total number of factors. The total number of named factors is 447, as each respondent was instructed to name the three most important factors.

The 'Job Market' is the most frequently mentioned factor and can therefore be considered the most important factor in students' residential location decisions. After the job market, 'Friends/Family/Partner' and 'Surroundings' are most often mentioned. After these factors, housing prices are mentioned the most. However, they are mentioned about half as frequent as the three more frequently mentioned factors. 'Accessibility', 'Facilities' and 'Local Community/Culture' are the least mentioned factors.

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Table 2: Importance assigned to five different location-specific factors on a Likert scale from 1 to 10 (Conducted by author, 2022)

Housing and rent-prices	Job opportunities	Facilities	Friends/Family /Partner	Desire a Different Environment
6.87	7.77	7.27	7.62	4.45

In the questionnaire, the respondents were asked to indicate (on a Likert scale from 1-10) how important five given location-specific factors will be in the residential location decision they will make around their graduation. In table 2, the average number assigned to each factor is displayed. The factor 'Desire a Different Environment' is rated very low as a result of how the factor is phrased. Looking at the other four factors, 'Housing- and rent prices' are rated the lowest and are therefore, on average, considered the least important. However, housing and rent- prices are still rated almost a 6.87 so they can be considered an influential factor.

Table 3: Importance assigned to housing- and rent prices per desired region (Conducted by author, 2022)

The city of Groningen (N=40)	The Province of Groningen, but not the City of Groningen (N=10)	The North of the Netherlands, but not the Province of Groningen (N=9)	The Randstad (N=52)	Elsewhere in the Netherlands (N=12)	Abroad (N=26)
7.28	7.60	7.89	5.98	7.25	7.25

Table 2 showed that students assign on average less importance to 'Housing and Rent Prices' than to 'Job Opportunities', 'Facilities', 'Friends/Family/Partner'. In table 3, the respondents are divided in six groups based on their answer to the following question: 'Where do you want to live after you have finished your studies?' Table 3 shows that the importance students assign to 'Housing- and Rent Prices' differs between the six groups. Students who desire to go to the Randstad generally assign less importance to housing- and rent prices than students who desire to stay in the North of the Netherlands. Students who want to move elsewhere in the Netherlands or abroad assign more importance to housing- and rent prices than students that want to go to the Randstad but less importance than students who desire to stay in the North of the Netherlands.

Independent-Samples Kruskal-Wallis Test
An Independent-Samples Kruskal-Wallis test is executed to assess whether the differences in importance assigned to housing- and rent prices per group (displayed in table 3) are significant differences. The test shows a significant difference between 'the Randstad' and every other group. Between the other groups, the importance assigned to housing prices does not differ significantly. The SPSS output of the Independent-Samples Kruskal-Wallis Test is presented Appendix G.

Binary logistic regression

Table 4: Binary logistic regression, dependent variable = the Randstad/the North of the Netherlands (Conducted by author, 2022)

N=111

Variable	Categories	Sig.	Exp(B)
Age		0.855	1.033
Gender [1]	Female	0.142	0.313
Educational Institution [2]	Hanze University of Applied Sciences	0.020**	0.064
Importance of Housing Prices		0.020**	0.605
Importance of Job Opportunities		0.098*	1.451
Importance of Facilities		0.945	1.013
Importance of Friends/Family/Partner		0.459	0.881
Extent to which a new environment is desired		0.009***	1.429
Financial support parents with mortgage [3]	Yes	0.923	0.917
	Maybe	0.554	0.595
Study Discipline [4]	Economics/Business	0.817	1.393
	Behavioral/Social Sciences	0.429	0.457
	Arts	0.719	1.643
	Medical Sciences	0.534	0.430
	Law	0.161	0.074
	Science and Engineering	0.441	0.409
Region of Residence at the Age of Sixteen [5]	The North of the Netherlands	0.001***	0.035

***, **, * indicating significant at 99%, 95% and 90%, respectively. [1] Reference category includes Male. [2] Reference category includes University of Groningen. [3] Reference category includes No. [4] Reference category includes Spatial Sciences. [5] Reference category includes Not in the North of the Netherlands.

Table 4 present the results of the binary logistic regression. The model has an overall good fit, as the Omnibus Test of Model Coefficients is significant and the Hosmer and Lemeshow Test (Appendix H) is insignificant. While analyzing data from a binary logistic regression, we can only talk about the probability of falling in the target group and not about predicted change. In this research, the target group is the Randstad instead of the North of the Netherlands. The variables that have a significant relationship to the choice for the Randstad or the North of the Netherlands are: 'Educational Institution', 'Importance of Housing Prices', 'Importance of Job Opportunities', 'Extent to Which a New Environment is Desired' and 'Region of at the Age of 16'.

The variable 'Educational Institution' is significant on a 95% confidence interval. The odds ratio for this variable is 0.064, from which it can be concluded that the likelihood of going to the Randstad is smaller for students from the Hanze University of Applied Sciences compared to students from the University of Groningen.

