

# Temporary lease contracts and housing satisfaction across renters of different ages in the Netherlands

FINAL VERSION BACHELOR THESIS

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## Summary

This research explores the relationship between temporary lease contracts and housing satisfaction among different age cohorts, with a focus on young adults. Due to changes in legislation regarding this topic in the Netherlands, this is a highly relevant topic. Therefore, the research aim is to examine whether renters of different age groups with temporary lease contracts have lower housing satisfaction than renters with permanent lease contracts. The main research question is *“What is the relationship between temporary lease contracts and the housing satisfaction across renters of different ages?”*. The research draws on existing literature related to housing satisfaction, affordability, housing pathways and the influence of temporariness in housing.

Data from the WoON 2021 was used in a binary logistic regression to analyse the influence of temporary lease contracts on housing satisfaction, taking into consideration multiple control variables. The outcomes supported the expectations based on the existing literature that for individuals with a permanent lease contract, it is significantly likelier to be satisfied with their housing situation than for individuals with temporary lease contracts. The influence of age on housing satisfaction differs per age group, which is line with the theory from Clapham (2005), since it is expected that young adults can handle temporariness better. Housing satisfaction is found to be less likely for middle-aged groups. Also, the findings are in line with studies indicating higher housing satisfaction among elderly in general. There was no significant interaction found between age and tenure type.

Overall, this study contributes to the understanding of the housing satisfaction of individuals with different tenure types. It shows the importance of housing stability and security for all age groups. The outcomes can be used in the current debate about the possibilities of using temporary lease contracts in the Netherlands. Further research could focus on the long-term effects of temporariness or use a qualitative research method to investigate the (subjective) experiences.

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## 1. Introduction

### 1.1. Background

Since the passing of the *Housing Market Throughput Law (Wet Doorstroming Woningmarkt)* (Justitie, 2016) in the Netherlands, it became easier for landlords to use temporary lease contracts for housing instead of permanent contracts. The temporary specifications of the lease contracts are e.g. the maximum length of the contract, one or two years, or the fact that the lease cannot be renewed. Lately, concerns have been expressed after the law was legislated about the insecurity of the temporariness of the contracts and the fact that people need to move out of social housing after two years of renting (Bontjes, 2017). Currently, the ability to use temporary lease contracts are subject of debate again, with a possible new change of legislation coming up (*Kamer steunt initiatiefwet*, 2023). Therefore, a study on this topic can be socially useful. This research paper aims to examine whether renters across different age group with temporary lease contracts have lower housing satisfaction than those with permanent lease contracts. In line with the broader research theme and the liberalization of the lease contract legislation, multiple articles have been studied with a focus on articles on housing affordability, temporary lease contracts (Huisman and Mulder, 2022), insecurities following these types of contracts (Morris, Hulse and Pawson, 2017), and the influence of temporary lease contracts on mental health (Arundel *et al.*, 2022) and satisfaction (Tran and Van Vu, 2018).

Based on these articles, it can be concluded that the existing body of research on temporary lease contracts finds that people tend to accept temporary lease contracts because of urgency and scarcity, that these types of contracts lead to housing insecurity, lower housing- and life satisfaction and lower mental health scores among younger people (Morris, Hulse and Pawson, 2017; Tran and Van Vu, 2018; Arundel *et al.*, 2022; Huisman and Mulder, 2022).

### 1.2. Research problem

Theoretically, it is not yet clear what the impact of temporary lease contracts on the housing satisfaction of different age cohorts of renters is. This research aims to explore the relationship between temporary lease contracts and the housing satisfaction of renters from different age groups, with a special focus on young adult renters. Therefore, the central question in this research is ***“What is the relationship between temporary lease contracts and the housing satisfaction across renters of different ages?”***. The secondary questions are:

- *Does housing satisfaction vary by tenure type and whether renters have a permanent or temporary contract?*
- *Does the relationship between contract type and housing satisfaction vary by age?*

### 1.3. Structure of the thesis

Regarding the structure of the research, the existing literature and theories about housing satisfaction, temporariness of tenure types and housing careers will be discussed further in the theoretical framework. Following this overview, the data and methodology of the study will be described. This consists of a description of the analytic sample, the used variables, and an explanation of the followed procedure. After that, the results from the statistical analysis will be presented in the result section and furtherly discussed in the discussion section. The conclusion will be the final part of this thesis.

## 2. Theoretical framework

In the existing literature on this topic, multiple relevant theories and concepts are used to specify the influence of temporary lease contracts. For example, Huisman and Mulder (2022) state that temporary lease contracts lead to housing insecurity and negatively impact people's *ontological security* (Giddens, 1991; Saunders, 2021). (In-)directly, the impact on *ontological security* has a negative influence on people's subjective well-being, mental health, and the autonomy and privacy in people's dwellings (Fitzpatrick and Watts, 2017; Morris, Hulse and Pawson, 2017; Darab, Hartman and Holdsworth, 2018). Huisman and Mulder (2022) focus in their analysis of why people have temporary lease contracts specifically on urgency and scarcity. This is based on the belief that renters don't *prefer* to live with temporary lease contracts, but have to *accept* this type of tenure since it's their only option. The researchers hypothesize that the age of renters may influence the willingness to accept temporary lease contracts.