The importance students assign to 'housing- and rent prices' has a significant influence on whether a student goes to the Randstad or remains in the North of the Netherlands. The odds ratio shows a negative relationship between the importance assigned to housing prices and the likelihood of going to the Randstad. This means that the more important housing prices are considered the less likely students are to move to the Randstad. Reasoning the other way around: the more important housing prices are considered, the more likely the student is to stay in the North of the Netherlands.

The importance students assign to 'Job Opportunities' is significant on a 90% confidence interval but not significant on a 95% confidence interval. The odds ratio shows a positive relationship between the importance students attach to 'job opportunities' and their likelihood of going to the Randstad.

The 'Extent to Which a New Environment is Desired' is significant on a 99% confidence interval. As students desire a different environment more, they are more likely to leave the North of the Netherlands and move to the Randstad.

The last significant variable is 'Region of Residence at the Age of sixteen'. This variable is significant on a 99% confidence interval, and the odds ratio is close to 0. This shows that students that already lived in the North of the Netherlands when they were sixteen years are much more likely to stay in the North of the Netherlands after graduation compared to students that did not live in the Netherlands when they were sixteen years old.

The variables 'Age', 'Gender', 'Importance of Facilities, 'Importance of Friends/Family/Partner', 'Financial Support Parents with Mortgage' and 'Study Discipline' are insignificant. Therefore, a relationship between these variables and the decision of a student to stay in the North of the Netherlands or to go the Randstad cannot be proven.

4.2 Qualitative results

The qualitative results are used to answer the following research question: *How do housing prices play a role in the decision-making process of future graduates from Groningen to stay in Groningen or move away?*

Most key themes that emerged from the interviews match with the location specific factors included in the binary logistic regression: 'Job opportunities', 'Housing- and Rent Prices', 'Friends/Family/Partner, 'Facilities', and the 'Desire for a Different Environment'. A theme that will be added in the qualitative results is 'Satisfaction with Groningen'. To what extent students desire a different environment will be discussed under the subheading 'Satisfaction with Groningen'. Table 5 presents the main characteristics of the interviewees.

Table 5: Main characteristics interviewees (Conducted by author, 2022)

	Interviewee 1	**Interviewee 2**	**Interviewee 3**	**Interviewee 4**
Age	26	22	25	23
Gender	Female	Male	Male	Female
Study	Marketing and Communication	Social Media and Society	European Languages and Cultures	Spatial Planning and Design
Educational Institution	Hanze University of Applied Sciences	University of Groningen	University of Groningen	University of Groningen
Grew up in	Zuid-Laren	Amsterdam	Epe	Veendam
Desired future city/town of residence	Amsterdam	Somewhere in the Randstad	Zwolle	The city of Groningen

Satisfaction with Groningen
The interviewees are all satisfied with Groningen as a student. According to the interviewees, Groningen is a vibrant city with enough to do. However, interviewees 1 & 2 would rather live in a more centrally located city with better job opportunities. Interviewee 3 would like to live closer to nature and his friends and family back home. Interviewees 1, 2 and 3 think Groningen has too many young people and believe this will be annoying when they are in their thirties. Interviewee 1 would like to live in a new environment, as she knows everything in Groningen already; she says: "*I know everything in Groningen and everywhere I see people I know. I am ready for something different and something new*". Interviewee 4 states that Groningen has everything she wants and needs in the future and that the only disadvantage is the location within the Netherlands.

Job opportunities
Interviewee 1 & 2 mentions the lack of opportunities in Groningen as the main reason for wanting to move. Interviewee 1 states: "*I think I will be able to find a job in Groningen. However, with my hopefully future degree in Marketing and Communication, the jobs in the Randstad are much more interesting and diverse*". Interviewee 4 said as well that job opportunities are essential to her. However, in her field of studies, Groningen has enough exciting jobs. She says: "*I would really like to work at an architect's office, and there are a few very nice ones in Groningen, so I do not need to move somewhere else in order to get a nice job.*"

Friends/family/partner
For interviewees 1, 2 and 3 who all want to move, friends do not play a significant role as they have all have friends in Groningen and in the place where they want to move to. Interviewee 4 wants to stay in Groningen, which is near her hometown Veendam. Her boyfriend and most of her friends live in Groningen, which is the most important factor in her decision.

Facilities
The interviewees that desire to move, state that facilities do not play a very important role in this as Groningen has enough facilities according to them. However, they all state that they would never move to a place with a low facility level.

Housing- and Rent Prices
Interviewee 1 wants to move to Amsterdam, but she is very afraid to not find a house she can afford. However, she states she is lucky she has a boyfriend so they can split the rent. In a few years from now, interviewee 1 and her boyfriend want to buy a house in Amsterdam. She tells that there is an inheritance waiting for her, without this inheritance she might have stayed in Groningen as she is risk-averse and does not want to take out a maximum mortgage. Interviewee 2 wants to move to Amsterdam or another city in the Randstad; however, he states the following: "*The housing prices in the Randstad are sky-high, and this makes me doubt moving there*". Interviewee 3 states that housing and rent prices influenced which regions he considered going to and which he did not. He says, "*both housing prices and rents differ considerably between the Randstad and the rest of the Netherlands. This is actually why the Randstad is not at the top of my list at all*". Interviewee 4 mainly wants to stay in Groningen for her partner and friends. However, she says: "*The fact that the housing prices are lower in Groningen than in many other parts of the country is not one of the main reason to stay in Groningen, but it has made the choice easier*".

5. Discussion

<u>Age & Gender</u>
Looking at the results of the binary logistic regression, the age of the respondents at the moment of filling out the questionnaire does not seem to influence their residential location decision. Lale (2000) describe that residential relocation behaviour differs per age group. As future graduates are mainly in the same age group, it is a logical result that the variable age was not significant. Furthermore, according to the binary logistic regression, gender does not seem to impact the respondents' location decisions. This finding is in line with multiple authors (De Kluijver, 2016; Kodrzycki, 2011; van Huis &Agtmaal-Wobma, 2009), who found no link between the gender of a recent graduate and their relocation behaviour.

<u>Educational Institution & Study Discipline</u>
Venhorst et al. (2011) state that university graduates move to the Randstad more often than graduates from universities of applied sciences. They mention their lower future expected income as one of the possible explanations. This statement implies that the extent to which housing prices are a factor in the location decision of future graduates depends on their future expected income. The binary logistic regression in this research showed that students from the Hanze University of Applied Sciences are indeed less likely to move to the Randstad and more likely to stay in the North of the Netherlands.

Venhorst et al. (2011) prove that the relocation behaviour of recent graduates differs per study background. According to Venhorst et al. (2011), graduates with an economic background are the most mobile. Graduates with a background in behavioural and social sciences and healthcare belong to the least mobile group. The binary logistic regression executed in this research did not succeed in proving a significant relationship between study background and residential location choice. Which might be an effect of the low number of cases per study background.

<u>Residential location at the age of 16</u>
The binary logistic regression shows a highly significant relationship between the region of origin and the desired future region of a student. If students lived in the North of the Netherlands when they were 16 years old, they are much more likely to stay in the North of the Netherlands after graduation than students who did not live in the North of the Netherlands when they were 16. This finding is in line with Venhorst et al. (2011), who explain this phenomenon using the concept of place attachment.

<u>Friends, family and partner</u>
Friends and partly also family plays an important role to the interviewed students who desire to live near their hometown or want to stay in Groningen. This relates to the previous point; when people have lived in a place before, they are attached to this place and to the people in this place. The variable 'Friends/Family/Partner' was not significant in the binary logistic regression. A possible explanation could be that some future graduates have stronger connections in the North and others in the Randstad. However, the odds ratio implies that the location of friends, family and partner is a more important factor for those who want to stay in Groningen. Overall, we can say this variable is important which is in line with Venhorst et al. (2011).

Job Opportunities
On average, students assigned the most value to 'Job Opportunities'. Therefore, job opportunities can be considered the most essential factor. This is in line Venhorst et al. (2011) and van Huis & Agtmaal-Wobma (2009), who state that students move where the jobs are and that those job opportunities are the most important factor. From the binary logistic regression became clear that the importance assigned to job opportunities influences where the future graduates desire to go. As students assign more value to job opportunities, they are more likely to move to the Randstad than remain in Groningen. This finding is a logical result; most jobs within an acceptable travel distance from the residents can be found in the Randstad (Rijksoverheid, 2012). The interviews support these claims. The interviewees who want to go to the Randstad name the high number of diverse jobs as the most important reason.

Desire for a Different Environment
The binary logistic regression shows a significant relationship between the extent to which a student desires a different environment and the probability a student leaves Groningen. As students desire a different environment more, they are more likely to leave Groningen. The interviews show that the interviewees who are the most dissatisfied with Groningen all want to move.

Facilities
The binary logistic regression does not show a relationship between the importance assigned to facilities and the likelihood of a student to move to the Randstad. This can be explained by the interviews. In the interviews became clear that facilities are considered very important but that students do not see the added value of extra facilities when every facility they need is already there. This is partly in line with Joseph (2006) who state that facilities play a relative weak role.

Housing- and Rent Prices
Both the interviews and the quantitative analysis show that housing- and rent prices play a certain role in future graduates' residential location decisions. However, the importance assigned to housing prices is lower than the importance assigned to 'Job Opportunities', 'Friends/Family/Partner' and 'Facilities'. That housing prices are not the most important factor is in line with Venhorst et al. (2011). However, the extent to which housing- and rent prices are considered important differs per student. Students who think housing prices are important tent to stay in the North of the Netherlands. Students who desire to go to the Randstad assign the least importance to housing costs. This might have to do with the fact that the salaries in the Randstad are the highest in the Netherlands (SalarisNet, 2018). This is line with Guiso & Sodini (2012), who state that income determines the extent to which housing prices are considered. Furthermore, these findings are in line with the results that university graduates tend to go to more expensive region than graduates from universities of applied sciences.