### 2.1. Housing in general

The influence of housing circumstances on health is a research topic that goes back a long time, e.g. looking at the work of Graham (1818), Chadwick (1842), and Snow (1855). In a more recent study, researchers examine whether housing affordability may influence mental health (Arundel *et al.*, 2022). This study shows that especially younger adults are affected by growing housing unaffordability and that the mental health of this group is disproportionately affected. Also, within the cohort of renting young adults, the people within the lowest income group are affected by the worst housing situation (McKee, Soaita and Hoolachan, 2020). When looking at differences in life satisfaction between homeowners and renters, multiple researches have shown that owner-occupiers give higher scores to their life satisfaction (Rossi and Weber, 1996; Angel and Gregory, 2021) and physical and mental health (Acolin, 2022). A study based on data from Norway shows that homeownership has a considerable, positive effect on residential stability, even after controlling for multiple demographic and socioeconomic characteristics (Aarland and Reid, 2019). A study by Acolin (2022) also indicates that the differences in life satisfaction and physical and mental health between renters and homeowners decrease when the renters experience more residential stability due to longer lease contracts. Residential stability also positively affects place attachment, which is shown to be positively correlated (Taberner, Briones and Cuadrado, 2010). For the relationship between permanent housing and housing- and life satisfaction, a study based on data from the 2011 Vietnam Ageing Survey showed that for elderly people permanent housing also contributes considerably to these types of satisfaction (Tran and Van Vu, 2018).

### 2.2. Housing satisfaction

Specifically looking at housing or residential satisfaction, Dekker, de Vos, Musterd and van Kempen (2011) conducted a study based on respondents from multiple estates in Europe. They found that housing satisfaction is higher for elderly people and respondents with a higher income. A recent study (Byun and Ha, 2016) determines two groups of factors which influence residential satisfaction. The first group consists of 'environmental determinants', such as residence-specific characteristics (year of construction, surface, maintenance level) and satisfaction with the neighbourhood. The second group consist of individual determinants including socio-economic or demographic status. The findings mentioned earlier can be placed in this second group. The findings by Lu (1999) in a study on the determinants of residential satisfaction also shows that a higher age has a positive impact on housing satisfaction and shows some interesting findings on the effect of household type on housing satisfaction. It is found that single-parent households are less likely to be satisfied with their housing satisfaction than married couples with children.

### 2.3. Influence of temporariness

When looking further into the influence of temporary lease contracts, instead of permanent lease contracts, on the general satisfaction and housing satisfaction of certain tenant groups, the study of Fitzpatrick and Watts (2017) adds interesting insights. The study investigates changing legislation regarding a change from permanent to temporary lease contracts for new council renters in England. The study states that the loss of security of tenure might negatively impact the *ontological security* of tenants. This relates to the feeling of stability of renters and the “deep psychological need that all human beings have for a ‘home’ or other locale to operate as a site of constancy, routine and control in their lives” (Fitzpatrick and Watts, 2017).

### 2.4. Housing pathways

Another important factor in this research is the influence of age on the needs and preferences for housing. Therefore, an interesting theory to take into consideration is the one on “Housing Pathways”, described in *The Meaning of Housing* by David Clapham (2005). This theory states that people’s housing careers are shaped by a combination of their socioeconomic background, their current housing situations, and their future aspirations. Also, age plays a crucial role in the theory since it influences the needs and preferences for housing. When young adults leave their parental homes, they, overall, have a high demand for flexibility and mobility. Therefore, a suitable choice could be to rent instead of buying a house. When looking at another cohort based on age, middle-aged people are more likely to choose security and stability. Furthermore, certain age-related events in life as marriage, starting a family and retirement can have significant impacts on the needs and preferences for housing.

Another study with interesting findings, especially looking at young adults, defines multiple pathways for this age cohort (Ford, Rugg and Burrows, 2002). The research explains a chaotic, an unplanned, a constrained, a planned (non-student) and a student pathway, all with their characteristics and elements. Furthermore, the research states that particularly the unplanned pathways, so except for the student pathway, the pathway is not a matter of free choice but is related to certain live conditions or circumstances. Connecting this statement to the choice for temporary or permanent lease contracts, it is very much in line with the remarks of Huisman and Mulder (2022) who stated that ‘renters do not *prefer* to live with temporary lease contracts, but have to *accept* this type of tenure since it’s their only option’, as mentioned in paragraph 2. The study concludes with the statement ‘Overall, young people’s housing biographies suggest that over time they increase their ability to plan and to manage more effectively the constraints they confront.’ (Ford et al, 2002).

Comparing this last statement to the theory of Clapham shows an interesting deviation in theories. While Clapham states that flexibility and mobility is a demand from young adults, Ford, Rugg and Burrows argue that the ability to plan and manage constraints is something that develops by age and therefore is not fully controlled by young adults yet.

## 2.5. Relations between theories

Combining the theories above shows that homeowners in general rate their life satisfaction higher and that temporary lease contracts can lead to housing insecurity, which (in)directly, negatively impacts people's subjective well-being and autonomy. Also, for elderly people permanent housing contributes to housing- and life satisfaction, and that even more residential stability through longer lease contracts could have positive effects on life satisfaction and physical and mental health. Housing satisfaction in general is higher for elderly people, respondents with a higher income and (married) couples with children in comparison to single-parent households. Furthermore, housing unaffordability especially affects renters and younger adults and renting young adults with the lowest income, in general, have the worst housing situation. When looking at age, the theory on "Housing Pathways" provides an interesting insight into the possible influence of age on residential mobility. This theory states that young adults prefer flexibility and mobility over stability and security and are therefore likelier to choose rental housing over homeownership. Another theory on this topic indicates that this preference might come from an undeveloped ability to plan a housing pathway by young adults in general, and therefore may be more of a matter of acceptance.

It is important to consider that the influence of temporary lease contracts on housing satisfaction may vary between different age groups. For example, young adults might prefer flexibility, which is why a temporary lease contract could suit their current period of life the best, while elderly in general rate their housing satisfaction higher which is therefore also possible for elderly with a temporary lease contract.

Overall, the theories do not provide an answer to the possible differences in housing satisfaction for temporary and permanent leases. Therefore, it is yet to be examined what the influence of temporary lease contracts on the housing satisfaction of specific age groups is, especially since the change in legislation in the Netherlands in 2016. A possible explanation is that in most of the existing studies in this field, other outcome variables are used, which are more secondarily linked to housing and therefore can be influenced by multiple endogenous variables. In this study, housing satisfaction is used which is a more clear indicator with a close linkage to housing.

## 2.6. Conceptual model

As shown in the conceptual model below (Figure 1), it is presumed that the tenure type (KIV) contributes to determining housing satisfaction (DV), with the control variables being household income and -type, home characteristics such as the year of construction and the surface of the living area (in m2), the neighbourhood satisfaction, the level of maintenance of the housing and the housing cost. Age is the second variable of interest.

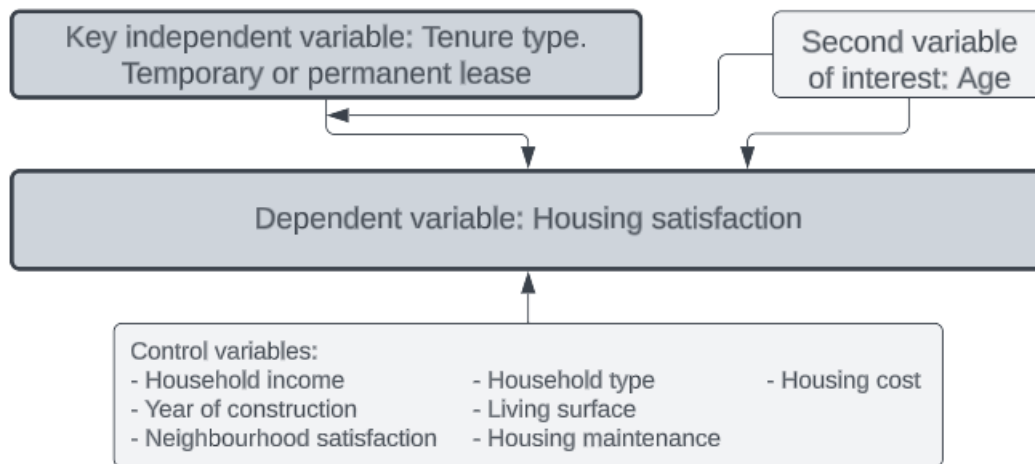


Figure 1 Conceptual model

## 2.7. Hypotheses

The hypotheses are focused on the secondary question in the research. The first secondary question is *“Does housing satisfaction vary by tenure type and whether renters have a permanent or temporary contract?”* Based on prior research, it is expected that for groups with more residential stability (permanent lease), housing satisfaction will be higher than for the group with temporary lease contracts. The null hypothesis for this question is: *‘There is no difference in housing satisfaction between the groups based on tenure type.’*

Based on the existing literature, the hypothesis for the question *“Does the relationship between contract type and housing satisfaction vary by age?”* is that there is a difference regarding housing satisfaction based on tenure type and age. Considering the different theories, it is expected that young people can deal with flexibility and insecurity better than older people, which can be seen in housing satisfaction. The literature does indicate that temporariness negatively influences housing satisfaction, especially for elderly people. For this question, the null hypothesis is: *‘The relationship between contract type and housing satisfaction does not vary by age.’*



### 3. Methodology

#### 3.1. Data collection

The research will be a quantitative, correlational study based on the analysis of secondary data. The obtained dataset is from the WoON 2021, a triennial Dutch national survey about the composition of households, the housing situation, and the cost of housing among Dutch residents with 46.658 randomly sampled respondents (Ministerie Van Binnenlandse Zaken En Koninkrijksrelaties (BZK) and Centraal Bureau Voor De Statistiek (CBS), 2022). The analysis for this study is based on the most recent version (2021) from the WoON. The survey is conducted at the request of the Dutch Ministry of the Interior and Kingdom Relations by 'Statistics Netherlands'. Both are public authorities and have an interest in achieving a high-quality dataset since outcomes are also used in e.g. policies. The dataset of WoON is used since this is the most complete dataset with information about housing situations and housing satisfaction in the Netherlands.