The interviews make clear that housing prices do not play a leading role in the location decision of future graduates, but that they are taken into account to a certain extent. For the two interviewees who desire to go to the Randstad, the housing prices cause doubt. One interviewee said that without the inheritance she will receive, she might not have chosen the Randstad. This implies again that the future financial means influence the extent to which housing prices are considered. The interviewee who wants to stay in Groningen did not base her decision on the lower housing prices, but she stated that it is one of the advantages of Groningen which made her decision easier. The interviewee who wants to go to Zwolle says that he did not consider the Randstad in the first place because of the housing prices.

6. Conclusions

This research used a mixed-methods approach to determine to what extent housing- and rent prices are a factor in future graduates' decisions to stay in Groningen or move away. Combining the data and literature provides several conclusions.

Housing- and rent prices play a role in the location decisions of future graduates to a certain extent. Their location decision is not based on where there is affordable housing. Many students from Groningen want to move to the Randstad, which implies that housing prices are not considerably important to many students. The most important explanatory factor for the spatial behaviour of graduates is job opportunities. Furthermore, graduates settle where they know people, where there are enough facilities and where they like the atmosphere and environment.

The extent to which housing prices play a role, differs for individual students. Students from the university of applied sciences often choose cheaper regions after graduation and consider housing- and rent prices more important. One of the explanations is that their future expected income is lower than the expected income of university graduates. Students who desire to stay in the North of the Netherlands consider housing- and rent prices more important than students who desire to move to the Randstad. This implies that students who stay in the North partly do this to have lower housing costs.

6.1 Limitations and recommendations for further research.

This research has a few limitations that need to be acknowledged. Out of these limitations flow recommendations for further research. The primary data was gathered among future graduates and not among recent graduates. Therefore, the answers to the questionnaire and interviews are based on expectations. It is not yet known if students' future actions will correspond with their current expectations. Therefore, it is useful to repeat this research among recent graduates. Another limitation is that the binary logistic regression only could compare 'the Randstad' with 'the North of the Netherlands'. It is recommended, in further research, to divide the Netherlands in a few coherent geographical regions and make comparisons between all regions. Furthermore, three location-specific factors mentioned by the respondents from the survey were not found in the literature to be important and were therefore not included in the binary logistic regression; surroundings, accessibility & local culture/community. Including them in further research would make the location-specific factors more complete. Furthermore, it is worthwhile to investigate why certain students value certain aspects of a potential residential location. For example, why do some students prioritize their career, others their friends and others affordable housing?

6.3 Policy recommendations

Higher educated people are beneficial to the local economy. Therefore, it is of importance to retain recent graduates in in Groningen. From this research became clear that housing prices play a role, but not a major role for most students. The job market is the most important explanatory factor behind graduates' migration patterns. Therefore, it is recommended for the municipality of Groningen to keep attracting companies. However, as housing prices play a role to a certain extent for some students, investing in more affordable housing for starters may encourage graduates to remain in Groningen.

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8. Appendices

Appendix A: Questionnaire

Thank you very much for taking the time to complete this survey. The results of this survey will be used for my bachelor thesis. The survey has 15 questions (a large part is multiple choice) and takes around 3-4 minutes to fill out. The survey is completely voluntary and your anonymity will be guaranteed. The data will not be made available to any other parties. If you have any questions about this survey, or any questions about the research itself, you are welcome to send an email to j.n.hopman@student.rug.nl.

1. Do you live and study in Groningen?

    7. Yes (1)

    8. No (2)

Skip To: End of Survey If 1. Do you live and study in Groningen? = No

2. How far are you in your studies?

    9. I am doing a bachelor, I am in my first or second year of this bachelor. (1)

    10. I am doing a bachelor, I am in my third year (or higher) of this bachelor. (2)

    11. I am doing a pre-master. (3)

    12. I am doing a master. (4)

    13. I am doing a PhD. (5)

Skip To: End of Survey If 2. How far are you in your studies? = I am doing a bachelor, I am in my first or second year of this bachelor.

3. What is your age?

    _____

4. What is your gender?

    14. Male (1)

    15. Female (2)

    16. Other (3)

    17. Prefer not to say (4)

5. At which educational institution do you study?

    18. University of Groningen (1)

    19. Hanze University of Applied Sciences (2)

    20. Other, namely... (3) _____

6. To which discipline does your study belong?

    21. Economics and Business (1)

    22. Behavioral and Social Sciences (2)

    23. Theology and Religious Studies (3)

    24. Arts (4)

    25. Medical Sciences (5)

    26. Law (6)

    27. Spatial Sciences (7)

    28. Science and Engineering (8)

    29. Philosophy (9)

    30. Liberal Arts and Sciences (10)

    31. Other, namely.... (11) _____

---

7. Where did you live when you were 16 years old?

    _____

---

8. Where would you like to live after you have finished your studies? (If you do not know this yet, please pick the option that is most likely for you.)

    32. The city of Groningen (1)

    33. Not in the city of Groningen but in the province of Groningen (2)

    34. Not in the province of Groningen but in the North of The Netherlands (3)

    35. The Randstad (4)

    36. Elsewhere in the Netherlands (5)

    37. Abroad (6)

---

9. Name one city or village where you would like to live after you finished your studies? (If you do not know this yet, please name the city or village where you would most likely want to live.)

    _____

- -

10. Name the three factors that play the most important role in the residential location decision you will make when you finished your studies.

Factor 1

_____

- -

Factor 2

_____

- -

Factor 3

_____

- -

11. Please indicate for the following factors how important they will be in the residential location decision you will make when you have finished your studies (1 = not important at all, 10 = extremely important).

	0 1 3 4 5 6 8 9 10
Housing prices/rent prices ()	(slider at 5)
Job opportunities ()	(slider at 5)
(Leisure) Facilities ()	(slider at 5)
Friends/family/partner ()	(slider at 5)
Desire a different environment than Groningen ()	(slider at 5)

12. Do you want to buy a house at a certain point in your life?

    38. Yes (1)

    39. Maybe (2)

    40. No (3)

---

13. If you would want to buy a house, do you think your parents will help you financially to get a mortgage?

    41. Yes (1)

    42. Maybe (2)

    43. No (3)

14. Are you interested in the results of the research?

    44. Yes (1)

    45. No (2)

Skip To: Q13 If 14. Are you interested in the results of the research? = No

---

To which email address can I send the results of the research?

    _____

---

15. Can I approach you for an in-depth interview?

    46. Yes (1)

    47. No (2)

Skip To: End of Survey If 15. Can I approach you for an in-depth interview? = No

---

What is your first and last name?

    _____

Via which telephone number can I contact you for the in-depth interview?

_____

Appendix B: Interview guide

First and foremost, I want to express my gratitude for your willingness to participate in my research via this interview. This research is part of my bachelor thesis at the University of Groningen, where I am studying Human Geography and Planning. During this interview, I will ask you questions related to where you want to live after you have finished your studies. I cannot tell you the exact purpose of my research yet, as this might influence the answers you will give. If you are interested in the purpose of my research, I am happy to explain it to you afterwards.

As you have read in the consent form, the data from this interview will be processed completely anonymously, the interview will be recorded, you are not obliged to answer all the questions and you can withdraw from interview at any moment.

Do you have any questions about the form or the interview for now?

Start the recording

1. Can you start by telling something about yourself?

2. Questions about how the respondents experience Groningen
- What do you think about Groningen as a city to live in?
- What do you like about Groningen and what do you not like about Groningen?
- What do you think about:
    - the job opportunities in Groningen
    - your social network in Groningen
    - the facilities in Groningen
    - the surroundings in Groningen
    - the geographical location of Groningen

3. Questions about where the person desires to live after their studies
- In the past year, did you think about the question where you want to live after you finished your studies?
- Do you already know if you would like to stay in Groningen after you have finished your studies?
- *If applicable*: to which cities/villages/regions, do you consider moving?

4. Questions about the location the interviewee mentions
- Can you explain to me why you want to live here?
- Can you explain me how your thinking process went?
- Can you explain me to what extent you considered the following factors in your decision:
    - Job opportunities
    - Friends/family/partner
    - Facilities
    - Surroundings
    - Accessibility
- Are there any other factors that played a role?

5. Questions related to housing prices housing prices

1. Did you consider the housing-/rent prices in your decision?
2. *If yes is answered*: how did they play a role? Can you explain me how your thinking process went?
3. Would you make the same of the housing prices were equal in every city/region in the Netherlands? Why or why not?

Closing question
4. What did you think of this interview?
5. Is there something else you want to add that is relevant for my research?

Appendix C: Informed consent form

This interview is part of the research for my bachelor thesis at the University of Groningen, where I am studying Human Geography and Planning. During this interview, I will ask you questions related to where you want to live after you have finished your studies. I cannot tell you the exact purpose of my research yet, as this might influence the answers you will give. If you want to know what the exact purposes of my research are, I will explain the purpose of my research to you afterwards.

By signing this consent form, I understand that:
6. I can stop my collaboration on this research at any time.
7. I am not obliged to answer questions I do not want to answer.
8. The data is processed anonymously.
9. The interview is recorded in order for the researcher to analyze it.
10. The recordings will be deleted after the interviews are transcribed and the full transcripts will not be included in the final research.