#### 3.2. Analytic sample

Because this study focuses on renters, respondents who are owner-occupiers ( $n=26.222$ ) are excluded from the sample. To get an understanding of the housing satisfaction of rent-paying renters, respondents who live rent-free ( $n=341$ ) or do not have a lease contract ( $n=201$ ) are also excluded from the sample. Furthermore, there is a total of 5.546 missing cases on this variable. Therefore, the final analytic sample consists of  $N = 14.348$  cases.

#### 3.3. Research strategy

For answering the research question and the secondary questions, both descriptive and inferential statistics will be used. To get a basic understanding of the relationship between the dependent and the independent variable, descriptive statistics such as the median housing satisfaction for each tenure type and the distribution of the age groups will be analysed.

Furthermore, to analyse the strength and the direction of the relationship between the dependent (housing satisfaction) and the independent (tenure type) variable, inferential statistics in the form of a binary logistic regression will be used. Therefore, the dependent variable will be recoded into two categories, satisfied and dissatisfied. Since this variable originally has five categories, the responses 'very satisfied' and 'satisfied' will be seen as satisfied, while 'neutral', 'dissatisfied' and 'very dissatisfied' will be seen as dissatisfied. The binary logistic regression is a nonparametric test.

The binary logistic regression will be executed in a three-step model. The first model consists of the dependent and independent variables. In the second model, the second variable of interest 'age' is added into the equation. For the third model, an interaction between the variables 'age' and 'tenure type' is added. For the control variables, the interaction and the second variable of interest, the 'forward' method will be used which implies that a variable will only be considered in the equation when it has a significant impact on the outcome.

The outcomes of the binary logistic regression will be combined with the earlier-mentioned theories and then be used to answer the secondary questions. Based on well-substantiated answers to the secondary questions, the main research question will be answered.

#### 3.4. Formula binary logistic regression

The standard formula for the binary logistic regression is the following:

$$\text{Logit} = L_i = B_0 + B_1X_1 + \dots + B_KX_K$$

In this formula, each  $X_i$  is a predictor and each  $B_i$  is the regression coefficient.  $B_0$  is the constant factor. This type of regression tests the probability of the outcome 1 to the probability of the outcome 0. The *Logit* is the natural logarithm of the odds of a certain outcome.

In the binary logistic regression analyses, the standard level of significance at 95% is used. Furthermore, the odds ratios ( $\text{Exp}(B)$ , odds ratio in Table 4 Binary Logistic Regression) are used for reporting on the outcome. These values indicate the constant effect of the predictor  $X$  on the likelihood or probability that one outcome will occur. To convert the value for  $\text{Exp}(B)$  to the probability coefficients ( $B_1$ ) which are used in the formula, the logit transformation should be applied.

For the binary logistic regression of the model in Table 4, the formula is:

$$\text{Logit} = L_i = B_0 (\text{constant}) + B_1 X_1 (\text{applicable tenure type}) + B_2 X_2 (\text{applicable age cohort}) + B_3 X_3 (\text{applicable household income}) + B_4 X_4 (\text{applicable household type}) + B_5 X_5 (\text{applicable neighbourhood satisfaction}) + B_6 X_6 (\text{applicable level of maintenance}) + B_7 X_7 (\text{applicable housing cost in rent per month}) + B_8 X_8 (\text{applicable year of construction}) + B_9 X_9 (\text{applicable living area surface})$$

### 3.5. Variables

The variable **tenure type** is the key independent variable in the research. It will be examined if there is a relationship, and if yes how strong and in which direction, between this nominal variable and the independent variable, **housing satisfaction**. In total, there are four categories in the variable tenure type: 'Owner-occupied', 'Temporary lease', 'Permanent lease' and 'Social housing'. For this research, only the tenure types 'temporary lease' and 'permanent lease' will be used. The variable housing satisfaction will be recoded, as mentioned earlier, into two categories, satisfied and dissatisfied.

Since multiple variables could influence the relationship between the key independent variable and the dependent variable, these are distinguished as control variables or as a second variable of interest. This applies to the variable **age**. Since age can influence the tenure type and housing satisfaction, it is seen as a second variable of interest or confounding variable. In the WoON 2021, age cohorts are made based on a total of seven age categories. For this study, age is recoded into four categories. Distinguishing the variable age will add to the accuracy of the answer to the research question. The categories are 17-24 years old, 25-34 years old, 35-54 years old and 55 years and older.