By signing this consent form, I declare that:
11. My participation to this interview is completely voluntary.
12. The results of this interview can be incorporated in the research.
13. I give permission for the interview to be recorded.
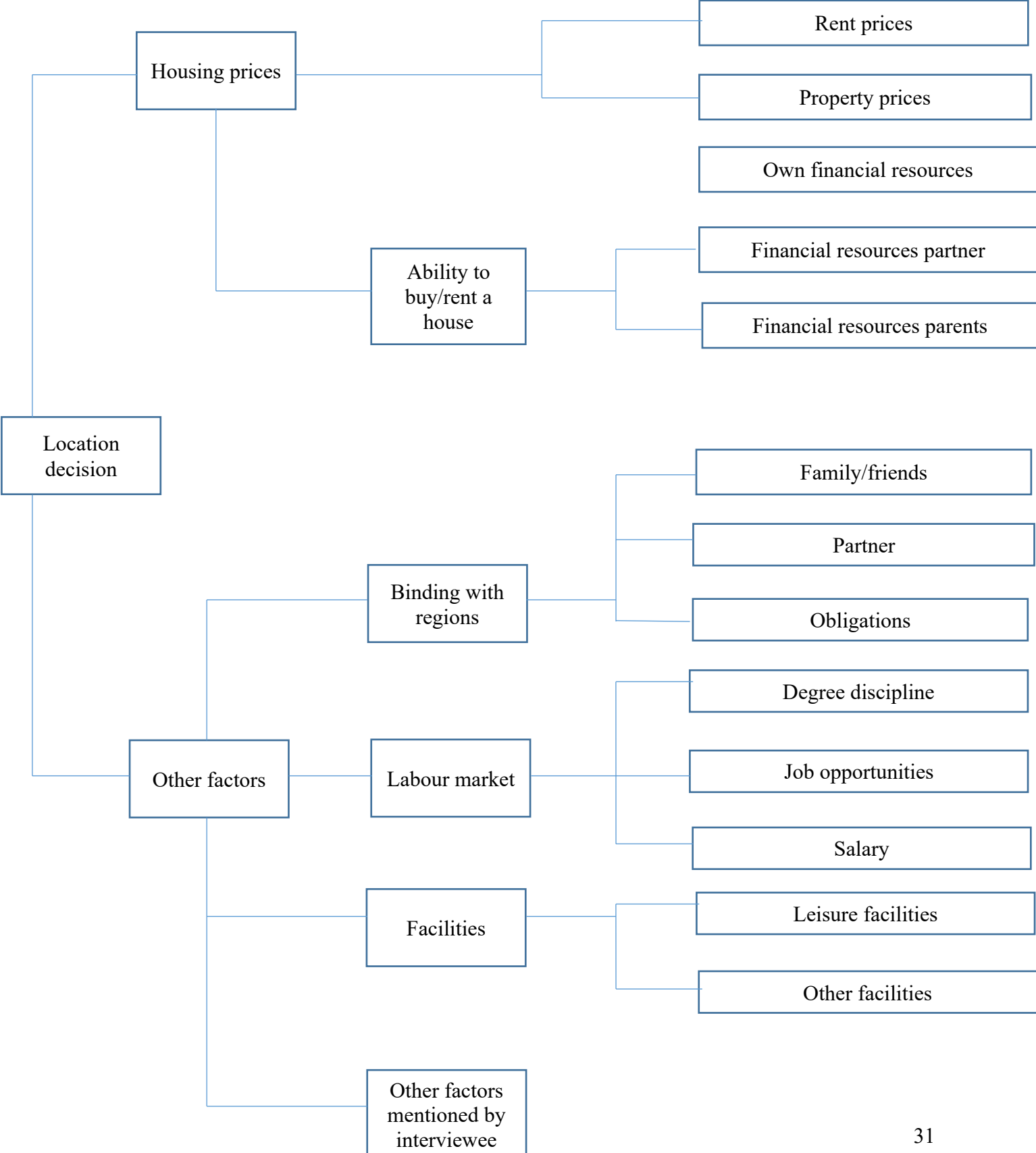
Signature:

Name:

Date:

Researcher:
I will explain the nature, method and aim of the research afterwards if the interviewee desires this information. If the interviewee does not want to be included in my research when he or she knows the purpose, I will immediately delete the voice recording and I will not use any information from the interview in my research.

Signature:

Name:

Date:

Appendix D: Deductive code tree

```
Location
decision
├── Housing prices
│   ├── Rent prices
│   ├── Property prices
│   └── Ability to buy/rent a house
│       ├── Own financial resources
│       ├── Financial resources partner
│       └── Financial resources parents
└── Other factors
    ├── Binding with regions
    │   ├── Family/friends
    │   ├── Partner
    │   └── Obligations
    ├── Labour market
    │   ├── Degree discipline
    │   ├── Job opportunities
    │   └── Salary
    ├── Facilities
    │   ├── Leisure facilities
    │   └── Other facilities
    └── Other factors mentioned by interviewee
```

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Appendix E: Variable overview binary logistic regression

N=149

Categorical variable	Category	Frequency	Percentage	Cumulative percentage
Gender	Male	55	36.9	36.9
	Female	90	60.4	97.3
	Other	2	1.3	98.7
	Prefer not to say	2	1.3	100.0
Educational Institution	University of Groningen	112	75.2	75.2
	Hanze University of Applied Sciences	37	24.8	100.0
Study Discipline	Economics & Business	21	14.1	14.1
	Behavioral and Social Sciences	30	20.1	34.2
	Arts	21	14.1	48.3
	Medical Sciences	17	11.4	59.7
	Law	5	3.4	63.1
	Spatial Sciences	32	20.8	83.9
	Science and Engineering	18	12.1	96.0
	Liberal Arts and Sciences	1	0.7	96.6
	Education	5	3.4	100.0
Desired region to live	The city of Groningen	40	26.8	26.8
	Not in the city of Groningen but in the province of Groningen	10	6.7	33.6
	Not in the province of Groningen but in the North of The Netherlands	9	6.0	39.6
	The Randstad	52	34.9	74.5
	Elsewhere in the Netherlands	12	8.1	82.6
	Abroad	26	17.4	100.0

Desire to buy a house in the future	Yes	124	83.2	83.2
	Maybe	24	16.1	99.3
	No	1	0.7	100.0
Region of Residence at the age of 16	The city of Groningen	1	10.1	10.1
	Not in the city of Groningen but in the province of Groningen	30	20.1	30.2
	Not in the province of Groningen but in the North of The Netherlands	29	19.5	49.7
	The Randstad	42	28.2	85.2
	Elsewhere in the Netherlands	22	14.8	100.0
	Abroad			
Parents financial support mortgage	Yes	51	34.2	34.2
	Maybe	49	32.9	67.1
	No	49	32.9	100.0
Numerical variables	Minimum	Maximum	Mean	Std. Dev.
Age	18	29	22.81	1.920
Rank housing- and rent prices	1	10	6.87	1.970
Rank job opportunities	1	10	7.77	1.896
Rank facilities	1	10	7.27	1.999
Rank friends/family/partner	0	10	7.62	2.294
Rank desire a different environment than Groningen	0	10	4.45	3.247

Appendix F: Importance assigned to different location-specific factors per group

N=149

Desired Region	Housing- and rent prices	Job opportunities	Facilities	Friends /family /partner	Desire for a different environment
The city of Groningen	7.28	7,50	7.33	8.18	2.47
The Province of Groningen	7.60	7,00	6.8	8.10	3.44
The North of the Netherlands but not in the Province of Groningen	7.89	7,67	8.0	8.78	4.67
The Randstad	5.98	7.88	7.1	7.38	5.29
Elsewhere in the Netherlands	7.25	7.25	7.33	8.00	4.17
Abroad	7.25	7.25	7.33	8.00	4.17
Average for all groups	6.87	7.77	7.27	7.62	4.45

Appendix G: Independent-Samples Kruskal-Wallis Test

Nonparametric Tests

Hypothesis Test Summary				
	Null Hypothesis	Test	Sig.[a,b]	Decision
1	The distribution of 11. Please indicate for the following factors how important they will be in the residential location decision you will make when you have finished your studies (1 = not important at all, 10 = extremely important). - Housing prices/rent prices is the same across categories of 8. Where would you like to live after you have finished your studies? (If you do not know this yet, please pick the option that is most likely for you.).	Independent-Samples Kruskal-Wallis Test	.005	Reject the null hypothesis.

a. The significance level is .050.

b. Asymptotic significance is displayed.

11. Please indicate for the following factors how important they will be in the residential location decision you will make when you have finished your studies - Housing prices/rent prices across 8. Where would you like to live after you have finished your studies? (If you do not know this yet, please pick the option that is most likely for you.)

Independent-Samples Kruskal-Wallis Test Summary	
Total N	149
Test Statistic	16.726[a]
Degree Of Freedom	5
Asymptotic Sig.(2-sided test)	.005

a. The test statistic is adjusted for ties.

Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same.
Asymptotic significances (2-sided tests) are displayed. The significance level is .050.

a. Significance values have been adjusted by the Bonferroni correction for multiple tests.

Pairwise Comparisons of 8. Where would you like to live after you have finished your studies? (If you do not know this yet, please pick the option that is most likely for you.)

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Sample 1-Sample 2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj. Sig.[a]
The Randstad-Abroad	-24.593	10.272	-2.394	.017	.250
The Randstad-The city of Groningen	28.073	8.877	3.163	.002	.023
The Randstad-Elsewhere in the Netherlands	-29.465	13.517	-2.180	.029	.439
The Randstad-Not in the city of Groningen but in the province of Groningen	30.273	14.574	2.077	.038	.567
The Randstad-Not in the province of Groningen but in the North of The Netherlands	41.062	15.238	2.695	.007	.106
Abroad-The city of Groningen	3.480	10.761	.323	.746	1.000
Abroad-Elsewhere in the Netherlands	4.872	14.823	.329	.742	1.000
Abroad-Not in the city of Groningen but in the province of Groningen	5.680	15.793	.360	.719	1.000
Abroad-Not in the province of Groningen but in the North of The Netherlands	16.469	16.407	1.004	.316	1.000
The city of Groningen-Elsewhere in the Netherlands	-1.392	13.892	-.100	.920	1.000
The city of Groningen-Not in the city of Groningen but in the province of Groningen	-2.200	14.923	-.147	.883	1.000
The city of Groningen-Not in the province of Groningen but in the North of The Netherlands	-12.989	15.572	-.834	.404	1.000
Elsewhere in the Netherlands-Not in the city of Groningen but in the province of Groningen	.808	18.072	.045	.964	1.000
Elsewhere in the Netherlands-Not in the province of Groningen but in the North of The Netherlands	11.597	18.612	.623	.533	1.000