Control variables in this study are **household income**, which is measured in three categories based on the average household income/modal (€75.200 annually), **household type**, with multiple categorical options, **year of construction**, the **surface of the living area (m2)**, **neighbourhood satisfaction**, which is measured on three different levels of satisfaction (dissatisfied, neutral, and satisfied), **level of maintenance of the house** and **housing cost** (or monthly rent).

### 3.6. Consideration of research methods

The research strategy for this study is based on feasibility, both from a time and complexity perspective. Multiple alternative quantitative research methods were considered, such as limiting to descriptive research, or using causal-comparative research or an experimental research. Descriptive research is used in this study and provides valuable insights into the distribution of lease types (permanent or temporary) and the characteristics of certain control variables. However, limiting to only descriptive research would not allow the researcher to get a deep understanding of the factors influencing the outcome variable.

The method of causal-comparative research is a research method more based on a retrospective view which would find the limitations of the fact that the legislation about temporary lease contracts only changed in 2016, which would make it harder to conduct the research with this method. Both from a time perspective and ethically, an experimental research method was not considered feasible.

Alternatively, a qualitative research method could provide rich insights into the experience and perspectives of individuals regarding their lease type. For example, by conducting interviews or using a focus group for an in-depth exploration of which factors influence housing satisfaction the most. This research method has not been considered feasible because of the time-consuming process of identifying and recruiting respondents based on their lease type.

### 3.7. Ethical considerations

Since this research is based on secondary data there is a low risk of ethical issues. The researchers of the WoON study obtain permission from the respondents for the results to be used in an academic setting before publishing. Additionally, WoON does not contain any identifying information. To gain access to the data of WoON 2021, permission needed to be requested by DANS (Data Archiving and Networked Services). During the research, the data is treated with confidentiality and will be stored on a password-protected computer.

## 4. Results

### 4.1. Descriptive statistics

To get a basic understanding of all the variables in the analysis, Table 2 and Table 1 report the descriptive statistics of the multiple variables, separated by the type of contract. Both sample sizes, temporary (n=922) and permanent (n=13.426) are large enough to conduct statistical analysis. As shown in Table 1, 72.9% of the respondents with a permanent contract are satisfied with their housing situation. Of respondents with a temporary lease contract, 67.9% were satisfied with their current housing situation. Furthermore, there is a difference in the distribution of the age groups between the types of contracts. Over 70% of the respondents with a temporary lease contract are between 17 and 34 years of age, while the largest group (50.2%) of respondents with a permanent lease contract are over 55 years of age.

Table 2 Distribution among tenure types

	Frequency	Percentage		Frequency	Percentage	Mean	SE
<b>Temporary</b>	922	6,4%	<b>Permanent</b>	13426	93,60%	1,94	0,245

Table 1 Descriptive statistics

		Temporary lease contract		Permanent lease contract	
<b>Housing Satisfaction</b>	Satisfied	626	67,9%	9785	72,9%
	Dissatisfied	296	32,1%	3641	27,1%
<b>Age</b>	17-24 years	275	29,8%	990	7,4%
	25-34 years	373	40,5%	2576	19,2%
	35-54 years	157	17,0%	3125	23,3%
	55 years+	117	12,7%	6735	50,2%
<b>Household income</b>	Below average	457	49,6%	7748	57,7%
	1 to 2 times average	306	33,2%	4293	32,0%
	2 + times average	159	17,2%	1385	10,3%
<b>Household type</b>	Single household	455	49,3%	7072	52,7%
	Couple	190	20,6%	3151	23,5%
	Couple + children	68	7,4%	1248	9,3%
	Single parent family	44	4,8%	1164	8,7%
	Non family household	165	17,9%	791	5,9%
<b>Neighbourhood satisfaction</b>	Satisfied	723	78,4%	10235	76,2%
	Neutral	128	13,9%	1989	14,8%
	Dissatisfied	71	7,7%	1202	9,0%
<b>Residence is poorly maintained</b>	Agree	173	19,2%	2611	19,6%
	Neutral	180	20,0%	2721	20,4%
	Disagree	546	60,7%	8000	60,0%
		<b>Mean</b>	<b>S.E.</b>	<b>Mean</b>	<b>S.E.</b>
<b>Housing cost</b>		€ 880,49	€ 487,67	€ 657,57	€ 258,69
<b>Year of construction</b>		1948	103	1967	60
<b>Living area surface (m2)</b>		33,7	23,5	33,8	19,2

#### 4.2. Housing satisfaction

Figure 5 visualizes the difference in satisfaction between respondents with a temporary lease contract and respondents with a permanent lease contract. It shows that among people with a permanent lease contract, the level of satisfaction is 5% higher.



Figure 5 Housing satisfaction by tenure type

#### 4.3. Age

In Figure 7 the distribution of age per contract type is shown. This shows a clear difference in the composition of the tenure group of respondents with temporary lease contracts in comparison to the respondents with a permanent lease contract.

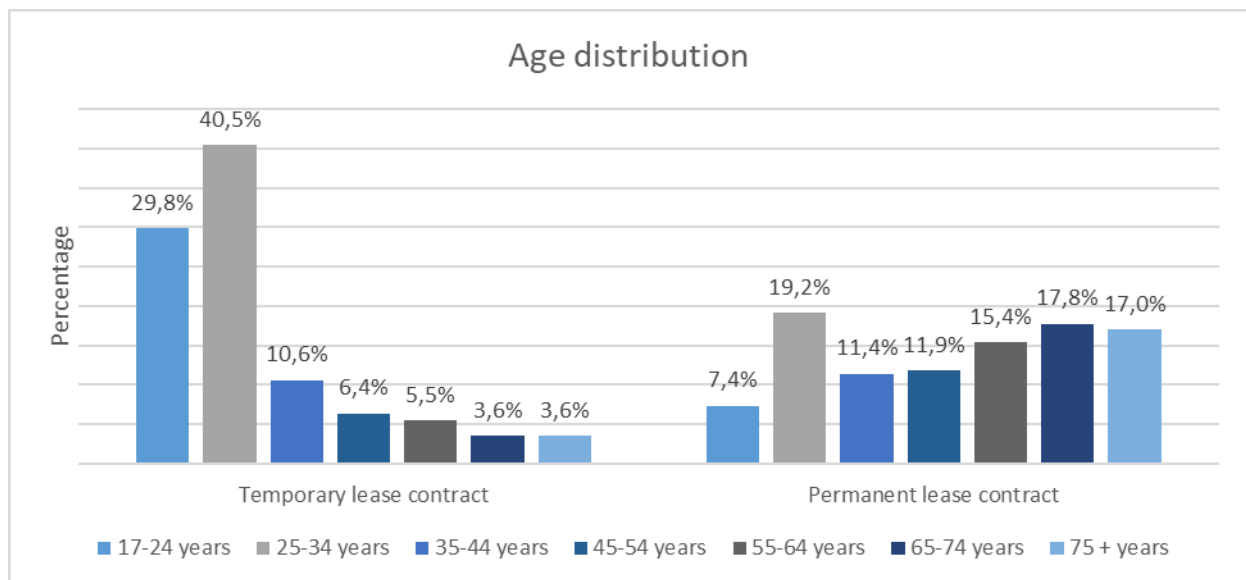


Figure 7 Age distribution by contract type

A possible explanation for this difference in distribution is the fact that temporary lease contracts only became available around a decade ago. Most of the respondents with a temporary lease are relatively young and therefore perhaps started their housing career with a temporary lease contract. Another possible explanation could be that temporary lease contracts are broadly used for student- and starter housing. The main age group, therefore, are the first two age cohorts.

#### 4.4. Inferential statistics – Binary Logistic Regression - Description

To test the null hypotheses, following from the main and secondary research questions, all the variables were used in a binary logistic regression. The formula and further explanation can be found in paragraph 3.4. The model summary and the outcome of the Omnibus Test of Model Coefficients of both models from the binary logistic regression can be found in Appendix A.

Table 3 Binary Logistic Regression

<b>Binary logistic regression</b>	Model 1		Model 2	
	Odds ratio	SE	Odds ratio	SE
<b>DV: Housing satisfaction</b>				
<b>Contract type lease</b>				
Temporary (0) or permanent (1)	1,475 ***	0,100	1,399 **	0,103
<b>Second variable of interest: Age</b>				
17-24 years old (reference)			***	
25-34 years old			0,720 **	0,115
35-54 years old			0,737 *	0,119
55+ years old			1,035	0,114
<b>Control variables</b>				
<i>Household income:</i>				
Below average	1,205 ***	0,056	1,140 *	0,057
1 to 2 times average (reference)	**		**	
2 + times average	1,195 *	0,084	1,237 *	0,084
<i>Household type:</i>				
Single household (reference)	***		***	
Couple	1,104	0,064	1,045	0,065
Couple + children	0,570 ***	0,085	0,613 ***	0,086
Single parent family	0,615 ***	0,079	0,678 ***	0,082
Non family household	0,902	0,112	0,889	0,121
<i>Neighbourhood satisfaction:</i>				
Satisfied	3,991 ***	0,059	3,968 ***	0,059
Neutral (reference)	***		***	
Dissatisfied	0,735 ***	0,086	0,742 ***	0,086
<i>Residence is poorly maintained:</i>				
Agree	0,419	0,062	0,426 ***	0,062
Neutral (reference)	***		***	
Disagree	4,447	0,056	4,427 ***	0,057
Housing cost	1,000 **	0,000	1,000 ***	0,000
Year of construction	1,001 *	0,000	1,001 *	0,000
Living area surface (m2)	1,003 *	0,001	1,003 **	0,001
<b>Constant</b>	0,062 ***	0,711	0,082 ***	0,716
* $p < .05$ , ** $p < .01$ , *** $p < .001$		<b>Nagelkerke R Square:</b> 0,357	<b>Nagelkerke R Square:</b> 0,361	

Table 4 Binary Logistic Regression presents the results of the binary logistic regression. In the equation, multiple categorical variables are used as control variables. Therefore, for every applicable category the value 1 should be inserted, for the nonapplicable categories the value 0 should be used. Every equation based on the regression should start with the constant variable. The odds ratio of the constant from models 1 and 2 indicates that it is less likely (since the odds ratio is less than 1) for respondents to be satisfied instead of dissatisfied, taking into consideration the other variables.