Not in the city of Groningen but in the province of Groningen-Not in the province of Groningen but in the North of The Netherlands	-10.789	19.393	-.556	.578	1.000

Appendix H: SPSS output binary logistic regression

Block 1: Method = Enter

Omnibus Tests of Model Coefficients		Chi-square	df	Sig.
Step 1	Step	86.140	17	<.001
	Block	86.140	17	<.001
	Model	86.140	17	<.001

Model Summary			
Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	64.737[a]	.546	.729

a. Estimation terminated at iteration number 7 because parameter estimates changed by less than ,001.

Hosmer and Lemeshow Test			
Step	Chi-square	df	Sig.
1	5.826	8	.667

Contingency Table for Hosmer and Lemeshow Test		Location = North		Location = Randstad		Total
		Observed	Expected	Observed	Expected	
Step 1	1	11	10.941	0	.059	11
	2	11	10.762	0	.238	11
	3	9	10.263	2	.737	11
	4	10	9.109	1	1.891	11
	5	8	7.613	3	3.387	11
	6	4	5.080	7	5.920	11
	7	4	2.409	7	8.591	11
	8	0	.631	11	10.369	11
	9	0	.153	11	10.847	11
	10	0	.038	10	9.962	10

Variables in the Equation

	Bachelor Thesis – Joëlle Hopman	B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I.for EXP(B)	
								Lower	Upper
Step 1[a]	3. What is your age?	.032	.177	.033	1	.855	1.033	.730	1.461
	Genderfemale	-1.163	.793	2.154	1	.142	.313	.066	1.477
	EduHanze	-2.749	1.183	5.398	1	.020	.064	.006	.651
	11. Please indicate for the following factors how important they will be in the residential location decision you will make when you have finished your studies (1 = not important at all, 10 = extremely important). - Housing prices/rent prices	-.502	.216	5.386	1	.020	.605	.396	.925
	11. Please indicate for the following factors how important they will be in the residential location decision you will make when you have finished your studies (1 = not important at all, 10 = extremely important). - Job opportunities	.372	.225	2.739	1	.098	1.451	.934	2.255
	11. Please indicate for the following factors how important they will be in the residential location decision you will make when you have finished your studies (1 = not important at all, 10 = extremely important). - (Leisure) Facilities	.013	.190	.005	1	.945	1.013	.699	1.470

11. Please indicate for the following factors how important they will be the residential location decision you will make when you have finished your studies (1 = not important at all, 10 = extremely important). - Friends/family/partner	-.126	.170	.548	1	.459	.881	.631	1.231
11. Please indicate for the following factors how important they will be in the residential location decision you will make when you have finished your studies (1 = not important at all, 10 = extremely important). - Desire a different environment than Groningen	.357	.137	6.817	1	.009	1.429	1.093	1.869
Parents=Yes	-.086	.899	.009	1	.923	.917	.157	5.345
Parents=Maybe	-.519	.877	.350	1	.554	.595	.107	3.321
Discipline= Economics and Business	.332	1.434	.054	1	.817	1.393	.084	23.134
Discipline=Behavioral and Social Sciences	-.782	.990	.625	1	.429	.457	.066	3.182
Discipline=Arts	.496	1.381	.129	1	.719	1.643	.110	24.606
Discipline=Medical Sciences	-.844	1.357	.387	1	.534	.430	.030	6.144
Discipline=Law	-2.598	1.853	1.967	1	.161	.074	.002	2.810

	Discipline=Science and Engineering	-.895	1.162	.593	1	.441	.409	.042	3.985
	Past Region	-3.348	.857	15.272	1	<.001	.035	.007	.188

a. Variable(s) entered on step 1: 3. What is your age?, Genderfemale, EduHanze, 11. Please indicate for the following factors how important they are in your residential location decision (1 = not important at all, 10 = extremely important). - Housing prices/rent prices, 11. Please indicate for the following factors how important they will be in the residential location decision you will make when you have finished your studies (1 = not important at all, 10 = extremely important). - Job opportunities, 11. Please indicate for the following factors how important they will be in the residential location decision you will make when you have finished your studies (1 = not important at all, 10 = extremely important). - (Leisure) Facilities, 11. Please indicate for the following factors how important they will be in the residential location decision you will make when you have finished your studies (1 = not important at all, 10 = extremely important). - Friends/family/partner, 11. Please indicate for the following factors how important they will be in the residential location decision you will make when you have finished your studies (1 = not important at all, 10 = extremely important). - Desire a different environment than Groningen, Parents=Yes, Parents=Maybe, Discipline=Economics and Business, Discipline=Behavioral and Social Sciences, Discipline=Arts, Discipline=Medical Sciences, Discipline=Law, Discipline=Science and Engineering, Past Region.