The first binary logistic regression consists of the independent, dependent and the control variables. In the second model, also the second variable of interest 'age' is taken into the equation.

The odds ratio for the key independent variable 'tenure type' is above 1 in both models, which shows that it is likelier that respondents with a permanent lease contract (1) are satisfied with their housing situation in comparison to respondents with a temporary lease contract (0).

For the second variable of interest in this regression, age, the coefficients differ per age cohort. The group of respondents of 17 to 24 years of age is set as a reference category. Based on the equation from model 2, the age category of 55+ years old does not significantly differ from the reference category. The two other age categories do significantly differ from the reference category.

The control variable 'neighbourhood satisfaction' shows a significant, positive relationship between being satisfied with the neighbourhood and the likelihood of satisfaction with the residence itself. The same applies to the control variable 'maintenance of the residence'. A higher maintenance level indicates a higher probability of being satisfied with the housing situation. These variables are of great influence of the likelihood of being satisfied or dissatisfied with the housing situation, based on the odds ratio. For the household income, in both models, a higher and lower income than the average indicates a higher probability of being satisfied with the housing situation.

The categorical control variable 'household type' shows different coefficients per type of household, with the categories 'single household', 'couple' and 'non-family household' closely related, based on the level of significance. The category 'single household' is set as the reference category.

The continuous control variables year of construction, living room surface (m<sup>2</sup>) and rent per month all show odds ratios close to 1 or slightly above, which indicates that a relatively new property, a higher surface of the living area and/or a higher rent per month contributes to the housing satisfaction of the respondents.

Furthermore, a third and final binary logistic regression was performed in which the interaction between the second variable of interest, age, and the key independent variable, tenure type, was taken into the equation. Therefore, the outcome of the binary logistic regression was equal to model 2.

#### 4.5. Inferential statistics – Binary Logistic Regression – Analysis

Analysing the existing literature on the temporariness of tenure type or residential stability, it is expected that respondents with a permanent lease contract are more satisfied with their housing situation than respondents with a temporary lease contract. This expectation is supported by the odds ratios for the variable 'Permanent or temporary lease contract' in the models of the binary logistic regression. In every model, this variable has a significant outcome (p-values: <,001 and <,01) with an odds ratio of 1,47 in the first model (without the second variable of interest 'age') and 1,39 in the second model. Relating the outcomes of the study to the statement of Huisman and Mulder (2022) that the temporariness of tenure type leads to housing insecurity, which has a negative impact on people's 'ontological security'(Giddens, 1991; Saunders, 2021), shows that this statement is at least partially supported by the outcome. The study shows that people with a temporary lease contract have a lower probability of being satisfied with their housing situation, even after controlling for multiple variables. Further explanations are given in the following part of the analysis.

Based on the binary logistic regression outcome and the combination with the existing literature, the null hypothesis of the first secondary question, '*There is no difference in housing satisfaction between the groups based on tenure type*' can be rejected. There is a difference in housing satisfaction between the groups based on tenure type because the odds ratio for the variable tenure type is 1,47 in the first model, which shows that its 1,47 times more likely for people with a permanent lease contract to be satisfied with their housing situation in comparison to people with a temporary lease contract. This is very much in line with the findings of Acolin (2022), who indicated that more residential stability, for example through permanent lease contracts instead of a temporary contract, is positively associated with higher life satisfaction. Life satisfaction or satisfaction, in general, can be seen as an indicator of housing satisfaction, as found by Fitzpatrick and Watts (2017).

For the second secondary question, *'Does the relationship between contract type and housing satisfaction vary by age?'*, the corresponding null hypothesis can not be rejected since the interaction in the third model of the binary logistic regression was not significant. Therefore, we can not say that there is a significant relationship between contract type and age, regarding the housing satisfaction and taking into consideration the other variables. However, in the second model, the second variable of interest 'age' does show a significant result in two categories.

The odds ratio for the second and third categories of the variable is below 1, which indicates a lower probability of satisfaction in relation to the housing situation. This outcome is quite in line with the expectations based on the theory of 'Housing pathways' by David Clapham (2005). This theory describes that for younger people, the influence of temporariness on their housing satisfaction is expected to be lower in comparison to older people, since younger people can better cope with insecurity and are in general more flexible. A deviation from the theory is the 'oldest' category, which shows an insignificant odds ratio above 1. This is in line with the findings of studies which included housing satisfaction, which indicated that, in general, housing satisfaction is higher for elderly people (Lu, 1999; Dekker *et al.*, 2011). Furthermore, a possible explanation for the higher likelihood of being dissatisfied for the second and third age cohort comes from Ford, Rugg and Burrows (2002), who explained multiple pathways specifically for young adults, which almost all included a high amount of unplanned and unwanted events. Interlinking the outcomes to these pathways with the findings from Huisman and Mulder (2022) and the theory of high flexibility for the youngest age cohort (Clapham, 2005) combine to an outcome that the housing situation for these age cohorts is more a matter of acceptance than preference, by which it is explainable they do not rate their housing satisfaction very high, especially with a temporary lease contract.

When looking at the control variables in the equation, being satisfied with the neighbourhood and the maintenance level of the residence has the biggest impact on the likelihood of being satisfied with the current residence.

Taking the answer to the secondary questions into consideration, the main research question *'What is the relationship between temporary lease contracts and the housing satisfaction across renters of different ages?'* can be answered. This study shows that there is a negative relationship between having a temporary lease contract and the level of satisfaction with the current housing situation. Furthermore, the satisfaction differs per age group, with a higher probability of satisfaction for the youngest and the oldest age group.



## 5. Conclusion

This study explored the relationship between temporary lease contracts and the housing satisfaction of different age cohorts. The results of the binary logistic regression support the expectation that people with a permanent lease contract are more satisfied with their housing situation in comparison to people with temporary lease contracts. These outcomes are in alignment with existing literature on the negative impact of temporariness in tenure type on the housing satisfaction of renters, such as the study by Acolin (2022).

The analysis of the influence of age on housing satisfaction showed that in this study, there was no significant interaction between age and tenure type in relation to the housing satisfaction. However, the variable age does show a significant result, with a lower probability of being satisfied for the two middle-aged groups. This is found to be in line with the theory on Housing Pathways (Clapham, 2005), regarding the flexibility of young adults, and with findings from other studies which stated that, in general, housing satisfaction is higher for elderly people (Lu, 1999; Dekker *et al.*, 2011).

To conclude on the main research question of this study, *'What is the relationship between temporary lease contracts and the housing satisfaction across renters of different ages?'*, this study shows that having a temporary lease contract negatively influences the housing satisfaction, with more negative impacts from the middle- aged age groups.

Overall, this study contributes to the understanding of the housing satisfaction of individuals with different types of lease contracts. It showed that it is important to provide housing stability and security for all age groups. These outcomes can be used as support for the currently changing policies on the possibilities to implement temporary lease contracts in the Netherlands (2023).

The strengths of this study are the integration of the different control variables and the linkage between the outcomes and the existing literature on this topic. A limitation is the sample size of the study, especially the size of the group of respondents with a temporary lease contract. Therefore, the variable 'satisfaction with housing situation' was recoded from a five-categorical variable into a binary variable which obviously leads to a loss of valuable information. The same applies to multiple other (control) variables which were recoded because of the group size. Another limitation of the research, following from the research method, is the limited ability to determine causality between factors since it is based on a quantitative, third-party dataset. In an ideal research setting, a study could be conducted in which a test group and a control group are followed which are simultaneously housed in housing with permanent and temporary lease contracts. In this way, housing satisfaction can be monitored with even better control for other possible influences. However, future research can build upon the results of this study, for example by investigating additional factors such as the influence of the demand for moving on the current housing satisfaction. Future research could also look at the long-term effects of temporariness or look at this topic from a qualitative way point of view to explore the subjective experiences of respondents.

To reflect on the research process, at first, it was challenging to find a research gap and a suitable dataset to base the study on. Once these were found, a base for the research on more general literature was formed, which was helpful to get the research started. There is a lot of literature on housing, mobility and e.g. the housing pathways, but not so much on housing satisfaction, especially when also looking at temporary lease contracts or the influence of temporariness on housing satisfaction. The regression was performed quite easily but then the interpretation took some more effort due to a lack of experience. Regarding the results of the study, there were no big surprises in the regression outcomes, except for the insignificance of the interaction between age and tenure type. This could be due to the relatively small number of cases in the study.

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Appendices

Appendix A: Model summaries and Omnibus Test of model coefficients

Figure 14 below shows the model summary of the binary logistic regressions.

Model Summary - Model 1		
-2 Log Likelihood	Cox & Snell R Square	Nagelkerke R Square
1,360 <sup>a</sup>	0,245	0,357
Model 2		
4,387 <sup>a</sup>	0,247	0,361

a. Estimation terminated at iteration number 5 because parameter estimates changed by less than ,001

Figure 14 Model Summary Binary Logistic Regression

For model 1, the value for Nagelkerke R Square is 0,357. Since Nagelkerke R Square is a pseudo-R-square statistic, no percentage of explained variance can be given, but this outcome indicates that a fair amount of variance is explained by the model. With the standard level of significance of 95%, the model shows a significant result, based on Figure 15. For model 2, the value for Nagelkerke R Square is 0,361. This is an increase in comparison to model 1. Model 2 is also significant.

Omnibus Test of Model Coefficients			
Model 1			
	Chi-square	df	Sig.
Step	5,141	1	0,023
Block	3640,763	13	<,001
Model	3644,215	14	<,001
Model 2			
Step	4,557	1	0,033
Block	3456,976	13	<,001
Model	3691,188	17	<,001

Figure 15 Omnibus Test of Model Coefficients Binary Logistic Regression